

Australasian Health Facility Guidelines

Release Notes

This release represents the public issue of the Australasian Health Facility Guidelines (HFG) - Version 4.

AHIA endorsed the current release for industry use for all jurisdictions in Australia and New Zealand, commencing 17 December, 2010.

Clauses are compiled from many different sources and every attempt is being made to bring consistent terminology to the clauses. The terminology or methods of measurement used in these guidelines may vary from that used within individual jurisdictions covered by Australasian Health Infrastructure Alliance (AHIA) in Australia and New Zealand.

These guidelines are compiled within a database framework, it is intended that each clause will cover one discrete concept. The clause numbering system allows for the insertion of new or modified clauses as needed.

To understand the philosophy behind the development of these guidelines, refer to the "Health Facility Guidelines Framework for Development" – the last section in the overall database and available from the web site www.healthfacilityguidelines.com.au

What is New?

This release consists of 30 Hospital Planning Units (HPUs) and 254 Standard Components. Part A – Introduction and Instructions for Use - and the General Requirements in Part B of the Guidelines have been updated to include reference to all jurisdictions where such information is available. Formatting maintains consistency with the Victorian and NSW versions

Important Information re: Copyright & Disclaimer

Disclaimer: These Guidelines are stand-alone documents. Nothing in these Guidelines implies that compliance with them will automatically result in compliance with other legislative or statutory requirements, the Australian and New Zealand Standards or the Building Codes of Australia and New Zealand. It is the responsibility of each user to ensure compliance with all other relevant legislative and statutory requirements.

Both words and concepts found in other Guidelines have been used when appropriate, sometimes with changes to terminology or methods of measurement. Since very similar concepts and requirements are covered by many different guidelines, a clause by clause reference to other guidelines would be impractical. A short list of other Guidelines reviewed for the preparation of these Guidelines can be found under "Reference and Further Reading" in each section of the Guidelines. Nothing in these Guidelines implies or guarantees compliance with every requirement of those other Guidelines.

These guidelines are not a substitute for professional judgement and where necessary, professional advice should be sought (whether legal, financial or other advice).

Content within this document was current at the time of publication. NSW Health and AHIA take no responsibility for the use of information within this publication that may become dated by changes in practice after the publication date. This content is generic and is not intended to cover all circumstances.

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Australasian 

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Part A - Introduction and Instructions for Use

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General

- 600010 2.1.05 The Australasian Health Infrastructure Alliance (AHIA) acknowledges the following contributors to the development of these Health Facility Guidelines:
- AHIA Steering Committee who have overseen the project.
 - NSW Health for contributing the database from which these Guidelines have been developed.
 - The Victorian Department of Human Services for contributing the initial database from which the NSW Guidelines were developed.
 - Western Australia Department of Health for their original and ongoing contribution to the Victorian and NSW Guidelines via the Private Hospital Guidelines.
 - Health Projects International (HPI) for advice and assistance in utilising the database.
 - The consultants who facilitated the working group processes and all members of working parties who have contributed to the development of these Guidelines.
 - All reviewers of the draft Guidelines.

Foreword

500020 3.2.00 Many people undertake a capital development only once in their working life and may not be familiar with capital planning processes. These Guidelines therefore include not only information on capital planning, but also information on current policy directions. They also include information on service and facility planning that will be useful for any agency undertaking the planning, design and construction of a health facility. The Guidelines promote the importance of clearly defining a Service Plan, Model of Care and Operational Policies for the facility before embarking on the capital planning process.

The Guidelines have been developed with recognition of the fact that all parties involved in a facility planning process have a responsibility to ensure that they develop Health Care Facilities that comply with legislation. Planners also have a responsibility to ensure that Health Care Facility developments are designed to minimise asset management and maintenance costs and maximise efficiencies.

Description

- 600011 10 .1.05 This document provides design information for Health Facilities in Australia and New Zealand. They are referred to as 'the HFG' or 'these Guidelines' throughout the text.
- 500040 10 .2.00 Generally designs that depart from these Guidelines will not be approved by the responsible Health Authority unless clear patient, service and cost benefits can be demonstrated and justified.
- 600023 10 .2.05 Individual jurisdictions will provide instructions regarding the application of the Guidelines in capital projects. For additional information, refer to 55. References and further Reading - Individual Jurisdictions.

Background

- 600012 10 .3.05 The development of these Guidelines in electronic format was made possible by NSW Health's contribution to the database derived from the Victorian Department of Human Services' Guidelines database as developed by Health Projects International in 2000. This contribution has allowed HCAMC to further develop and refine the database and guideline process in the production of an initial suite of priority Health Facility Guidelines to meet Australasian requirements.

Objectives

- 500033 10 .4.00 These Guidelines have been developed on the basis that the provision of appropriate physical environments that support and enhance the delivery of high standards of patient care - the objective for any capital project undertaken by AHIA members.
- 500034 10 .4.05 All new work should be informed by these Guidelines, but it will not be possible to apply the guidelines in all situations. Individual projects that involve the reuse of existing assets are often compromised by existing space restrictions or other physical limitations. Similarly, other projects that have lower than normal throughput will all have to be designed on a case by case basis. The primary objective of the Guidelines is to achieve a desired performance result or service. Prescriptive limitations, when given, such as exact recommended dimensions or quantities, describe a condition commonly recognised as a practical standard for normal operation. Where specific measurements, capacities or other standards are described, equivalent alternative solutions may be deemed acceptable if it is demonstrated that the intent of the standards has been met and the specific service can be safely and appropriately delivered.

It is important to note that the AusHFGs do not intend to restrict innovation that might improve performance or outcomes, or to be prescriptive where clinical service circumstances can validate an alternate configuration. Although regularly reviewed and updated, they cannot include every technological innovation for either building design or health services delivery. It is the role of the project teams to identify specific project requirements including innovative practices of relevance to that project and its impact on achievement of the service model and operational policies. Issues such as the geographic location of the facility, particular site factors

Part A - Introduction and Instructions for Use

and refurbishment versus new build solutions, will also impact on how the Guidelines should be interpreted and applied. Information contained in the guideline, such as room data sheets and room layout sheets, are to be used as a guide with appropriate review and consultation with users to ensure that requirements for the individual project are well considered. The design process should also seek out cost effective solutions. Examples include efficient design through minimising circulation, travel and engineering, sharing of support spaces, overflow design and modular design. These are addressed in detail in 'Physical Planning' section of the AusHFG's.

Consultations with user groups may therefore result in variations or departures from the guidelines. Where the project brief has been amended to meet the requirements of the particular project, the project manager must ensure that statutory requirements, i.e. those that are legally required such as through the Building Code of Australia or relevant OHS legislation are met.

- 600013 10 .5.05 The main aims of these Guidelines are to:
- provide general guidance to designers seeking information on the special needs of typical Health Care Facilities;
 - promote the design of Health Care Facilities with due regard for the safety, privacy and dignity of patients, staff and visitors;
 - maintain public confidence in the standard of Health Care Facilities;
 - achieve affordable solutions for the planning and design of Health Care Facilities;
 - eliminate design features that result in unacceptable practices;
 - eliminate duplication between various existing Guidelines;
 - minimise recurrent costs and encourage operational efficiencies.
- 500038 10 .6.00 In most jurisdictions and depending on individual planning processes, the following should be defined and approved for the Facility prior to commencement of design:
- service plan;
 - model of care for service delivery;
 - operational policies;
 - workforce;
 - capital and recurrent cost estimates;
 - Health Planning Units/Functional Units;
 - Schedules of accommodation;
 - functional relationships, external and internal;
 - key planning principles.
- These will generally be set out in the planning brief for the project. Refer to Part B and Part C for further details.

Facilities Covered

- 500664 20 .1.00 Depending on the individual jurisdiction, these Guidelines may apply to the following types of Health Care Facility:
- Public Hospitals;
 - Licensed facilities contracted to provide services to public patients;
 - Day Procedure Units - integrated or stand alone;
 - Ambulatory Care Facilities - integrated or stand alone
 - Mental Health Facilities;
 - Rehabilitation Centres;
 - Oral Health Units - integrated, stand-alone or mobile units;
 - Palliative Care Centres;
 - Multipurpose Health Care Facilities (remote & rural areas including aged care facilities)
 - Birthing Centres - stand-alone
 - Community Health Centres.
- Note: Licensed private health care facilities may have regard to these guidelines as a reference for facility standards and plan approvals under the relevant legislation.

- 500781 20 .2.00 These Guidelines do not apply to the following types of Health Care Facility although they may be voluntarily used in designing them:
- Aged Care Facilities - residential, hostel, nursing home (Commonwealth funded); (refer to Queensland Health Aged Care Facilities Guidelines available on www.health.qld.gov.au/cwamb)
 - Medical Practitioner Consulting Suites;
 - Pharmacies (retail stand-alone).

New Facility Types

- 500676 20 .3.00 Changes in health practice may result in new facility types, descriptions or names. The fundamental principles and processes set out in these Guidelines apply equally to all types of Health Care Facilities, whether new, traditional or combinations of these.

The Structure of these Guidelines

500673 30 .2.00 STRUCTURE

The Guidelines are divided into a number of “Parts”. Each subject is covered once only in order to avoid duplication of the same information under different Planning Units. The Parts are as follows:

- Part A: Introduction and Instructions for Use;
- Part B: Health Facility Briefing and Planning - including Briefing and Planning, Standard Components and specific Hospital Planning Unit (HPU) sections;
- Part C: Access, Mobility, OHS and Security;
- Part D: Infection Control;
- Part E: Building Services and Environmental Design Briefing (under review for Australasian use)
- Part F: Project Implementation - including FF&E and Operational Commissioning. Applicable to NSW only but available to other jurisdictions as a reference.
- Enclosures: Generic Room Data Sheets (RDS) and Generic Room Layout Sheets (RLS).

Within the Parts, numbered headings are used to designate key sections or subjects such as requirements for a particular Health Planning Unit (HPU) e.g. Emergency, Intensive Care, or to cover issues such as Safety, 'Security', 'Access' requirements etc.

Part B contains generic sections that apply to all or most HealthCare Facilities and specific sections that apply to individual HPUs.

Part B also contains a selection of Standard Components i.e. rooms / spaces that apply to many Health Care Facilities. These Standard Components cross-reference to Room Data and Room Layout Sheets in the Enclosures. These Room Layouts are indicative plan layouts and wall elevations to illustrate an example of acceptable design.

Part C also contains a table indicating recommend discounted circulation for Hospital Planning Units.

501985 30 .3.00 REVIEW AND REVISION

A process of review and revision has been developed for the Guidelines. Clinician and industry comment will be sought and responded to in future issues of the Guidelines and the results of Post-Occupancy Evaluations will also be factored into the Guidelines.

500052 30 .4.00 APPLICATION

These Guidelines are expressed as performance-based requirements.

500041 30 .6.00 The primary objective of the Guidelines is to achieve a desired performance

Part A - Introduction and Instructions for Use

result or service.

Specific measurements where given are commonly recognised as a practical standard for normal operation.

Where specific measurements, capacities or other standards are described, equivalent alternative solutions may be deemed acceptable if it is demonstrated that the intent of the standards has been met.

Area Measurement

500049 30 .7.00 The primary objective of the Guidelines is to achieve a desired performance result or service.

Specific measurements where given are commonly recognised as a practical standard for normal operation.

Where specific measurements, capacities or other standards are described, equivalent alternative solutions may be deemed acceptable if it is demonstrated that the intent of the standards has been met.

Statutory Codes and Regulations

- 600014 40 .1.05 Facility design should comply with all statutory requirements including Australian and New Zealand Building Codes, referenced Australian and New Zealand Standards and local authority requirements. It is the responsibility of those referring to these documents or requirements to ensure that the latest version or edition is used.

Licensed Private Health Care Facilities must also meet the requirements of the relevant Acts and Regulations under which they are licensed.

Building Codes

- 600015 40 .2.05 Construction and design standards in new and refurbished projects should comply with the requirements of the latest edition of the Building Code of Australia (BCA) or the New Zealand Building Code.

Nothing in these Guidelines implies that compliance with a provision of the Australian or New Zealand Building Code is not required.

Other Building Regulations

- 500686 40 .3.00 Facilities covered by these Guidelines may also be covered by other building regulations such as:

- Local Government planning instruments/agencies;
- Government policies and directives;
- Food Services regulations;
- Disability Discrimination legislation such as the Disability Discrimination Act (DDA) Commonwealth of Australia;
- Environmental Protection Authority (EPA) or Environmentally Sustainable Design (ESD) regulations;
- Import bans.

Compliance with these Guidelines does not imply compliance with any other regulations.

Approval of a Health Care Facility by one or more authorities does not imply that the Facility has complied with all other relevant regulations.

The relevant licensing authority, through its approval and licensing processes may require verification or proof of compliance with other relevant regulations.

Disability Discrimination Legislation

- 500687 40 .4.00 In Australia, the Commonwealth Disability Discrimination Act (DDA) has the potential to influence many aspects of the design and construction of Health Care Facilities covered by these Guidelines. This influence goes beyond other accessibility standards such as AS1428 series.

Designers are strongly advised to review the DDA and proceed with caution. It may be helpful to employ a disability specialist to assist with compliance with DDA requirements and to avoid conflict with these and other Guidelines

Part A - Introduction and Instructions for Use

and Codes.

Also refer to Part C of these Guidelines for more details.

- 600016 40 .4.05 Designers in New Zealand should refer to the report - Human Rights in New Zealand Today
Ngā Tika Tangata O Te Motu, and New Zealand Action Plan for Human Rights - Mana ki te Tangata.

OHS Acts and Regulations

- 600017 40 .5.05 Health Care Facility design should comply with each jurisdiction's OHS legislation including referenced Australian and New Zealand Standards.

Refer to Part B and C of these Guidelines for further details on OHS requirements.

Non-Statutory Guidelines and Regulations

- 500043 40 .6.00 Compliance with non-statutory guidelines and regulations is required only when specifically nominated by each jurisdiction.

Accreditation

- 500044 40 .7.00 Accreditation is primarily concerned with hospital management and patient care practices, although provision of equipment and the standard of the built environment is taken into consideration.

In Australia, accreditation is conducted by the Australian Council on Health Care Standards (ACHS). Compliance with these Guidelines does not however imply that the Health Care Facility will automatically qualify for accreditation by ACHS.

Quality Health New Zealand performs a similar service for accreditation of health care facilities.

Introduction

- 500298 50 .1.00 Throughout these Guidelines, various terms, definitions and abbreviations are used. In order to standardise these, the following lists are given. These are not comprehensive lists.

Glossary of Terms

- 500065 50 .2.00 Act - An Act of Parliament.

Acceptable standard - A standard acceptable to the appropriate authority.

Accessible - Facilities that are designed to permit use by people with disabilities.

Area / Space - A room, space or 'area' noted in these Guidelines for a specific use. The area requirement may be enclosed or may be without walls as part of a larger area.

Building Code of Australia - The regulation controlling construction of all buildings in Australia and any subsequent amendments or updates.

Compliance - To act or provide in accordance with the requirements or recommendation of these Guidelines or the requirements of referenced standards or regulations.

Documentation - Preparation of the detailed plans and tender specifications that will control construction of the project.

Egress (Designated) - A designated means of escape in the event of an emergency.

En Suite - A room containing sanitary fixtures attached to a Bedroom, Treatment Room, Consult Room etc. Refer to Standard Components for a discussion of en suite options.

Facility - A complex of buildings, structures, roads and associated equipment, such as a Hospital or Health Care Facility that represents a single management unit for financial, operational maintenance or other purposes.

Fixtures: Refers to fixed items that require service connection (e.g. electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc. Not to be confused with "Fixed Equipment" such as theatre pendants etc.

Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Fixed Equipment - Items that are permanently fixed to the building or permanently connected to a service distribution system.

Fully Assisted Facilities - Facilities for toileting, showering or bathing that are designed for two staff members to assist the patient. Hoists or other equipment may also be required to be used in these spaces.

Guidelines - A collection of recommendations that describe an acceptable level of facility provision.

Health Planning Unit (HPU) - All the rooms, spaces and internal circulation that make up a particular health service department and that are necessary

Part A - Introduction and Instructions for Use

for that department to function.

Maximum - The highest level of provision that is considered appropriate for a given function.

Minimum - The least level of provision that is considered necessary for a given function.

Mobile Equipment - Equipment items (medical or non-medical) that require electrical or mechanical connections or floor space. Includes such items as wheelchairs, patient lifters and monitoring equipment.

Nursing Unit - The module by which a hospital is developed to ensure cost-efficient nurse coverage for patient treatment, care and safety. For example One Nursing Unit = 30* acute patient beds = One Inpatient Unit. * see individual Jurisdiction's recommendations.

Operating Suite - Operating Rooms and all support facilities; may include a Procedure Room.

Optimum - (Also optimal) The most favourable or advantageous condition or set of circumstances.

Partially Assisted Facilities - Facilities for toileting, showering and bathing that are designed for one staff member to assist the patient.

Patient Care Area - The Building Code of Australia defines this as 'a part of a health- care building normally used for the treatment, care, accommodation, recreation, dining and holding of patients including a ward and treatment area'.

Post Occupancy Evaluation (POE) - A methodology developed to support the systematic evaluation of health service buildings and facilities. The fourth and final stage of the NSW Health Process of Facility Planning.

Refurbishment - Standards Australia define this as 'Work intended to bring an asset up to a new standard or to alter it for a new use.' Alternative terms are 'Renovate' and less frequently 'Rehabilitate'. The choice of term varies with Jurisdiction or Industry Group.

Treatment Area - The Building Code of Australia defines this as: 'an area within a patient care area such as an operating theatre and rooms used for recovery, minor procedures, resuscitation, intensive care and coronary care from which a patient may not be readily moved.'

Definitions

500297 50 .3.00 CIRCULATION

'Circulation space' is the space required within a department or unit to enable movement and functionality between individual rooms/ spaces. An example of circulation space is the corridor that joins two rows of rooms or the entrance alcove to a room. Circulation space is nominated as a percentage of total usable floor area prior to the development of the design. These figures can be seen in each of the Schedules of Accommodation and in the Schedule of Circulation Areas in Part C of these Guidelines.

The circulation space required depends on the scope of activities conducted in the space and the layout of the unit. The circulation factor could range from 15% up to 40% of the total room area.

If refurbishment work entails retention of existing corridors within a department, the measured area of the corridors should be added to the schedule of accommodation in lieu of a percentage.

Part A - Introduction and Instructions for Use

Circulation factors will vary depending upon the type of design used, such as single or double corridor, racetrack, etc and whether sanitary facilities are inboard (adjacent to the corridor) or outboard (adjacent to the window line). Sharing of some facilities will also have an impact upon circulation factors.

A balance should be achieved between providing sufficient circulation space to ensure the unit provides a feeling of spaciousness and the excess space on poor functional relationships between spaces. If the circulation rate is unduly high it will add to the capital and operational costs and inconvenience staff and patients who have to travel excessive distances.

600031 50.3.04 POST OCCUPANCY EVALUATION

A methodology developed to support the systematic evaluation of health service buildings and facilities. POE's provide a systematic approach to comparing achieved project outcomes against planned outcomes, disseminate lessons to stakeholders, and assist to inform future decisions /actions.

600025 50.3.05 PROCUREMENT METHODS

Different procurement methods are available for project delivery. The most commonly used are:

-Traditional Lump Sum: A process that requires completion of contract documents such as drawing and specification prior to the calling of tenders for a lump sum contract for construction.

-Design and Construct: The process whereby a contractor is appointed to deliver both the design and construction phases of a project as one contract. Usually a building contractor will fill this role and employ the architect or other designer as a subcontractor or subconsultant.

-Managed Contracts: The process whereby a construction manager is engaged to manage a series of contracts or subcontracts on behalf of a client on the basis of reimbursement for the actual contract sums negotiated plus an agreed management percentage or fee.

-BOOT: 'Build Own Operate and Transfer' - A process that sees a facility built and operated by a private firm or consortium with eventual transfer to the eventual owner (such as the public sector) after an agreed period of time.

-Public Private Partnership (PPP) or Private Finance Initiative (PFI) - A process that sees a facility built and maintained for a contracted period of time by a private firm or consortium and operated by the health organisation.

600026 50.3.10 REFURBISHMENT

The Australian Institute of Quantity Surveyors advises that neither the Australian Cost Management Manual nor the Standard Method of Measurement documents as published by AIQS offer a precise definition of the term. Nor is the term defined in the NSW "Standard Facility Cost Planning Guidelines".

SAI HB 50 - Glossary of Building Terms refers "Refurbishment" to "Rehabilitation" defined as 'Extensive work intended to bring an asset up to a new standard or to alter it for a new use.' And 'Statutory Rehabilitation' defined as "Work required to ensure a building complies with current building regulations."

The alternative terms 'Renovate' and 'Rehabilitate' have the same general

Part A - Introduction and Instructions for Use

meaning - see Glossary of Terms. The choice of term varies by Jurisdiction and context; the term can be further refined to identify different levels or types of 'Refurbishment', i.e. The Victorian DHS Capital Development Guidelines - Hospital Project Planning Benchmarks, Appendix E - Cost Benchmarks uses the following definitions:

Refurbishment Low - Redecorate
Refurbishment Medium - Part altered
Refurbishment High - Gut and refit.

600027 50 .3.15 TRAVEL AND ENGINEERING

-'Travel': The space that is required for the circulation of people and goods both vertically and horizontally in a facility. Examples include ramps, lift wells, links, tunnels, main corridors and detached covered ways joining two buildings.

-'Engineering': The spaces that are required to accommodate plant, ducts and service tunnels. These spaces will be located horizontally and vertically.

Horizontal service voids (ceiling spaces, roof spaces, sub-floors) are excluded from area calculations unless they have a floor to floor height of 1800mm or more. If the space meets this requirement it must be counted as plant floor.

Abbreviations

500851 50 .4.00 Throughout these Guidelines, various terms, definitions and abbreviations are used In order to standardise the Guidelines. The following list is not comprehensive.

ADMIN - Administration

ADL - Activities of Daily Living

ANAES - Anaesthetic Induction Room

CBR - Chemical, Biological and Radiological (agents)

CCU - Cardiac (or Coronary) Care Unit

CLEAN - Cleaners Room

CLN - Clean-up Room (as in operating suite)

CSSU - Central Sterilising Supply Unit

CT - CT Scan Room

CU - Clean Utility

DIN - Dining

DU - Dirty Utility

ED - Emergency Department

END - Endoscopy

ENG - Engineering and Maintenance

ENS - En Suite

ENT - Entrance

Part A - Introduction and Instructions for Use

EQUIP - Equipment Room or Bay

EWIS - Emergency Warning Intercommunication System

GEN - General as in GEN X-RAY

HDU - High Dependency Unit

HOLD - Holding Room or Bed Bay

HVAC - Heating, Ventilation and Air Conditioning

ICU - Intensive Care Unit

KIT - Kitchen or Catering

LDR - Labour, Delivery, Recovery room within a Birthing Unit

LDRP - Labour, Delivery, Recovery, Post Partum room within a Birthing Unit

LIN - Linen Room or Bay

MAMO - Mammography

MATV - Master Antenna Television

MRI - Magnetic Resonance Imaging Room

NICU - Neonatal Intensive Care Unit

OR - Operating Room

PACU - Post Anaesthesia Care Unit within an Operating Suite, Day Procedure Unit or Day Surgery Unit

PATH - Pathology

PHA - Pharmacy

PPE - Personal Protective Equipment

REC - Records

SCRUB - Scrub-up Room (in Operating Unit)

TSSU - Theatre Sterilising Supply Unit

RAD - Radiology

ULT - Ultrasound

XRAY - X-ray Room.

General

- 500004 55 .1.00 These Guidelines should also be read in conjunction with the following documents or with reference to the nominated web sites. Note as these documents are regularly updated or reissued, users should always ensure that the latest version or edition is being used. The list is by no means inclusive and additional references and reading are provided in each individual Health Planning Unit.

Australasia

- 500299 55 .2.00 Australian Council on Health Care Standards (ACHS).
www.achs.org.au/default.htm

Quality Health New Zealand.
<http://www.qualityhealth.org.nz/>

"Australian Cost Management Manual", vols 1-4, Australian Institute of Quantity Surveyors (AIQS)
http://www.aiqs.com.au/Publications/Order_Pubs/Index.htm
- 100033 55 .3.00 Building Code of Australia, 2006, Vol 1, latest edition.
- 600020 55 .4.00 AS4485 - Security for Health Care Facilities
Part 1: General Requirements
Part 2: Procedures Guide".
- 600019 55 .5.00 New Zealand Building Code and Building Regulations
- 600028 55 .6.00 Relevant Occupational Health and Safety Acts and Regulations. Refer Part B of these Guidelines for details.
- 600021 55 .7.00 HB 260 2003 - Hospital acquired infections - Engineering down the risk
- 600022 55 .8.00 The current legislation in each jurisdiction for licensed Private Health Care Facilities - Hospitals, Day Procedure Unit, Nursing Homes etc.

Individual Jurisdictions

- 100030 55 .10.00 New South Wales

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GL 2008_017. Health Facility Guidelines - Australasian Health Facility Guidelines.
www.health.nsw.gov.au/policies/gl/2008/GL2008_017.html

NSW Health - TS11 - Engineering Services and Sustainable Development Guidelines, December 2007 version 2.0
www.healthfacilityguidelines.com.au/reference.htm

NSW Health - Guide to the Role Delineation of Health Services, 3rd edition, 2002.

NSW Health - The Process of Facility Planning v3.1, 2004
www.health.nsw.gov.au/assets/process.html see also
www.health.nsw.gov.au/Initiatives/HealthOneNSW/planning.asp

600029 55.12.00 Queensland Health

Clinical Services Capability Framework, Public and licensed private health facilities, Version 2, July 2005.

Guidelines for the Planning, Design and Building of Primary Health Care Facilities in Indigenous Communities.

Queensland Health Oral Health Design Guidelines, 2004.

Building Guidelines for Queensland Mental Health Facilities, 1996.

For application of the Guidelines in capital projects:
<http://www.health.qld.gov.au/cwamb/default.asp>

600030 55.13.00 South Australia

For application of the Guidelines in capital projects:
www.health.sa.gov.au/Default.aspx?tabid=156

600397 55.14.00 Victoria

Capital Development Guidelines
www.capital.dhs.vic.gov.au/capdev

600032 55.16.00 Western Australia

Western Australia - Health Implementation Taskforce - Metropolitan Clinical Services Planning.

WA Health - Western Australia Health Facility Guidelines for Engineering Services 2006,

WA Health - Western Australia Health Facility Guidelines for Infection Control 2006
<http://www.health.wa.gov.au/hrit/infrastructure/procedures/facility.cfm>

For application of the Guidelines in capital projects:
www.health.wa.gov.au/hrit/infrastructure

Part A - Introduction and Instructions for Use

CHECKLIST

No	Item	Yes	No
1.0	Terms of Reference:		
1.1	Have you understood the Terms of Reference and Objectives of these Guidelines?	☐	☐
2.0	How To Read		
2.1	Have you understood the structure of these Guidelines, how to read it and how to apply it correctly?	☐	☐
3.0	Administration		
3.1	Have you understood how these Guidelines will be administered in relation to your project?	☐	☐
4.0	Role Delineation		
4.2	Have you determined the Role Delineation level applicable to each one of the services in your project?	☐	☐

Checked and certified by:

Name: _____

Date: _____

Company: _____

Position: _____

Signature: _____

INDEX

Description

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PLANNING

General

500513	80 .2.00	This section sets out the parameters required to guide the planning of Health Care Facilities.
		It covers the service, policy and operational issues to be considered for all projects. It then looks at basic principles for good design that will result in appropriately planned facilities, fit for purpose and adaptable in the future. The target audience for this part ranges from clinicians and managers with little or no capital project experience, through novice designers to experienced planners, managers and clinicians. For experienced project teams, this section may be used as a reference point or checklist against which to compare or assess project design solutions.

Service Planning

500035	80 .3.00	These Guidelines are a resource to assist in the planning, design and construction of Health Care Facilities. The information provided places the capital planning process within a framework that depends on prior and thorough service planning.
500036	80 .3.05	A clearly defined Services Plan, Models of Care, outline of community requirements and Operational Policies must be developed and approved in accordance with appropriate delegations before embarking on the capital planning process. These Guidelines require that all parties involved in the Facility Planning Process have responsibility for ensuring that Health Care Facilities are planned and designed in a way that minimises asset management and maintenance costs, maximises efficiencies, and provides a safe work

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environment.

Sharing of space, equipment and staff, wherever possible, are practical steps towards reduction of excessive asset costs. This approach is promoted throughout these Guidelines.

Role Delineation of Health Facilities

500852 80 .4.00 GENERAL

In those jurisdictions that use a role delineation model for categorising clinical and clinical support services, the role level of a service describes the complexity of the clinical activity undertaken by that service and is chiefly determined by the availability of medical, nursing and other health care personnel who hold qualifications compatible with the defined level of care plus teaching and research responsibilities.

As part of the planning process, the range and complexity of services to be provided by Health Care Facilities will be predetermined and approved by each jurisdiction.

The Levels of Service referred to in Schedules of Accommodation in these Guidelines are currently based on the NSW Health 'Guide to the Role Delineation of Health Services' (Third Edition, 2002). The Guide to Role Delineation Guide is not available on the NSW web site but can be obtained from NSW Health Statewide Services Development Branch.

600040 80 .4.05 NEW SOUTH WALES

In NSW, in addition to Role Delineation, NSW also categorises its health care facilities into Peer Groups. These definitions may be found in NSW Health Services Comparison Data - 1999-2000, Volume 2, Casemix Measures.

www.health.nsw.gov.au/pubs/h/pdf/yellowbook_vol2_99-00.pdf

500401 80 .4.10 QUEENSLAND

In Queensland, specific information on service levels may be found in the report Clinical Services Capability Framework, Public and licensed private health facilities, Version 2, July 2005:

Section C - Service Capability Profiles

www.health.qld.gov.au/legislation/reviews/clinical_framework/28712_section_C.pdf

and

Section E - . Map of Role Delineation of Health Services to Clinical Services Capability Framework

www.health.qld.gov.au/legislation/reviews/clinical_framework/28712_section_E.pdf

600081 80 .4.15 WESTERN AUSTRALIA

In Western Australia, a system of categorising hospitals is used e.g. "tertiary", "general", "specialist", "other" as well as levels of service. Details may be found in the report - WA Health Clinical Services Framework 2005-2015. <http://www.health.wa.gov.au/hrit/csf/docs/clinicalframework.pdf>

Capital Development Guidelines

500312 80 .5.00 GENERAL

Each jurisdiction will apply guidelines to capital works projects in accordance with their local legislative and other requirements where available for capital works development. Jurisdictions without their own role delineation (ACT, Tasmania and New Zealand) may have access to another jurisdiction's documents.

600041 80 .5.05 NEW SOUTH WALES

NSW Health: Assets and Contracts - Process of Facility Planning
www.health.nsw.gov.au/assets

600042 80 .5.10 QUEENSLAND

Queensland Health: Works Division, Capital Works Management Framework www.build.qld.gov.au/amps/amps03a.asp in conjunction with: The Integrated Planning Act 1997, State Purchasing Policy and The Financial Administration and Audit Act 1977.

600043 80 .5.15 SOUTH AUSTRALIA

Government of South Australia: Construction Procurement Policy, Project Implementation Process, December 2005.
www.dais.sa.gov.au/webdata/resources/files/pip.pdf

600044 80 .5.20 VICTORIA

Victoria Department of Human Services: Capital Development Guidelines
www.dhs.vic.gov.au/capdev.htm

600045 80 .5.25 WESTERN AUSTRALIA

Health Reform Implementation Taskforce
WA Health Infrastructure Development
<http://www.health.wa.gov.au/hrit/infrastructure>

500712 80 .5.30 POST-OCCUPANCY EVALUATION (POE)

Post-occupancy evaluation is the final stage of a capital works project and methodology guidelines are under development.

Cost Planning Guidelines

500716 80 .6.00 Cost planning guidelines are required to provide a framework for the uniform preparation and presentation of costs for all projects. The deliverables for cost plans at various stages of capital projects are defined in the Guidelines.

The deliverables for Cost Plans at various stages of capital projects are clearly defined in these Guidelines.

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600046 80 .6.05 NEW SOUTH WALES

The Guidelines may be found on www.healthdesign.com.au/nsw.hfg

600047 80 .6.10 VICTORIA

Similarly, Victorian benchmarks may be found in the HHS Capital Development Guidelines. [Www.dhs.vic.gov.au/capdev.htm](http://www.dhs.vic.gov.au/capdev.htm)

Cost and Area Benchmarks

500296 80 .7.00 Refer to respective jurisdictions for advice on cost and area benchmarks.

600048 80 .7.05 NEW SOUTH WALES

NSW Health can provide benchmarks for area and capital cost rates for capital projects.

600049 80 .7.10 VICTORIA

Similarly, Victorian benchmarks may be found in the HHS Capital Development Guidelines. [Www.dhs.vic.gov.au/capdev.htm](http://www.dhs.vic.gov.au/capdev.htm)

Recurrent Costs

500061 80 .8.00 Recurrent costs of new facility proposals must be fully analysed and estimated at feasibility and project definition stages in the planning process, and then progressively refined as the project proceeds. It is critical that client groups and designers ensure that future facilities are sized to provide only those services for which recurrent funds will be available under future funding and resource allocation projections.

Prior to embarking on the capital planning process, contact should be made with the relevant health department personnel who can provide information on recurrent costs.

500063 80 .8.05 Facility design and construction should take due consideration of the cost of maintenance as part of the overall lifecycle costs of the Facility.

Refer to Part E - Building Services and Environmental Design.

And - in Western Australia - Health Facility Guidelines for Engineering Services 2006.
<http://www.health.wa.gov.au/hrit/infrastructure/procedures/facility.cfm>

500304 80 .8.10 For every project, a financial impact statement or similar should be prepared that sets out the current format for an operating budget. Each jurisdiction will need to follow their own department requirements for preparing operating budgets.

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- 500064 80 .8.15 Examples of planning and design decisions that may impact on operating costs include:
- the potential to make the best use of staff skills by collocation of like facilities;
 - designs that increase staffing needs due to impact on Operational Policies, such as the increased need for porters if small store rooms necessitate more frequent deliveries of consumables;
 - clustering of areas to allow sharing of common spaces;
 - the impact on maintenance costs of:
 - extensive glazing;
 - use of low maintenance equipment and building fabric/finishes utilising pre-finished materials;
 - protection of finishes;
 - accessibility of in-ceiling services;
 - the selection of low maintenance furniture, fittings and equipment;
 - additional lighting costs that may result from a deep design that does not offer opportunities for natural lighting;
 - costs resulting from common law (negligence) and Workers Compensation claims for injuries to patients, staff or visitors if facility design does not support safety.

Environmentally Sustainable Design

- 500060 80 .9.00 All governments are committed to the principles of environmentally sustainable design in observance of a commitment to meet ecological obligations with regard to resource use, water consumption, energy conservation and waste management. Every effort should be made in public capital works projects to reduce the cost of energy, water usage and to eliminate pollutants in our environment, especially greenhouse gases, but without compromising patient and staff safety and comfort.

A capital project provides an ideal opportunity to address these issues and to include design features, equipment choices and operational practices that eliminate previously unacceptable practices.

Each jurisdiction requires certain reports to be completed or guidelines to be followed under relevant Acts.

Also refer to Part E of these Guidelines.

- 600050 80 .9.05 NEW SOUTH WALES

The Environmental Performance for Buildings Reports are to be completed for the Predesign, Design, Construction and Operation stages and submitted to NSW Health. The Environmental Performance Guide for Buildings is available from www.asset.gov.com.au/EnvironmentGuide

Also refer to TS11 - Engineering Services and Sustainable Development Guidelines, Version 1.1, December 2005.

- 600051 80 .9.10 QUEENSLAND

Refer to the Department of Public Works Energy Conservation and Management Manual for Government Departments in conjunction with the following Acts:

- Environmental Protection Act 1994
- Environmental Protection Regulation 1998
- Environmental Protection (Waste) Policy and Regulation 2000 and (Interim Waste) Regulations 1996
- Environmental Protection (Water) Policy 1997

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- Environmental Protection (Noise) policy 1997
- Environmental Protection (Air) policy 1997
- National Environment Protection Council (Queensland) Act 1994
- Queensland Government Sustainable Housing Regulations 2006

Further information is available on www.smarthousing.qld.gov.au and www.sustainable-homes.org.au

600052 80 .9.15 SOUTH AUSTRALIA

Refer to SA Department of Administrative and Information Services, Building Management guidance notes on ESD.
http://www.buildingmanagement.sa.gov.au/pdf/ecologically_sustainable_development_planning_and_design.pdf

600053 80 .9.20 VICTORIA

Refer to - Capital Development Guidelines, 6.5 - Sustainability, August 2004
www.dhs.vic.gov.au/pdfs/capdev/sustainability.pdf

600054 80 .9.25 WESTERN AUSTRALIA

Refer to the WA Government sustainability website
<http://www.sustainability.dpc.wa.gov.au/>

Natural Disaster

500017 80 .10.00 All nominated healthcare facilities should be capable of continued operation during and after a natural disaster, except in instances where a facility sustains primary impact. This means that special design consideration is needed to protect the occupants and the essential services such as emergency power generation, heating systems, water (if applicable), etc.

Typical problems such as disruption to public utilities including water supply, sewer mains or energy supplies, may affect the operation of on-site services; however, the responsibility for maintaining these public utilities lies with others.

Appropriate construction detailing and structural provision should be made to protect occupants and to ensure continuity of essential services in areas where there is a history of earthquakes, cyclones, flooding, bushfires or other natural disasters.

In addition, consideration of disease pandemics may need to be addressed and the threat of terrorism has led to a growing need to consider this type of emergency at master planning stage.

600055 80 .10.05 POST-DISASTER FUNCTION

At times due to a natural disaster, pandemic or major act of terrorism, health facilities may be called upon to admit patients and deliver health services that differ from their normal operations. This requirement may affect facility design. Consult local jurisdiction health disaster preparedness bodies to ascertain any particular requirements.

900024 80 .10.15 FLOODS

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Consideration should be given to possible flood effects when selecting and developing a site. Where possible, facilities should NOT be located on designated flood plains. Where this is unavoidable, extra care should be taken when selecting structural and construction methodology, and protective measures against flooding should be incorporated into the design.

600056 80 .10.20 EARTHQUAKES

In earthquake-prone areas, facilities should be designed and constructed to withstand the force assumptions of AS1170 Part 4 - Earthquake loads.

Also refer to Earthquake Technology - New Zealand -
www.wellington.govt.nz/aboutwtgn/innovation
www.earthquakeengineering.com/
NZS 1170.5: Structural design actions - Earthquake actions

600057 80 .10.25 CYCLONES

In cyclonic areas, special attention should be given, not only to protection against the effects of the direct force of wind (structural detailing, special cladding fixings, cyclonic glazing etc), but also against such things as wind generated projectiles (trees, cladding, fencing etc) and localised flooding.

502060 80 .10.30 BUSHFIRES

Facilities should be designed and constructed to conform to AS3959 - Construction of buildings in bushfire-prone areas. Protection against bushfires should be addressed in site selection, creation of firebreaks, fire resistant construction, sufficient water supply and building sprinkler systems (external).

Further information regarding bushfire protection may be found on the following web sites.

NSW Rural Fire Service - Planning for Bushfire Protection -
www.rfs.nsw.gov.au

ACT Rural Fire Service - www.rfs.act.gov.au/

Queensland Fire & Rescue Service - www.fire.qld.gov.au

South Australia Country Fire Service - Bushfire Safety - www.cfs.org.au

Tasmania - "Bushfire - Prepare to Survive" - www.fire.tas.gov.au

Victoria - Country Fire Authority - www.cfa.vic.gov.au

Western Australia - Fire and Emergency Services Authority -
www.fesa.wa.gov.au

500018 80 .10.35 COMMUNICATION SYSTEMS

Where appropriate, consideration should be given to effective long range communication systems that do not rely on ground lines to function and communication within a facility should not be vulnerable in a disaster situation e.g. between wards, departments and support services.

Consultation with local State Emergency Services is recommended to

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ensure arrangements are in place for long range communications assistance in the event of emergency situations or a major disaster.

Occupational Health and Safety

600003 80 .11.00 All Australian States and Territories and New Zealand have responsibility for making laws about occupational health and safety (OH&S) and for enforcing those laws. Each health authority has a principal OH&S Act setting out requirements for ensuring that workplaces are safe and healthy. These requirements outline the duties of different groups of people who play a role in workplace health and safety.

500311 80 .11.05 Each OH&S Act requires employers to ensure that the workplace - including premises, work environment and plant (equipment) is safe and without risk to the health of employees and others.

Each health authority is committed to a high standard of workplace safety and minimisation of risk in the health care system by the provision of a safe and secure environment for patients, staff, contractors and visitors.

The physical environment includes the infrastructure of the Facility plus the building services and operational systems to support that physical infrastructure. Note that the definition of 'plant' in OHS legislation includes any machinery, equipment or appliance and could be viewed to include furniture, fittings and equipment.

Employers are also required by their respective Act to consult with employees on OHS and welfare matters. This includes consulting with employees when changes that may affect the health, safety or welfare of employees are proposed to premises or plant.

The OHS or WPH&S Regulations require employers to identify hazards, assess risks arising from those hazards, and eliminate or control those risks. The project team, in consultation with employees, must therefore aim to identify, assess and eliminate/control any risks associated with the design of a facility and proposed furniture, fixtures and Equipment (FF&E) prior to finalisation of the plans.

A list of the various Acts and Codes of Practice for each health authority is provided in the following sections and also refer to Part C of these Guidelines.

600058 80 .11.10 CONSULTATION

During the planning and design stage, the project team should consult key coordinators who manage OH&S issues to minimise the risk of repeating any existing design problems.

Coordinators may include OH&S officer, Injury Management Coordinator, Infection Control Specialist, Ergonomic / Manual Handling Coordinator, Industrial Hygienist, Facility Manager, Security Officer and Human Resources Officer (aggression/violence).

Hazard reports, near misses, incident and injury statistics for existing facilities should be reviewed and discussed during the design stage.

600004 80 .11.15 OCCUPATIONAL HEALTH & SAFETY ACTS & REGULATIONS

Some workplace hazards have the potential to cause so much injury or disease that specific regulations or codes of practice are warranted. These

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regulations and codes, adopted under state and territory OH&S Acts, outline the duties of particular groups of people in controlling the risks associated with specific hazards.

Note that:

- Regulations are legally enforceable.
- Codes of Practice provide advice on how to meet regulatory requirements. As such, codes are not legally enforceable, but they can be used in courts as evidence that legal requirements have or have not been met.

600059 80 .11.20 AUSTRALIAN CAPITAL TERRITORY

ACT WorkCover

- Guide to the ACT Occupational Health and Safety Act 1989
- Codes of Practice under the OH&S Act

600060 80 .11.25 NEW SOUTH WALES

WorkCover NSW

- Occupational Health and Safety Act 2000
- Codes of Practice
- "Protecting People and Property - NSW Health Policy and Guidelines for Security Risk Management in Health Facilities" PD2005_339, NSW Health, February 2005:
- Zero Tolerance Response to Violence in the NSW Health Workplace PD2005_315, NSW Health, January 2005.
- Workplace Health and Safety: Policy and Better Practice Guide, PD2005_409, NSW Health, January 2005.
- www.health.nsw.gov.au/policies/PD/2005/PD2005_339.html

600061 80 .11.30 NEW ZEALAND

New Zealand Injury Prevention Strategy / Rautaki Ārai Whara o Aotearoa Ministry of Health, June 2003 www.nzips.govt.nz/resources/publications.html

Patient Handling Guidelines

www.acc.co.nz/wcm001/idcplg?IdcService=SS_GET_PAGE&ssDocName=WCM001675&ssSourceNodeId=4141

Hazard Management

www.acc.co.nz/wcm001/idcplg?IdcService=SS_GET_PAGE&ssDocName=WCM000660&ssSourceNodeId=4141

600062 80 .11.35 QUEENSLAND

QLD Workplace Health and Safety

- A guide to the Workplace Health & Safety Act 1995
- Industry Codes of Practice

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600063 80 .11.40 SOUTH AUSTRALIA

SafeWork SA
<http://www.safework.sa.gov.au/home.jsp>

Occupational Health Safety and Welfare Regulations 1995
<http://legislation.sa.gov.au/lz/c/r/occupational%20health%20safety%20and%20welfare%20regulations%201995.aspx>

Government of South Australia, Compliance Obligations of Building Asset Owners - A Guide for SA Government Agencies, 2004
http://www.buildingmanagement.sa.gov.au/pdf/obligations_of_government_agencies.pdf

600064 80 .11.45 TASMANIA

Workplace Standards Tasmania
Workplace Health and safety Act 1995.
Workplace Health and safety regulations 1998

600065 80 .11.50 VICTORIA

Victorian WorkCover Authority
Legislation overview
Codes of Practice

600066 80 .11.55 WESTERN AUSTRALIA

Refer to Worksafe WA:
<http://www.worksafe.wa.gov.au/newsite/worksafe/default.html>

Relevant legislation:
- Occupational Safety and Health Act 1984
- Occupational Safety and Health Regulations 1996

The regulations are supported by Codes of Practice covering various hazard types.

Some examples of Regulations and Codes of Practice and their relevance to facility design are:

- Regulation 3.4 and Code of Practice -Manual Handling - (equipment, patients, stores, Engineering Department large and heavy items).
- 3.10 Evacuation Procedures - (immobile patients).
- 3.13 Lighting (glare and reflections on computer screens).
- 3.18 Movement around Workplaces (pathway design for pedestrian and wheeled equipment)
- 3.27 Gas Cylinders to be Secured.
- 3.50 3.53 and COP - Prevention of falls in the workplace - (fall arrest anchor points).
- 3.82-3.87 Confined Space (Engineering Department maintenance)
- 4.55 and COP Working safely with forklifts (Stores Department design).
- 5.20 Hazardous Substances (storage transport and handling, ventilation).

Accessibility

500305 80 .12.00 Planning and design teams are to ensure that Health Care Facilities are suitable for people with disabilities. The needs of people with a wide range of disabilities should be identified and those needs addressed in all capital works projects.

Refer also to the Commonwealth Disability Discrimination Act 1992 (DDA).

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As noted in Part A of these Guidelines, it may be prudent to employ a disability specialist to assist with compliance, and this may also be required by some local authorities.

600066 80.12.05 THE COMMONWEALTH DISABILITY DISCRIMINATION ACT (DDA)

The Commonwealth Disability Discrimination Act 1992, ... makes discrimination on the basis of disability unlawful. Under this Act all Commonwealth Government activities must be accessible to people with disabilities. This means:

- people with disabilities must have access to all parts of buildings utilised by the Commonwealth in the same way as people without a disability;
- all publicly available Commonwealth information must be able to be provided, upon request, in formats accessible to people with a range of disabilities;
- staff of Commonwealth organisations must display non-discriminatory attitudes in the workplace;
- where necessary, adjustments are to be made to the workplace so that people with disabilities have equal opportunity to use and display their skills; and
- administration of all Commonwealth laws and programs must be consistent with the DDA.

600067 80.12.10 REFERENCES

Australian Standard 1428 series (1428.1 to 1428.4) refer to access and are critical to access design.

- AS1428: Design for access and mobility
- AS1428.1 General requirements for access - new building work ...

The NSW Health Design Series DS32 - Improved Access for Health Care Facilities 1994 may be referenced. However it does not override the Australian/New Zealand Standards (refer below), the Building Codes of Australia or New Zealand nor does it relieve users of their obligation to ensure fitness for purpose in the planning and design of Health Care Facilities.

Also refer to Part C of these Guidelines.

600068 80.12.15 NEW ZEALAND

Refer to NZS 4121: Design for access and mobility: Buildings and associated facilities.

600069 80.12.20 QUEENSLAND

Also refer to The Disability Services Act 2006
http://www.disability.qld.gov.au/key_projects/disability_services_act/

Infection Control

- 500306 80.13.00 Infection prevention and control principles and practices have a direct impact on facility design and should be reviewed by project teams at the commencement of planning for all capital works programs. The involvement

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of infection control professionals and the incorporation of infection control principles and their interpretation into Facility and Unit Operational Policies ensure that relevant issues in the design and layout of Health Care Facilities have been considered and incorporated into building plans.

Infection control consultation prior to construction, renovation, commissioning or demolition work is also essential to ensure that infection risks are identified and appropriate measures put in place to reduce such risks.

Issues that require infection control input include: the number, type and location of hand basins; the number and type of isolation rooms; air handling systems; clean and dirty work flows; interior surfaces to facilitate cleaning; transportation routes etc.

Refer to Part D of these Guidelines for assessment of infection control risks and suggested physical design responses.

600007 80 .13.05 INFECTION CONTROL POLICY DOCUMENTS

Australian Standards, HB 260 - 2003, Hospital acquired infections—Engineering down the risk.

Australian Government, Department of Health and Ageing, Infection Control Guidelines, January 2004. www.health.gov.au

600070 80 .13.10 ACT: Draft in process.

600071 80 .13.15 NEW SOUTH WALES

Policy Directive PD2005_247 - Infection Control Policy, January 2005. www.health.nsw.gov.au/policies

600072 80 .13.20 NEW ZEALAND

Standards New Zealand, NZ 8142: Infection Control, [www.standards.co.nz/web-shop/?action=viewSearchProduct&mod=catalog&pid=8142:2000\(NZS\)](http://www.standards.co.nz/web-shop/?action=viewSearchProduct&mod=catalog&pid=8142:2000(NZS)) www.standards.co.nz/

600073 80 .13.25 QUEENSLAND

Infection Control Guidelines, November 2001. www.health.qld.gov.au/infectioncontrol

600074 80 .13.30 SOUTH AUSTRALIA

Infection Control Guidelines (review in progress) <http://www.health.sa.gov.au/INFECTIONCONTROL/Default.aspx?tabid=157>

600075 80 .13.35 WESTERN AUSTRALIA

Health Facility Guidelines for Infection Control 2006
<http://www.health.wa.gov.au/hrit/infrastructure/procedures/facility.cfm>

Culture and Health as an Element of Design

601905 80 .14.00 DEFINITION

Culture can be defined as “the behaviours and beliefs characteristic of a particular social, ethnic, or age group: the youth culture; the drug culture.” It includes religious beliefs, customs and moral values. Culture impacts on health issues and status such as infant & maternal mortality, life expectancy, nutrition, and prevalence of chronic conditions (refer to National Health Priority Areas in the Reference Section below).

Culture underpins the political, legislative and health systems framework in which a society operates. Within mainstream culture there are sub-cultures e.g. class, youth culture, alternative cultures, ethnic and indigenous cultures. These cultural groups will not necessarily value or react to health facilities and services in the same way as the mainstream culture and may require individual consultation. Consultation will depend on the target community profiles, functions and focus expressed in the facility brief. Responding to cultural difference is acknowledged by governments through Access and Equity policies.”

601906 80 .14.05 AUSTRALIAN GOVERNMENT POLICY

Health services must comply with the Charter of Public Service in a Culturally Diverse Society.
http://www.immi.gov.au/about/charters/_pdf/culturally-diverse/charter.pdf

The Charter supports the Government’s commitment to implement its Access and Equity Strategy, was endorsed by Australian state and territory governments and by the Australian Local Government Association in 1998, and represents a nationally consistent approach to the delivery of culturally responsive Government services.

The purpose of the Charter is to ensure that Government services meet the particular needs of people from diverse linguistic and cultural backgrounds so that they can participate fully in economic, social and cultural life. The Charter summarises seven principles central to the design delivery, monitoring, evaluation and reporting of quality government services in a culturally diverse society: these principles are access, equity, communication, responsiveness, effectiveness, efficiency and accountability.”

601907 80 .14.10 NEW ZEALAND POLICIES

He Korowai Oranga: Māori Health Strategy sets the direction for Maori health development in the health and disability sector. Refer to:
<http://www.moh.govt.nz/mhs.html>

Accompanying the strategy is Whakatātaka: Maori Health Action Plan 2002-2005, which outlines what the Government will do to implement the strategy. Links to other relevant documents (health of older people, youth, Alcohol and Drug etc) are listed and are accessible through the Maori Health Action Plan. Refer to:
<http://www.moh.govt.nz/moh.nsf/49ba80c00757b8804c256673001d47d0/e09b7f5eb0a2665ccc256c70007d22ec?OpenDocument>

Project staff need to understand, through stakeholder consultation, the culture or cultures of the client population of the facility/unit to be designed to ensure, as far as possible, its cultural sensitivity and appropriateness. This consultation should be factored in to the planning process - it should not be an afterthought.

Health facility outcomes are reliant on the quality of the health data and stakeholder consultations. Each jurisdiction will have relevant bodies that can provide community organization and representative contacts, equity priorities, health status information, strategic service plans and systems performance data. It may be necessary to engage a health planner / consultant with specific experience in health planning issues for particular groups identified as significant.

601909 80 .14.20 GROUPS WITH SPECIAL NEEDS

Groups with special needs include:

- migrants especially those from non-English speaking backgrounds;
- refugees (issues of torture and trauma);
- women, particularly of child-bearing age;
- children and young people;
- indigent populations;
- rural and remote communities;
- specific religious groups such as Jews and Muslims;

- Aboriginal and Torres Strait Islanders (ATSI). The Commonwealth Department of Health and Ageing has a specific Office for Aboriginal and Torres Strait Islander Health (OATSIH) with a Capital Management section that can provide information on development of ATSI health facilities. Refer to:

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-oatsih-about>

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-oatsih-pubs-index.htm>)

- Maori and Pacific Islanders in New Zealand. It must be stressed that the New Zealand Maori population, under the Treaty of Waitangi, share equal rights with the Crown and recognition of these rights is an inherent element of the briefing process.

601910 80 .14.25 AREAS AND FUNCTIONS REQUIRING SPECIAL CONSIDERATIONS

Areas and functions requiring special consideration:

- birthing and maternity customs;
- death and dying and associated rituals/customs;
- interpreter services: face-to-face and telephone;
- way finding: with reference to disability, literacy and language/s;
- food services and special dietary needs (e.g. halal, kosher);
- spiritual needs (prayer room, chapel, ablutions);
- modesty and gender separation (bathing, change cubicles, waiting etc);
- privacy for counselling;
- facilities for large family groups (e.g. New Zealand Wahanau Rooms);
- access to outdoor areas including amenities (toilet & shower) for people from remote areas travelling for long periods to attend clinics etc and need the opportunity to clean up.

N.B. These areas and functions are included as guidelines only. Other areas and functions may be significant depending on the individual situation. Stakeholder consultations and strategic plans may indicate additional issues to be considered.

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601911 80 .14.30 CEREMONIES

Smoking ceremonies are conducted by Aboriginal people with specialised cultural knowledge with the aim of cleansing the space in which the ceremony takes place (both building/s and external spaces) to remove "bad spirits". These ceremonies can occur throughout the life of the building.

In particular, due to the nature of Aboriginal health clinics it would be common to smoke all the rooms:

- prior to occupying the building;
- following a death within the building.

The impact of the ceremony on engineering services in the context of the building is very minimal. A fire is started in a drum (5 gal); the flames are then smothered with green vegetation and extinguished. The buckets are then carried by hand through the necessary rooms of the building; they are not left in the rooms. There is no smoke damage to the facilities and a very minimal amount of heat associated with the generation of the smoke. The only requirement would be to isolate any smoke alarms and fire detection equipment prior to commencing the event. The smoke can be cleared after the event by mechanical ventilation and opening windows within an hour.

In New Zealand, a welcome ceremony, a pohiri or powhiri, is performed in new facilities but has no implications for the building design.

601912 80 .14.35 SACRED SPACES AND RELIGIOUS OBSERVANCE

It is now normal practice for hospital Chaplaincy / Pastoral Care teams to include representatives of all the major faiths, especially in areas with culturally diverse populations. In terms of space, these teams require offices and rooms for counselling, as well as chapels/prayer rooms, ideally all close together and in an accessible part of the hospital. A space for prayer, meditation and contemplation should evoke a different world from the healthcare building where it is set. This may be neutral space, a space for each religion, or a space expressing various faiths through a synthesis.

Consideration also needs to be given to ablution facilities (essential need for Muslims, separate for males and females, for obligatory ablution before prayer), provision and storage of items such as prayer mats, and space for changing or leaving 'outside' clothes, shoes etc.

In New Zealand, health care facilities will usually additionally provide a Maori Health Unit and Whanau (family) rooms as part of the standard ward design. This can be used by Maori families (and others) as a place for families to meet, wait, and in some cases for the family to be with the recently deceased family members (Te Papaku).

601913 80 .14.40 SPECIFIC HEALTH PLANNING UNITS (HPUs)

Although many HPUs may require consideration of cultural issues as part of the briefing and design process, the following HPUs (the list is not inclusive) require particular consideration, and more detailed information is/will be provided in the planning sections of the HFG for these units:

- Emergency Unit;
- Inpatient Units;
 - Kitchens;
 - Maternity and Birthing Units;
 - Mental Health Units;
 - Mortuary;
 - Paediatric Facilities;
 - Palliative Care.

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601914 80 .14.45 REFERENCES

Project staff are recommended to read "Creating Culturally Sensitive Healthcare Environments, A Report to NHS Estates, with Mark R.D. Johnson et al, June 2004".

Unfortunately this report was never published but permission has been given to make it available on the Centre for Health Assets Australasia website - www.CHAA.net.au under Links and References.

601915 80 .14.50 COMMONWEALTH GOVERNMENT

Department of Health and Ageing: National Health Priority Areas
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/Health+Priorities-1>

The National Health Priority Areas are: cancer control, injury prevention and control, cardiovascular health, diabetes mellitus, mental health, asthma, and arthritis and musculoskeletal conditions.

Cultural Respect Framework for Aboriginal and Torres Strait Islander Health 2004-2009 Australian Health Ministers' Advisory Council March 2004.

601916 80 .14.55 NEW SOUTH WALES

Multicultural Health Services and Programs, Prepared by the NSW Multicultural Health Communication Service, May 2002.
<http://www.mhcs.health.nsw.gov.au/mhcs/subpages/material/booklet.pdf>

Aboriginal Participation in Construction Guidelines, (Applying to Projects commencing 1 January 2007). NSW Department of Commerce.

601917 80 .14.60 NEW ZEALAND

He Korowai Oranga: Māori Health Strategy <http://www.moh.govt.nz/mhs.html>

For the Whakatātaka: Māori Health Action Plan 2002-2005, refer to:
<http://www.moh.govt.nz/moh.nsf/49ba80c00757b8804c256673001d47d0/e09b7f5eb0a2665ccc256c70007d22ec?OpenDocument>

601918 80 .14.65 QUEENSLAND

Cultural Diversity - A Guide for Health Professionals, December 2003.
<http://www.health.qld.gov.au/multicultural/cultdiv/default.asp>

Guidelines for the Planning, Design and Building of Primary Health Care Facilities in Indigenous Communities <http://www.health.qld.gov.au/cwamb>

601919 80 .14.70 VICTORIA

Department of Human Services: Cultural Diversity Guide, Planning and delivering culturally appropriate human services, reprinted June 2006.
http://www.dhs.vic.gov.au/multicultural/downloads/cultural_diveristy_guide_2006.pdf

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601920 80 .14.75 WESTERN AUSTRALIA

Refer to Aboriginal Cultural Respect - Implementation Framework document
<http://www.aboriginal.health.wa.gov.au/>

Engineering Services / Standards

500046 80 .14.90 Refer to Part E of these Guidelines and - in NSW to TS11 and in WA to Health Facility Guidelines for Engineering Services 2006 regarding the design and installation of engineering services in new and refurbished premises.

Note that these guidelines and technical reports do not override the requirements of the Australian and New Zealand Building Codes nor the Australian/ New Zealand Standards.

Information Technology / Communications

500792 80 .15.00 GENERAL

All capital projects will have an information and communications technology component. This could include the provision or upgrade of the infrastructure, new or upgrade of equipment and installation of new health information management systems.

It is recommended that all proposals for funding be discussed with the relevant health jurisdiction prior to formal submission, processes for which will depend upon the type and scale of the proposal.

Proposals must be consistent with each jurisdiction's ICT strategies and are expected to comply with the relevant technical standards as appropriate to the project;

Health information developments and investments included in capital works projects must support current clinical practices.

600076 80 .15.05 NEW SOUTH WALES

In NSW, proposals requiring state capital funding should be submitted to NSW Health and be in accordance with the Shared Corporate Services Strategy as managed by NSW Health. The process for funding for Information and Communications Technology Proposals is outlined in Treasury Circular TC 03/10.
www.treasury.nsw.gov.au/pubs/03_tcirc/tc_03ind.htm

Also refer to Information Management Strategy 2002.
www.health.nsw.gov.au/pubs/a-z/i.html

600077 80 .15.10 QUEENSLAND

In Queensland, capital projects must comply with the Queensland Government, Information and Communication Technology (ICT) Cabling Standards (IS32) and Queensland Health ICT Cabling Standard ISO934. IS32 can be found at
www.governmentict.qld.gov.au/02_infostand/standards/is32.htm

601900 80 .15.15 SOUTH AUSTRALIA

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In South Australia, capital projects must comply with the minimum technical and functional parameters outlined in the Department of Health, ICT Services document "Standards definition for the installation of a structured cabling system".

This document is available from:

Manager Network Services
ICT Services
44 Waymouth Street
Adelaide SA 5000
Tel: (08) 8226 7352

Standards & Codes

- 500309 80 .16.00 Refer to Standards Australia for information regarding standards that may be relevant to a particular project. Standards Australia also produces handbooks and guides on various topics and subjects. The web address for further information is www.standards.com.au.

In New Zealand, refer to Standards New Zealand at www.standards.nz.co/

Although generally desirable, compliance with Standards is not mandatory unless cross-referenced by the relevant Building Code or other statutory legislation.

In other situations, compliance with Standards, Codes, Guides or Handbooks is not required unless specifically noted by these Guidelines.

Furniture, Fittings and Equipment (FF&E)

- 500310 80 .17.00 The health system has significant purchasing power and the purchase of furniture, fittings and equipment should be carried out in accordance with each jurisdiction's policy.

Also refer to Part F of these Guidelines - Project Implementation - FF&E for further information.

Fixtures, Fittings & Equipment

- 600078 80 .17.05 NEW SOUTH WALES

The Purchasing and Supply Manual for Public Health Organisations, January 2006. www.health.nsw.gov.au/audit/manuals/purch_supply.pdf

- 600079 80 .17.10 QUEENSLAND

Queensland Government Better Purchasing Guides:
www.qgm.qld.gov.au/02_policy/better_purch.htm

- 600080 80 .17.15 VICTORIA

Victorian Government Purchasing Board:
www.vgpb.vic.gov.au/CA256C450016850B/0/4FBAC7BE2075606FCA256C850025DA77?OpenDocument

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Operational Policies

500055 80 .18.00 OVERVIEW

Operational Policies define the “What, How, When, Where, Who and With What” of any process. They are a critical factor in the implementation of a desired service model and the achievement of targeted capital and recurrent costs. They should be documented early in the planning process in 'broadbrush' terms to assist in selection of the recommended capital option. The impact of new technology and changing clinical work practices should be reviewed prior to commencing capital planning.

500059 80 .18.05 Operational Policies should be developed by the Project Team in consultation with health service stakeholders and require a determination of not only what current practices will continue in the future but also what new practices will be implemented and the process for change management where this is required. This process of reviewing and documenting Operational Policies is valuable as it subjects the current operation of a Facility or Unit to scrutiny.

500515 80 .18.10 Project teams should constantly review their design proposals with the Operational Policies in mind and be able to demonstrate that the capital and recurrent cost implications of proposed operational policies have been fully evaluated and the most cost-effective and efficient solutions are being proposed and developed, as the planning effects of operational policy decisions are often not apparent until planning has commenced and the consequences can sometimes be quite different to those expected.

500713 80 .18.15 Operational Policies may be overarching policies across an entire Health Care Facility or health service network or may be specific to one Health Planning Unit such as the Emergency Unit.

The specific operation of a Unit will reflect the demographic profile of the anticipated users of the service (patients, consumers) the clinical characteristics of the patients and the defined role of the Unit including its place within the service network.

500714 80 .18.20 Operational Policies are significant in the design process as they can have an impact on the size, configuration and the nature of accommodation. Operational Policies not only act as a specific guide to the operation of each group of spaces, but also as a frame of reference for the workings of the whole Facility.

Operational Policies should be consistent across health facilities within an Area Health Service or Network to the extent dictated by the role and service delineation of the individual facilities. The Operational Policies should also respond to, and incorporate policies of other services within the Area Health Service so as to ensure a patient focussed continuum of care. Admission and discharge policies would be two key examples.

In the design phase, the operational policies, traffic and workflow diagrams will be used by the architects, engineers and facility planners to ensure that the range of activities and requirements are reflected in the design. At this stage, necessary compromises can be discussed or changes made where there are financial, building and other constraints.

A general description of a generic set of Operational Policies to be developed to inform the design and planning process follows.

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500303 80 .19.00 LIST OF OPERATIONAL POLICIES

Admissions
Amenities for Patients and Visitors
Amenities for Staff
Cleaning
Clinical Information
Communication Systems
Consultation and Interviews
Disaster Planning
Equipment Storage
Food Services
Infection Control
Linen Management
Maintenance and Engineering
Medication Management
Operating Hours
Pastoral Care
Pharmacy
Safety and Security
Sterilising Services
Stores and Supplies
Vehicle Access and Parking
Waste Management

500692 80 .19.05 ADMISSIONS

SUMMARY

The admission process has two main components - the 'administrative' process and the "clinical (medical / nursing / allied health) admission / assessment process" and may occur in a number of locations.

OPTIONS

The admission process may be conducted in a dedicated Admissions Unit - usually in or near the Main Entry, within a Unit (inpatient unit, day procedure unit, operating suite etc) or in the Emergency Department. Note that with the increase in pre-admission clinics and day only procedures, day surgery and day-of-surgery, where admission will often occur within the actual unit, the need for a dedicated Admissions Unit needs to be carefully considered and the availability of staff ascertained.

IMPLICATIONS

Space (waiting areas, interview rooms etc) and personnel (workstations) requirements will vary depending on the source and location of admissions e.g. Emergency Department, Day Only Units, Operating Units etc and associated Operational Policies.

Access routes to the Unit/s should also be considered.

500694 80 .19.10 AMENITIES FOR PATIENTS AND VISITORS:

SUMMARY

Provision of appropriate patient amenities enhances the quality of a patient's or visitor's hospital experience and often assists in minimising stress.

OPTIONS

Amenities may include waiting areas, gardens, toilets, baby change and

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baby feeding facilities, kiosks, quiet rooms etc. They may extend to provision of sleeping accommodation in Palliative Care or Paediatric Units, or on-site accommodation for relatives, patients from remote locations or from poor socio-economic circumstances.

The provision of accessible toilets for people with disabilities as a ratio of all toilets will be determined in accordance with the acuity and dependency levels of patients and the needs of visitors, and planners should refer to the Australian and New Zealand Building Codes.

IMPLICATIONS

The extent and location of amenities for patients and visitors will impact on planning of both the whole Facility and specific Units where they are needed.

502061 80 .19.15 AMENITIES FOR STAFF

SUMMARY

Occupational Health and Safety Acts and Regulations require employers to provide for the welfare of employees and to consult with employees when providing facilities for their welfare.

BCA requirements are the minimum standard for provision of staff amenities.

The provision of appropriate staff amenities may influence the ability of a Health Care Facility to attract and retain staff and consultation with staff regarding the type and quality of facilities is an essential part of facility design.

Infection control requirements may also determine the need for amenities such as showers and change rooms.

OPTIONS

Staff amenities will include showers and toilets and either change rooms or secure storage areas for property i.e. handbags, clothes, etc.

In addition, Staff Lounges and/or Cafeterias may be provided depending on the size, function and location of individual units and/or the Facility.

The need for central amenities in addition to unit-based amenities will need to be addressed.

In order to support and encourage a healthy workforce, "end of trip" facilities for cyclists should also be considered.

IMPLICATIONS

The extent and location of amenities for staff will impact on planning of both the whole facility and specific Units where they are needed.

500776 80 .19.20 CLEANING

SUMMARY

Cleaning services may be provided by facility staff or by an external contractor. The time, frequency and methods of cleaning will determine the amount of storage space required for equipment and cleaning products within the Unit and the overall Facility.

SOME OPTIONS

The most common option - particularly if services are provided by facility

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staff - is a centralised Housekeeping Unit comprising necessary offices and stores for equipment and dry goods, and small Cleaners' Rooms strategically located throughout the Facility. The latter also provide a supply of cleaning materials and equipment for staff to use in emergency situations or out of hours.

IMPLICATIONS

Allocation of space for storage of cleaning equipment, chemicals and consumables within the Unit or Facility.

Consumables such as toilet paper, paper hand towels, etc must be stored separately from cleaners' wet area / equipment to prevent cross contamination with moisture and exposure to equipment used throughout patient care areas.

Design, layouts, fittings, furnishings, floor coverings and other finishes will have a significant impact on the cleaning of the Unit. Ledges, corners and all other surfaces that are difficult to clean or hard to reach should be minimised.

Facilities such as power outlets, particularly in corridors and hand washing facilities should be provided in appropriate locations to enable staff to efficiently clean the Unit.

500700 80 .19.25 CLINICAL INFORMATION

SUMMARY

The requirements for the Clinical Information Health Planning Unit itself can be found in Part B of these Guidelines. However, methods for delivery of medical records to and within a Facility or Unit should be clearly defined.

SOME OPTIONS

The trend is towards one centralised record per patient within a health service so reducing the multiplicity of records that often occurred in the past across health service providers.

Whilst considerable advances have been made towards electronic record systems, most health care facilities still operate a paper-based system and are likely to do so for some time yet. Should an electronic medical record system be planned, this will have major implications in terms of IT requirements and space for workstations, computers, etc to access and manipulate the records both within and outside the Clinical Information HPU.

IMPLICATIONS

The methods for transporting records to their point of use (trolleys, mechanical transport system) will need to be determined and secure storage for paper records must be provided in staff stations and reception areas.

In all situations, the security and handling of confidential patient information and records must be addressed.

Staff must have safe access to records after hours.

500696 80 .19.30 COMMUNICATION SYSTEMS

SUMMARY

A wide range of information and communications technology options are now available to a Health Care Facility.

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The primary objectives of communication facilities are.

- to improve work efficiency;
- to make clinical information more readily available to staff ;
- to assist staff to provide better service to patients;
- to assist patients to maintain contact with staff and with their relatives and friends and access entertainment and education material.

Communication facilities will be required to comply with each judiciary's strategies and policies, plus many are subject to regulatory control. Therefore early advice should be sought regarding these.

SOME OPTIONS

The communication strategy chosen will depend on various issues including size of Facility, location, locally available technology, the available technical support and advances in technology. Options to be considered may include:

- Teleconferencing;
- Videoconferencing;
- Teleradiology;
- Telepsychiatry;
- Telepathology;
- Bedside data ports;
- Telemetric monitoring;
- Handheld computing;
- Barcode scanning;
- Fingerprint, handprint and voice recognition security systems;

This is in addition to the more 'standard' provision of systems covering:

- Computers
- Telephones - land lines and - increasingly - mobile phones;
- Intercom systems;
- Dictation/transcription;
- Data communication - facsimile, email and intranets;
- Nurse call and emergency call systems;
- Emergency Warning Intercommunication System (EWIS);
- Public address;
- Pocket paging;
- Personal duress alarms;
- MATV distribution.

IMPLICATIONS

The Communications strategy and the Information Management & Technology strategy for a Facility are usually integrated.

In considering the strategy to be adopted, including all component parts, a careful analysis of options, including costs, flexibility and future adaptability is required.

The aim, where possible, should be the 'future proofing' of communications infrastructure even though this may be difficult to achieve.

500697 80 .19.35 CONSULTATIONS AND INTERVIEWS:

SUMMARY

Clinical consultation involving physical examination should always take place in appropriately equipped Consultation/Examination Rooms - see Standard Components in these Guidelines.

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Interview Rooms are required to fulfil functions such as:

- Clinical consultation not involving physical examination
- Interviewing patients (often with family/friends) on admission to a Facility or on discharge for purposes such as explaining follow-up care, arranging transport, paying of accounts etc;
- Interviewing patients (often with family/friends) on first attendance for treatment or for pre-admission assessment for surgical treatment or day procedure (although the former may more frequently occur in a Consultation / Examination Room);
- Interviewing / supporting grieving family/friends
- ‘Family conferences’ where clinical staff address treatment issues with family/friends with or without the patient present;
- Formal and informal teaching space for small groups.

SOME OPTIONS

The interview / clinical consultation function may be incorporated into individual offices which will increase the size of offices and also the number of enclosed offices required.

Alternatively, interviews may be conducted in shared Interview Rooms’ this option is more flexible and reduces the overall space allocated to individual office accommodation. This will require a commitment to an efficient scheduling system to meet the requirements of those using these spaces.

IMPLICATIONS

The major implications of the approach to be taken should be assessed in terms of the privacy and convenience for patients and staff, and the reallocation of space from Offices to Interview Rooms. The safety and security of staff, patients and visitors is a prime consideration and in certain situations a second egress door may be required e.g. Mental Health.

500855 80 .19.40 DISASTER PLANNING

SUMMARY

Towards the end of both the Schematic and Design Development phases of a project a specialist review session should be held to:

- Consider the role the health facility will play in case of disaster
- Consider the potential disasters that could occur within the hospital setting and those that could occur outside the hospital setting;
- Consider the implication that those potential disasters could have on the proposed design;
- Review how the design will respond to the potential disaster/s;
- Develop actions to amend the design as required;
- Review existing and develop new operational policies for disaster management to complement the new design and
- Document Operational Policies for future implementation.

SOME OPTIONS

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Examples of the types of disasters that will need to be reviewed are:

- Those occurring within the hospital setting e.g. loss of back-up energy, fire, loss of gas supply;

- Those occurring external to the hospital setting e.g. singular traumatic events affecting a large number of people, such as use of gas, nuclear, biological or chemical agents, earthquake, fire or rapid spread of disease such as SARS.

IMPLICATIONS

Some examples of issues that may impact on the design are:

From those occurring within the hospital setting:

- Areas such as Intensive Care and Operating Units will require uninterrupted power supply systems to cope with loss of generator back up supply systems;

- Are the paths of fire egress suitable for staff, ambulatory and bedridden patients and if not, can the design and Operational Policies be reviewed to address this issue?

From those occurring outside the hospital setting:

- Does the design provide facilities for appropriate decontamination of personnel and equipment as required?

- Are the proposed air-conditioned environments appropriate for potential disasters including smoke and heat generated by bushfires?

- Has a disaster control facility been incorporated into the design in an identified area?

- Does the path from the helipad or nominated helicopter landing site provide for ease of access?

- Is it possible to design the Building Management System to respond to disaster situations?

500856 80 .19.45 EQUIPMENT STORAGE

SUMMARY

The increasing dependence on medical equipment including non-invasive ventilatory support, monitors for oximetry, blood pressure monitoring and testing equipment has increased demands for storage space and has significant implications for FF&E budgets.

SOME OPTIONS

Designated equipment may be stored at or near each bed space / point of use.

Additionally, a central storage space will be required for each Unit or cluster of Units and/or for the entire Facility. Centralised storage offers a number of economies and efficiencies but requires a commitment to effective management, record-keeping, cleaning and safe storage of shared equipment to ensure that it is available when required. There are also implications for the maintenance and regular calibration of such equipment.

IMPLICATIONS

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Where equipment is to be stored at the bed space, adequate space to use and service it must be provided.

Storage of patient manual handling equipment must be considered in locations convenient to use.

Central storage must be safely accessed by staff during the day and after hours.

Sufficient power points for recharging equipment must also be provided.

500695 80 .19.50 FOOD SERVICES

SUMMARY

The Food Services Unit provides meals, snacks and beverages for inpatients, day-only patients, occasionally for relatives, and for staff. It may cater for functions on request and may also provide a 'Meals-on-Wheels' service, especially in rural or regional areas.

Catering for staff may range from provision of beverage-making supplies to wards and departments to a full cafeteria service which latter may be privately-operated either by the Facility or by an outside contractor.

Meals may be prepared and delivered to patients and staff in a number of different ways.

SOME OPTIONS

Options for food preparation include:

- Cook Fresh

Patient meals and beverages are prepared from fresh ingredients and plated hot in the Main Kitchen before delivery to the wards and departments. The system may be supplemented by a "cook-freeze" system to provide selected menu items for other sites.

- Cook Freeze

Selected menu items including main meals, desserts and a limited range of vegetables and modified consistency items may be prepared in bulk in a central Kitchen, packed into foil containers of between 1 and 12 serves, frozen and boxed for delivery to outlying sites where they are reconstituted.

- Cook Chill

This system is based on cooking food until thermal kill is achieved followed by rapid controlled chilling that reduces the food temperature to below -3°C within a specified time. Storage at this temperature extends the shelf life of the product for between 5 and 45 days depending on the system used.

Meals are plated cold and trayed in rethermalisation carts that are divided vertically in two sections. The carts are then connected to terminals and both sections are refrigerated. Prior to serving, the terminals are activated and the hot part of the trays will be rethermalised while the cold products remain chilled.

IMPLICATIONS

The needs of people with special dietary requirements must be considered when determining food services operational policies. The capacity to produce special meals must be available.

The spatial needs of each preparation and delivery method vary and will impact not only on the central Food Services Unit within the Facility but also on the planning of individual Units. Small beverage bays / pantries, trolley parking bays or trolley re-heat bays or even Activities of Daily Living (ADL)

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kitchens may be needed in those areas where ADL activities are offered.

Also Refer to Part D - Infection Prevention and Control.

500698 80 .19.55 INFECTION CONTROL:

SUMMARY

Consideration of infection control principles is fundamental to the design of Health Care Facilities. Refer to Part D of these Guidelines for assessment of infection control risks and suggested physical design responses.

Interpretation of infection control principles into Facility and Unit Operational Policies and associated briefed spaces is part of briefing a project.

SOME OPTIONS

The design and layout of all new or renovated Health Care Facilities should take account of the movement of people and incorporate all necessary physical requirements to minimise the transmission of infection.

IMPLICATIONS

Separation of “clean” and “dirty” work flows: Clean and dirty corridor planning for Operating Units is the clearest example of this. However the single corridor Operating Suite is increasingly the norm and provides fewer planning constraints to the design team.

The inclusion and location of handwash bays/basins is a less dramatic but no less critical example.

500699 80 .19.60 LINEN MANAGEMENT

SUMMARY

The procedures for the delivery and storage of clean linen and the removal of dirty linen impact on the planning for an individual Unit and on the whole Facility with particular regard to trolley movements.

SOME OPTIONS

Laundry facilities may be located on or off campus. Depending on the location of the Laundry and transport methods, a Clean Loading Dock and temporary holding area will/may be required.

Clean linen may be delivered on an imprest trolley exchange system on a regular basis - usually daily plus once on the weekend. Alternatively, clean linen may be delivered and unpacked onto storage shelves or into cupboards; however this is a much more labour intensive approach and should be avoided if possible.

Dirty linen should be sorted at point of use and stored in appropriate receptacles to await pickup. This may be in the Dirty Utility Room or in a Disposal Room in individual units and a Soiled Linen Holding Area with dock access.

IMPLICATIONS

There should be policies and procedures in place for the safe manual handling of linen.

How linen is delivered and removed, in what type of trolley, cart or bin, how often and in what quantity, will affect sizes and placement of linen bays and cupboards and of central linen receipt and holding areas.

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It is essential that clean linen is stored separately from dirty linen.

Depending on facility requirements, different types of linen may have different laundering requirements e.g. patient clothes or special items (such as may be necessary in longer term care facilities) may be processed in a laundry within the Unit or on the site, with other items sent off site to a central, District or commercial laundry.

Ensuring adequate clean linen delivery and pickup of soiled linen occurs is also a management issue for the Unit that will relate to the storage areas available for both.

Also Refer to Part D - Infection Prevention and Control.

500780 80 .19.62 MAINTENANCE AND ENGINEERING

SUMMARY

Health service premises, furniture and equipment will all require regular inspection and maintenance. Biomedical equipment will also require regular testing and calibration.

SOME OPTIONS

Maintenance and engineering services may be provided by Facility staff or by contractors, or by a mix of both. They may be provided at a facility level or across an Area or other network of facilities. This will depend on the Service Level Agreement.

For staff and some contractors, maintenance facilities including indoor and outdoor covered work areas plus storage for tools and materials may be required on the facility site.

IMPLICATIONS

Maintenance contracts and work methods will impact on the need for work areas and storage on or off the site.

If performed on site, materials and equipment will be delivered and waste materials removed from maintenance work areas. To avoid any noise problems the maintenance work areas should not be located close to patient care or residential areas.

Staff should regularly conduct an inventory of stored equipment or furniture awaiting repairs and dispose of any surplus goods.

500701 80 .19.65 MEDICATION MANAGEMENT

SUMMARY

Methods and policies for storage, dispensing and administration of oral and injectable drugs at Unit level will impact on planning and operation of that Unit but should as far as possible be standardised across the Facility or Network..

Refer to relevant legislation in each jurisdiction regarding the storage of drugs.

SOME OPTIONS

Options for dispensing include lockable medication trolleys, lockable bedside lockers, a Webster pack or other similar proprietary system.

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Options for storage of drugs or medications include storage within a Clean Utility Room or a separate Medication Room with or without a dispensing window.

IMPLICATIONS

The option chosen will affect the size and layout of the Clean Utility Room or Medication Room. It will determine the need for a dangerous drug cupboard, the need for sinks, benches, etc, plus storage for the equipment associated with distribution such as trolleys, baskets, etc.

Provision and location of dangerous drug cupboards/safes will need to be addressed.

500702 80 .19.70 OPERATING HOURS:

SUMMARY

The hours of operation of a Unit or Facility will affect access for patients, visitors and the general public and security requirements. They may also affect the placement of individual Units in relation to other Units and to the entry and exit points of the overall Facility.

Typically the need to access the Facility after hours will relate to access for visitors or patients attending the Emergency Unit or Birthing Unit or when called in for a sick or dying patient. It will also affect access required by staff, contractors and others.

Refer to Part C for further information.

SOME OPTIONS

A Facility and/or Units may operate 24 hours a day, 7 days a week or at the other extreme be operational for only limited hours and days each week.

Other Facilities / Units may operate 5 days per week but require occasional after hours or weekend access.

Options for access include:

- Staff access - 24 hours;
- Public access 9am to 5pm;
- Public access 9am to 5pm plus designated visiting hours;
- Public access 9am to 9pm;
- Public access 24 hrs;
- Public access after hours by invitation/appointment;
- Public access after hours only in case of emergency.

Consideration should be given to locking down defined spaces out of hours to improve security and reduce energy demands associated with lighting and air-conditioning.

IMPLICATIONS

A Unit that operates 24 hrs over 7 days has different security needs to a 9am to 5pm Unit. It needs to be placed appropriately and planned so that traffic to and from the Unit does not adversely disturb other Units or jeopardise security for the Facility overall.

Units with similar operating hours should be located within the same zone. Requirements for after hours access to a Unit are important in planning the placement of the Unit, access stairs and lifts, and in considering the security issues for that Unit, Units nearby and the Facility as a whole.

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500779 80 .19.75 PASTORAL CARE

SUMMARY

Pastoral care services may be offered to all patients and their families during the course of their hospital stay or outpatient attendance.

SOME OPTIONS

Services may be provided by specially employed health service staff, by visiting clergy or by other organisations.

IMPLICATIONS

Provision of offices / Interview Rooms for Pastoral Care Staff

A quiet room may be provided for the use of bereaved relatives or friends in departments such as the Emergency Department and ICU and/or in the Main Entry.

A Chapel or Prayer Room may be provided to meet the spiritual needs of patients, relatives and friends.

The special needs of different cultural groups will need careful consideration.

500777 80 .19.80 PHARMACY

Pharmacy is comprehensively addressed in HPU 560 - Pharmacy Unit in Part B of these Guidelines.

Note that liaison with local law enforcement agencies may be required / appropriate to ensure that the security of the Unit, the drugs contained therein and the safety of staff cannot be compromised.

500703 80 .19.85 SAFETY AND SECURITY:

SUMMARY

Safety and security of staff, patients and visitors is of the highest priority and must be considered at every stage in the planning and design of Health Care Facilities.

Refer to Part C of these Guidelines for more details.

SOME OPTIONS

Specific requirements will vary depending on the type and location of the Facility.

IMPLICATIONS

Failure to address these issues could lead to serious injury or death. This may also result in increased operating and Workers Compensation costs.

500778 80 .19.90 STERILISING SERVICES

SUMMARY

The method of providing sterile supplies to the various Units in a Facility should be determined in conjunction with consideration of the Operational Policies for each of the Units where sterile supplies are used.

SOME OPTIONS

Sterile items may be processed off-site, in a centralised location in the Facility or at Unit level on an as needed basis.
In areas that have a number of smaller Health Care Facilities, consideration should be given to the establishment of one central Sterilizing Unit with facilities in outlying facilities for reception and storage of sterilized items and processing and collection of used items.

IMPLICATIONS

The procedures adopted for sterile supply will determine the need for space and equipment for sterilisation within the Facility or Unit. It will also determine the requirements for storage space for sterile supplies, and the need to provide an area for used (contaminated) instruments and equipment storage prior to return to the Sterilising Unit.

Quality assurance and availability are key issues in choosing the sterilising method.

500704 80 .19.95 STORES AND SUPPLIES:

SUMMARY

Policies and procedures for the ordering, receipt, central and dispersed storage and distribution of supplies need to be determined for the Unit or Facility.

Supplies may include pharmaceuticals and medical/surgical consumables, general consumable items such as stationery and products for use by cleaning staff e.g. chemicals, soaps, detergents, cleaning cloths, toilet paper, hand towels etc.

SOME OPTIONS

The system used may depend on centralised stores management, be Unit based, or a combination of the two.

The ordering system to be used will determine delivery times and storage requirements.

Different types of goods may be supplied via different ordering systems.

IMPLICATIONS

The Central Store may be located either on the hospital campus or off-site.

Systems of delivery such as 'Just In Time' may impact on the need for storage space in Health Planning Units.

Responsibility for ordering and receipt, location of bulk stores, frequency and method of distribution will affect size and location of storage facilities and staffing.

Different types of supplies will require different types of storage facility e.g. shelves, cupboards, locked rooms, etc.

Different levels of security will also apply to the storage of different goods e.g. drugs and medications, although all supplies will need to be secured and managed to the extent that pilfering and wastage are prevented.

Provision of adequate storage for long weekends, etc, is important especially when a 'just in time' model is adopted.

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500705 80 .19.96 VEHICLE ACCESS AND PARKING:

SUMMARY

Access for emergency, health service staff, general public and service vehicles should be clearly designated and separated, where possible, for a Unit and for the whole Facility. Arrangements will need to be made for parking for people with disabilities and drop-off spaces for ambulatory patients.

SOME OPTIONS

Patients may be admitted to the Facility through a dedicated entrance or through the Main Entrance.

Separate staff entrances may be provided.

Parking may be centralised, controlled or distributed around a site.

Provision of secure staff parking is essential.

IMPLICATIONS

The number and locations of vehicular and pedestrian entrances will determine site planning and reception points and impact on security requirements.

500706 80 .19.97 WASTE MANAGEMENT

SUMMARY

Policies and procedures for the bagging, collection, storage and disposal of waste need to be determined.

Recycling issues, infection control, food and wet waste disposal, and environmental protection issues need to be considered.

Also refer to Part D of these Guidelines - Infection Prevention and Control.

SOME OPTIONS

Policies need to be developed to determine how waste is sorted and removed, the frequency of removal, the quantity, size and number of waste holding and transport containers and who has responsibility for waste collection.

IMPLICATIONS

These will impact on planning and management of the whole Facility as well as the Unit including size and distribution of waste holding areas at Unit level and in central bulk handling facilities, equipment requirements e.g. compactor, cardboard baler, on site treatment.

Turning circles of equipment to be used such as tug trolleys will determine space layouts including key dimensions.

Part B - Health Facility Briefing and Planning

90 STANDARD COMPONENTS

COMPONENTS OF THE UNIT

Planning

500051 90 .1.00 This section describes a range of standard rooms that fulfil the same or similar purpose across many Health Planning Units. Key planning considerations only are addressed for each.

For more detail in regard to finishes, recommended dimensions, equipment and building service requirements including data, power and lighting refer to the Room Data Sheets (RDS), Room Layout Sheets (RLS) for each room, Part E of these Guidelines and to TS11 Engineering Services and Sustainable Development Guideline.

Floor areas given are recommended spatial allocations, and increases or decreases must be justified.

It is the responsibility of the designer to work with the recommended spatial allocations in planning the Facility.

Where recommended dimensions of rooms are considered essential, they have been included and shown on RLS.

Rooms List

502063 90 .2.00

ROOM NAME	Area M2	Room Data Sheet Code	Room Layout Sheet Dwg
1 BED ROOM (INBOARD ENSUITE)	15	1BR-ST	1BR-ST-A1
1 BED ROOM - INBOARD ENSUITE (ALT OPTION)	15	1BR-ST	1BR-ST-A2
1 BED ROOM - INBOARD ENSUITE (ALT OPTION)	15	1BR-ST	1BR-ST-A3
1 BED ROOM (OUTBOARD ENSUITE)	15	1BR-ST	1BR-ST-B
1 BED ROOM (SHARED ENSUITE)	15	1BR-ST	1BR-ST-A
1 BED ROOM - ISOLATION (NEGATIVE PRESSURE)	15	1BR-IS-N	1BR-IS-N
1 BED ROOM - ISOLATION (POSITIVE PRESSURE)	15	1BR-IS-P	1BR-IS-P
1 BED ROOM - ISOLATION (STANDARD)	15	1BR-I-S	1BR-I-S
1 BED ROOM - MENTAL HEALTH (INBOARD)	15	1BR-MH	1BR-MH-A
1 BED ROOM - MENTAL HEALTH (SHARED)	15	1BR-MH	1BR-MH-B
1 BED ROOM - MENTAL HEALTH (BACK TO BACK)	15	1BR-MH	1BR-MH-C
1 BED ROOM - SPECIAL	18	1BR-SP-A	1BR-SP-A
1 BED ROOM - SPECIAL CCU	20	1 BR-SP-B	1 BR-SP-B
2 BED ROOM (INBOARD ENSUITE)	25	2BR-ST	2BR-ST-A
2 BED ROOM (OUTBOARD ENSUITE)	25	2BR-ST	2BR-ST-B
2 BED ROOM (SHARED ENSUITE)	25	2BR-ST	2BR-ST-C
2 BED ROOM - MENTAL HEALTH (INBOARD)	28	2BR-MH	2BR-MH-A
2 BED ROOM - MENTAL HEALTH (SHARED)	28	2BR-MH	2BR-MH-B

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2 BED ROOM - MENTAL HEALTH (BACK TO BACK)	28	2BR-MH	2BR-MH-D
4 BED ROOM (INBOARD ENSUITE)	42	4BR-ST	4BR-ST-A
4 BED ROOM (OUTBOARD ENSUITE)	42	4BR-ST	4BR-ST-B
ADL BATHROOM	12	ADLB	ADLB
ADL BEDROOM	15	ADLBR	ADLBR
ADL DINING	6	ADLD	ADLD
ADL KITCHEN - OPEN BAY,	12	ADLK-OP	ADLK-OP
ADL KITCHEN - ROOM, 12M2	12	ADLK-ENC	ADLK-ENC
ADL LAUNDRY	8	ADLL	ADLL
AFTER HOURS DRUG STORE	4	AHDR	AHDR
AFTER HOURS BLOOD FRIDGE	3	AHBBF	AHBBF
AIRLOCK - ENTRY, 6M2	6	AIRLE-6	AIRLE-6
AIRLOCK - ENTRY, 10M2	10	AIRLE-10	AIRLE-10
AMBULANCE TRIAGE	12	AMBRT	AMBRT
ANAESTHETIC INDUCTION ROOM	15	ANIN	ANIN
ANGIOGRAPHY CONTROL / REPORTING ROOM	14	ANCRT	ANCRT
ANGIOGRAPHY PROCEDURE ROOM	42	ANPR	ANPR
ANGIOGRAPHY STERILE STORE / SET-UP	10	ANSS	ANSS
ANTE - ROOM	8	ANRM	ANRM
ASSEMBLY / PREPARATION	20	ASSP-20	ASSP-20
ASSEMBLY / PREPARATION	30	ASSP-30	ASSP-30
AUDIOLOGY TESTING ROOM	10	AUDIO	AUDIO
BATHROOM	10, 12	BATH	BATH
BAY - BEVERAGE, ENCLOSED	5	BBEV-ENC	BBEV-ENC
BAY - BEVERAGE, OPEN	4	BBEV-OP	BBEV-OP
BAY - BLANKET / FLUID WARMER	1	BBW	BBW
BAY - FLOWERS, ENCLOSED	4	BFLW-ENC	BFLW-ENC
BAY - FLOWERS, OPEN	2	BFLW-OP	BFLW-OP
BAY - HANDWASHING, TYPE A	1	BHWS-A	BHWS-A
BAY - HANDWASHING, TYPE B	1	BHWS-B	BHWS-B
BAY - HANDWASHING, TYPE C	1	BHWS-C	BHWS-C
BAY - HANDWASHING- PPE	1.5	BHWS-PPE	BHWS-PPE
BAY - LINEN	2	BLIN	BLIN
BAY - MEAL TROLLEY	4	BMT - 4	BMT - 4
BAY - MOBILE EQUIPMENT, 4M2	4	BMEQ-4	BMEQ-4
BAY - MOBILE EQUIPMENT, 6M2	6	BMEQ-6	BMEQ-6

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BAY - PERSONAL PROTECTIVE EQUIPMENT	1.5	BPPE	BPPE
BAY - PUBLIC TELEPHONE	2	BPH	BPH
BAY - RESUSCITATION TROLLEY	1.5	BRES	BRES
BAY - STORAGE, 1M2	1	BS-1	BS-1
BAY - STORAGE, 2M2	2	BS-2	BS-2
BAY - STORAGE, 3M2	3	BS-3	BS-3
BAY - STORAGE, 4M2	4	BS-4	BS-4
BAY - STORAGE (ENCLOSED), 1M2	1	BSE	BSE
BAY - UTILITY, 1M2	1	BUT-1	BUT-1
BAY - UTILITY, 1.5M2	1.5	BUT-1.5	BUT-1.5
BAY - UTILITY, 2M2	2	BUT-2	BUT-2
BAY - VENDING MACHINES, 3M2	3	BVM-3	BVM-3
BAY - WHEELCHAIR PARK	4	BWC	BWC
BIRTHING ROOM - LDR	28	BIRM	BIRM
BLOOD STORE	2	BLST	BLST
CATHETER LABORATORY - PROCEDURE	42	CLAB	CLAB
CATHETER LABORATORY - CONTROL	14	CLCRT	CLCRT
CHANGE - STAFF (MALE / FEMALE)	10	CHST-10	CHST-10
CHANGE STAFF (MALE / FEMALE), 35M2	35	CHST-35	CHST-35
CHANGE CUBICLE - PATIENT	2	CHPT	CHPT
CHANGE CUBICLE - ACCESSIBLE	4	CHPT-D	CHPT-D
CLEAN UTILITY - SUB, 8M2	8	CLUR-8	CLUR-8
CLEAN UTILITY, 12M2	12	CLUR - 12	CLUR - 12
CLEAN UTILITY, 14M2	14	CLUR-14	CLUR-14
COMMUNICATION ROOM	12	COMM	COMM
CLEANER'S ROOM	5	CLRM-5	CLRM-5
CLEANER'S ROOM	10	CLRM -10	CLRM - 10
CLEAN-UP ROOM	7	CLUP-7	CLUP-7
CLEAN-UP ROOM - PATHOLOGY	12	CLUP -P	CLUP-P
CLEAN-UP ROOM - SHARED, 15M2	15	CLUP-15	CLUP-15
CONSULT ROOM	12	CONS	CONS
CONSULT ROOM - ENT / OPHTHALMOLOGY	12	CONS-ENT	CONS-ENT
CT SCANNER - CONTROL ROOM	6	CTCR	CTCR
CT SCANNER - PROCEDURE ROOM	45	CTPR	CTPR
DARK ROOM	6	DARK	DARK
DAYLIGHT PROCESSING	16	DPRO	DPRO

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DENTAL SURGERY, 14M2	14	DENSR - 14	DENSR - 14
DENTAL SURGERY, 16M2	16	DENSR - 16	DENSR - 16
DENTAL WORKROOM	12	DENW	DENW
DINING ROOM / BEVERAGE BAY (MENTAL HEALTH)	25	DINBEV-25	DINBEV-25
DIRTY UTILITY - SUB, 8M2	8	DTUR-S	DTUR-S
DIRTY UTILITY, 10M2	10	DTUR-10	DTUR-10
DIRTY UTILITY, 12M2	12	DTUR-12	DTUR-12
DIRTY UTILITY, 14M2	14	DTUR-14	DTUR-14
DISPOSAL ROOM, 8M2	8	DISP-8	DISP-8
DISPOSAL ROOM, 10M2	10	DISP-10	DISP-10
ECHOCARDIOGRAPHY-TRANS-OESOPHAGEAL ENSUITE (INBOARD)	30	ECHO	ECHO
ENSUITE - INBOARD (ALT OPTION)	5	ENS-ST	ENS-ST-A
ENSUITE (OUTBOARD)	5	ENS-ST	ENS-ST-B
ENSUITE - STANDARD - ADDITIONAL ACCESS	5	ENS-ST-C	ENS-ST-C
ENSUITE (SHARED)	6	ENS-SH	ENS-SH
ENSUITE (SPECIAL)	7	ENS-SP	ENS-SP-A
ENSUITE - BIRTHING ROOM	10	ENS-BR-A	ENS-BR-A
ENSUITE - BIRTHING ROOM (ALTERNATIVE)	5	ENS-BR-B	ENS-BR-B
ENSUITE - MENTAL HEALTH (INBOARD)	5	ENS-MH	ENS-MH-A
ENSUITE - MENTAL HEALTH (INBOARD -	5	ENS-MH	ENS-MH-B
EQUIPMENT CLEAN-UP, 8M2	8	ECL-8	ECL-8
EQUIPMENT CLEAN-UP, 10M2	10	ECL-10	ECL-10
EQUIPMENT CLEAN-UP, 12M2	12	ECL-12	ECL-12
EQUIPMENT CLEAN-UP, 14M2	14	ECL-14	ECL-14
FEEDING ROOM	7	FEED	FEED
FORMULA ROOM	7	FORM	FORM
FILM PROCESSING, VIEWING & REPORTING	16	FPVR	FPVR
GENERAL X-RAY	30	GENXR	GENXR
GOODS RECEIPT - PHARMACY	5	GRE	GRE
GYMNASIUM, 45M2	45	GYAH-45	GYAH-45
GYMNASIUM, 60M2	60	GYAH-60	GYAH-60
HYDROTHERAPY POOL	90	HYDP	HYDP
INTERVIEW ROOM - FAMILY / LARGE, 12M2	12	INTF	INTF
LAUNDRY - MENTAL HEALTH	6	LAUN-MH	LAUN-MH
LAUNDRY - PATIENT	6	LAUN-PT	LAUN-PT

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LOUNGE - PARENT	12	LNPA-12	LNPA-12
LOUNGE - PATIENT, 10M2	10	LNPT-10	LNPT-10
LOUNGE - PATIENT, 15M2	15	LNPT-15	LNPT-15
LOUNGE - PATIENT, 30M2	30	LNPT-30	LNPT-30
MAMMOGRAPHY	16	MAMMO	MAMMO
MEETING ROOM - SMALL, 9M2	9	MEET-9	MEET-9
MEETING ROOM - SMALL, 12M2	12	MEET-12	MEET-12
MEETING ROOM - MEDIUM / LARGE, 15M2	15	MEET-L-15	MEET-L-15
MEETING ROOM - MEDIUM / LARGE, 20M2	20	MEET-L-20	MEET-L-20
MEETING ROOM - MEDIUM / LARGE, 30M2	30	MEET-L-30	MEET-L-30
MORTUARY - AUTOPSY	30	MOR-AU	MOR-AU
MORTUARY - CLEAN-UP AREA	6	MOR-CU	MOR-CU
MORTUARY - CONCEPT PLAN	-	Not Required	MOR-PL
MORTUARY-COOL STORE	25	MOR-CS	MOR-CS
MORTUARY-EXIT	7	MOR-EX	MOR-EX
MORTUARY - VIEWING ROOM	8	MOR-VR	MOR-VR
MORTUARY - WAITING ROOM	9	MOR-W	MOR-W
NEONATAL BAY - GENERAL CARE	5	NBGC	NBGC
NEONATAL BAY - INTENSIVE CARE	12	NBICU	NBICU
NEONATAL BAY - SPECIAL CARE	10	NBSC	NBSC
OFFICE - 2 PERSON SHARED	12	OFF-2P	OFF-2P
OFFICE - 3 PERSON SHARED	15	OFF-3P	OFF-3P
OFFICE - 4 PERSON SHARED	20	OFF-4P	OFF-4P
OFFICE - CLINICAL / HANDOVER	15	OFF-CLN	OFF-CLN
OFFICE - SINGLE PERSON 9M2	9	OFF-S9	OFF-S9
OFFICE - SINGLE PERSON 12M2	12	OFF-S12	OFF-S12
OFFICE - WRITE-UP, 3M2	3	OFF-WI-3	OFF-WI-3
OPERATING ROOM - MINOR, 36M2	36	ORMS	ORMS
OPERATING ROOM - GENERAL, 42M2	42	ORGN	ORGN
OPERATING ROOM - LARGE, 52M2	52	ORLA	ORLA
OVERNIGHT STAY - BEDROOM	10	OVBR	OVBR
OVERNIGHT STAY - ENSUITE	4	OVES	OVES
PACS STORAGE & VIEWING	16	PACS	PACS
PANTRY	8	PTRY	PTRY
PARENTING ROOM	6	PAR	PAR
PATIENT BAY - ACUTE TREATMENT, 10M2	10	PBTR-A10	PBTR-A10

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PATIENT BAY - ACUTE TREATMENT, 12M2	12	PBTR-A12	PBTR-A12
PATIENT BAY - HOLDING, 6M2	6	PBTR-H-6	PBTR-H-6
PATIENT BAY - HOLDING, 9M2	9	PBTR-H-9	PBTR-H-9
PATIENT BAY - HOLDING 12M2, (ENCLOSED)	12	PBTR-H-E-12	PBTR-H-E-12
PATIENT BAY - RESUSCITATION	25	PBTR-R	PBTR-R
PATIENT BAY - CRITICAL, 20M2	20	PBC-20	PBC-20
PATIENT BAY CRITICAL, 24M2	24	PBC-24	PBC-24
PATIENT BAY - CRITICAL (ENCLOSED), 20M2	20	PBCE-20	PBCE-20
PATIENT BAY - CRITICAL (ENCLOSED), 25M2	25	PBCE-25	PBCE-25
PATIENT BAY - NON ACUTE TREATMENT, 10M2	10	PBTR-NA	PBTR-NA
PATIENT BAY - RECOVERY, STAGE 1	9	PBTR-RS1	PBTR-RS1
PHARMACY - COUNTER, 9M2	9	PHA-CO	PHA-CO
PLASTER ROOM	14	PLST	PLST
PLAY AREA - PAEDIATRIC, 10M2	10	PLAP-10	PLAP-10
PLAY AREA - PAEDIATRIC, 15M2	15	PLAP-15	PLAP-15
PLAY AREA - PAEDIATRIC, 20M2	20	PLAP-20	PLAP-20
PODIATRY TREATMENT, 12M2	12	PODTR-12	PODTR-12
PODIATRY TREATMENT, 14M2	14	PODTR-14	PODTR-14
PREPARATION ROOM - NON STERILE	12	PREP	PREP
PREPARATION/ SETUP ROOM (IMAGING)	9	PREP-S	PREP-S
PROCEDURE ROOM, 16M2	16	PROC-16	PROC-16
PROCEDURE ROOM, 20M2	20	PROC-20	PROC-20
PROPERTY BAY - STAFF, 2M2	2	PROP-2	PROP-2
RECEPTION / CLERICAL, 10M2	10	RECL-10	RECL-10
RECEPTION / CLERICAL, 12M2	12	RECL-12	RECL-12
RECEPTION / CLERICAL, 15M2	15	RECL-15	RECL-15
RECEPTION / EMERGENCY	20	REC-E	REC-E
SCREENING ROOM (FLUOROSCOPY)	36	SCRN	SCRN
SCRUB-UP/ GOWNING - SHARED	6	SCRBS	SCRBS
SCRUB UP / GOWNING, 6M2	6	SCRB-6	SCRB-6
SCRUB-UP / GOWNING, 8M2	8	SCRB-8	SCRB-8
SECURITY ROOM, 10M2	10	SECR-10	SECR-10
SECURITY ROOM, 14M2	14	SECR-14	SECR-14
SECLUSION ROOM	14	SECL	SECL
SET-UP ROOM	8	SETUP-8	SETUP-8
SHOWER - ACCESSIBLE	4	SHD	SHD

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SHOWER - DECONTAMINATION	8	SHDEC	SHDEC
SHOWER - PATIENT	4	SHDT	SHPT
SHOWER - STAFF	3	SHST	SHST
SPECIMEN COLLECTION BAY, 9M2	9	SPECC	SPECC
SPECIMEN RECEPTION / SORT / PREPARATION	20	SPREC	SPREC
STAFF ROOM, 15M2	15	SRM-15	SRM-15
STAFF ROOM, 18M2	18	SRM-18	SRM-18
STAFF ROOM, 25M2	25	SRM-25	SRM-25
STAFF ROOM, 30M2	30	SRM-30	SRM-30
STAFF ROOM, 35M2	35	SRM-35	SRM-35
STAFF STATION, 10M2	10	SSTN-10	SSTN-10
STAFF STATION, 12M2	12	SSTN-12	SSTN-12
STAFF STATION, 14M2	14	SSTN-14	SSTN-14
STAFF STATION, 20M2	20	SSTN-20	SSTN-20
STORE - ACCOUNTABLE DRUGS	5	STAD	STAD
STORE - BULK, 20M2	20	STBK-20	STBK-20
STORE - BULK, 40M2	40	STBK	STBK
STORE - CLEANER'S	12	STCL	STCL
STORE-DISASTER EQUIPMENT	8	STDE	STDE
STORE - DRUGS, 5M2	5	STDR-5	STDR-5
STORE - DRUGS, 10M2	10	STDR-10	STDR-10
STORE - EQUIPMENT, 14M2	14	STEQ-14	STEQ-14
STORE - EQUIPMENT, 20M2	20	STEQ-20	STEQ-20
STORE - FILES	8	STFS-8	STFS-8
STORE - FILES, 10M2	10	STFS-10	STFS-10
STORE - FILES COMPACTUS, 20M2	20	STFS-20	STFS-20
STORE - FILES, STATIC, 20M2	20	STFS-20	STFS-20
STORE - GENERAL, 8M2	8	STGN-8	STGN-8
STORE - GENERAL, 9M2	9	STGN-9	STGN-9
STORE - PATIENT PROPERTY	8	STPP	STPP
STORE - PHOTOCOPY / STATIONERY, 8M2	8	STPS-8	STPS-8
STORE - PHOTOCOPY / STATIONERY, 10M2	10	STPS-10	STPS-10
STORE - STERILE STOCK, 12M2	12	STSS-12	STSS-12
STORE - STERILE STOCK, 20M2 (CSSU)	20	STSS-20	STSS-20
STORE - STERILE STOCK, 24M2	24	STSS-24	STSS-24
STORE - STERILE STOCK, 44M2	44	STSS-44	STSS-44

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STRESS TESTING	12	STRT	STRT
TOILET - ACCESSIBLE	5	WCAS	WCAS
TOILET - PATIENT	4	WCPT	WCPT
TOILET - PUBLIC, 3M2	3	WCPU-3	WCPU-3
TOILET PUBLIC, 4M2	4	WCPU-4	WCPU-4
TOILET - STAFF	2	WCST	WCST
TREATMENT BAY - CHEMOTHERAPY	9	TRMT-CHE	TRMT-CHE
TREATMENT BAY - RENAL DIALYSIS	9	TRMT- RD	TRMT- RD
TREATMENT ROOM	14	TRMT	TRMT
ULTRASOUND ROOM	14	ULTR	ULTR
WAITING - SUB, 5M2	5	WAIT-SUB	WAIT-SUB
WAITING, 10M2	10	WAIT-10	WAIT-10
WAITING - PATIENT, 20M2	20	WAIT-20	WAIT-20
WAITING, 25M2	25	WAIT-25	WAIT-25
WAITING, 30M2	30	WAIT-30	WAIT-30
WAITING, 50M2	50	WAIT-50	WAIT-50
WAITING - SECURE, 6M2	6	WAIT-SEC	WAIT-SEC
WATER TREATMENT PLANT ROOM	-	WTPL	WTPL
X-RAY VIEWING AND REPORTING	12	XRRR	XRRR

1 Bed Room

600197 90 .3.00 PERFORMANCE REQUIREMENTS

A 1 Bed Room should accommodate one patient for the delivery of medical and nursing care and treatment and can be used for standard isolation without the need for positive or negative air-conditioning.

Dedicated en suites should be directly accessible from within the bedroom.

A staff handbasin should be provided in each bedroom.

External windows should be provided in accordance with the BCA.

DESCRIPTION AND FUNCTION

A 1 Bed Room should be 15m2. Where required for special care such as accommodation for bariatric patients, a 1 Bed Room should be 18m2. (Refer Bedroom Special).

Patients to be accommodated may include:

- noisy or disturbed patients
- palliative care and rooming-in of relatives
- high dependency patients
- patients requiring privacy
- mothers and babies rooming in

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- patients with a lowered resistance to disease or infection.

LOCATION AND RELATIONSHIPS

Where possible, single bedrooms should be located close to and observable from the Staff Station and with natural light and outlook.

Three options are available for the relationship between bedroom and en suite:

Type 1 - 1 BR-ST-A Inboard

Type 2 - 1 BR-ST-B Outboard

Type 3 - 1 BR-ST-C Back-to-back.

These variations are shown in the RLS for this room.

CONSIDERATIONS

For staff handwashing facilities and PPE bays refer to Part D of these Guidelines.

For additional details, refer to Room Data and Room Layout Sheets.

1 Bed Room - Isolation

600283 90 .3.05 PERFORMANCE REQUIREMENTS

Isolation Rooms are used to isolate patients with known infectious conditions, or to protect patients from infection. They should have positive or negative pressure airconditioning.

Each Isolation Room should have a dedicated Ensuite.

DESCRIPTION AND FUNCTION

Class N or P Isolation Rooms will generally only be provided in special Units and according to service demand. It is noted that all standard and special 1 Bed Rooms may function as Class S Isolation Rooms.

These are described in detail in Part D of these Guidelines.

CONSIDERATIONS

For Anterooms, staff handwashing facilities, PPE Bays and further information regarding Isolation Rooms refer to Part D of these Guidelines.

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

1 Bed Room - Special

600198 90 .3.10 PERFORMANCE REQUIREMENTS

A 1 Bed Room - Special should accommodate one patient for the delivery of nursing and medical care, and treatment.

It should be a larger bedroom to accommodate special needs patients such as bariatric and palliative care patients. The additional floor area allows for larger or additional furniture and equipment. It also permits overnight stay by carers.

A 1 Bed Room - Special may be used as a Class S Isolation Room without positive or negative air conditioning.

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Each 1 Bed Room - Special should have a 'Super' Ensuite, which will facilitate the assistance of the patient by 2 carers.

DESCRIPTION AND FUNCTION

A 1 Bed Room - Special should be 18m².

LOCATION AND RELATIONSHIPS

The recommended provision of 1 Bed Rooms - Special is as follows:

- one per facility where that facility has fewer than 50 beds.
- one per 60 beds or one per two Inpatient Units in larger facilities, whichever is the lesser.

The number of rooms should be determined by considering factors such as type of services, proportion of dependent patients requiring rooming in, and proportion of bariatric patients.

CONSIDERATIONS

Doors from the Unit corridor to the room should allow for 1400 clear opening to allow passage of bariatric beds and other over-size equipment.

For staff handwashing facilities and PPE Bays refer to Part D of these Guidelines.

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

1 Bed Room - Special Coronary Care

600712 90 .3.15

PERFORMANCE REQUIREMENTS

One Bed Room for accommodation of one patient requiring cardiac care and treatment.

DESCRIPTION AND FUNCTION

The 1 Bed Room - Special, Coronary Care should be a minimum of 20m².

LOCATION AND RELATIONSHIPS

The Coronary Care Bed Rooms should be visible from a Staff Station.

Each Coronary Care Bed Room should have a dedicated En Suite directly accessible from within the bedroom.

CONSIDERATIONS

Each Bed Room - Special Coronary Care should include a clinical handwashing basin within the room.

Glazed doors and partition walls are recommended for patient visibility and privacy.

Provisions are required for patient monitoring which may be hard wired or telemetry.

Bedside monitoring equipment should be located to permit easy access and viewing and should not interfere with the visualisation of or access to the patient.

For additional considerations and details refer to Room Data and Room

2 Bed Room

600199 90 .4.00 PERFORMANCE REQUIREMENTS

A 2 Bed Room should accommodate two patients with similar nursing needs for the delivery of nursing and medical care and treatments.

External windows should be provided, in accordance with BCA requirements.

Each 2 Bed Room should include a clinical handwashing basin within the room.

DESCRIPTION AND FUNCTION

2 Bed Rooms are not recommended for general medical/surgical Inpatient Units. They are most often used in Maternity and Rehabilitation Inpatient Units. They are commonly provided in Maternity Units in lieu of 4 Bed Rooms to reduce disturbance caused by the rooming-in of babies.

A 2 Bed Room should be 25m² (not including an Ensuite).

LOCATION AND RELATIONSHIPS

Bed Rooms should be located close to, and visible from, a Staff Station and with natural light and outlook. Ensuited should be directly accessible from the Bed Room, or from directly adjacent to the entry door.

Three options are available for the relationship between Bed Room and Ensuite:

- A Inboard Ensuite
- B Outboard Ensuite
- C Back-to-back Ensuite (as per DS26)

These variations are shown in the RLS for this room.

CONSIDERATIONS

Careful consideration should be given to their use in other types of Inpatient Units.

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

4 Bed Room

600284 90 .4.05 PERFORMANCE REQUIREMENTS

A 4 Bed Room should accommodate four patients with similar nursing needs for the delivery of nursing and medical care and treatment.

Visual privacy from casual observation by other patients and visitors should be provided for each patient. The design for privacy should not restrict patient access to the room entrance, the patient toilet or shower. This includes access via mobility equipment such as wheelchair, shower chair or hoist, and for resuscitation trolley.

The space within the privacy curtain should be sufficient to allow for use of equipment and to carry out medical procedures without entanglement in the curtain and encroachment on the space of other patient.

Ensuite shower and toilet should be directly accessible from the bedroom or

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from adjacent to the entry door.

External windows should be provided in accordance with BCA requirements.

Each 4 Bed Room should include a clinical handwashing basin within the room.

DESCRIPTION AND FUNCTION

A 4 Bed Room should be 42m² (not including an ensuite). Provision of 42m² allows for flexibility of use, as well as space for extra equipment and reduction of clutter.

LOCATION AND RELATIONSHIPS

Bedrooms should be located close to, and visible from, a Staff Station and with natural light and outlook.

Two options are available for the relationship between Bed Room and Ensuite:

- A Inboard Ensuite Shower and Ensuite Toilet
- B Outboard Ensuite Shower and Ensuite Toilet.

These variations are shown in the RLS for this room.

CONSIDERATIONS

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

ADL - Bathroom

600201 90 .5.00

PERFORMANCE REQUIREMENTS

Domestic style Bathroom for patient Activities of Daily Living assessment and training to assist patients to return to normal living. It provides for training to use a domestic bath, showering, dressing / undressing, grooming and toileting.

The shower should not have a raised hob or steps.

Patient / nurse and emergency call points are required.

DESCRIPTION AND FUNCTION

Use of wheelchairs, lifting equipment and specially adapted equipment may be demonstrated in this space.

The ADL Bathroom should be a minimum of 12m².

LOCATION AND RELATIONSHIPS

The ADL Bathroom should be located with other ADL facilities with ready access to waiting and amenities.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets.

ADL - Bedroom

600202 90 .5.05

PERFORMANCE REQUIREMENTS

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The ADL Bedroom is a domestic style bedroom for patient assessment and training purposes, to assist patients to return to normal living.

DESCRIPTION AND FUNCTION

The ADL Bedroom may require use of wheelchairs and lifting equipment and specially adapted equipment may also be demonstrated in this space.

The ADL Bedroom should be a minimum of 13m².

LOCATION AND RELATIONSHIPS

The ADL Bedroom may be located with other ADL facilities, in the Allied Health / rehabilitation patient treatment zone, with ready access to waiting and amenities areas.

CONSIDERATIONS

Furniture and fittings may include:

- domestic bed
- bedside table
- bedside chair
- a patient / nurse call and access to an emergency call point is required
- GPOs are required for bedside use
- fittings and finishes should be domestic in nature; the floor should be carpeted.

ADL - Dining

600203 90 .5.10

PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

Domestic style dining area within a Transitional Living Unit to allow patients and their visitors to eat their meals away from the bedroom.

Wheelchair access required to the dining table.

LOCATION AND RELATIONSHIPS

Within the Transitional Living Unit adjacent to the Kitchen.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

ADL - Kitchen

600204 90 .5.15

PERFORMANCE REQUIREMENTS

Domestic style Kitchen for patient Activities of Daily Living assessment and training to assist patients to return to normal living. It provides for training to use a range of kitchen appliances.

DESCRIPTION AND FUNCTION

Specially adapted equipment may be demonstrated in this space.

The Kitchen may be an enclosed room or open bay; in the latter instance direct access to the Dining Area will facilitate group training sessions.

The ADL Kitchen, whether open or enclosed, should be a minimum of 12m².

LOCATION AND RELATIONSHIPS

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The ADL Kitchen should have ready access to patient dining / lounge areas with direct access to the Unit corridor.

CONSIDERATIONS

Benches should be a mix of heights to suit a range of ambulatory and wheelchair patients.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

ADL - Laundry

600205 90 .5.20 PERFORMANCE REQUIREMENTS

Domestic style Laundry for patient Activities of Daily Living assessment and training to assist patients to return to normal living. It provides for training to use a range of laundry appliances.

DESCRIPTION AND FUNCTION

The ADL Laundry should be 8m².

LOCATION AND RELATIONSHIPS

The ADL Laundry should have direct access to the Unit corridor with ready access to patient therapy and dining / lounge areas.

CONSIDERATIONS

Benches and appliances must suit a range of ambulatory and wheelchair patients.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

After Hours Drug Store

600285 90 .6.00 PERFORMANCE REQUIREMENTS

Secure store for drugs required after hours when the Pharmacy is closed. Access is by authorised staff only.

DESCRIPTION AND FUNCTION

After Hours Drug Store should be minimum area 4m².

LOCATION AND RELATIONSHIPS

May be located at the perimeter of the Pharmacy with two-way access from Pharmacy and corridor. This arrangement facilitates checking and restocking by the Pharmacy staff.

If the location of the Pharmacy is remote, a secure location in a 24 hour zone should be selected - an inpatient unit or, frequently, the Emergency Unit.

CONSIDERATIONS

Bench, shelving, refrigerator, DD safe and possible computer for stock monitoring.

Temperature monitor and alarm to refrigerator and DD safe.

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For additional details refer to Room Data and Room Layout Sheets.

After Hours Blood Fridge

600714 90 .7.00 PERFORMANCE REQUIREMENTS

The After Hours Blood Fridge is a discreet area for refrigerated and freezer storage of blood and blood products for after hour's access by authorised personnel.

DESCRIPTION AND FUNCTION

The After Hours Blood Fridge should be minimum area 3m².

LOCATION AND RELATIONSHIPS

The After Hours Blood Fridge may be located in close proximity to a critical care area such as Operating Unit, ICU or Emergency.

CONSIDERATIONS

Equipment should be secured and equipped with temperature monitoring and alarms located to ensure easy staff control and will require emergency power supply.

Airlock - Entry

600743 90 .7.05 DESCRIPTION AND FUNCTION

The Airlock Entry provides the main access point to a Unit.

It will be used by a wide range of people including fully ambulant, persons using a wide range of walking aids, persons in wheelchairs or on trolleys and the general public.

An Airlock minimises the effect of unfavourable weather on the interior environment of the Unit, and can be of assistance in managing security.

The size of the airlock should allow for several people to enter the compartment before the second door opens. The Airlock size is relative to the level of service and throughput.

CONSIDERATIONS

Entry doors may be glazed and automatic.

Wall may also be glazed.

'After-hour' access may require intercom or special security provisions.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Angiography Control Room

600206 90 .8.00 PERFORMANCE REQUIREMENTS

The room provides for remote operation of angiography equipment, review of procedure images and for reporting function.

DESCRIPTION AND FUNCTION

If two angiography rooms are collocated, a single Control Room may service

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both rooms.

Single Room minimum area 14m². If shared between 2 rooms, minimum area 17m² depending on the configuration of the Procedure Rooms.

If the reporting function is not included, the single room may be reduced to 11m² and a shared room to 14m².

LOCATION AND RELATIONSHIPS

Immediately outside and with direct access into the Angiography Procedure Room.

CONSIDERATIONS

Lead glass observation window to permit full view of the patient.

Provision for general anaesthesia.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Anaesthetic Induction

600207 90 .9.00 PERFORMANCE REQUIREMENTS

The Anaesthetic Induction Room is for holding patients on mobile beds or trolleys prior to operative procedures at times when the Operating Room is not available. Local, regional or general anaesthesia should be administered in this area.

The area should accommodate the patient on a mobile trolley / bed plus 3 staff and equipment.

DESCRIPTION AND FUNCTION

The size of an Anaesthetic Induction room should be 15 or 18m² as per Operating Unit Schedules of Accommodation.

LOCATION AND RELATIONSHIPS

The Anaesthetic Induction Room should be located near the entrance of the Operating Suite, the Holding Bay and the Operating Rooms.

It should be enroute from the entrance of the Unit to the Operating Room.

CONSIDERATIONS

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

Anteroom

600208 90 .10.00 PERFORMANCE REQUIREMENTS

Anterooms are required for staff and visitors to change and dispose of personal protective gear used on entering these rooms when caring for infectious patients.

The Anteroom should not be shared between rooms. The Anteroom should not need to function as an airlock for Class N rooms with the exception of ICU.

DESCRIPTION AND FUNCTION

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Anterooms increase the effectiveness of the Isolation Room by minimising the potential escape of airborne nuclei into the corridor when the door is opened.

An Ante-Room should be 6m².

LOCATION AND RELATIONSHIPS

Staff must pass through the Anteroom to enter the Isolation Room.

CONSIDERATIONS

For additional information refer to Part D - Infection Control.

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

Angiography Procedure Room

600209 90 .11.00 PERFORMANCE REQUIREMENTS

The Angiography Room provides an area and equipment for examination of the vascular system using contrast medium.

DESCRIPTION AND FUNCTION

The Angiography Room should be a minimum of 42m².

LOCATION AND RELATIONSHIPS

Adjacent to the Control Room with ready access to Patient Holding / Recovery Areas and Staff Change Rooms.

May be one of a cluster of rooms forming an Interventional Imaging Suite.

Scrub facilities should be located at the staff entry to room.

CONSIDERATIONS

Immediate access to a resuscitation trolley.

Radiation shielding as assessed by a certified Radiation Consultant.

For additional details, refer to Room Data and Room Layout Sheets.

Angiography Sterile Store / Setup

600210 90 .11.05 PERFORMANCE REQUIREMENTS

A room for storage of sterile packs, consumables and drugs, preparation of radiological contrast media and parking and set-up of procedure trolleys.

A clinical scrub sink should be provided.

DESCRIPTION AND FUNCTION

Used and soiled items and clinical waste will not be returned to this room.

LOCATION AND RELATIONSHIPS

Ready access into the Angiography Procedure Room/s.

Direct access from corridor for delivery of supplies and removal of clean

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packaging waste.

CONSIDERATIONS

Space for assembling and setting up procedure trolleys.

Consider a mobile adjustable open shelving system, that has no rough or projecting edge that could damage sterile packaging.

For additional details, refer to Room Data and Room Layout Sheets.

Assembly / Preparation (Pharmacy)

600211 90 .12.00 PERFORMANCE REQUIREMENTS

The Assembly / Preparation Area is a work space within the Pharmacy containing work benches and drugs and containers storage from the pharmacists assemble and label drug orders for delivery to the appropriate patient care areas or to the outpatient dispensing area.

Internal temperatures should not rise above 25°C.

DESCRIPTION AND FUNCTION

Functions and Activities include:

- counting tablets and capsules from bulk containers into dispensing containers.
- selecting the required quantity of prepacked medications and placing them in the appropriate container.
- labelling the containers with the name of the medication, the patient's name and directions for use.
- selecting the required amount of lotions, antiseptics and other liquids to fulfil the order.
- counting and packaging ampoules of drugs for administration by injection.
- QA activities including computer data entry of all materials supplied.
- meeting legislative requirements for the control of drugs of addiction.
- storing completed ward orders in boxes/tubs to await delivery.
- transferring outpatient orders into the Outpatient Pharmacy Counter for pick-up.

LOCATION AND RELATIONSHIPS

The area should be adjacent to the Active Store and should have ready access to the Non-Sterile Preparation Area and to the hospital corridor system for ward deliveries.

CONSIDERATIONS

Task lighting will be required at each work station.

Refer to Part C of these Guidelines for further information on security.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Audiology Testing Room

600212 90 .13.00 PERFORMANCE REQUIREMENTS

The Audiology Room is an acoustically isolated room containing an audiology soundproof booth and workstation area to undertake audiology testing and assessment.

LOCATION AND RELATIONSHIPS

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The Audiology Room should be located in a quiet zone within the Allied Health patient consult and treatment areas or near ENT Clinic. It should have ready access to waiting and amenities areas.

CONSIDERATIONS

The following fittings and equipment will be required:

- soundproof booth
- desk and chairs
- microphone.

Bathroom

600213 90 .14.00 PERFORMANCE REQUIREMENTS

The Bathroom is for patients to use for:

- washing, shaving, grooming, showering, toilet use either independently or with assistance
- assisted bathing of patients with disabilities
- bathing of patients for treatment purposes.

It should allow for independent accessibility for people with disabilities as well as the manoeuvring of a patient on a lifting device, wheelchair or assisted sani-chair access.

DESCRIPTION AND FUNCTION

Water conservation should be considered in the selection of fittings and fixtures.

Space may be required to enable transfer of a patient to a bath from both sides. The placement of the toilet should also allow assistance from both sides.

The bath provided may be either fixed e.g. 'Arjo' type, or mobile (such as trolley bath). An accessible toilet for people with disabilities should be provided and room for a shower trolley where required.

The size of the room will be determined by the space required for fixed and mobile fittings and equipment, plus the free floor areas required to ensure adequate circulation space for semi- and non-ambulant patients. A bathroom should be 15m².

The layout of bathing facilities must not put adult carers at risk of injury from sustaining an awkward posture, extended reaching or manual handling.

The BCA requires a Bathroom to be provided in health facilities- minimum 1 per floor; although generally only specialist units such as Paediatrics would actually require provision of this facility.

LOCATION AND RELATIONSHIPS

The Bathroom should be central to all bedroom areas, to reduce travel and manual handling from pushing wheelchairs, shower chairs and hoists.

It should be placed in a low traffic area.

CONSIDERATIONS

Finishes: Floors are to be slip resistant and impervious to water; walls to wet areas are to have water resistant finish with no gaps and the ceiling is to be water resistant.

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If a paediatric bathroom is provided, the height, scale and type of fittings and fixtures should be suitable for use by children.

For additional room considerations refer to Room Data Sheets and Room Layout Sheets.

Bay - Beverage

600220 90 .15.00 PERFORMANCE REQUIREMENTS

The Beverage Bay is for preparing and/or heating refreshments, snacks and some meals, washing some utensils, storing food and drink and disposing of food waste. It should also provide space for a meal tray collection trolley. If an instantaneous boiling water unit is provided, it should be hardwired and access restricted as required.

DESCRIPTION AND FUNCTION

The Beverage Bay should be 4m². A Beverage Room may also function as a small kitchenette for preparation of meals and snacks and may be larger in accordance with the project brief.

If an enclosed room is provided the floor area may be increased to 5m².

LOCATION AND RELATIONSHIPS

The Beverage Bay may be located with ready access to patient areas, staff rooms, meeting rooms and overnight stay room. If located in an Inpatient Unit, it may need to be observable from the Staff Station depending on the type of patients within the Unit. Trolleys should be located in a staff zone so that trolleys are not accessed by members of the public.

CONSIDERATIONS

Access may need to be restricted in some clinical situations

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay-Blanket / Fluid Warmer

600221 90 .15.05 PERFORMANCE REQUIREMENTS/ DESCRIPTION AND FUNCTION

A Bay to accommodate a blanket or combined blanket / fluid warmer.

LOCATION AND RELATIONSHIPS

Centrally within the Unit accessible from Patient Care Areas and Operating Rooms. This bay may be collocated with Linen Trolley Bay.

CONSIDERATIONS

Blanket / Fluid Warmer may be mobile or fixed.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Flowers

600214 90 .15.10 DESCRIPTION AND FUNCTION

A bay for staff, relatives or visitors to fill or empty vases, and to arrange and dispose of flowers.

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PERFORMANCE REQUIREMENTS

A Flower Bay should be 2m². It should include a deep sink and storage for vases and a waste bin for disposal of spent flowers. If an enclosed room is required increase space to 4m².

LOCATION AND RELATIONSHIPS

Central to Patient Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Handwashing

600215 90 .15.15 DESCRIPTION AND FUNCTION

Handwashing Bays are provided for staff to cleanse their hands before and after every patient contact. These may be recessed in patient care areas so they do not impede corridor access.

LOCATION AND RELATIONSHIPS

Refer to Part D for further information regarding provision.

Handwashing Bays should be highly visible and conveniently located to encourage use by clinical staff.

CONSIDERATIONS

All 1 Bed Rooms should contain a clinical hand basin within the room. Provide additional handwashing bays throughout the Unit in accordance with the requirements of Part D. Generally staff should be no further than 10-12 metres from a handwashing basin at any time.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Linen

600216 90 .15.20 DESCRIPTION AND FUNCTION

An alcove or bay to accommodate a linen supply or exchange trolley. This may be open or enclosed with double doors. If enclosed, the doors / frame should not impede trolley access.

PERFORMANCE REQUIREMENTS

Blankets and pillows may also be stored in this bay. A Linen Bay should be 2m².

LOCATION AND RELATIONSHIPS

Ready access to Patient Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

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Bay - Mobile Equipment

600217 90 .15.25 DESCRIPTION AND FUNCTION

The Mobile Equipment Bay is for the storage of wheelchairs, mobile scales, sanichairs, patient lifting devices and other equipment.

The bay should be deep enough to allow storage of equipment without projection into the corridor.

PERFORMANCE REQUIREMENTS

Electrical Equipment that requires recharging may be stored in this space during the recharging period therefore provision of appropriately located power outlets will be required.

A Mobile Equipment Bay should be 4m2.

If mobile x-ray equipment is stored, the bay area should be increased by 2m2. Floor area and depth of bay may vary to suit the types of equipment stored.

LOCATION AND RELATIONSHIPS

The Mobile Equipment Bay should be located in a low traffic area, close to Patient Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Meal Trolley

600744 90 .15.27 DESCRIPTION AND FUNCTION

An open storage bay for parking meal trolleys during delivery and collection times.

LOCATION AND RELATIONSHIPS

Ready access to beverage bay and Unit entry.

CONSIDERATIONS

The Bay should be deep enough to ensure trolleys do not impede corridor circulation; minimum depth 1200mm.

Meal trolleys should be lockable if located in an open-meal trolley bay. For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Personal Protective Equipment

600218 90 .15.30 PERFORMANCE REQUIREMENTS/ DESCRIPTION AND FUNCTION

A bay for the storage of personal protective equipment such as gloves, gowns, overshoes and masks for infection control purposes.

LOCATION AND RELATIONSHIPS

May be located with the Handwash Bay or immediately outside Isolation Rooms of all types (unless an Anteroom is provided) and outside all patient bed rooms. For 1 Bed Rooms, one PPE Bay may be shared by two rooms.

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Personal Protective Equipment (PPE) Bays may also be required in Operating Suites, Cardiac Catheter Labs, Endoscopy Units / Endoscope processing rooms and maintenance workshops for storage of protective equipment required by OHS legislative requirements.

CONSIDERATIONS

Refer Part D for further information.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Public Telephone

600715 90 .15.35 PERFORMANCE REQUIREMENTS/ DESCRIPTION AND FUNCTION

A Bay for public telephones. The quantity required will depend on service demand.

LOCATION AND RELATIONSHIPS

The Public Telephone Bay should be located with ready access to waiting areas.

CONSIDERATIONS

Access should be provided for persons with disabilities to a minimum of one telephone bay in accordance with AS. 1428.2.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Resuscitation Trolley

600219 90 .15.40 DESCRIPTION AND FUNCTION

The Resuscitation Trolley Bay is for the supervised holding of the resuscitation trolley and equipment.

Direct access to the trolley and from this area to Patient Areas is essential.

PERFORMANCE REQUIREMENTS

A Resuscitation Trolley Bay should be 1.5m².

LOCATION AND RELATIONSHIPS

It should be adjacent to a Ward Staff Station and elsewhere as required.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Storage, 1m², 2m², 3m² & 4m²

600704 90 .15.45 DESCRIPTION AND FUNCTION

An open storage bay for holding of supplies in frequent use. Stock will be stored in open, heavy duty, adjustable shelving units.

PERFORMANCE REQUIREMENTS

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Size will vary depending on the Unit size and service profile and the use / provision of bays for holding of supplies.

LOCATION AND RELATIONSHIPS

An open storage bay located adjacent to patient treatment areas.

CONSIDERATIONS

The Bay should not impede corridor circulation.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Storage (Enclosed), 1m2

600707 90 .15.50 DESCRIPTION AND FUNCTION

A secure enclosed bay for storage of supplies. The storage bay will include adjustable heavy duty shelving.

PERFORMANCE REQUIREMENTS

Size will vary depending on the Unit size and service profile and the use/provision of cupboards for holding of supplies.

LOCATION AND RELATIONSHIPS

Located in a recess off a corridor.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Utility, 1m2, 1.5m2 & 2m2

600708 90 .15.55 DESCRIPTION AND FUNCTION

The Utility Bay provides an area with a bench and sink for use as a preparation area.

PERFORMANCE REQUIREMENTS

Size will vary depending on the Unit size and service profile.

LOCATION AND RELATIONSHIPS

The bay may be located adjacent to patient treatment areas.

The bay should be located in close proximity to a staff handwashing basin.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Vending Machines, 3m2

600717 90 .15.60 DESCRIPTION AND FUNCTION

Recessed bay off a corridor or a public waiting area for vending machines.

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LOCATION AND RELATIONSHIPS

The Vending Machines Bay should be located with ready access to waiting areas.

CONSIDERATIONS

The Vending Machines Bay should be accessible 24 hours / day.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Bay - Wheelchair Park

600222 90 .15.65 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

An open storage bay for parking wheelchairs ready for use.

The bay should be deep enough to ensure that the wheelchairs do not intrude onto corridor and circulation space. Size of bay - wheelchair park is relative to the level of services and throughput.

LOCATION AND RELATIONSHIPS

Locate near Waiting Areas and Unit entries where they can be observed from staff station or reception counter.

CONSIDERATIONS

Wall protection.

Power points for recharge may need to be considered.

Birthing Room - LDR

600223 90 .16.00 PERFORMANCE REQUIREMENTS

These rooms provide facilities for the entire birthing process including:

- patient assessment and preparation
- management of labour
- delivery
- infant clean-up / bathing - and resuscitation if necessary
- post-natal recovery and observation
- record keeping.

Each Birthing Room should have a dedicated en suite shower / toilet with or without bath, a scrub basin and access to a discrete storage area for mobile equipment.

DESCRIPTION AND FUNCTION

A Birthing Room (LDR) should be a minimum of 28m².

LOCATION AND RELATIONSHIPS

Birthing Rooms should be located with ready access from the Unit entry and Staff Station.

CONSIDERATIONS

The décor and finishes for a Birthing Room should be in a domestic style.

Clinical items such as medical gases and equipment should be concealed

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but within easy reach.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Change Cubicle - Patient

600224 90 .17.00 DESCRIPTION AND FUNCTION

The Patient Change Cubicle is provided for an ambulant or a disabled patient to undress from street clothes into a hospital gown, as appropriate prior to examination or treatment. Following the examination or treatment, the patient will re-dress in street clothes.

PERFORMANCE REQUIREMENTS

The Change Cubicle should provide hanging facilities for clothes, and a bench for the patient to sit on whilst dressing or undressing.

A Change Cubicle for general use should be 2m². If two door access is required add 1m².

A Change Cubicle for persons with disabilities should be 4m². This cubicle may also be used by bariatric patients, pregnant patients or accompanied patients.

Change cubicles for persons with disabilities should be provided at the following minimum rate - one cubicle or 30% of all cubicles, whichever is the greater figure.

LOCATION AND RELATIONSHIPS

The Change Cubicle should be located near or directly adjacent to Treatment areas.

CONSIDERATIONS

Security of patient belongings should be ensured. Privacy and accessibility from waiting areas should be considered.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Change - Staff

600225 90 .17.05 DESCRIPTION AND FUNCTION

Staff Change Areas are provided for staff to change into appropriate work clothing or gowns, to store their street clothes and to perform personal ablutions. Secure storage for personnel property should be provided.

PERFORMANCE REQUIREMENTS

Provision should generally be made for two Staff Change Areas, one for male and one for female staff.

If staff numbers are small and predominantly of one sex, unisex facilities may be considered.

The total area for Staff Change will depend on the size of the Unit but should be divided into male and female areas on a proportional basis to meet the specific requirements of the project brief.

Showers, toilets and decontamination facilities will be included within or

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adjacent to Staff Change areas depending on the nature of the Unit.

LOCATION AND RELATIONSHIPS

In Operating Units, for security and control purposes it is desirable that the traffic patterns to and from the Staff Change can be observed from the Reception / Entry Area.

In other Units, the Change Areas should be located in a convenient position, generally near the entry point to the Unit, but separate from Patient Areas.

CONSIDERATIONS

Provision should generally be made for two Staff Change Areas, one for male and one for female staff.

If staff numbers are small and predominantly of one sex, unisex facilities may be considered.

In units such as the Operating Suite where staff do full clothing change - full height lockers will be required.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Cleaner's Room

600226 90 .18.00 DESCRIPTION AND FUNCTIONS

A secure room for the storage and decanting of cleaning materials and agents, storage of cleaning equipment and trolley, washing and storage of mops, buckets, brooms, etc and for waste disposal.

PERFORMANCE REQUIREMENTS

An externally accessed cupboard should be provided for dry goods such as toilet paper and paper hand towels (refer to Bay-Storage Enclosed, 1m2).

The Cleaner's Room should be 5m2 and lockable.

LOCATION AND RELATIONSHIPS

Anywhere convenient in the Unit, preferably in a low traffic area near the periphery of the Unit.

CONSIDERATIONS

Where storage and handling of hazardous substances occurs, access to appropriate material Safety Datasheets is required. Storage of hazardous substances should meet relevant legislative and organisational requirements.

For additional room considerations and details refer to Room Data Sheets.

Clean-Up Room

600227 90 .19.00 PERFORMANCE REQUIREMENTS/ DESCRIPTION AND FUNCTION

The Clean Up Room is a dispersal area where used trolleys and articles should be held temporarily. These items may be rinsed, sorted or disposed of in accordance with the Facility Operational Policies.

DESCRIPTION AND FUNCTION

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One Clean Up Room may be shared between two Operating Rooms.

A Clean Up area should be 15m² where its use is shared by more than one Operating / Procedures Room.

A Clean-Up Room should be 7m², where used by one Operating / Procedure Room only.

LOCATION AND RELATIONSHIPS

The Clean Up Room should be located adjacent to its associated Operating or Procedure Room(s) and may be off the appropriate Exit Area(s).

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Clean-Up - Scopes

600228 90 .19.05 PERFORMANCE REQUIREMENTS

The Clean-Up - Scopes room is used for rinsing and cleaning of medical equipment, instruments or endoscopes used in procedures, prior to a sterilisation procedure.

N.B. Room Layout similar to Clean-Up - Shared, 15m² (CLUP-15).

LOCATION AND RELATIONSHIPS

Ready access to treatment or procedure room(s).

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Clean Utility

600229 90 .20.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

The Clean Utility Room is for the storage and preparation of clean and sterile stock, patient care items, drugs and intravenous fluids.

The room should provide storage for dangerous drugs in accordance with relevant legislation.

Doors to the Clean Utility should be lockable.

LOCATION AND RELATIONSHIPS

The Clean Utility should be located adjacent to the Staff Station and be readily accessible from Inpatient Accommodation.

Depending on the configuration of the Unit, access may be from two sides.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Pharmacy policy at each facility will determine storage and handling requirements for general drugs and medications. A Sub Clean Utility room of 8m² may be provided for small units and day stay units.

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Verify dimension of medical trolley on project specific bases. Modify door size to allow trolley access.

The Clean Utility Room should be 12m², unless accessed from both sides in which case it may be increased to 14m².

Communications Room

600745 90 .20.05 DESCRIPTION AND FUNCTION

A secure room with restricted access to house communications racks, interface control panels for communication systems which may include MATV, Nurse Call and Fire/EWIS system and voice/ data backbone cabling, CCTV Digital Video Recording Systems and associated hardware.

LOCATION AND RELATIONSHIPS

This room shall be located at perimeter of a unit, to provide easy access for services and maintenance staff.

CONSIDERATIONS

This is an Engineering space and the area should not be counted in the HPUs. Equipment located in this room may require uninterruptible power supply and other room design requirements subject to services consultants' advice.

For additional details refer to Room Data and Room Layout Sheets.

Consult Room

600230 90 .21.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

The Consult Room will provide for private consultation and examination of patients with or without support persons present. This room should also be used for the examination of patients who are behaviourally disturbed, in which case emergency egress should be provided. A second egress door may be required for staff safety and security. The two doors should not be on the same wall.

Acoustic and visual privacy should be provided.

Consult rooms may be provided for a variety of purposes including:

- assessing gynaecological / obstetrics patients and sexual assault victims
- ENT/Ophthalmology
- dental
- paediatric use
- general or multifunctional purposes.

Equipment for each of these functions may differ. For each function provide appropriate furniture and equipment, and toys for paediatric use. Medical gases may be included if required by service level and operational policy.

A Consult Room should be 12m².

LOCATION AND RELATIONSHIPS

To be grouped with other Consult Rooms, where possible, and easily accessible from Entry, Waiting and Staff Areas. Close to Clean and Dirty Utility Rooms.

Two doors and duress alarms may be required for security reasons - refer

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Part C of these Guidelines for further information.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Consult Room - ENT / Ophthalmology

600719 90 .21.05 DESCRIPTION AND FUNCTION

The Consult Room ENT / Ophthalmology Room will provide for private consultation and examination of patients for eye and ear, nose and throat examinations using specialised equipment. The room may also be used for general consultations.

PERFORMANCE REQUIREMENTS

The Consult Room ENT / Ophthalmology Room should be a minimum of 12m².

LOCATION AND RELATIONSHIPS

To be grouped with other Consult Rooms where possible, and easily accessible from Entry and Waiting Areas and close to Clean and Dirty Utility Rooms.

CONSIDERATIONS

Acoustics: Sound attenuation level - high; Acoustic privacy essential.

Distance between eye chart light box and mirror for reflected viewing must be 3m.

Body protected electrical area.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets. Medical gases may be included if required by service level and operational policy.

CT Scanner - Control Room

600231 90 .22.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

The room provides for remote operation of CT equipment, observation of the patient and review of images.

A viewing window should be provided to permit full view of the patient and the angle of the CT Unit should permit the control operator to see the patient's head.

The Control Room should be located directly outside the CT Scanning Room.

LOCATION AND RELATIONSHIPS

Ready access to film processing areas (laser printer).

CONSIDERATIONS

For additional room details and requirements refer to Room Description and Room Layout Sheets.

CT Scanner - Procedure Room

600232 90 .22.05 PERFORMANCE REQUIREMENTS

The Computerised Tomography (CT) Room provides an area and equipment for CT examinations.

DESCRIPTION AND FUNCTION

The rooms should be sized to accommodate the equipment selected but the minimum area required will be 42m².

LOCATION AND RELATIONSHIPS

The CT Scanning Room should be located adjacent to the Control Room and Equipment Room if separate.

A bed / trolley bay adjacent to each room in order for staff to observe patients whilst carrying out other duties and ready access to preparation area and patient toilet, change and recovery areas.

CONSIDERATIONS

Clinical scrub facilities immediately adjacent to the room.

May need to be serviced for general anaesthesia.

For additional room considerations and details refer to Room Data Sheet and Room Layout Sheet.

Darkroom

600233 90 .23.00 PERFORMANCE REQUIREMENTS

A room for processing light-sensitive radiographic film under light-controlled conditions.

DESCRIPTION AND FUNCTION

In Medical Imaging Units that have converted to a Computed Radiology (CR) or Digital Radiology (DR) system, the Dark Room will/may only be required as a back-up in the event of those systems' failure.

The processor may be either floor or bench-mounted.

Functions and activities include:

- receipt of exposed film
- loading / unloading cassettes
- film identification
- feeding film into processor in darkened conditions
- film copying
- film examination
- maintenance and quality control activities e.g. cleaning of equipment and fittings, temperature control of solutions, appropriate change / replenishment of solutions, processing of film strips.

LOCATION AND RELATIONSHIPS

The Dark Room should be easily accessible from the General Imaging Room work areas.

CONSIDERATIONS

The following will be required:

- safe light

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- light-proof door seals
- exhaust system to deal with pungent chemical odours
- warning light outside room indicating processing active.

Means of silver recovery and chemical disposal will need to be established.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets

Dining Room / Beverage Bay (Mental Health)

600746 90 .23.05 DESCRIPTION AND FUNCTION

The Dining Room/ Beverage Bay is an area provided for patients within the Mental Health Unit to eat their meals, away from the bedroom environment.

The Dining Room may be used for other patient activities when not in use for meals. Access and dining space should be provided for patients with disabilities.

Natural light and an external outlook are highly desirable.

Size will vary depending on the Unit size and service profile.

LOCATION AND RELATIONSHIPS

The room should be clearly observable from the Staff Stations and have access to internal or external courtyards or terraces.

CONSIDERATIONS

The Beverage Bay will include a servery counter and will require restricted access. Finishes, fittings & fixtures and furniture should be suitable for mental health patients.

All glazing (including external windows) is to comply with Mental Health Facility Planning Guideline.

Acoustics: Sound attenuation medium; acoustic privacy required.

Body Protected electrical area.

For additional room details refer to Room Data and Room Layout Sheets.

Dirty Utility

600234 90 .24.00 PERFORMANCE REQUIREMENTS

A Dirty Utility Room should be provided in clinical areas for the functions as described below.

A hand basin should be provided.

Door opening mechanisms from the corridor should be hands-free.

DESCRIPTION AND FUNCTION

The Dirty Utility Room provides for the following functions:

- disposal of clinical and other waste
- holding of in-use linen skips
- measuring, testing and disposal of patient specimens
- decontamination and storage of utensils such as bed pans, urinals and wash bowls

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- cleaning and holding of used equipment and instruments for sterilisation elsewhere
- hand hygiene.

The Dirty Utility Room should be a minimum of 10m² or 12m² when access is required from 2 sides of the room.

Dirty Utility - Sub

600235 90 .24.05 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

The Sub - Dirty Utility provides the same functions as the main Dirty Utility Room with the possible exception of equipment for decontaminating washbowls etc.

May act as a secondary support for the main Dirty Utility in large wards and departments or may be all that is required in units such as Medical Imaging.

The Dirty Utility - Sub should not be provided in Inpatient Units used for overnight accommodation; in these units a full sized Dirty Utility is required.

The Dirty Utility - Sub should be a minimum of 8m².

LOCATION AND RELATIONSHIPS

The Dirty Utility - Sub should have ready access to patient areas and Unit corridor.

CONSIDERATIONS

Door opening mechanism must be hands-free.

For additional room considerations and details refer to Room Data Sheets and Room Layouts.

Disposal Room

600236 90 .25.00 DESCRIPTION AND FUNCTION

The Disposal Room provides holding space for waste and soiled linen awaiting transfer to the Waste Handling Unit or Linen Handling Unit.

PERFORMANCE REQUIREMENTS

Mobile containers of clinical and general waste and bagged soiled linen are to be accommodated.

Space is also required for separate containers for sharps, glass, paper and plastics (if recycling is practised).

The Disposal Room should be 8/10m² and lockable. Provide one Disposal Room for every 30 beds.

LOCATION AND RELATIONSHIPS

The room should be centrally located near main transport routes for collection, within easy access of clinical unit.

CONSIDERATIONS

In some Units, space will be required for cytotoxic waste bins.

The disposal room may contain waste or harmful items. Restricted access is required and the room must be lockable. Storage and disposal of harmful

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waste must be appropriate.

Refer to Operational Policies for the Unit Waste Management Policies.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Ensuite

600238 90 .26.00 PERFORMANCE REQUIREMENTS

An Ensuite is for a patient to wash, shave, groom themselves, shower, use the toilet, either independently or with assistance.

The area and layout should accommodate an assisting nurse, patient lifter and wheelchair access.

DESCRIPTION AND FUNCTION

Water conservation should be considered in the selection of fittings and fixtures.

There are three main configurations for Ensuite Bathrooms:

- A - Inboard - placed on the corridor wall side of the room
- B - Outboard - placed on the external wall of the room
- C - Super - a larger ensuite to suit the needs of particular types of patients; see note below.

There are two standard sizes for Ensuites - Standard at 5m² and 'Super' at 6m².

A 5m² Standard Ensuite will allow one carer or nurse to assist the patient i.e. 'partial' assistance.

A 6m² Ensuite will allow two nurses to assist the patient i.e. 'full' assistance.

LOCATION AND RELATIONSHIPS

Each 1 Bed Room will have a dedicated Ensuite. These will generally be Standard i.e. 5m². The 1 Bed Room - Special will have a 'Super' 6m² Ensuite.

The Ensuite must be adjacent to the entry door or directly accessible from each Bed Room.

Individual shower and toilet compartments may be used for patients in shared bedrooms. See Shower - Patient and Toilet - Patient.

Doors must open out and be fitted with emergency release function.

CONSIDERATIONS

Doors must open out and be fitted with emergency release function.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Ensuite - Birthing Room

600239 90 .26.05 PERFORMANCE REQUIREMENTS

A room for the patient in the Birthing Room to use the toilet and to shower or bath as required for hygiene and pain relief purposes, either independently

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or with assistance. Delivery may occur in this room.

DESCRIPTION AND FUNCTION

There are two types and sizes of room:

- ensuite with shower and toilet only 7m2
- ensuite with shower, toilet and peninsula bath 10m2.

The bath will include steps and a seating platform at the bath edge.

LOCATION AND RELATIONSHIPS

Direct access from the Birthing Room.

CONSIDERATIONS

Two showerheads in the shower located to allow the labouring woman, when seated, to direct water onto both her front and back for pain relief.

No hobs to the shower recess.

Refer to Room Data and Room Layout Sheets for further details.

Equipment Clean-Up, 8m2, 10m2, 12m2 & 14m2

600702 90 .27.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

The Equipment Clean-Up Room is used for cleaning and maintaining equipment used in the Unit. Storage may be required for holding cleaned equipment and spares. Equipment may also be recharged in this room.

Room Data and Room Layout Sheets show rooms - 8m2, 10m2, 12m2, 14m2. Size will depend on service profile.

LOCATION AND RELATIONSHIPS

Ready access to treatment or procedure room(s).

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Feeding Room

600240 90 .28.00 PERFORMANCE REQUIREMENTS

The Feeding Room provides an area for mothers to feed their babies and express milk in privacy with or without nursing assistance. The room should be used by the lactation consultant for education purposes. A clinical handbasin should be provided and storage for breast pumps needs to be considered unless stored in the Formula Room.

LOCATION AND RELATIONSHIPS

Locate adjacent to the Nursery with ready access to the Formula Room. In small units, the Feeding and Formula Rooms may be combined.

CONSIDERATIONS

Ability to screen a small area for breast milk expression.

For additional details, refer to Room Data and Room Layout Sheets.

Formula Room

600241 90 .29.00 PERFORMANCE REQUIREMENTS

Room for the preparation, storage and distribution of baby feeds.

A clinical handwashing basin should be located within the room.

DESCRIPTION AND FUNCTION

The room will accommodate the following functions:

- preparation of formula
- refrigerated storage of baby feeds including expressed breast milk
- storage of dried goods
- washing, sterilisation and storage of baby bottles, teats and equipment.
- demonstration to mothers on formula preparation.

The Formula Room should be a minimum of 7m² with additional space for processing of bottles and teats.

LOCATION AND RELATIONSHIPS

The Formula Room should be located with direct access to a circulation corridor with ready access to Nursery areas. It may have direct access into the Feeding Room.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout sheets.

Film Processing

600242 90 .30.00 PERFORMANCE REQUIREMENTS

A room located within the Medical Imaging Unit to house the equipment and facilities necessary for traditional processing (daylight), viewing and reporting.

DESCRIPTION AND FUNCTION

In Units that utilise computed radiography (CR) and PACS, the equipment will be quite different, viewing will occur on PACS monitors and reporting stations will be in a separate area. Refer to the Medical Imaging Health Planning Unit for further information.

LOCATION AND RELATIONSHIPS

Direct access from the general imaging rooms.

CONSIDERATIONS

Refer to the Room Layout and Room Data Sheets for further details.

General X-Ray

600243 90 .31.00 PERFORMANCE REQUIREMENTS

A room for undertaking general radiographic procedures that include:

- skull x-rays

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- erect and supine abdominal examinations
- chest x-rays
- x-rays of the extremities and long bones e.g. hands, femur, etc.

The control unit zone should be effectively shielded by a lead-lined screen with leadlined (continuous) vision panels for good patient observation.

DESCRIPTION AND FUNCTION

Where volumes are low, OPG, Mammography and Tomography may be added to the general room equipment. This will necessitate a slightly larger room.

Where the room is intended for mixed general or tomographic examination, additional tomographic attachments will be required but no re-arrangement of the space will be necessary.

Two similar rooms are recommended for a Level-4 service facility, one of which may service trauma cases transferred from the Emergency Unit.

Functions and activities include:

- preparation of room and equipment for procedure
- transfer of patient between trolley / bed and table, where required
- preparation, instruction and positioning of the patient
- x-ray procedures
- cassette insertion and removal
- post x-ray instruction / assistance for patient.

Minimum area - 30m².

Add 5m² if Mammography included.

LOCATION AND RELATIONSHIPS

May be located in the Medical Imaging Department or within a satellite unit.

If no satellite room in the Emergency Unit, locate to facilitate frequent access from the Emergency Unit and from Outpatient Units as well as being readily accessible from Inpatient Units.

Locate to provide ready access from the ambulant waiting area.

Direct access into the Processing Area (Computed Radiology assumed).

Direct Access is required to Change cubicles if adjoining the room or ready access from a central waiting area.

CONSIDERATIONS

Bed / trolley access to room and manoeuvrability within the room is essential.

Allow required space around equipment for movement and servicing according to manufacturer's recommendations. N.B. If equipment selection not finalised, take advice from Electro-medical Consultants based upon known information.

For additional details, refer to Room Data and Room Layout Sheets.

Goods Receipt - Pharmacy

600244 90 .32.00 PERFORMANCE REQUIREMENTS

The Goods Receipt area provides an area for receiving deliveries of pharmaceuticals and other goods, unpacking and checking them for storage

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in the appropriate storage area.

DESCRIPTION AND FUNCTION

Functions and Activities include:

- receiving deliveries
- unpacking items and checking them against the invoice
- preparing the received items for storage
- holding packing material and transport containers for disposal
- holding rejected deliveries for return
- holding order books, computer sheets, invoices, packing slips, etc.

LOCATION AND RELATIONSHIPS

This area should be located close to the delivery entrance into the Unit adjacent to the Active Store and/or to the Bulk Store.

CONSIDERATIONS

Intercom to alert staff of a delivery.

Internal temperatures should not rise above 25°C.

Refer to Part C of these Guidelines for further information on security.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Gymnasium

600245 90 .33.00 PERFORMANCE REQUIREMENTS

A room for patient evaluation, rehabilitation exercise activities, ambulation training and group exercises and classes.

DESCRIPTION AND FUNCTION

A room for patient evaluation, rehabilitation exercise activities, ambulation training and group exercises and classes.

Natural light and an external outlook are highly desirable.

LOCATION AND RELATIONSHIPS

The Gymnasium should be located close to other patient therapy areas with an accessible toilet for people with disabilities, cold water dispenser, the circulation corridor, Unit entry and waiting areas. And to Rehabilitation Ward where provided.

CONSIDERATIONS

Body protected electrical area.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Hydrotherapy Pool

600721 90 .34.00 PERFORMANCE REQUIREMENTS

Hydrotherapy Pool for patient rehabilitation and exercise under supervision.

DESCRIPTION AND FUNCTION

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Hydrotherapy Pool for patient rehabilitation and exercise under supervision.

Pool size 90m² (15m x 6m) excluding pool surrounds designed for 12 users.

Pool and surrounds to comply with AS 3979 - Hydrotherapy Pools.

LOCATION AND RELATIONSHIPS

Easily accessible from Unit entry for possible use after hours.

CONSIDERATIONS

AS 3979-1993 (Under revision DR 05261) Hydrotherapy Pools sets out requirements and recommendations for the design, construction and operation of pools for use in the treatment of conditions requiring hydrotherapy. Does not apply to pools with a water capacity of 7500 L or less, nor to small tanks of the type which may incorporate fixed or rotating water jets.

Some specific requirements for patient and staff safety include:

- adequate change facilities for patients and staff including accessible showers and toilets for people with disabilities, and open shower on the pool concourse.
- adequate emergency call points including ceiling-suspended call points for therapists in the water.
- recovery area comprising resuscitation trolley and bed or plinth should a patient collapse in the pool.

Additional Design Considerations:

- depth 0.9 metres to 1.5 metres - gradual slope; Deep end may be reduced if paediatric use is likely to be frequent.
- wet deck - single channel
- temperature of water 30-36°C
- temperature of air to be no more than 10°C below water temperature.
- relative humidity in the pool area should be maintained as low as possible with the range 50% to 75%; preferred maximum 60%.
- water to be earthed
- pool surface - tiled, non-slip, ensure a high level of slip resistance to tiles on the ramp; vertical surfaces of tiling do not need to be slip resistant.
- glazing to pool walls recommended, obscure glazing may afford additional privacy as required.
- ramp access with handrail & stair access with handrails
- pool handrails required - not recessed type
- pool blanket may be required (insulation for energy conservation)
- disinfection system to be advised by Engineer
- pool hydraulic hoist
- underwater pressure jets for therapeutic purposes are optional.

For additional details refer to Room Data Sheets and Room Layout Sheets.

Laundry - Mental Health

600723 90 .35.00 PERFORMANCE REQUIREMENTS

A space to encourage activities of daily living by providing the facility for washing, drying and ironing of clothing by patients. The scale should be domestic with a laundry tub, washing machine and drier and lockable cupboard for iron and ironing board.

There should also be access to an external space with a collapsible and/or low hung clothesline.

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DESCRIPTION AND FUNCTION

Size will vary depending on the Unit size and service profile.

LOCATION AND RELATIONSHIPS

Part of the General Mental Health Inpatient Zone.

CONSIDERATIONS

Equipment such as a washing machine and drier should be 'heavy duty' in view of the number of persons using this facility.

Adequate ventilation and extraction must be provided to cope with the constant generation of heat and moisture. Additional exhaust may be required if commercial equipment is selected.

Consider a recessed fold-down ironing board and iron unit to minimise loose equipment.

May require space for individual patient laundry baskets.

The door should be lockable to enable staff to control access.

Laundry - Patient

600747 90 .35.05 DESCRIPTION AND FUNCTION

A domestic style laundry providing facilities for washing, drying and ironing of clothing by patients, relatives, staff or volunteers. The room should contain a laundry tub, washing machine, clothes dryer, lockable cupboard for iron and ironing board.

Ideally, there should be access to an external drying area with a collapsible and/or low hung clothesline.

Size will vary depending on the Unit size and service profile.

LOCATION AND RELATIONSHIPS

Part of an Inpatient Unit.

CONSIDERATIONS

Equipment such as a washing machine and clothes dryer may need to be 'heavy duty' in view of the number of persons using this facility.

Adequate ventilation and extraction must be provided to cope with the constant generation of heat and moisture. Additional exhaust may be required if commercial equipment is selected.

Consider a recessed fold-down ironing board and iron unit to minimise loose equipment.

The door should be lockable to enable staff to control access.

For additional room details refer to Room Data and Room Layout Sheets.

Lounge - Parent

600748 90 .35.10 DESCRIPTION AND FUNCTION

The Parent Lounge provides a change of environment away from clinical areas for parents or visitors to patients in the Paediatric/ Adolescent Units.

LOCATION AND RELATIONSHIPS

Ideally located on an external wall with outlook.

CONSIDERATIONS

Acoustics: Sound attenuation level - Medium; Acoustic privacy required.
Access for twin prams should be considered.
The area should be comfortable and non-clinical in appearance.

For additional room details refer to Room Data and Room Layout Sheets.

Lounge - Patient, 10m², 15m² & 30m²

600237 90 .36.00 DESCRIPTION AND FUNCTION

This room provides a change of environment, away from Clinical Areas for patients and visitors. It is an area where family groups can visit and patients can socialise.

PERFORMANCE REQUIREMENTS

The nominal floor area should be 10m², 15m² or 30m².

An alternative method of determining the size of the Lounge for adult patients is by multiplying the number of beds by 0.8m². This takes into account that some adult patients:

- have shorter hospital stays
- are non-ambulant
- have a preference for privacy.

Adolescent and paediatric inpatients have specific requirements for a lounge i.e. play and schooling areas. If the Inpatient Unit caters for paediatric patients, the Lounge should contain games and activities suitable for children with storage space for play equipment.

In small hospitals, the Paediatric Lounge can be part of the Paediatric Patient Bedroom. Bedroom size may vary to accommodate additional function.

LOCATION AND RELATIONSHIPS

The Patient Lounge should be on an external wall to take advantage of natural light and outlook. Low sill heights promote access to a view from a seated position.

It should be away from the bed areas but staff should be able to observe and monitor its use.

Direct access to an external space is also highly desirable. This ensures that patients' preferences for both indoor and outdoor activities are catered for.

Where possible, direct access to a secure landscaped area offering partial cover against sun, wind and rain should be provided.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Door width should allow for patient hoist and bed access in case of emergency.

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Nurse call buttons prominently displayed on walls.

Power outlets and cord safety is an important consideration for electronic games, laptop use.

Body protected area.

Mammography

600246 90 .37.00 PERFORMANCE REQUIREMENTS

The Mammography Room provides specialised equipment for radiographic examinations of the breast - upright and prone, and for biopsies under ultrasound control. A change cubicle may be contained within the room.

DESCRIPTION AND FUNCTION

A Mammography Room should be a minimum of 16m² (unless used exclusively for breast screening of ambulatory patients in which case 9m² will be sufficient).

LOCATION AND RELATIONSHIPS

The Mammography Room will be usually be located in the Medical Imaging Unit but may occasionally be located in a dedicated Breast Unit.

Ready access to change cubicles if not located within the Mammography Room and to a discreet waiting area.

CONSIDERATIONS

Visual and acoustic privacy is required.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Meeting Room - 9m² or 12m²

600247 90 .38.00 DESCRIPTION AND FUNCTION

A multipurpose room for interviewing patients, consultation, grieving, small staff meetings and small scale teaching activities. It should provide accommodation for relatives.

All rooms should be multi-functional, well-lit and appropriately furnished.

PERFORMANCE REQUIREMENTS

In the 12m² version, space for a bed may be required and doors sized accordingly. Acoustic and visual privacy are required.

Where used for Telehealth, specific requirements for security, equipment storage and interior design should be incorporated and a minimum 12m² will be required.

A Meeting Room should be 9m² or 12m².

LOCATION AND RELATIONSHIPS

Near main Waiting Area with easy access to public amenities, Unit entry and away from Treatment Areas.

Where used for accommodation of distressed relatives, it should be located in a quiet low traffic area.

In Emergency, it should be located near the Resuscitation Area.

Where the room is used after hours, access to other parts of the facility should be restricted.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Meeting Room - Medium / Large, 15m2, 20m2 & 30m2

600248 90 .38.05 PERFORMANCE REQUIREMENTS

The Medium and Large Meeting Rooms will accommodate staff and other meetings such as those held with the visiting Magistrate in a Mental Health Unit. It may also be used for training or educational purposes.

All rooms should be multi functional, well lit and appropriately furnished.

DESCRIPTION AND FUNCTION

A Meeting Room for Seminar / Training purposes is used for the tutoring and supervision of students, of varying categories away from the bedside. It will also be used for teaching sessions involving patients and staff or patients and their relatives, group discussions and lectures. It may also be use for patient conferences, reporting, and consultations. It will be generally shared with other Units.

A Seminar / Training room should be 15m2. It will accommodate 5-10 people.

A Medium Meeting Room should be 20m2 and accommodate 12-15 people.

A Large Meeting Room should be 25-30m2 and accommodate 15-25 people.

LOCATION AND RELATIONSHIPS

A Seminar / Training Room may be located in a low traffic area on the periphery of Unit, or between a number of Inpatient Units.

A Meeting Room should be close to the entry point for a Unit to enable ready access for people from outside the Unit and also shared use by other Units.

Where meeting rooms are accessed after hours, access to other parts of the facility should be restricted, with the exception of access to beverage bay and toilets.

In a Mental Health Unit, a Magistrate's Room should be accessible from the Entry / Reception Areas as well as from Inpatient Areas. Discreet access from the Secure Unit should be provided for patients to attend magisterial sessions.

CONSIDERATIONS

Where used as a Magistrate's Room, two points of exit should be provided. Duress alarms will be required and more than one telephone outlet provided. Video, Telepsychiatry / Telemedicine and teleconferencing facilities may be required. If so, sufficient space should be provided for storage and securing of equipment. For further information refer to 'Memorandum of Understanding for the Conduct of Review Hearings under the Mental Health Act by Magistrates of the NSW Local Court, December 1999', and to Part C of these Guidelines.

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Where used for Telehealth, specific requirements for security, equipment storage and interior design should be incorporated.

For additional room considerations and details refer to Room Data Sheets.

Mortuary - Viewing Room

600727 90 .39.00 PERFORMANCE REQUIREMENTS

The Viewing Room is provided for bodies to be viewed by relatives / friends. Bodies may be viewed through a window and optional access may be provided for relatives to directly view bodies.

DESCRIPTION AND FUNCTION

The Viewing Room should be 8m2.

LOCATION AND RELATIONSHIPS

The Viewing Room will be located adjacent to the Mortuary Waiting Area.

CONSIDERATIONS

The room should contain a viewing window with privacy screening.

For additional room considerations and details refer to Room Data Sheets.

Mortuary - Waiting Room

600725 90 .39.05 PERFORMANCE REQUIREMENTS

The Mortuary Waiting provides an area for relatives and other personnel to await the viewing of a body.

DESCRIPTION AND FUNCTION

The Mortuary Waiting should be 9m2.

LOCATION AND RELATIONSHIPS

The Viewing Room will be located adjacent to the Mortuary Waiting Area.

CONSIDERATIONS

The area should be comfortable and non-clinical in appearance.

For additional room considerations and details refer to Room Data Sheets.

Neonatal Bay - General Care

600249 90 .40.00 PERFORMANCE REQUIREMENTS

A single Bay for the care of well babies away from their mother's bed area which may include treatments such as phototherapy or in order to give a sick mother a period of respite.

A staff handwash basin (type A or B) should be provided for each four Neonatal Bays - General Care.

DESCRIPTION AND FUNCTION

The Neonatal Bay should be a minimum of 6m2, which includes a circulation area of one metre between bays.

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LOCATION AND RELATIONSHIPS

The Neonatal Bay - General Care may be located either in the Neonatal Nursery or in the Postnatal Inpatient Unit observable for the Staff Station.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Neonatal Bay - Intensive Care

600250 90 .40.05 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

A single Bay or Room for Level 3 neonates requiring Intensive nursing and medical treatment.

The Bay (or room) will include provisions for charting, storage and a zone for parents.

In multi-bed rooms a minimum of 2.4 metres is required between infants' cots with an aisle of 1.2 metres between facing cots.

DESCRIPTION AND FUNCTION

The Neonatal Bay / Room - ICU should be a minimum of 12m² for low level 3 cots and high level 2 cots and 14m² for high level 3 cots.

Provision of handbasins and additional storage is not included in the area for the cot.

LOCATION AND RELATIONSHIPS

The Neonatal Bay - ICU will be located within the Level 3 or high Level 2 zone of the Neonatal Unit with ready access from the Birthing Unit, Operating Suite and the Postnatal Maternity Inpatient Unit .

There will need to be a clear and rapid means of access from the Emergency Unit and Helipad for retrieved babies.

CONSIDERATIONS

A staff clinical handwash basin (Type A) is required in close proximity to each Neonatal Bay - ICU.

Each Bay should be within six metres of a handwash basin. If a room is provided, the handbasin should be located within the room.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Neonatal Bay - Special Care

600251 90 .40.10 PERFORMANCE REQUIREMENTS

A single Bay for neonates requiring Special Care nursing and medical treatment.

The Bay will include provisions for charting and storage and facilities for parents.

DESCRIPTION AND FUNCTION

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The Neonatal Bay / Room - ICU should be a minimum of 10m². In multi-bed Rooms, a minimum of 1.2 metres is required between infants' beds, with an aisle of 1.5 metres between facing cots.

LOCATION AND RELATIONSHIPS

The Neonatal Bay - Special Care will be located within the Intensive Care Unit - Neonatal/ Special Care, which will have ready access to the Maternity Inpatient Unit, Birthing Unit and Operating Unit.

CONSIDERATIONS

A staff clinical handwash basin (type A) is required in close proximity to each Neonatal Bay - Special Care.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Office - 2 Person Shared

600252 90 .41.00 DESCRIPTION AND FUNCTION

The Office is where two staff can carry out administrative functions in a degree of privacy. This includes preparing rosters and reports.

PERFORMANCE REQUIREMENTS

The Office should be 12m².

LOCATION AND RELATIONSHIPS

Away from clinical areas.

CONSIDERATIONS

The Office should be lockable.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Refer to jurisdiction specific office accommodation policy for specific requirements.

Office - 3 Person Shared

600253 90 .41.05 DESCRIPTION AND FUNCTION

A 3 Person Shared Office is for three persons to carry out administrative functions in a degree of privacy. This includes preparing rosters and reports.

PERFORMANCE REQUIREMENTS

A 3 Person Shared Office should be 15m².

LOCATION AND RELATIONSHIPS

Away from Clinical Areas.

CONSIDERATIONS

The Office should be lockable.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

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Refer to jurisdiction specific office accommodation policy for specific requirements.

Office - 4 Person Shared

600354 90 .41.10 DESCRIPTION AND FUNCTION

Office space to be shared by four persons for carrying out administrative functions in a degree of privacy. This includes preparing rosters and reports.

PERFORMANCE REQUIREMENTS

A 4 Person Shared Office should be 20m².

LOCATION AND RELATIONSHIPS

Away from Clinical Areas.

CONSIDERATIONS

The Office should be lockable.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Refer to jurisdiction specific office accommodation policy for specific requirements.

Office - Clinical/Handover

600255 90 .41.15 DESCRIPTION AND FUNCTION

An office for staff to write up notes, view digital imaging, hold confidential discussions and store records. It may also be used for handovers.

PERFORMANCE REQUIREMENTS

Floor area should be 12m²; although the actual size will be dictated by the number of staff using this space at any one time.

LOCATION AND FUNCTION

Adjacent to the Staff Station.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Office - Consult

600729 90 .41.20 DESCRIPTION AND FUNCTION

A room where clinical consultation and administrative functions are combined. The room may be used by medical, nursing and allied health staff.

PERFORMANCE REQUIREMENTS

The Office / Consult Room should be 12m².

LOCATION AND RELATIONSHIPS

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The Office / Consult should be located near patient treatment areas with close access to patient waiting areas.

CONSIDERATIONS

Depending on location, a second egress door may be required for staff safety in which case an additional 2m² should be added to the room size. Furniture should be arranged in a way that does not entrap staff i.e. patient does not sit between staff member and the door.

For additional room considerations and details refer to Room Data Sheets.

Office - Single Person 9m²

600256 90 .41.25 DESCRIPTION AND FUNCTION

A Single Person Office where Unit Managers can carry out administrative functions in a degree of privacy. This includes preparing rosters, reports, counselling, interviewing staff and patients.

PERFORMANCE REQUIREMENTS

A Single Person Office should be 9m².

LOCATION AND RELATIONSHIPS

Close to the Staff Station in a quieter traffic area.

CONSIDERATIONS

The Office should be lockable.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Office - Single Person 12m²

600257 90 .41.30 DESCRIPTION AND FUNCTION

A Single Person 12m² Office is where a Director or other senior manager can carry out administrative functions in a degree of privacy. This includes preparing reports, counselling, interviewing staff, patients and their families.

LOCATION AND RELATIONSHIPS

Away from Clinical Areas, preferably located with other Office Areas.

CONSIDERATION

The office should be lockable. For additional room consideration and details refer to Room Data Sheet and Room Layout Sheets.

Office - Write-up 3m²

600259 90 .41.40 DESCRIPTION AND FUNCTION

This bay provides an area for use by members of the patient care team to review and write-up patient records, enter patient data on computer and make telephone calls.

PERFORMANCE REQUIREMENTS

The Write-up Area should be a minimum of 3m².

LOCATION AND RELATIONSHIPS

The Write-up Area should be located near patient care areas.

CONSIDERATIONS

The Write-up Area may be recessed sufficiently so that a seated staff member does not cause an obstacle to corridor traffic in patient care areas.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Operating Room - General

600260 90 .42.00 PERFORMANCE REQUIREMENTS

The Operating Room provides an aseptic environment in which to carry out surgical procedures, under local, regional or general anaesthetic.

It is essential at least one wall not only be free from door openings, but also free from those services which require frequent attention. This provides an area for sterile equipment and scrubbed personnel, which is not compromised by traffic in and out of the Operating Room or to and from the serviced item. It is preferable for the adjacent wall to be free, or impinged upon only for exit from the Operating Room.

DESCRIPTION AND FUNCTION

A General Operating room should be 42m².

This theatre can be used for:

- ENT
- Urology
- Gynaecology
- Ophthalmology
- General
- Plastics
- any other procedures which do not require specialised bulky equipment.

Hours of operation: to suit Operational Policies - some may be available 24 hours per day.

The use of manual handling equipment may be required to move patients from/to the operating table. Sufficient space should be provided for use and storage of the equipment within the theatre complex.

LOCATION AND RELATIONSHIPS

The Operating Room is the focal point of the Operating Suite. A direct relationship with the following support areas is required:

- Holding / Anaesthetic Bay
- Scrub Up Room
- Exit Area
- Instrument Trolley Cart Assembly / Holding Area
- Sterilising Bay
- Clean-Up Area.

Direct access is required to the:

- Associated Scrub Up Room
- Exit Area
- Instrument Trolley / Cart Assembly / Holding Area.

Ready access is required to:

- Sterilising Bay
- Holding Bay
- Anaesthetic Room.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Operating Room - Large

600261 90 .42.05 PERFORMANCE REQUIREMENTS

The Operating Room provides an aseptic environment in which to carry out surgical procedures, under local, regional or general anaesthetic.

It is essential at least one wall not only be free from door openings, but also free from those services which require frequent attention. This provides an area for sterile equipment and scrubbed personnel, which is not compromised by traffic in and out of the Operating Room or to and from the serviced item. It is preferable for the adjacent wall to be free, or impinged upon only for exit from the Operating Room.

DESCRIPTION AND FUNCTION

A Large Operating room should be 52m².

NOTE: Quantities and sizes of some spaces will need to be determined in response to the service needs of each unit on a case by case basis.

This Operating Room can be used for:

- Neurosurgery;
- Orthopaedics;
- Cardiac;
- Any other procedures which require specialised bulky equipment.

Hours of operation: to suit Operational Policies - some may be available 24 hours per day.

LOCATION AND RELATIONSHIPS

The Operating Room is the focal point of the Operating Suite. A direct relationship with the following support areas is required:

- Holding / Anaesthetic Bay;
- Scrub Up Room;
- Exit Area;
- Instrument Trolley / Cart Assembly / Holding Area;
- Sterilising Bay;
- Clean-Up Area.

Direct access is required to the:

- Associated Scrub Up Room;
- Exit Area;
- Instrument Trolley / Cart Assembly / Holding Area.

Ready access is required to:

- Sterilising Bay;

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- Holding Bay;
- Anaesthetic Room.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Operating Room - Minor Scopes

600263 90 .42.10 PERFORMANCE REQUIREMENTS

The Operating Room provides an aseptic environment in which to carry out surgical procedures, under local, regional or general anaesthetic.

It is essential at least one wall not only be free from door openings, but also free from those services which require frequent attention. This provides an area for sterile equipment and scrubbed personnel, which is not compromised by traffic in and out of the Operating Room or to and from the serviced item. It is preferable for the adjacent wall to be free, or impinged upon only for exit from the Operating Room.

DESCRIPTION AND FUNCTION

A Minor / Scopes Room should be between 30 and 36m² depending on need.

This Operating Room can be used for:

- endoscopic procedures
- reduction of fractures and application of plasters
- bronchoscopy and sputum induction - in which case negative pressure HVAC will be required due to risk of TB infection.
- other minor procedures
- any other procedures which do not require specialised bulky equipment.

Where endoscopic procedures are performed, space for cleaning of scopes is required within or adjacent to the Operating Room.

Hours of operation: to suit Operational Policies - some may be available 24 hours per day.

LOCATION AND RELATIONSHIPS

The Operating Room is the focal point of the Operating Suite. A direct relationship with the following support areas is required:

- Holding / Anaesthetic Bay
- Scrub Up Room
- Exit Area
- Instrument Trolley / Cart Assembly / Holding Area
- Sterilising Bay
- Clean-Up / Clean-Up - Scopes Areas.

Direct access is required to the:

- Associated Scrub Up Room
- Exit Area
- Instrument Trolley / Cart Assembly / Holding Area.

Ready access is required to:

- Sterilising Bay
- Holding Bay

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- Anaesthetic Room.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Overnight Stay - Bedroom

600264 90 .43.00 DESCRIPTION AND FUNCTION

Domestic-style single bedroom for clinical staff or family needing to remain on close call overnight.

PERFORMANCE REQUIREMENTS

There may be an adjoining en suite or access to shared showers and toilets in close vicinity.

LOCATION AND RELATIONSHIPS

The Overnight Stay Bedroom should be located in a discrete area with ready access to the critical care areas.

CONSIDERATIONS

The room should be lockable and requires acoustic privacy.

Staff or parents using the Overnight Stay facilities need to be contactable using a telephone or paging system.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Overnight Stay - Ensuite

600265 90 .43.05 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

En suite or shower / toilet compartment for use by staff or families occupying Overnight Bedrooms.

LOCATION AND RELATIONSHIPS

If en suite, access will be from the Bedroom. If separate, access from a discrete corridor.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Parenting Room

600266 90 .44.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

A Parenting Room is provided for parents to feed and change babies.

LOCATION AND RELATIONSHIPS

A Parenting Room must be located with other child related facilities and have direct ready access to a Toilet and a Waiting Area.

CONSIDERATIONS

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For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Patient Bay - Holding, 6m2, 9m2

600267 90 .45.00 DESCRIPTION AND FUNCTION

A Patient Bay - Holding may be used for the treatment and observation of patients.

PERFORMANCE REQUIREMENT

Patient Bays of the size described in the Room Data / Room Layout Sheets may be used for:

- Non Acute Treatment
- Holding and observation.

The size of the bay and requirements for services (gases, power etc.) will depend on its purpose.

LOCATION AND RELATIONSHIPS

Access to a handbasin.

Generally located with other Patient Treatment Areas and near the Staff Station.

CONSIDERATIONS

Body protected area.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Pharmacy - Counter, 9m2

600268 90 .46.00 PERFORMANCE REQUIREMENTS

The Pharmacy Counter provides storage of prepared outpatient prescriptions awaiting collection and collection, receipt and secure storage of payments.

A hatch or hatches are required for across-counter delivery to patients that must be secured by a roller grille or shutter when not in use.

DESCRIPTION AND FUNCTION

Patients requiring further instruction / counselling re use of medications will be directed to the adjoining Interview Room.

LOCATION AND RELATIONSHIPS

The area should be located at the front of the Unit and adjacent to the waiting area and the Patient Counselling area.

Direct access is required into the Interview Room and into the Assembly / Preparation Area. This latter must however be screened from public view.

CONSIDERATIONS

Security of staff and privacy, including acoustic privacy, for the patient is of paramount importance.

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A duress alarm must be located in the area.

An attention-seeking call device may be required to summon the staff when the counter is unattended.

A public address / intercom may be installed to summon the patient by name.

Wall storage is required for drug administration pamphlets.

Refer to Part C of these Guidelines for further information on security.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Plaster Room

600269 90 .47.00 PERFORMANCE REQUIREMENTS

The Plaster Room allows for the application of Plaster of Paris and for the closed reduction under sedative or regional anaesthesia, of displaced fractures or dislocations. General anaesthesia will not be administered in this room.

DESCRIPTION AND FUNCTION

Locate with ready access from both Waiting Area and Treatment Area.

A Plaster Room should be 14m².

LOCATION AND RELATIONSHIPS

Locate with ready access from both Waiting Area and Treatment Area.

CONSIDERATIONS

A Splint and Crutch Store will be accessible to the Plaster Room.

Clear access to the plaster trap is required for maintenance purposes.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Play Area - 10m², 15m², 20m²

600270 90 .48.00 DESCRIPTION AND FUNCTION

An area where children may play while parents wait or are attended to by staff.

Note that a Play Area in a Paediatric Unit will/may have specific requirements not shown on these Room Data and Room Layout Sheets.

PERFORMANCE REQUIREMENTS

The Play Area should be designed to:

- enable children to be actively occupied
- keep children secure within the designated area
- minimise noise transfer
- be observable from the Waiting Area
- Be easily cleaned so as to maintain hygiene.

Natural lighting is desirable.

Size will vary depending on the services provided and operational policies.

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LOCATION AND RELATIONSHIPS

The Play Area should be located immediately adjacent to the Waiting Area. Access to an outdoor play area may also be provided.

Ready access to public toilets and baby change facilities.

The Play Area should relate to sub-waiting areas for paediatric services where appropriate. In paediatric Inpatient Unit, the play area may be located adjacent to parent facilities within the confines of the unit.

CONSIDERATIONS

Observation and security of children is a primary consideration. Also, safety of equipment provided in this area.

Unless otherwise specified in the Operational Policies, unit staff will not be responsible for supervision of the children.

For additional room considerations and details refer to Room Data Sheet and Room Layout Sheets.

Podiatry Treatment - 12m2, 14m2

600731 90 .49.00 DESCRIPTION AND FUNCTIONS

The Podiatry Treatment Room provides for podiatry consultation, examination and treatment. The room may be used for measuring and fitting prosthetic appliances but not for fabrication.

PERFORMANCE REQUIREMENTS

Size will depend on project throughput.
Natural daylight is desirable.

LOCATION AND RELATIONSHIPS

Podiatry Treatment room should have ready access to waiting area and the Unit corridor for simple gait assessment.

CONSIDERATIONS

- acoustics: sound attenuation level high; Acoustic privacy is required. Bench heights to be accessible by the podiatrist when seated.
- mobile or fixed electrical podiatry unit (Not shown on RDS/RLS).
- body protected electrical area.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Preparation Room - Non Sterile

600271 90 .50.00 PERFORMANCE REQUIREMENTS

The Non-sterile Preparation area is a space where extemporaneous medications can be compounded.

DESCRIPTION AND FUNCTION

Functions and Activities include:

- formulating / compounding lotions, mixture, ointments, creams, powders, suppositories and non-sterile drops

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- making up mixtures for oral administration
- diluting antiseptic fluids.

LOCATION AND RELATIONSHIPS

Non Sterile Preparation Room should be located adjacent to the Assembly / Preparation area with ready access to the Active Store.

CONSIDERATIONS

This area is a wet area and attention should be paid to work benches and floor coverings to ensure safe and clean working conditions.

Task lighting will be required at each work station.

Internal temperatures should not rise above 25°C.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Preparation / Setup Room (Imaging)

600272 90 .50.05 PERFORMANCE REQUIREMENTS

The Preparation / Set-Up Room of the Medical Imaging Unit is an area where radiological media, sterile supplies and consumables and some pharmaceuticals including dangerous drugs are stored and where procedure trays and trolleys are assembled and set-up. (Latter function may occur in the Procedure Rooms).

Staff scrub facilities will be required.

DESCRIPTION AND FUNCTION

Size will be determined by the number of procedure rooms, the required stock levels of sterile supplies and consumables and more than one such room may be required in a large Medical Imaging Unit.

LOCATION AND RELATIONSHIPS

Locate adjacent to or between the related Procedure Rooms.

In an Interventional Suite, ready access from staff change areas.

Ready access to main corridor for delivery of supplies.

CONSIDERATIONS

No dirty articles should be returned to this room. No cleaning sink should be provided.

Controlled access for authorised staff only.

Consideration needs to be given to the shelving system - fixed, mobile or light-weight compactus. Whatever is selected it must have no projections or sharp edges that could damage goods.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Procedure Room - 16m2, 20m2

600273 90 .51.00 DESCRIPTION AND FUNCTION

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The Procedure Room may be provided for the performance of procedures that do not require the full facilities of the Operating Suite.

General anaesthesia will not be administered in this room.

PERFORMANCE REQUIREMENT

Activities may include suturing of wounds, dressings, complex dressings, lumbar puncture, catheterisations, administration of local anaesthetics and use of medical gases in connection with procedures being performed.

Other procedures that may be carried out in a larger Procedure Room in a unit such as the Emergency Dept may include thoracocentesis, abdominal paracentesis, and procedures that require use of medical imaging equipment.

Size will depend on activities to be performed and the Unit in which the room is to be located.

LOCATION AND RELATIONSHIPS

The procedure room will be located with easy access to acute treatment bed bays.

CONSIDERATIONS

Shielding may be required depending on use of imaging equipment. For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Property Bay - Staff

600274 90 .52.00 DESCRIPTION AND FUNCTION

The Staff Property Bay is for the secure storage of staff property including clothing, handbags and personal effects.

PERFORMANCE REQUIREMENTS

Floor area should be 2m², although final calculation of floor area will depend on the number of lockers required for staff working in the Unit.

LOCATION AND RELATIONSHIPS

Staff Property Bays should be located in secure staff only areas or collocated with staff toilets.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Pantry

600275 90 .53.00 PERFORMANCE REQUIREMENTS

The Pantry is for preparing and/or heating refreshments and snacks, washing some utensils, storing food and drink and disposing of food waste. It may also provide space for a meal tray trolley.

DESCRIPTION AND FUNCTION

The Pantry should be a minimum of 8m². If food rethermalisation trolleys are to be located in the room during meal times, up to an additional 4m² should

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be added to the total area.

LOCATION AND RELATIONSHIPS

The Pantry should have ready access to patient areas and the Unit corridor, may also be located within a unit, e.g. day surgery recovery and renal dialysis.

CONSIDERATIONS

If food rethermalisation trolleys are located in this room, a 3-phase power outlet may be required.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Reception / Clerical - 10m2, 12m2, 15m2

600276 90 .54.00

DESCRIPTION AND FUNCTION

An area where visitors to the Unit or Facility can be received and either immediately directed to their destination or to a Waiting Area. May also act as the access control to the unit.

Depending on the Unit, initial contact may be made here with clients / patients / carers for enquiries, appointments and intake, both personally and by telephone.

PERFORMANCE REQUIREMENTS

The reception area should be welcoming and non-threatening, but provide separation between clients/visitors and staff and be capable of being secured after hours. The need for security screens should be carefully considered in relation to the risk, the type of services to be provided from the unit / facility, the local community environment and need for privacy.

A Reception Area may be 10m2, 12m2 or 15m2, depending on the number of staff or clients.

In some Units, this area may be combined with an Administration Office to create one larger space. Switchboard operation, computer operation, filing and other clerical duties may also be undertaken in this area.

LOCATION AND RELATIONSHIPS

The Reception should be near the entry point of the Unit or Facility and adjacent to the Waiting Area, with direct visual surveillance of both these areas. Clients and visitors should not be able to gain access to Treatment Areas or Staff Areas without presenting to Reception.

CONSIDERATIONS

Where moveable barriers are used to secure the space after hours, safe manual handling practices should be ensured.

Refer to Part C for information regarding counter heights, including access requirements.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Screening Room (Fluoroscopy)

600278 90 .55.00

PERFORMANCE REQUIREMENTS

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The functions and activities of the Screening (Fluoroscopy) Room involve the administration to the patient of a contrast media which will suitably outline an organ or system, and subsequent radiological examination utilising fluoroscopic equipment.

Bed / trolley access and manoeuvrability is essential.

DESCRIPTION AND FUNCTION

With the general decline in use of barium contrast studies and advances in equipment technology, general screening and angiography may sometimes be appropriately combined in one room.

General procedures commonly involve the administration of:

- barium sulphate, in the form of a barium enema, barium meal or swallow for gastro-intestinal studies and/or
- organic iodine compounds e.g. T-tube cholangiography, cholecystogram, endoscopic retrograde cholangio-pancreatography (ERCP), percutaneous insertions, percutaneous double J stent insertions.

Specialised procedures e.g. angiography. The examination will additionally involve:

- aseptic procedural precautions
- availability of in-room resuscitation equipment
- complex and dedicated angiography equipment and power sources.

It is important that the intended scope of the Screening room be clarified early in the planning process.

There are alternative means of providing angiography. Recent developments in digital acquisition screening equipment have resulted in dedicated subtraction equipment only being justifiable when high numbers of angiograms are required.

Digital screening rooms, if correctly optioned at time of installation, are capable of performing a full range of peripheral angiograms and also the more general selective angiograms.

LOCATION AND RELATIONSHIPS

The space should be conveniently located with respect to the Emergency Unit.

Area: 36m² standard room.

Area: 42m² minimum if digital angiography plus equipment / computer room and enlarged control room. Subject to user justification and manufacturer's requirements

Located adjacent to patient change cubicle / WC that should be accessible from within the room and the Unit corridor.

Ready access to Patient Holding / Recovery Area, Processing areas, Reporting Room and Waiting.

CONSIDERATIONS

Floor and ceiling structural capacity must be determined in line with equipment load. Refer to manufacturer's data.

Ceiling height minimum 2700mm, 3000mm preferable. Refer to trade data for equipment selected.

Where procedural work is to be carried out, a patient monitoring system should be considered with functional location appropriate to the trolley / table

position.

Serviced for general anaesthesia.

Scrub-Up / Gowning

600277 90 .56.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

Scrub Up provides an enclosed area for pre-operative scrubbing, gowning and gloving.

LOCATION AND RELATIONSHIPS

The Scrub Up area should be directly accessible from the Operating Suite corridor and from the associated Operating or Procedure rooms.

Access should also be available from the Staff Change and Staff Lounge.

A floor area of 6m² or 8m² should be allowed per Operating Room, or 10m² where one Scrub-Up Bay is shared between two Operating Rooms.

CONSIDERATIONS

The activities of scrubbing and gowning / gloving should be separated within the space.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Set-Up

600279 90 .57.00 PERFORMANCE REQUIREMENTS / DESCRIPTION AND FUNCTION

More correctly, an "Assembly" Room, an area where trolleys for each case are assembled, i.e. loaded with sterile packs and required consumables, and held prior to delivery into the operating room where "set-up" will occur i.e. opening and laying out of the contents of packs.

LOCATION AND RELATIONSHIPS

Set-Up Room may be located in an area central to all operating rooms, or may be a number of smaller rooms either dedicated to a single operating room or shared between a pair of operating rooms. The decision will affect the size of the space.

If smaller, dispersed rooms, will require ready access from the Operating Unit's main Sterile Stock Store.

CONSIDERATIONS

May additionally provide the location for a fluid warming cabinet.

Handbasin required but not scrub facilities.

Seclusion Room Design Details

600280 90 .58.00 PERFORMANCE REQUIREMENTS

The usage of this space will vary from Unit to Unit. However, it will generally be used to accommodate and to manage the behaviour of disturbed, aggressive or violent patients.

It will provide a safe and secure environment for a patient, and meet OHS

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Guidelines for staff safety.

It will be occupied for short periods of time, either on an involuntary or voluntary basis.

A patients should be able to be observed continually while in the Seclusion Room.

The Seclusion Room should be easily observable from the Staff Station and have no 'blind spots'.

Two doors should be provided into the room for safe exit. Both doors should be able to be locked or unlocked from outside the room.

DESCRIPTION AND FUNCTION

A Seclusion Room should be 14m².

LOCATION AND RELATIONSHIPS

Acoustic treatment of the room is required to provide noise isolation.

CONSIDERATIONS

The Seclusion Room will require a door with an external swing and a viewing panel and be secure in construction with specific locks. The door should be wide enough for three staff abreast and can be lockable inside and outside with a key.

The door to the seclusion room and walls must be capable of withstanding extreme force from inside the room in the event that the patient tries to force their way out.

Finishes, furniture fittings and fixtures must be robust and not provide an opportunity for self harm. The room must meet OHS Guidelines for staff safety.

For additional room considerations and details refer to the Room Data Sheets.

Service Entry / Loading Bay

600281 90 .59.00 PERFORMANCE REQUIREMENTS

A separate Service Entry should be provided in larger health facilities to allow deliveries and for the collection of waste, linen, etc without having to pass through the main entrance of the building.

DESCRIPTION AND FUNCTION

Design considerations include:

- adequate vehicle manoeuvring space;
- shelter from inclement weather;
- space for temporary storage of items such as trolleys, furniture and equipment.

LOCATION AND RELATIONSHIPS

Provide direct access to the Waste Holding Area and ready access to stores for therapy equipment and mobility aids if provided.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets

Shower - Accessible

600741 90 .59.05 DESCRIPTION AND FUNCTION

The Shower - Accessible is a room containing a shower for use by people with disabilities either independently or with nurse assistance.

CONSIDERATIONS

Considerations for Shower - Accessible are:

- access is required for commode chairs/ wheelchairs/bariatric commode chairs/ shower chairs and patient hoist.
- the floor must not have a raised hob
- the door will require escape hardware to allow staff access in an emergency.

Acoustics: Sound attenuation level - high; Acoustic privacy required.

Body Protected electrical area.

For additional room details refer to Room Data and Room Layout Sheets.

Shower - Patient

600282 90 .60.00 DESCRIPTION AND FUNCTION

The Patient Shower is a room for patients to shower or wash either independently or with nurse assistance. Shower chair access is required.

PERFORMANCE REQUIREMENTS

A Patient Shower should be 4m².

LOCATION AND RELATIONSHIPS

Immediately adjacent to or directly accessible from Bed Rooms, or to Unit corridor.

CONSIDERATIONS

The door must be fitted with escape hardware to allow staff access in an emergency.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Shower - Staff

600305 90 .60.05 DESCRIPTION AND FUNCTION

The Staff Shower will be used for staff to shower, wash, shave, dry hair, etc. A shower room for staff use.

PERFORMANCE REQUIREMENTS

The floor area should be 3m².

LOCATION AND RELATIONSHIPS

The Staff Shower should be near the Staff Toilet, Staff Change and Staff

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Lounge Areas.

CONSIDERATIONS

A privacy latch is required.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Specimen Collection Bay, 9m2

600733 90 .61.00 PERFORMANCE REQUIREMENTS

A Patient Bay used for collection of specimens from patients. The Bay will have close access to a staff handwashing basin.

DESCRIPTION AND FUNCTION

A Specimen Collection Bay should be 9m2.

LOCATION AND RELATIONSHIPS

The Specimen Collection Bay should be located in an area convenient to waiting and specimen receiving facilities.

The Specimen Collection Bay must have direct access to the specimen toilet.

CONSIDERATIONS

Privacy must be maintained.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Staff Room

600306 90 .62.00 DESCRIPTION AND FUNCTION

The Staff Room is a shared facility for staff to use for respite, rest and relaxation during meal breaks, especially where it is difficult for staff to use common facilities particularly at night. It may also be used for small meetings or tutorials and for the storage of staff resources or library materials.

PERFORMANCE REQUIREMENTS

The size of the staff room will depend on the level of service and number of staff who will use the room. Floor area should be 18m2 in a general Inpatient Unit, assuming it is shared between 2 units.

LOCATION AND RELATIONSHIPS

The Staff Room should be located away from the Patient Bed Rooms and main Treatment Areas. Where possible, the Staff Room should be shared between two Inpatient Units, or one per floor provided in a larger Facility.

It should be placed anywhere convenient in a quiet area, away from patient and visitor areas.

CONSIDERATIONS

Natural light is highly desirable.

Facilities for food and beverage preparation and storage should be provided.

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Staff room should be lockable to prevent unauthorised access.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Staff Station 10m2, 12m2, 14m2, 18m2, 20m2

600307 90 .62.05 DESCRIPTION AND FUNCTION

The Staff Station is the administrative base for the Unit in which it is located.

This area is for observation plus the writing up of clinical notes, entering data into computers, making and receiving telephone calls.

PERFORMANCE REQUIREMENTS

Floor area varies according to the Health Planning Unit in which it is located and depends on its activity level, the number of full and part-time staff, the operational model and building layout.

Room Data and Room Layout Sheets describe Staff Stations of 10, 12, 14, 18 and 20m2. Refer to Schedule of Accommodation for minimum sizes recommended in typical areas; e.g. the 5m2 staff station is provided for direct observation of a small number of patient bays, stations of 20m2 or more are primarily for use in critical care areas.

LOCATION AND RELATIONSHIPS

At least one Staff Station should be provided within an Inpatient Unit, central to bedrooms.

CONSIDERATIONS

The model of care adopted will determine the need for additional stations and their placement within the Unit.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Toilet - Accessible

600296 90 .62.10 PERFORMANCE REQUIREMENTS

A toilet and hand basin for use by people with disabilities with or without assistance. The room should comply with AS1428-1/2.

Doors should open outwards and be fitted with emergency release function.

DESCRIPTION AND FUNCTION

The Toilet - Accessible should be 5m2.

LOCATION AND RELATIONSHIPS

Toilets - Accessible for public use should be readily accessible from Public Areas.

CONSIDERATIONS

The Toilet - Accessible may also include facilities for baby change.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

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Store - Accountable Drug

600286 90 .63.00 PERFORMANCE REQUIREMENTS

The Accountable Drugs Store is a strongroom in the Pharmacy in which accountable drugs are stored e.g. narcotics, which are required by law to be securely stored and a register kept of their use.

DESCRIPTION AND FUNCTION

The store may be a safe or a walk-in room depending on the quantity of drugs to be stored.

Refrigerated storage may also be required.

Facilities must comply with NSW Health Pharmaceuticals Branch Policy.

LOCATION AND RELATIONSHIPS

The Accountable Drugs Store should be located in a discrete area of the Unit, overseen by the Office of the Chief Pharmacist and accessible from the Assembly / Preparation area. It should not be located on an outside wall or stairwell.

CONSIDERATIONS

The door to the room should be electronically monitored.

The temperature of the store should not exceed 25°C.

Refer to Part C of these Guidelines for further information on security.

For specific details regarding construction and security, refer to the Room Data and Room Layout Sheets.

Store - Bulk, 20m2, 40m2

600287 90 .63.05 PERFORMANCE REQUIREMENTS

The Bulk Store is a secure space (if separate from the Pharmacy proper) or part of the open plan space in the Unit for storage of bulk items that are either for use in the Pharmacy or that are dispensed by the Pharmacy. Includes such items as Intravenous and dialysis fluids.

If the Bulk Store is remote, it must not be used for storing pharmaceuticals that must be transferred to the Pharmacy immediately on receipt.

DESCRIPTION AND FUNCTION

The Bulk Store is the primary storage area for all delivered supplies and stores prior to distribution to hospital units when requisitioned or on an imprest supply system.

LOCATION AND RELATIONSHIPS

The Bulk Store should be located with ready access to the loading dock area.

CONSIDERATIONS

The area requires security and controlled access.

For additional room considerations and details refer to Room Data and Room Layout Sheets.

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Store - Bulk (Pharmacy)

502100 90 .63.08 PERFORMANCE REQUIREMENTS

The Bulk Store is a secure space (if separate from the Pharmacy proper) or part of the open plan space in the Unit for storage of bulk items that are either for use in the Pharmacy or that are dispensed by the Pharmacy. Includes such items as Intravenous and dialysis fluids.

If the Bulk Store is remote, it must not be used for storing pharmaceuticals that must be transferred to the Pharmacy immediately on receipt.

DESCRIPTION AND FUNCTION

Functions and Activities include:

- sorting and binning bulk items
- selecting and unpacking items to replenish the Active Store
- selecting items not normally stored in the Active Store
- checking and maintaining stock levels
- inspecting stock for end of shelf life
- preparing replenishment orders
- storage of cardboard waste for disposal.

LOCATION AND RELATIONSHIPS

The Bulk Store should be located on the periphery of the Unit adjacent to the Goods Receipt Area and contiguous with the Active Store.

CONSIDERATIONS

The temperature of the store should not exceed 25°C.

Store - Cleaner's

600288 90 .63.10 DESCRIPTION AND FUNCTION

A bulk store for the central storage of large items of cleaning equipment and bulk containers of cleaning chemicals and supplies.

Clean paper goods such as toilet paper and paper hand towels should be stored in an adjacent dry store or cupboard (similar to Bay Storage 1m2 - 4m2).

The room must be lockable and comply with OHS and Infection Control Guidelines.

PERFORMANCE REQUIREMENTS

The Cleaner's Store should be 12m2.

LOCATION AND RELATIONSHIPS

The Cleaner's Store should be located with other storage areas, or in a central location where cleaning staff can easily access it in the course of their duties.

CONSIDERATIONS

The Cleaner's Store should be lockable to prevent unauthorised access. For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

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Store - Disaster Equipment

600742 90 .63.12 DESCRIPTION AND FUNCTION

The Disaster Equipment Store provides for the storage of equipment used in retrieval of patients, and for equipment used in Chemical, Biological and Radiological (CBR) incidents.

The size of the room will depend on Role Delineation and service level for each facility.

LOCATION AND RELATIONSHIPS

Close to Ambulance Bay and if appropriate accessible to helipad.

CONSIDERATIONS

For additional room details refer to Room Data and Room Layout Sheets.

Store - Drugs

600289 90 .63.15 PERFORMANCE REQUIREMENTS

A room for secure storage of medications in wards and departments. A drug refrigerator, dangerous drug safe, small sink and space for a computer will be required.

DESCRIPTION AND FUNCTION

Depending on the operational policy, the facilities contained within the room may be incorporated into the Clean Utility Room.

Size will be determined by the size of the Unit in which the room is housed.

Consideration may need to be given to the possible future installation of automated dispensing systems and their spatial and data needs.

LOCATION AND RELATIONSHIPS

In a secure area of the Unit away from public view.

Direct access from a public corridor should be avoided.

CONSIDERATIONS

Alarms to door and refrigerator.

Refer to the Section C of these guidelines for further security details and to Room Data and Room Layout Sheets.

Store - Equipment - 14m2, 20m2

600290 90 .63.20 DESCRIPTION AND FUNCTION

The Equipment Store is used for the storage of medical equipment when not in use and recharging of electrical items. Space is required for parking of mobile equipment including IV poles, wheelchairs, lifting equipment, trolleys, cradles and commode chairs for the Unit.

PERFORMANCE REQUIREMENTS

Size will vary depending on the Unit size and service profile and the use/provision of bays for mobile equipment.

Refer to the Schedule of Accommodation for minimum room sizes

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recommended in typical areas.

LOCATION AND RELATIONSHIPS

Centrally located in a low traffic area, with access to all patient areas.

CONSIDERATIONS

The Equipment Store should be lockable.

Doors and entries should be sized and located to facilitate movement of equipment.

Door hardware should not impede staff/ equipment going in/out of the store.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Store - File - 8m2, 10m2, 20m2

600291 90 .63.25 DESCRIPTION AND FUNCTION

A secure room for the storage of confidential information.

The File Store should be lockable.

PERFORMANCE REQUIREMENTS

The size of the File Store will vary depending on the amount of files to be stored and filing system may be static shelving or compactus. Refer to schedule of Accommodation for room sizes required in typical area.

LOCATION AND RELATIONSHIPS

Adjacent to the administrative areas served.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Store - General

600292 90 .63.30 DESCRIPTION AND FUNCTION

This is a secure room for the storage of general supplies used within the Unit. Equipment may also be re-charged in this room.

PERFORMANCE REQUIREMENTS

Room sizes may vary according to type of Unit and amount of stock to be stored. Refer to schedule of Accommodation for recommended room sizes.

LOCATION AND RELATIONSHIPS

Centrally located in a low traffic area with access to all patient areas.

CONSIDERATIONS

The General Store should be lockable.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Store - Medical Gases

600293 90 .63.35 PERFORMANCE REQUIREMENTS

A Medical Gas Store is required to provide a safe and secure environment for the storage of various gas cylinders, if used at a facility. Storage enclosures must be adequately ventilated.

LOCATION AND RELATIONSHIPS

Locate with loading and service areas.

Store - Patient Property

600735 90 .63.40 DESCRIPTION AND FUNCTION

A secure room for the storage of patient property including luggage.

PERFORMANCE REQUIREMENTS

Size will vary depending on the Unit size and service profile.

LOCATION AND RELATIONSHIPS

Centrally located within an Inpatient Unit in a low traffic area.

CONSIDERATIONS

The Store - Patient Property should be lockable.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Store - Photocopy/Stationery

600294 90 .63.45 DESCRIPTION AND FUNCTION

A secure room for the storage of office stationery and for use of a photocopier and/ or other office equipment as required e.g. Printer and facsimile machine.

PERFORMANCE REQUIREMENTS

Floor area should be 8m² or 10m².

LOCATION AND RELATIONSHIPS

Adjacent to Office Areas served.

CONSIDERATIONS

Extraction fan for photocopier to be provided to meet OHS requirements.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Store - Sterile Stock, 12m², 24m², 44m²

600295 90 .63.50 PERFORMANCE REQUIREMENTS

The Sterile Stock Store stores sterile stock for use in the Operating Suite or other Treatment Areas.

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Floor area shall be 10-12m² per operating room. Direct relationship to CSSU/TSSU.

LOCATION AND RELATIONSHIP

The Sterile Stock Store for an Operating Suite (not CSSU) should be located near the Operating Rooms or other Treatment Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Store - Sterile Stock, 20m² (SSU)

500843 90 .63.55 DESCRIPTION AND FUNCTION

An area for storage and holding of sterile stock within the Sterile Supply Unit prior to despatch to the operating unit or other clinical areas. The area may include a workstation bench.

Storage units may be mobile shelving, fixed shelving or compactus-style. Shelving must be smooth so as to maintain the integrity of sterile packaging.

LOCATION AND RELATIONSHIPS

Direct access to:

- despatch area to Operating Suite and Wards
- Sterilising Cooling Area.

Ready access to:

- Operating Suite sterile stock.

CONSIDERATIONS

This area requires positive air pressure and be protected from steam penetration. Provision for trolley access to this area should be considered.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Toilet - Patient

600297 90 .64.05 DESCRIPTION AND FUNCTION

A toilet and hand basin for patient use independently or with the assistance of one or two nurse / carers - 'fully assisted'.

Doors should open outwards and be fitted with emergency release function.

PERFORMANCE REQUIREMENTS

A Patient Toilet should be 4m².

LOCATION AND RELATIONSHIPS

Immediately adjacent to, or directly accessible from Patient Bed Rooms, Unit corridor or Patient Areas served.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Toilet - Public

600298 90 .64.10 DESCRIPTION AND FUNCTION

A toilet and hand basin for public or visitor use.

PERFORMANCE REQUIREMENTS

The Public Toilet may also include facilities for baby change.

A Public Toilet should be 3m². If baby change facilities are included, the size may be increased to 4m².

LOCATION AND RELATIONSHIPS

Toilets for public use should be readily accessible from Public Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Toilet - Staff

600299 90 .64.15 DESCRIPTION AND FUNCTION

A toilet and hand basin for staff use.

PERFORMANCE REQUIREMENTS

A Staff Toilet should be 3m².

LOCATION AND RELATIONSHIPS

Toilets for staff use should be readily accessible from staff Work Areas.

They should be located central to a Unit or in a location suitable for use by staff from adjoining Units.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Treatment Room

600300 90 .65.00 DESCRIPTION AND FUNCTION

The Treatment Room provides a controlled environment, privacy and facilities for carrying out consultations, examinations and minor procedures.

The door should be lockable to prevent unauthorised access but allow free release from inside.

PERFORMANCE REQUIREMENTS

Operational policy for an Inpatient Unit will determine the need for a Treatment Room. If patients are treated at the bedside, the Treatment Room may not be required.

Floor area should be 14m².

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LOCATION AND RELATIONSHIPS

The Treatment Room should be located with direct or ready access to a Clean Utility Room and easy access to a dirty utility room.

A centrally located Treatment Room may serve more than one unit on the same floor / level of a facility.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets

Treatment Bay - Renal Dialysis

600700 90 .65.05 PERFORMANCE REQUIREMENTS

The Treatment Bay - Renal Dialysis is used for day treatment of patients undergoing renal dialysis treatments. Treatments for each patient may take from 3 to 6 hours.

A staff handwashing basin should be located in close proximity.

DESCRIPTION AND FUNCTION

The Treatment Bay - Renal Dialysis should be a minimum of 9m².

A staff handwashing basin should be located in close proximity.

LOCATION AND RELATIONSHIPS

Ready access to Treatment Room and Clean Utility Room and storage (including refrigerated storage).

CONSIDERATIONS

Natural light is highly desirable.

Sufficient space and configuration to enable screens to be conveniently pulled around the entire treatment bay whenever required.

The design of the treatment bay must accommodate the chair, haemodialysis machine, over bed table and other equipment required to deliver the necessary level of service.

Furniture and furnishings should provide a high level of patient comfort and amenity.

Tundish for RO water outlet.

Body protected electrical area.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Ultrasound Room

600711 90 .66.00 PERFORMANCE REQUIREMENTS

The Ultrasound Room provides facilities for diagnostic ultrasound procedures.

DESCRIPTION AND FUNCTION

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The Ultrasound Room, where provided, should be a minimum of 14m².

LOCATION AND RELATIONSHIPS

Locate with access to patient toilet facilities from within the room and from the corridor and with ready access to patient change facilities and waiting areas.

CONSIDERATIONS

Access for inpatients on hospital beds if required.

Dimmable lighting.

Body-protected electrical area.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Waiting

600302 90 .67.00 DESCRIPTION AND FUNCTION

An area for patients, families and other visitors to wait in comfort prior to or during visits to a Unit.

Adequate space should be provided for patients as well as relatives / escorts.

PERFORMANCE REQUIREMENTS

A range of occupants will need to be accommodated including adults and children, both able-bodied, people with disabilities and - increasingly - obese/ bariatric and overweight people.

Consultation with service providers may be required to determine whether separate area(s) are needed to accommodate different groups of patients including those who may be behaviourally disturbed, mothers with babies and older people.

Waiting Areas in Mental health Units should comply with Mental health Sections of these Guidelines.

The size of a Waiting Area will depend on the number of people to be accommodated but will generally require 1.2m² per able-bodied person or 1.5m² per wheelchair occupant or other people with disabilities. Space for baby prams, wheelchairs, mobility aids, children's play areas etc. should be considered.

If a Paediatric Waiting Area is required, provide an additional separate space.

If provided, the area of a separate Paediatric Waiting Area will be additional to this area requirement.

Information displays may be located in the Waiting Area.

LOCATION AND RELATIONSHIPS

Near the entry to the Facility or Unit and observable from the Reception Area.

Where possible, consider locating the Waiting Area near a courtyard to meet the cultural needs of some community groups.

Access will/may be required to:

- public toilets including access toilets
- baby change facilities e.g. parenting room

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- outdoor areas
- food and beverage facilities (vending machines, water fountains)
- a public telephone.

CONSIDERATIONS

The configuration of seating modules should be carefully considered:

- vacant spaces for wheelchairs
- adequate aisles between rows
- chairs to accommodate obese persons.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Also refer to Room Layout and Room Data Sheets for various size options.

Waste Holding

600303 90 .68.00 PERFORMANCE REQUIREMENTS

A Waste Holding Area is required for storing waste materials awaiting removal from the site, including general waste, clinical waste, recyclable waste and linen.

LOCATION AND RELATIONSHIPS

Locate with loading and service facilities.

Waste holding area may be internal and/or external to the building. Access routes to the holding area should be considered.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

Water Treatment Plant Room

600739 90 .69.00 PERFORMANCE REQUIREMENTS

The Water Treatment Plant Room is a lockable room for water treatment systems used in dialysis, including booster pumps, particle filters, water softeners, carbon filters and reverse osmosis systems. In particular this equipment will incorporate a heat disinfection function and water saving features.

DESCRIPTION AND FUNCTION

The size of the Water Treatment Plant Room will vary depending on the Unit size and service profile.

Refer to Manufacturer's Specifications for details of Reverse Osmosis (RO) Water Treatment Plant equipment.

LOCATION AND RELATIONSHIPS

The Water Treatment Plant Room should be located in close proximity to the Renal Dialysis Unit to permit short tubing runs to each Treatment Bay and permit staff to easily monitor and service the water treatment systems.

CONSIDERATIONS

Special Design Requirements:

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- ventilation, exhaust and/or air conditioning must be designed to accommodate the heat loads of the specified equipment.
- high level sound isolation is required to ensure noise generated from this room does not invade Treatment spaces.
- Structural Engineer's assessment must be sought for floor load bearing capacity with respect to water treatment and pre-treatment plant equipment.
- service access will be required around the perimeter of all plant equipment.
- pipework and components installed after the water inlet within this room should not contain brass or copper.

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

X-Ray Viewing and Reporting

600304 90 .70.00 PERFORMANCE REQUIREMENTS

This area is for clinical staff to review x-ray films and to write reports.

X-ray viewing boxes are required and suitable workbenches for clerical work.

DESCRIPTION AND FUNCTION

Floor area should be 12m².

LOCATION AND RELATIONSHIPS

Accessible from main Unit corridor; near other staff Work Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

500849 90 .70.00 DESCRIPTION AND FUNCTION

Floor area should be 12m².

LOCATION AND RELATIONSHIPS

Accessible from main Unit corridor; near other staff Work Areas.

CONSIDERATIONS

For additional room considerations and details refer to Room Data Sheets and Room Layout Sheets.

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INTRODUCTION

Preamble

503381	120 .1.00	This Hospital Planning Unit for Administration has been developed in part as a vehicle for the NSW Policy Directive (refer 120.3.00) regarding sizes and allocation of offices, workstations and meeting rooms to ensure that the information is readily accessible.
503382	120 .1.05	This policy outlines the required spaces for office accommodation in all health care facilities and has been developed for architects, designers and health facility planners in the planning and design of those facilities.
		The key objectives of this policy are to:
		- maximise the utilisation of space;
		- ensure that the functional and flexible office environment is delivered within the standards set by the Building Code of Australia;
		- ensure that the work environment supports new approaches to service delivery including increased collaboration between health professionals and

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- a focus on multidisciplinary team work;
- maximise flexibility and minimise cost for future changes to office accommodation;
- provide a consistent approach to the design and planning of office accommodation; and
- provide accommodation that reflects changing patterns of work including part-time, job share, conjoint and multi-site appointments.

Introduction

- 503383 120 .2.00 The level and range of facilities provided for corporate, administrative and general office functions will vary greatly depending on the size of the proposed facility, the range of services required and the management structure that will apply. Project staff will need to ascertain the staffing mix and establishment early in the planning process.

Policy Framework

- 503384 120 .3.00 PD 2005_576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service, 26-April-2005. Compliance with this policy directive is mandatory.

Architects, designers and health facility planners should also comply with (the latest version) of current statutory obligations including:

- Building Code of Australia
- NSW Anti Discrimination Act 1977
http://www.austlii.edu.au/au/legis/nsw/consol_act/aa1977204/
- NSW Disability Services Act 1993
http://www.austlii.edu.au/au/legis/nsw/consol_act/dsa1993213/
- OH&S Act 2000 & OH&S Regulation 2001 -
<http://www.legislation.nsw.gov.au/>
- Commonwealth Disability Discrimination Act 1992
http://www.austlii.edu.au/au/legis/cth/consol_act/dda1992264/

Description of the Unit

- 503385 120 .4.00 DEFINITION OF HOSPITAL PLANNING UNIT (HPU)

Regardless of size of unit, facilities will be required to accommodate the following administrative functions:

- General and/or individual office accommodation for appropriate corporate, administrative and clerical personnel
- Storage of office equipment, stationery and files
- Interviews, meetings and conferences as required.

Services to be provided and staff to be accommodated will/ may include:

- CEO/General Manager & support staff
- Nursing executive and support staff
- Medical / clinical executive and support staff
- Finance
- Human Resources and Payroll
- OH&S staff
- Learning & Development staff
- Facility Management.

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503386 120 .4.05 SUPPORT AREAS

Support areas may include reception, waiting areas, meeting rooms, kitchens, staff amenities etc and wherever possible should be shared across a number of units.

Public amenities must be available for visitors either within the unit itself or readily accessible.

503387 120 .4.10 PRINCIPLES OF OFFICE ALLOCATION

The principles that underpin the provision of office accommodation in health care facilities include:

Office spaces should only be provided on a demonstrated needs basis ie: the type of office / workspace considered in the planning and design phase will depend on the employment hours of staff, work undertaken and work patterns of staff;

Shared offices or workspaces should be encouraged wherever possible, to promote cost effective office accommodation;

Single offices will only be provided where they can be justified by the nature of the work undertaken by the position. Considerations will include seniority, nature of supervisory role, productivity and time spent doing office-based duties;

Staff with multiple roles within or across an Area should not be allocated more than one dedicated office or workspace;

PLANNING

Operational Models

503388 120 .5.00 HOURS OF OPERATION

Generally the Unit will operate during business hours but many staff and visitors will require after-hours access either for work or for meetings, functions etc.

503389 120 .5.05 CONFIGURATION

In small facilities, a single unit may accommodate all functions; in large facilities, several discreet units may be required for specific staff and functions.

Operational Policies

503390 120 .6.00 CATERING

If catering for functions / meetings will be required, project staff will need to determine to what degree if any, refreshments etc will be prepared within the unit or brought directly from the main Kitchen so that need for catering facilities within the unit/s may be assessed.

Staff will need access to beverage bays for their personal use.

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503391 120 .6.05 OFFICE EQUIPMENT

Consideration will need to be given to location of facsimile machines, photocopiers, printers and other items such as laminators etc and the extent to which they will be shared and, in the case of printers, networked.

503392 120 .6.10 PAPER RECYCLING AND SECURITY

Despite attempts at paperless offices, vast quantities of waste paper will be generated. Confidential reports should be placed in a locked recycle bin for shredding and an additional bin will be required for general paper recycle.

Planning Models

503393 120 .7.00 Deep plan minimises the availability of daylight.

Functional Areas

503394 120 .8.00 FUNCTIONAL ZONES

Unless a single unit accommodating all functions, the following may be required:

Executive Suite - in addition to offices, may include Boardroom, function kitchen, central registry and visitor waiting

Clinical/Medical Services Unit

Nursing & Patient Services Unit

Finance Unit

HR and Payroll Unit (and may include OH&S staff)

Facilities Management Unit

Learning and Development

Functional Relationships

503395 120 .9.00 EXTERNAL

There are no critical functional relationships.

503396 120 .10.00 INTERNAL

In large health care facilities with multiple units, it may be appropriate to collocate the executive units and finance.

Accessibility

- 503397 120 .11.00 The Executive Unit should be readily accessible from the Main Entry but does not necessarily have to occupy a ground floor location.

HR and Payroll must be easily accessible to staff.

Parking

- 503398 120 .12.00 For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

- 503399 120 .13.00 Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

- 503400 120 .14.00 There are no specific infection control issues.

Environmental Considerations

- 503401 120 .15.00 ACOUSTICS

AS/NZS 2107 - Acoustics-Recommended design sound levels and reverberation times for building interiors.

Recommends design sound levels and reverberation times for different areas of occupancy in various categories of buildings. Specifies methods of measuring the ambient sound level reverberation time. This Standard is intended for use in assessing the acoustic performance of buildings and building services. It does not apply to the evaluation of occupancy noise.

AS 2670 - Evaluation of human exposure to wholebody vibration
Part 1 - General requirements

Defines methods for the measurement of periodic, random and transient whole-body vibration and indicates the principal factors that combine to determine the degree to which vibration exposure will be acceptable. Informative annexes provide guidance based on current opinion on the possible effects of vibration on health, comfort and perception and motion sickness.

- 503402 120 .16.00 NATURAL LIGHT

Highly desirable where achievable, particularly for staff who occupy their offices/workstations for the majority of the working day.

- 503403 120 .17.00 PRIVACY

Essential for confidential conversations and interviews.

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503404 120 .18.00 INTERIOR DESIGN

Refer to Part C of these Guidelines.

Space Standards and Components

503405 120 .19.00 ERGONOMICS

Refer Part C of these Guidelines for information.

503406 120 .20.00 HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

503407 120 .21.00 ACCESS AND MOBILITY

Refer Part C of these Guidelines for information.

503408 120 .22.00 DOORS, WINDOWS AND CORRIDORS

Refer Part C of these Guidelines for information.

Safety and Security

503409 120 .23.00 SECURITY

All office doors should be lockable.

Open-plan workstations.

Rooms on the perimeter of Units such as meeting rooms should also be kept locked when not in use particularly and especially if equipment is stored.

Files - particularly personnel files

After-hours security for staff.

Finishes

503410 120 .24.00 WALL PROTECTION

Refer to Part C of these Guidelines

503411 120 .25.00 FLOOR FINISHES

Refer to Part C of these Guidelines

503412 120 .26.00 CEILING FINISHES

Refer to Part C of these Guidelines

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Fixtures, Fittings & Equipment

- 503413 120 .27.00 Refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

- 503414 120 .28.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

Voice, data, teleconferencing, videoconferencing

- 503415 120 .29.00 ENGINEERING SERVICES

Refer to Part e of these Guidelines and TS11

COMPONENTS OF THE UNIT

Standard Components

- 503416 120 .30.00 Refer to Standard Components in Part B of these Guidelines and to Room Data and Room Layout Sheets.

Non-Standard Components

- 503417 120 .31.00 There are no non-standard components.

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APPENDICES

Schedule of Accommodation

503418 120 .32.00 The following schedule of accommodation complies in all respects with the Policy Directive.

SUPPORT AREAS

ROOM/SPACE	Standard Component	Qty x m2					Remarks
WAITING AREA	yes	See Remarks					1.2m2 per person and 1.5m2 for wheelchairs as required.
TOILET - PUBLIC	yes	1 x 3					If not available nearby
TOILET - DISABLED	yes	1 x 5					If not available nearby
RECEPTION	yes	1 x 10					1 staff. May be replaced by a workstation.
STORE - PHOTOCOPY/STATIONERY	yes	1 x 8					
BEVERAGE PANTRY	yes	1 x 4					If no Staff Room
PANTRY	yes	1 x 8					Optional for functions
STAFF ROOM	yes	1 x 15					Optional; includes beverage bay
STAFF TOILET	yes	1 x 3					
CENTRAL REGISTRY		1 x 10					Room size will depend on size of unit/s. (For storage of board minutes etc.)
FILE STORE	yes	1 x 10					Personnel Files

503419 120 .33.00 OFFICES

Note 1: Office Type A

For Area CEO. 6m2 has been incorporated to provide a meeting area. These Executives may have multiple roles, but only one dedicated office space should be assigned within or across the Area Health Service.

Note 2: Office Type B

For Area Executive, General Managers. 3m2 has been incorporated to provide a meeting area. These staff may have multiple roles but only one dedicated office space should be assigned within the campus/Area Health Service.

Note 3: Office Type C

Clinical Stream/Divisional Executives, Academics Professors (full), Area Managers, Clinical Directors of Departments/Units, Health Service Managers (Rural Health) with significant staff supervisory responsibilities and the position is 0.8 FTE or higher. These staff may have multiple roles but only one dedicated office space should be assigned within the campus/Area Health Service.

Note 4: Office Type D

Nurse Unit Managers, Staff Specialists, Business Managers, and Department Heads with significant staff supervisory responsibilities and where the position is 0.8FTE or higher. A manager may be responsible for more than one Unit/Department, but should only have one office assigned within the campus / Area Health Service.

ROOM/SPACE	Standard Component	Area m2					Remarks

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OFFICE TYPE A		18				See note 1
OFFICE TYPE B		15				See note 2
OFFICE TYPE C	yes	12				See note 3
OFFICE TYPE D	yes	9				See note 4
SHARED OFFICE TYPE A	yes	12				Shared office area for 2 persons with two workstations to undertake administrative duties
SHARED OFFICE TYPE B	yes	15				Shared office space for 3 persons with three workstations to undertake administrative duties
SHARED OFFICE TYPE C	yes	20				Shared office space for 4 persons with four workstations to undertake administrative duties

503420 120 .34.00 WORKSTATIONS

Note 5: Workstation A

For research assistants and staff who spend the majority of their time providing services in the community, such as Outreach, Community Health, Community Mental Health.

Note 6: Workstation B

For Research Fellows, Data Managers, Clinical Nurse Consultants, administration staff or any staff who require a workstation.

Note 7: Shared Workbase

Workroom with benches along wall perimeters of 750mm - 800mm in depth. This work base is designed to accommodate staff who due to area-wide responsibilities travel between health care facilities and may require workspace to perform administrative functions. This work base may also be suitable for staff entering data.

ROOM/SPACE	Standard Component	Area m2				Remarks
WORKSTATION A		4.4				See note 5
WORKSTATION B	yes	5.5				See note 6
SHARED WORKBASE		2.2				See note 7

503421 120 .35.00 MEETING ROOMS

Note 8: Meeting Room - A

For interview purposes for 2 - 3 people.

Note 9: Meeting Room - B

An area suitable for 4 - 6 people. For staff, patients and family members to conduct confidential discussions.

Note 10: Meeting Room - C

An area suitable for 8 -12 people to conduct meetings. This room is a shared facility and is to be accessed through a booking system.

Note 11: Meeting Room - D

Allows for up to 14 - 20 people to attend meetings or can be used as a small group room for Community Health. Where two such rooms are co-located, movable walls may be installed allowing greater flexibility in the possible use of these areas.

Note 12: Meeting Room - E

Allows for up to 50 people seated plus lecture area. The provision of non-fixed, stackable seating allows greater flexibility. Can be used as a large

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group room for Community Health. As lie down space for antenatal classes, the room will accommodate less people.

ROOM/SPACE	Standard Component	Area m2					Remarks
MEETING ROOM - A	yes	9					See note 8
MEETING ROOM - B	yes	12					See note 9
MEETING ROOM - C	yes	20					See note 10
MEETING ROOM - D	yes	30					See note 11
MEETING ROOM - E		55					See note 12
DISCOUNTED CIRCULATION		25% - 30%					Circulation will depend on size of unit/s

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Preamble

602096 130 .1.00 This guideline addresses the Admissions Unit as a separate Health Planning Unit. In some health care facilities the Admissions Unit may be co-located with the Main Reception/Entrance or 'Front of House' (Refer HPU 430 Front of House).

The range of functions performed by the Admissions Unit is heavily dependent on the operational policies adopted by the healthcare facility. The size of the unit will vary depending on the relative size of the healthcare facility and the planned patient volume.

The patient admission process has two main components - the 'administrative' process and the 'clinical' admission/assessment process. The 'clinical' assessment process is more frequently being performed through pre-admission assessment and/or a Pre-admission Clinic.

This guideline will address both the 'administrative' and the 'clinical' admission process, conscious that Pre-admission assessment / Clinics are unlikely to be co-located with the Admissions Unit.

With changing models of care and the increase in Pre-admission Clinics, day only procedures, day surgery and day-of-surgery admissions will often occur within the actual Health Planning Unit providing the service to the patient. Due to this, the role of a dedicated Admissions Unit and its staffing profile needs to be carefully considered.

Policy Framework

602097 130 .2.00 Legislation in your state/territory will need to be consulted regarding:

- Anti-discrimination;
- Occupational Health & Safety;
- Disability Services.

Refer to Section 130.34 - References for details.

Description of the Unit

602098 130 .3.00 DEFINITION OF HEALTH PLANNING UNIT

The Admissions Unit is responsible for the booking, capture and entering of admission, discharge and transfer information of patients. It is often the first point of contact for patients to the healthcare facility. Patients may be admitted to the healthcare facility from a range of different places.

The following functions are generally accommodated in the Admissions Unit:

- Booking of patient for admission (optional);
- Pre-registration of patient for admission;
- Patient admissions;
- Processing of inter-facility patient transfers;
- Collation of financial information for the Finance Department;
- Request or retrieval of medical records for a patient's admission;
- Bed allocations (optional – may have a dedicated Bed Manager located elsewhere);
- Demand Management;
- Discharge Planning;
- Cashier (optional).

Dependent on the size and nature of the healthcare facility, the cashier will often be located near the Admissions Unit.

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The following functions are generally undertaken during the 'clinical' assessment phase, usually but not always, in a separate Pre-admission Clinic:

- Processing informed consent and completion of paperwork;
- Collation of information on patients clinical condition and medical history;
- Referral to an anaesthetist and/or allied health professionals (if necessary);
- Referral for diagnostic tests (eg.ECG, Blood Test, X-ray);
- Patient education on the expected clinical pathway;
- Discharge planning.

602099 130 .3.05 GENERAL ARRANGEMENT

Admissions Units will vary in size. Components and allocated spaces will depend on the range of functions performed by the Admissions Unit and the operational policies of the health facility.

The admission process may be conducted in a dedicated Admissions Unit - usually in or near the Main Entry, within the unit providing the patient care (Inpatient Unit, Day Procedure Unit, Operating Suite etc) or in the Emergency Department. The location of the admission process depends on the model of care adopted by the health facility.

An alternative model is for the 'administrative' functions of the Admissions Unit to be co-located with Main Entry / Reception functions (see Front of House Planning Unit). This model is especially likely in smaller facilities where separation of these functions is unjustifiable from a staffing perspective.

Decentralisation of the admission process to ward / department level may result in the dedicated 'Admissions Unit' not being required in its traditional form. However protocols and policies must be in place to ensure that all admissions processes are adequately covered by the separate Health Planning Units which perform admission tasks. Other functions such as cashier and bed allocations must be incorporated within other Health Planning Units. In addition, if it is decided to admit at department level, there will need to be space set aside for clerical staff, patient interviews and patient / supporter waiting in each of these departments.

In large facilities, a Pre-admission Clinic is often established to facilitate the 'clinical' component of the admissions process.

Since a variety of pre-admission tasks may need to be accomplished, a multidisciplinary Pre-admission Clinic is often preferred. In order to provide access to the necessary personnel and facilities, the clinic is often located in the Health Planning Unit in which the procedure will occur, for example, Day Surgery Unit, Operating Suite or Ambulatory Procedures Centre or alternatively co-located with other Outpatient services.

Operational Models

602100 130 .4.00

MODELS OF CARE

Admission to a health facility may be planned (elective) or unplanned (emergency).

Many patients come into a health facility as a planned admission, as a result of referral from a physician, a visit to an outpatients department or planned transfer from another health facility. Planned admissions include both multiday inpatients and day only patients.

Many health facilities are adopting a pre-admission planning process and/or Pre-admission Clinic model of care, which streamlines the admission process for all planned admissions where pre-assessment is required.

After-hours emergency admissions are generally handled directly by the Emergency Department and/or other emergency portals of entry such as Medical and/or Surgical Admissions Units. Usually these areas have a dedicated staff member/s assigned to this role. In addition, some emergency patients on specific clinical pathways, e.g. hip fracture (NOF), stroke (CVA), heart attack (STEMI), may be admitted directly to the relevant clinical area.

If the health facility has a Maternity Unit it will generally provide a 24 hour, seven day per week service. Approximate bookings are made for the mother prior to the due date of birth and often pre admission assessments are held about 3-4 weeks prior to this date. Depending on local operational policies and the model of care, admission to the Unit may be managed directly by the Maternity Unit or by the Admissions Unit / Emergency Department.

602101 130 .4.05

PRE ADMISSION ASSESSMENT

The objective of pre-admission assessment is to facilitate a smooth admission on the day of surgery by performing the 'clinical' assessment process prior to the day of surgery. The pre-admission assessment process should address the medical, nursing, educational, financial and discharge requirements of the patient.

The pre-admission planning process can be achieved in a variety of ways and in a variety of locations. This is dependent on the operational policies adopted by the health facility.

Pre-Admission Clinics

Pre-admission Clinics are designed as an outpatient service, operated to assess the suitability of the patient for surgery prior to the day of admission. If the Pre-admission Clinic is located within a specific Health Planning Unit (Inpatient Unit, Day Procedure Unit, Operating Suite) then the hours of operation will depend on their individual operational policies.

Pre-admission Clinic attendance normally occurs 1-3 weeks prior to the scheduled admission date. This is a common model adopted by larger health facilities.

Outreach/Alternative pre-admission assessment services

Where people have to travel long distances, arrangements can be made to deliver pre-assessment either as an outreach clinic, at a local hospital, or using a primary care provider.

Telephone pre-admission assessment

Telephone pre admission assessment may be utilised by the health facility,

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in cases of minor procedures or in those situations where physical examination or investigation is not required.

Refer to 'Best Practice Guidelines for Ambulatory Surgery & Procedures', Australian Day Surgery Nurses Association.

602102 130 .4.10 CASHIER

Where operational business and staffing models support the location of a cashier function in the Admissions Unit, it is important to consider elements of accessibility, during and outside the facility operating hours, and safety for staff and property. A security grill is recommended to enhance security where money is handled.

The opening hours of the Cashier will need to be considered under the business model. After-hours access to the Cashier or Patient Trust facilities may be required.

Operational Policies

602103 130 .5.00 Operational policies that will affect planning the Admissions Unit include:

- The hours of operation of the facility;
- The range of services to be provided within the unit;
- The admission process adopted by the health facility;
- Generation, retrieval and management of Medical Records in relation to the admissions process.

602104 130 .5.05 HOURS OF OPERATION

The opening hours for the Admissions Unit will vary, depending on the service profile of the facility and the operating hours of individual Health Planning Units (e.g. Inpatient Unit, Day Procedure Unit, Operating Suite etc).

Typically the Admissions Unit of an inpatient facility will be open from 8am to 5pm, 7 days per week. Some facilities may schedule some after hours appointments. Outside of the scheduled hours, unplanned emergency admissions generally occur via the Emergency Department and/or other emergency portals of entry which operate 24 hours, 7 days a week.

602105 130 .5.10 TECHNOLOGY

In some health care facilities, the Admissions Unit may be required to keep accurate and up-to-date information on patients. Patient Administration System (PAS), Hospital Information Systems (HIS) or Information Patient Management Systems (IPMS) are commonly being used to track patients from pre-admission to discharge. Bookings, admissions and separations are entered into the system by Admission Officers.

Safeguarding the vast amounts of personal health information electronically located on these information systems is of prime concern. Health information must be securely managed and privacy and confidentiality ensured through compliance with the relevant State Health Policy on - Electronic Information Security.

Medical record generation, retrieval and management processes are currently changing as electronic medical records are being introduced into larger health facilities. This will have implications on storage space requirements and admission functions within the Admissions Unit.

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Paper medical records may be requested by the Admissions Unit (whether centralised or decentralised) and/or the Pre-admission Clinic for those patients that are booked in for admission to the health facility.

Dependant on the operational policy of the facility, space for temporary secure storage of medical records may be required in both the Admissions Unit and Pre-admission Clinic if the health facility does not have electronic patient records.

Information collected on all patients is based on standards of identification developed by State Health Departments. Consent forms, admission forms, booking forms and theatre lists must all comply with the relevant Health Policy on Patient Identification.

602106 130 .5.15 PATIENT TRANSPORT

Arrangements for inter-facility patient transport may be the responsibility of Admissions personnel; however this will be dependent on the model adopted by the facility.

602107 130 .5.20 STAFFING

Admissions Unit

The size of a unit will be determined by the service plan and volume of activity. It is not the intention of this Guideline to advise on staffing levels. However a unit should be of a size that ensures the safety, security and emergency needs of staff on duty are addressed.

Pre-admission Clinic

An office will be required for the Clinic Coordinator and any other staff permanently based in the Unit. In addition there will need to be write-up workstations for medical professionals including, visiting Anaesthetists, Nursing Specialists and Allied Health Professionals. Administrative areas will also be allocated to the Pre-admission clerical officers.

Planning Models

602108 130 .6.00 LOCATION

The Admissions Unit should be ideally located in, or in close proximity to the Main Entry / Reception area and close to where departing patients will pass on their way out of the hospital. Where admissions processes are decentralised, separate admissions areas should be co-located with the appropriate Health Planning Unit e.g. Day Procedure Unit, Inpatient Unit, Emergency Department etc.

Pre-admission Clinics are often located in the Health Planning Unit in which the procedure will occur, for example, Day Surgery Unit, Operating Suite or Ambulatory Procedures Centre or alternatively co-located with other Outpatient services.

There should be close access to public amenities and waiting areas.

602109 130 .6.05 CONFIGURATION

The configuration of the Admissions Unit and Pre-admission Clinic will depend on:

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- The number of staff to be accommodated;
- The range of services provided;
- Whether it is co-located with other Health Planning Units or a stand alone area;
- Mobility level of patients - ambulant, wheelchair or trolley bound.

The security risk will determine the appropriate level of security required, taking into consideration the principles of Crime Prevention Through Environmental Design.

602110 130 .6.10 ADMISSIONS UNIT

Space requirements (waiting areas, interview rooms, workstations etc) will vary depending on the source and location of admissions e.g. Day Procedure Unit, Emergency Department etc. and associated operational policies.

Dependent on the operational policies of healthcare facilities, a combination of counters, offices, cubicles and workstations can be utilised as an interface with patients and visitors within the Admissions Unit.

Privacy for clients is a primary design consideration. If multiple Admissions staff are working in parallel a separation of the counters / workstations will aid acoustic privacy. Consideration must be given to children and patients/visitors using wheelchairs and therefore a low counter is recommended.

Offices / workstations are generally located in an area adjoining the counter area to provide adequate separation of staff areas and patient areas. It also provides an additional area behind the counter interface to complete and organise paperwork and have access to photocopy, printer, stationery and record storage areas.

In healthcare facilities where patient interviews are conducted in the Admissions Unit, there is a need for private interview rooms. Private interview rooms are an important mechanism to maintain privacy of confidential information. It is important that these rooms provide adequate space to allow for access by patients with differing levels of mobility.

602111 130 .6.15 PRE-ADMISSION CLINIC

The configuration of a Pre-admission Clinic is highly dependent on its location (e.g. independent or co-located with an associated Health Planning Unit), the size of the healthcare facility and its associated operational policies.

Pre-admission Clinics can range in size and form. In some healthcare facilities the Clinic comprises a small number of interview and consulting rooms where patients are interviewed on their medical history and paperwork is completed. If there is a need for further clinical pre-assessment, the clinic will refer the patient to the relevant health professionals and diagnostic testing sites located externally or in other sites in the health facility.

Alternatively the Pre-admission Clinic can be part of large multidisciplinary clinic with associated clinical areas for examination of the patient by medical professionals and access to Allied Health Professionals and Diagnostic testing facilities within the Clinic.

Regardless of the model, a reception point for initial patient presentation and waiting area will be required.

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Functional Areas

602112 130 .7.00 FUNCTIONAL ZONES

Functional areas in the Admissions Unit are:

- Patient Waiting Area;
- Patient Interview Rooms;
- Patient Admissions Counter;
- Staff Offices and Amenities;
- Cashier (optional).

Functional Areas in a Pre-admission Clinic are:

- Reception area and waiting room;
- Clinical area (including consult rooms);
- Patient Interview rooms;
- Office and staff areas.

The provision of vending machines in Admissions Units needs consideration when patients may present fasting (nil by mouth) in readiness for surgery that day.

Public amenities must be available for visitors either within the unit itself or readily accessible.

602113 130 .7.05 PATIENT WAITING AREA

The size of patient waiting areas should be determined to reflect the expected throughput of patients and visitors, accompanying baggage and method of mobility e.g. wheelchair, trolley.

The need for specific and segregated waiting areas may be considered if the healthcare facility regularly admits prisoners from custodial facilities.

Arrangement of chairs and other facilities in waiting areas should be considered with the principles of Crime Prevention Through Environmental Design. This may include arranging chairs to face each other for conversation rather than facing towards staff and ensuring furnishings and fittings cannot be used as weapons. A play space for children may also be appropriate, as with TV or provision of other entertainment for adults.

In some facilities, it may be important to provide an outdoor waiting area according to preferences and cultural needs identified from user group discussions.

602114 130 .7.10 PATIENT INTERVIEW ROOMS

The size and number of patient interview rooms should be determined with consideration of operational policies, patient throughput and likely mobility. Trolley access will need to be considered e.g. especially where patients are admitted from nursing homes.

A risk assessment for security and ergonomic issues should be undertaken, but it is likely that visibility can be increased through the use of windows while still maintaining privacy and safety.

Functional Relationships

602115 130 .8.00 EXTERNAL

Admissions Unit

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Ideally a dedicated Admissions Unit will be located adjacent to the Main Entry area with close access to public amenities and waiting areas.

It is to be noted that it is beneficial that the cashier not be visible from the hospital entrance to reduce the likelihood of armed hold-ups and theft attempts.

Pre-admission Clinic

The Pre-admission Clinic may be located within or in close proximity to the Health Planning Unit in which the procedure will occur, for example, Day Surgery Unit, Operating Suite or Ambulatory Procedures Centre or alternatively close to other Outpatient services.

If not co-located with the Pre-admission Clinic, the following areas of the health facility will have a close working relationship:

- Pathology (or blood collection point);
- Clinical Physiology Unit (egg ECG);
- Medical Imaging;
- Pharmacy.

602116 130 .8.05 INTERNAL

Admissions Unit

Access to security is desirable if the cashier is located within the Admissions Unit.

The layout of decentralised admission areas (e.g. Inpatient Unit, Day Procedure Unit etc) and pre-admission areas should be prominent within the relevant Health Planning Unit and clear and logical to enable easy way finding and orientation for patients and visitors.

Pre-admission Clinic

The reception area must be designed for efficiency, allow patients to move easily to and from consultation areas and accommodate patients, supporters and mobility aids. Staff areas should be efficient to allow staff to move freely and must also provide a degree of privacy with a quiet area so staff can work away from patients.

DESIGN

Accessibility

602117 130 .9.00 EXTERNAL

In addition to the legal obligations that exist in many States and Territories regarding access to workplaces under OH&S legislation, there are specific issues for consideration in an Admissions Unit.

The Admissions Unit and Pre-admission Clinic will need close access to a vehicle drop off point to accommodate patients who are elderly, frail, have limited mobility or are wheelchair bound.

602118 130 .9.05 INTERNAL

In addition to the legal obligations that exist in many States and Territories regarding access to workplaces under OH&S legislation, there are specific issues for consideration in an Admissions Unit.

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The design of the Admissions Unit and Pre-admission Clinic should ensure it is user friendly for all patients who require mobility aids (wheelchairs, crutches etc.).

Parking

- 602119 130 .10.00 See Front of House Planning Unit Guidelines for parking considerations if the Admissions Unit is co-located with Main Entrance.

For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

- 602120 130 .11.00 It is essential that equipment such as minimum lighting, telephones, duress alarm systems (including the central computer) and electronic locks are connected to the non-interruptible emergency power supply.

Refer to Part B Health Facility Briefing and Planning Clause 80 and Part C Design for Access, Mobility, OHS and Security; of these Guidelines for further information.

- 602121 130 .11.05 INCIDENT MANAGEMENT

Admissions staff will receive comprehensive training in emergency management as it specifically relates to the Admissions Unit (e.g. management of aggressive patients, hold up of cashier etc.).

Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

- 602122 130 .12.00 GENERAL

The infection status of patients undergoing the pre-admission process may be unknown. All body fluids should be treated as potentially infectious and precautions must be implemented to protect against exposure to sharps, blood and body fluids.

Purpose designed sharps containers, personal protective equipment and clinical waste spill kits must be supplied and staff must be trained in first aid and injury management procedures for sharps injury and body substance exposure.

Staff hand washing facilities including disposable paper towels, must be readily available.

Refer to the relevant jurisdiction policy on Infection Control, and Part D of these Guidelines - Infection Prevention and Control for further information.

- 602123 130 .12.05 WASTE MANAGEMENT

There should be provisions made for hospital specific waste management facilities.

A general paper recycling facility should be provided for staff who work in the Admissions Unit. Standard clinical waste measures must be provided in clinical areas within the Pre-admission Clinic. Sharps containers are to be

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provided that are compliant with current Health Infection Control Policy and the relevant Australian Standard.

Refer to: NSW Health PD2005_132 - Waste Management Guidelines for Health Care Facilities (published 1998).

Environmental Considerations

602124 130 .13.00 AMENITY

The Building Code of Australia outlines the requirements for building amenities and should be consulted when designing an Admissions Unit.

Often the Admissions Unit is the first point of contact for patients being admitted to the health facility and tends to create an overall impression of the facility. The space should therefore be inviting and non-threatening.

The interior decor should be carefully designed to minimise anxiety, with special consideration for children in those facilities providing paediatric services.

602125 130 .13.05 ACOUSTICS

Confidential patient information is exchanged in the Admissions Unit and Pre-admission Clinic, therefore the area should be acoustically treated to maximise privacy. Ambient noise from the Main Entry should be minimised when co-located with the Admissions Unit.

AS/NZS 2107 - Acoustics - Recommended design sound levels and reverberation times for building interiors.

This standard recommends design sound levels and reverberation times for different areas of occupancy in various categories of buildings. It specifies methods of measuring the ambient sound level reverberation time. It is intended for use in assessing the acoustic performance of the buildings and building services. It does not apply to the evaluation of occupancy noise.

An augmented hearing loop (to cater for people who are hearing impaired) may be considered in the Admissions Area.

602126 130 .13.10 NATURAL LIGHT

The presence of natural light to the Admissions Unit is desirable in creating a pleasant introduction to the facility for patients, visitors and staff, however this is not essential.

602127 130 .13.15 PRIVACY

Attention to patient comfort and privacy should minimise stress and discomfort for patients.

Patient privacy and confidentiality can be enhanced by the design of the facility by private interview rooms for personal discussions between staff and patients. Placement of admissions units/desks must ensure they are clear of any public thoroughfares to enhance privacy.

602128 130 .13.20 INTERIOR DESIGN

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Refer to Part C of these Guidelines for information on interior design. Selection of materials and colours in the Admissions Unit and Pre-admission Clinics (if relevant) should be suitable to withstand the heavy pedestrian utilisation.

602129 130 .13.25 SIGNAGE

The orientation of people to and within healthcare facilities is greatly assisted or hampered by the quality and location of signage which may be directional, be used as a means of identification, or be a statutory requirement. Signage can have an important role in safety and security.

Comprehensive signage should be located at the Admissions Unit to aid patients in direction to their next destination.

External signage, included in car parks and at vehicle and pedestrian access points, should clearly indicate the location of the facility's Admissions Unit and/or Pre-admission Clinic.

All signage must be easily understood by staff and the general public, whether patients or visitors, and where necessary and appropriate, languages other than English and/or consistent use of symbols or pictograms should also be used.

Signage should comply with guidelines that promote access for people with disabilities.

References:

Technical Series TS2 - Signposting for Health Care Facilities, NSW Health, February 2004. To be reissued in 2009 as TS2 Wayfinding for Healthcare Facilities.

Australian Standard AS 1428 Design for Access and Mobility, Part 1: General requirements for access - New Building Work. Also contains guidelines on signage for people with disabilities.

Space Standards and Components

602130 130 .14.00 GENERAL

Refer to the Australian Safety and Compensation Council's Guidance on the Principles of Safe Design for Work for information relating to the design and modification of buildings and structures and processes used for work.

602131 130 .14.05 SPACE DIMENSIONS

The Admissions Unit should be well proportioned to provide a sense of space.

Waiting areas in both the Admissions Unit and Pre-admission Clinic (if relevant) will cater for the desired number of chairs with an allowance of 1.5m² per chair.

602132 130 .14.10 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive

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capabilities of all persons using the building.

As the requirements of Occupational Health and Safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in Part C of these Guidelines in addition to OHS related guidelines.

602133 130 .14.15 ERGONOMICS

Admissions Units and Pre admission Clinics shall be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

The design of admissions counters and workstations will ensure appropriate dimensions to minimise risk exposure for staff, patients and visitors (refer to section 130.17.00 for specific details on suitable counter heights).

Where possible counters, workstations and furniture should be adjustable to fit the user's individual characteristics. The patient / client should be at the same height as Admissions Staff to enhance communication and reduce the risk of aggression (e.g. if there is a high standing counter, staff should be seated on high seats).

A variety of seat heights should be available in the waiting areas of both Admissions Units and Pre-admission Clinics to accommodate the needs of the elderly and disabled.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

602134 130 .14.20 OFFICES

For provision of offices and associated administration areas refer to the relevant State Guidelines.

602135 130 .14.25 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines - Section 710 - Space Standards and Dimensions.

Doorways must be sufficiently wide and high to permit the manoeuvring of beds, wheelchairs, trolleys and equipment without risk of damage or manual handling risks.

Safety and Security

602136 130 .15.00 GENERAL

Elimination of hazards at the design stage is a national priority under the National Occupational Health and Safety Strategy 2002 - 2012 produced by the Australian Safety and Compensation Council.

Refer to Part C of these Guidelines: Design for Access, Mobility, OHS and Security, Section 790 - Safety and Security Precautions.

602137 130 .15.05 SECURITY

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Security measures should be designed in such a way that they do not create an unsympathetic, hostile or unnecessarily stressful environment. The design and location of the Admissions Unit, including security measures, should be determined by a risk assessment carried out in consultation with staff and taking into account factors such as:

- facility location;
- demographics;
- size of Facility;
- speed of security response;
- availability of security personnel;
- type of facility e.g. Mental Health;
- potential severity and impact of incidents;
- other units/services in the immediate vicinity e.g. retail, A.T.M, ED.

In relation to the Admission Unit the following specific security issues should be considered:

- CCTV of the Admissions and Cashiers area;
- the Admissions counter should have clear oversight of the waiting area;
- the activities of admissions staff and cashier should not be visible from the waiting room;
- Admission and cashier staff should sit at a deep reception counter. Each should have emergency egress points and duress alarms;
- after hours security measures should secure the Admissions Unit and the Cashier's counter. They should be able to be secured separately since they could have differing hours of operation;
- the Cashier's counter requires security glazing. An after-hours chute and a fire proof safe are required. The safe should be large enough to hold cash and other valuables. The safe should be out of sight of patients and others;
- provide electronic funds transfer facilities to minimise the amount of cash handled;
- after-hours security of the Admissions Unit to prevent unauthorised access, theft and privacy breaches;
- protocol for what to do in the event of an armed hold-up should be developed and all staff trained in these procedures (as per relevant jurisdiction guidelines e.g. NSW Health Manual - Section 27).

All external doors to the Admissions Unit should be electronically locked after hours and fitted with alarms linked to Security.

In relation to Pre-admission clinic the following specific security issues should be considered:

- design to allow a controlled entry and exit point from the Unit;
- design to facilitate optimum observation of waiting area by staff;
- emergency egress points and duress alarms;
- controlled access from the waiting room to the clinic area;
- after-hours security / access control.

Reference:

Technical Series TS11 - Engineering Services and Sustainable Development Guidelines. (under revision) - Section 5 - Security Systems. Available in the Reference section of the Guidelines.

Finishes

602138 130 .16.00 GENERAL

Finishes in this context refers to walls, floors, windows and ceilings.

Refer to Part C of the Guidelines - Design for Access, Mobility, OHS and Security, Section 710 - Space Standards and Dimensions.

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602139 130 .16.05 WALL PROTECTION

Refer to part C of these Guidelines for more information.

602140 130 .16.10 FLOOR FINISHES

Selection of floor finishes must take into account manual handling issues including the impact of the flooring on push / pull forces for wheeled equipment. It must also be selected to minimise the risk of staff, patients and visitors slipping, tripping and falling.

It is preferable for the Admissions Unit to be carpeted as this creates a less institutional atmosphere and contributes to noise attenuation. Where carpet is used, preference should be given to a type that provides low resistance to trolleys and wheelchairs.

Pre-admission Clinic flooring in both patient and treatment areas should be easily cleaned and in good repair for infection control purposes. Standard vinyl is both simple to clean and also enables easy movement of trolleys and wheelchairs.

Refer to Part C of these Guidelines for more information.

602141 130 .16.15 CEILING FINISHES

Refer to part C of these Guidelines for more information.

Fixtures, Fittings & Equipment

602142 130 .17.00 COUNTERS

A suitable barrier should be provided by the Cashier's counter (if co-located in Admissions Unit) and its associated security features e.g. security glass. The counter should be ergonomically designed to minimise risks associated with posture and repetitive movement.

Australian Standard 1428 outlines best practice requirements for counters and desks.

In order to comply with AS 1428, it is essential that a section of the counter is accessible to disabled people. A lower counter at which staff and patients sit is also advantageous to create a more intimate situation with added privacy.

Counters should be to a maximum depth of 1410mm (AS1428), but a depth of 900mm to 1200mm is recommended. A standing counter is essential; it will be 850mm (+/- 20mm) high, with clearance beneath the unit from the floor of 820mm (+/-20mm). In addition, if it is possible to provide a counter for seated interactions, the second counter is recommended at 750mm (+/- 20mm) with clearance beneath the counter from the floor of 730mm (+/- 20 mm). The design of admissions counters and workstations will ensure appropriate dimensions to minimise risk exposure for staff, patients and visitors. The counter should be designed to minimise risks identified through ergonomic and security risk assessments.

Fixtures and fittings should not be able to be used as a weapon or projectile or be likely to cause injury or harm. A security risk assessment will determine the appropriate levels of security required, taking into consideration the principles of Crime Prevention through Environmental Design.

Also refer to Part C, Section 710 of these Guidelines.

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Reference:

AS 1428 Design for Access and Mobility Part 2: Enhanced and Additional Requirements - Buildings and Facilities.

Building Service Requirements

602143 130 .18.00 GENERAL

In addition to topics addressed below, project staff may also refer to:

- Part E of these Guidelines - Building Services and Environmental Design;
- TS11 - Engineering Services and Sustainable Development Guidelines;
- WA Health Facility Guidelines for Engineering Services.

602144 130 .18.05 AIR HANDLING SYSTEMS

The temperature of the Admissions Unit should be maintained within a comfortable range as per Part E of these Guidelines - Building Services and Environmental Design, and jurisdiction performance specification documents such as NSW Health TS11 Engineering Services, Sustainable Development Guidelines and WA Health Facility Guidelines for Engineering Services.

602145 130 .18.10 INFORMATION TECHNOLOGY & COMMUNICATIONS

Admissions Unit

The following is generally required in the Admissions Unit:

- duress alarm system;
- voice /data (telephone and computers);
- Patient Administration System (PAS) / Information Patient Management System (IPMS) / Hospital Information System (HIS);
- infrastructure for electronic medical records (optional).

602146 130 .18.15 Pre-admission Unit

The following is generally required in Pre-admission Clinics:

- duress alarm system;
- voice / data (telephone and computers);
- Patient Administration System (PAS) / Information Patient Management System (IPMS) / Hospital Information System (HIS);
- infrastructure for electronic medical records (optional);
- access to a PACS system (if relevant).

602147 130 .18.20 EMERGENCY/NURSE CALL

All clinical areas including, toilets and bathrooms, should have access to an emergency call facility so staff or patients can call for urgent assistance. The Nurse Call / Emergency Call System are to comply with AS 3811.

602148 130 .18.25 DURESS ALARM SYSTEM

Refer to Part C of these Guidelines.

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All reception points, patient treatment areas and any other area where a staff member is alone with a patient will require access to a discreet duress alarm system.

COMPONENTS OF THE UNIT

General

602149 130 .19.00 Standard Components (SC) refer to rooms/spaces for which room data sheets, room layout sheets (drawings) and textual descriptions have been developed and are available on the HFG website. Their availability in these guidelines is indicated by "Y" in the SC column of the Schedule of Accommodation.

Standard components are provided to assist with the development of a project. Their use is not mandatory and if used they can be edited to be project specific.

Refer to Part B, Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets.
www.healthfacilityguidelines.com.au

Non-Standard Components

602150 130 .20.00 CASHIER

Secured area for payment transactions. This area generally includes an office or workstation and a secure serving counter. The size may vary according to the number of personnel to be accommodated.

LOCATION AND RELATIONSHIPS

The Cashier should be located close to the Main Entrance with ready access to public amenities.

CONSIDERATIONS

The Cashier's area requires security provisions, such as high counters, security glazing, safe, CCTV and duress alarms.

Provisions for electronic funds payments and transfers should also be available.

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APPENDICES

Schedule of Accommodation

602151 130 .21.00 INTRODUCTION

The content and size of both an Admissions Unit and a Pre-admission Clinic is heavily dependent on its location, services provided, throughput and operational policies.

A generic Schedule of Accommodation is provided that lists generic spaces that may be combined to form both an Admissions Unit and Pre-admission Clinic (if relevant).

Note that toilet numbers and space requirements will be subject to Building Code of Australia and AS 1428 part 1 and 2. The requirements below are a guide only.

602152 130 .21.05 ADMISSIONS UNIT

Note 1:

May be shared with Main Reception in smaller Health Facilities. Actual size will be determined by the size of the unit and the projected number of people waiting at any one time. Allow 1.5 m2 per person/chair.

ROOM/SPACE	SC	Qty x Sqm					Comments
WAITING	Y	1 x 25					Note 1
BAY - MOBILE EQUIPMENT	Y	1 x 6					For wheelchairs, may be accommodated in Main Entrance Area
RECEPTION / CLERICAL	Y	1 x 10					Space for up to two staff
OFFICE - WORKSTATION	Y	1 x 5.5					
OFFICE - SINGLE	Y	1 x 9					Unit Manager
STORE - PHOTOCOPY / STATIONARY	Y	1 x 8					Optional
STORE - FILES	Y	1 x 10					For storage of Records
CASHIER		1 x 9					Optional
STORE - PATIENT PROPERTY	Y	1 x 8					
BAY STORAGE	Y	1 x 2					Cashiers' Safe
CUBICLE - INTERVIEW		2 x 5					For one-on-one discussions/interviews
INTERVIEW ROOM - FAMILY / LARGE	Y	1 x 12					Optional dependent on operational policies
TOILET - ACCESS	Y	1 x 5					Optional, may share with another co-located HPU
TOILET - PUBLIC	Y	2 x 3					Optional, may share with another co-located HPU
DISCOUNTED CIRCULATION %		20					

602153 130 .21.10 PRE - ADMISSIONS CLINIC

Note 1:

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Actual size will be determined by the size of the unit and the projected number of people waiting at any one time. Allow 1.5m² per person/chair.

Note 2:

For anaesthetists, nurse specialists and allied health professionals.
Number dependant on size of clinic.
If ECGs are to be performed in the consult rooms, then the rooms will require space for equipment to be stored and used.

Note 3:

Optional; includes Beverage Bay.
Actual size of staff room will vary depending on the number of staff who access it and whether shared with another HPU.

ROOMS/SPACE	Standard Component	Qty X Sqm					Comments
ENTRY/RECEPTION AREAS:							
WAITING	Y	1 X 20					Refer to Note 1
RECEPTION / CLERICAL	Y	1 x 10					Space for up to 2 staff
DISCOUNTED CIRCULATION %		20					
GENERAL PATIENT AREAS:							
OFFICE - CONSULT	Y	2 x 12					Refer to Note 2
INTERVIEW ROOM - FAMILY / LARGE	Y	2 x 12					Optional dependent on operational policies. Number dependant on size of clinic
TOILET - PATIENT	Y	1 x 5					
DISCOUNTED CIRCULATION %		25					
CLINICAL PATIENT AREAS:							
TREATMENT ROOM	Y	1 x 14					
CHANGE CUBICLE - PATIENT	Y	1 x 4					Optional, quantity dependent on size of clinic
DISCOUNTED CIRCULATION %		25					
STAFF AREAS:							
OFFICE - WORKSTATION	Y	2 x 5.5					
STORE - PHOTOCOPY / STATIONERY	Y	1 x 8					Optional
STORE - FILES	Y	1 x 10					
OFFICE - SHARED	Y	1 x 12					For visiting professionals write-up room
STAFF ROOM	Y	1 x 15					Refer to Note 3
PROPERTY BAY - STAFF	Y	1 x 2					
STORE - EQUIPMENT	Y	1 x 14					
TOILET - STAFF	Y	1 x 3					

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DISCOUNTED CIRCULATION %		25					
CLINICAL SUPPORT AREAS:							Only if clinical areas included in clinic
DIRTY UTILITY	Y	1 x 10					
CLEAN UTILITY	Y	1 x 12					
BAY - LINEN	Y	1 X 2					
CLEANER'S ROOM	Y	1 X 5					
DISCOUNTED CIRCULATION %		25					

Functional Relationships

602154 130 .22.00 A diagram of key functional relationships is attached.

Checklists

602155 130 .23.00 Refer to the Planning Checklists at the ends of Parts A, B, C and D of these Guidelines.

References and Further Reading

602156 130 .24.00 GENERAL, CODES AND STANDARDS

Commonwealth Disability Discrimination Act 1992
http://www.austlii.edu.au/legis/cth/consol_act/dda1992264/.

Australian Building Codes Board - Building Code of Australia, 2008.

Standards Australia, Australian Standard 4806: Closed Circuit Television (CCTV).

Standards Australia, Australian Standard 4485: Security for Healthcare Facilities.

602157 130 .24.05 LEGISLATION AND POLICY - NEW SOUTH WALES

NSW Anti Discrimination Act 1977 -
http://www.austlii.edu.au/au/legis/nsw/consol_act/aa1977204/

NSW Disability Services Act 1993 -
http://www.austlii.edu.au/au/legis/nsw/consol_act/dsa1993213/

NSW OH&S Act 2000 & OH&S regulation 2001 -
<http://www.legislation.nsw.gov.au/>

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NSW Health Policy PD2005 - 314 - Electronic Information Security Policy, January 2005.

NSW Health Policy PD2007- 036 - Infection Control Policy, 2007.

NSW Health Policy PD2005 - 576 - Office Accommodation Policy – Public Health Organisations and Ambulance Service, 2005.

NSW Health Policy PD2006 - 380 - Patient Identification - Correct Patient, Correct Procedure and Correct Site Policy, January 2006.

NSW Health Policy PD 2005 - 339 - Protecting People/Property: NSW Health Policy/Guidelines for Security Risk Management in Health Facilities, 2005.

NSW Health Policy PD2005 - 132 - Waste Management Guidelines for Health Care Facilities, 1998.

NSW Health Policy PD2005 - 409 - Workplace Health and Safety: Policy and Better Practice Guide, 2005.

Technical Series TS2 - Signposting for Health Care Facilities, 1994.

602158 130 .24.10 LEGISLATION AND POLICY - QUEENSLAND

Queensland - Workplace Health and Safety Act 1995 South Australia Disability Services Act and Regulations, 1993.

Queensland Health - OHSMS 2-24#21 - Fire Safety Implementation Standard.

Queensland Health - OHSMS 2-1#21 - Occupational Violence Prevention and Management Implementation Standard.

Queensland Health - OHSMS 2-44#21 - Security Implementation Standard Crime Prevention Through Environmental Design - Guidelines for Queensland 2007 and its related Work Practice Directives.

Queensland Health Security Guidelines OHSMS 2-44-1#38.

Queensland Health Infection Control Guidelines.

Queensland Health Work Place and Office Accommodation Policy and Guidelines.

Queensland Health Admitted Patient Data Collection Manual.

Queensland Health Financial Management Practice Manual (Cashier finance policy).

Queensland Government Information Standard 42A (Privacy).

602159 130 .24.15 LEGISLATION AND POLICY - SOUTH AUSTRALIA

South Australia - Occupational Health, Safety & Welfare Act 1986 and Regulations 1995.

South Australia Infection Control Guidelines, 2007.

602160 130 .24.20 LEGISLATION AND POLICY - WESTERN AUSTRALIA

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WA Disability Services Act 1993.

WA Equal Opportunity Act 1984.

WA Department of Health Disability Access and Inclusion Plan 2007-2010.

The Western Australia Public Patients Hospital Charter.

WA Guidelines on the Application of the Health (Public Buildings) regulations 1992.

602161 130 .24.25 GUIDELINES AND ARTICLES

Australasian Health Facility Guidelines, Centre For Health Assets
Australasia: 120 Administration Unit, November 2007.

Australasian Health Facility Guidelines, Centre For Health Assets
Australasia: 155 Ambulatory Care Unit, November 2007.

Australasian Health Facility Guidelines, Centre For Health Assets
Australasia: 270 Day Surgery / Procedure Unit.

Design Guidelines for Hospitals and Day Procedure Centres, Victorian
Department of Human Services: 130 Admissions Unit.

Design Guidelines for Hospitals and Day Procedure Centres, Victorian
Department of Human Services: 430 Main Entrance Unit.

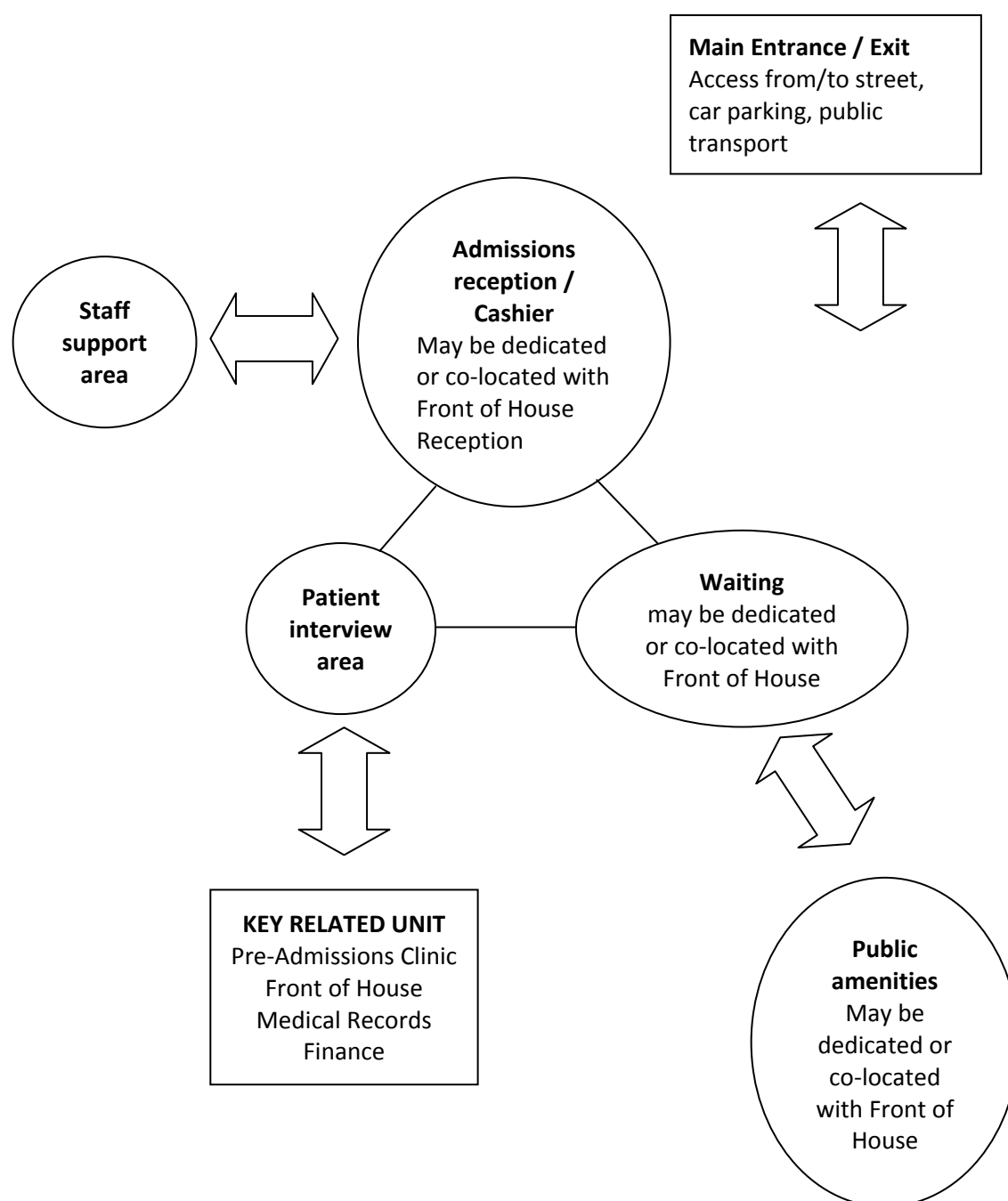
American Institute of Architects, Guidelines for Design & Construction of
Hospital & Healthcare Facilities, 2001.

Roberts, L, Day Surgery Centres In Australia Planning And Design,
Australian Academy of Medicine and Surgery, Published in The Australian
Surgeon, March 2005.

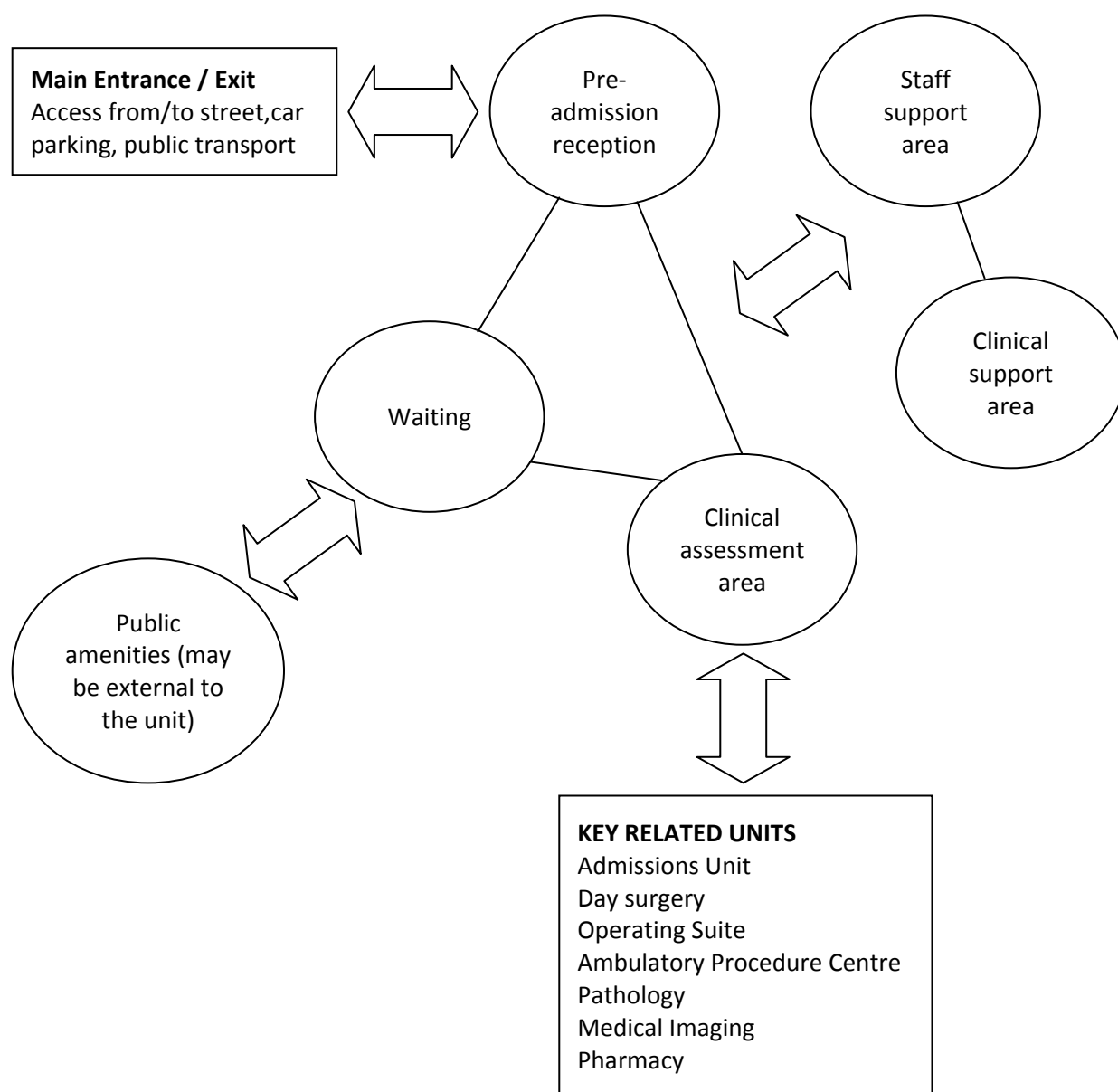
FUNCTIONAL RELATIONSHIP DIAGRAM – ADMISSIONS UNIT

The following diagram sets out the relationships between zones in the Admissions Unit.

ADMISSIONS UNIT & CASHIER



PRE ADMISSIONS UNIT (CLINICAL ASSESSMENT)



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Preamble

502421 132 .2.00

Child and Adolescent Mental Health (Inpatient Care) is a Core Integrated Community and Hospital Service in the NSW Guide to the Role Delineation of Health Services (Third Edition 2003). It defines 6 levels of service from 1 to 6. Levels 1 to 4 do not have dedicated beds but may access paediatric beds and/or a modified suite of beds within an adult mental health unit. This Guideline only addresses dedicated Child and Adolescent services at Levels 5/6 that have designated gazetted beds and provide a regional / supra-regional service.

It is essential to be aware of the impact on the Unit itself and associated facilities in other units of:

- Operational Policies
- Models of Care including provision or otherwise of an associated Day Hospital
- Family needs and
- Extent of Community-Based Services.

In addition, facility design, must, where appropriate, meet all necessary criteria to reach accreditation standards with regard to design and equipment.

Introduction

502422 132 .3.00

This Health Planning Unit is a resource to assist in the planning, design and construction of a Child and Adolescent Mental Health Unit that may or may not incorporate a Day Hospital. It should be read in conjunction with generic planning requirements and Standard Components described in Parts A, B, C and D of these Guidelines.

The original Health Building Guideline, DS-26 only addresses an Adolescent Inpatient Unit. This Guideline has been expanded to also address the needs of children and a Day Hospital.

Policy Framework

502423 132 .4.00

Mental Health Services in NSW are underpinned by the NSW Mental Health Act 1990 and the National Mental Health Strategy.

The National Mental Health Strategy ... "provides a framework for national reform from an institutionally based mental health system to one that is consumer focused with an emphasis on supporting the individual in their community. The Strategy was reaffirmed in 1998 with the Second National Mental Health Plan and again in 2003 with the endorsement by all health ministers of the National Mental Health Plan 2003-2008.

Charter for Mental Health Care in NSW

NSW Health Frontline Procedures for the Protection of Children and Young People, NSW Health December 2000.

Policy Directive PD2005-037, Child & Adolescent Mental Health Policy, NSW Health, 25 Jan 2005.

Restraint, Seclusion and Transport Guidelines for Patients with Behavioural Disturbance - Version 10, NSW Health

Policy Directive PD2005_339, Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities, NSW Health January 2005.

Policy Directive PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service, NSW Health April 2005.

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Description of the Unit

502 132 .5.00

DEFINITION OF HEALTH PLANNING UNIT (HPU)

The Child and Adolescent Mental Health Inpatient Unit describes facilities for the admission, assessment and treatment of children and young people up to 18 years where community approaches have proven (or are likely to prove) inadequate.

The unit will provide consultation, assessment, acute care management, discharge planning and evaluation of outcomes.

The design, layout and functionality of the Unit should meet their social, emotional and intellectual developmental needs.

The Unit should enable active family involvement in daily care, treatment and program activities but under current policy, child and family are no longer admitted as a unit although provision will be made for a parent to stay overnight on an as needs basis.

502425 132 .6.00

PATIENT CHARACTERISTICS

Patients will have a broad range of mental health problems and disorders and challenging behaviours that must be managed safely and effectively.

The unit may admit and treat patients who have:

- A risk of self injury, self-neglect or injury to others
- A severe affective disorder
- Psychosis including early onset schizophrenia
- Pervasive developmental disorders
- Eating disorders
- Severe anxiety disorders
- Obsessive compulsive disorder
- Tourette's syndrome
- Co-morbid drug and alcohol problems
- Severe family relationship difficulties.

503355 132 .6.05

PATIENT NEEDS

- Access to quiet areas at all times
- Adequate outdoor areas for physical activity as a release mechanism for agitation
- Bedrooms and activities areas that are home-like and allow for expression of ideas
- Ability to feel "safe" when other patients are "out of control"
- Access to staff that is free and open
- Access to phones
- Access to counsellor for family/relatives when necessary.
- Access to a designated smoking areas

- Space - It is important to recognise that children - despite their small size - and young people usually need more space than adults and this is reflected in the activity areas in the schedule of accommodation.

503356 132 .6.10

OPTIMUM UNIT SIZE

The number of beds will depend on the Service Plan. However, it has been suggested that between 8 and 12 beds is the optimum size to gain the benefits of economies of scale in staffing costs and enable rapid management of psychiatric emergencies. For the purposes of this Guideline, 12 beds have been assumed in order to create a logical list of rooms/spaces. This number and bed mix will need to be amended on a

project-by-project basis.

503357 132 .6.15 BED CONFIGURATION & UNIT LAYOUT

The design of the inpatient areas must facilitate safety and security for both patients and staff and allow for changing levels of patient acuity and models of care, both in the short and long term.

Rooms may be grouped into clusters that can be defined for distinct patient groups.

Consideration must be given to safe and supervised access for housekeeping, catering and other staff who may feel uncomfortable in the mental health environment.

PLANNING

Operational Models

502426 132 .7.00 HOURS OF OPERATION

The Inpatient Unit will operate 24 hours a day, 7 days a week. A Day Service where established will generally operate during business hours Monday to Friday.

502427 132 .8.00 ORGANISATION OF SERVICES

Refer Policy Directive PD2005-037, Child & Adolescent Mental Health Policy, NSW Health, 25 Jan 2005 that addresses primary care programmes and secondary and tertiary referral services.

502428 132 .9.00 MODELS OF CARE

There are several models of care including:

- Children and adolescents together in a fully integrated unit only separated by programme / activities (There is evidence to suggest that older children look after the younger children in this environment. Refer Nexus Unit, John Hunter Hospital)
- Children and adolescents in the same unit but separate “zones” designed to cater for their differing needs
- Separate units for children and adolescents and
- Dedicated “voluntary” unit that can be secured if necessary as part of a paediatric precinct that allows children - when considered able - to participate in activities with other children - school, play therapy, etc.

In NSW it is no longer policy to admit the parent/s and child as a “child and family” unit although facilities must be available for a parent to stay and extremely aggressive teenagers may be better in an adult unit.

502429 132 .10.00 DAY HOSPITAL

The current model of care for Child & Adolescent services also provides for day units to be established to minimise the need for undesirable hospitalisation. If collocated with the inpatient unit, it should be able to accommodate all non-24 hour functions such as offices and allow shut-down after hours. If the Day Hospital is developed in advance of the Inpatient Unit, layout should allow for easy and functional “add-on”.

Operational Policies

502430 132 .11.00 GENERAL

The development of Operational Policies is crucial to defining how the unit will operate within the hospital and the Area's mental health service.

Project staff are referred to Part B Section 80 of these Guidelines for further information regarding general policies. Specific policies for Child and Adolescent Units may include:

- Admissions - voluntary and involuntary
- Use of seclusion and restraint
- Educational needs and play therapy
- Accommodation for families
- Access to bedrooms during the day.

503358 132 .11.05 USE OF BEDROOMS

Generally patients are not allowed access to their bedrooms except to sleep, for approved time out or when medicated or recovering from sedation or other treatment and therefore bedroom doors should be lockable and access controlled by staff.

502431 132 .12.00 USE OF SECLUSION AND RESTRAINT

Project staff are referred to the NSW Health report - Restraint, Seclusion and Transport Guidelines for Patients with Behavioural Disturbances.

503359 132 .12.05 MANAGEMENT OF BARIATRIC (SEVERELY OBESE) PATIENTS

Obesity in children and adolescents is becoming an increasing problem. It is important to ensure that at least one bedroom and en suite can accommodate a larger bed if necessary and easy use of lifting equipment. It may also be necessary to consider provision of a larger-than-usual examination couch in at least one Consult / Exam Room. (Also need to consider that the parent of a child may be very obese.

Refer to NSW Health Guideline - GL2005_070, September 2005: Guidelines for the Management of OHS Issues Associated with the Management of Bariatric (Severely Obese) Patients.

502432 132 .13.00 SMOKING POLICIES

Smoking is a very controversial issue and some units ban it completely and provide assistance via nicotine substitutes. However, assuming smoking is permitted (in outdoor areas only), consideration needs to be given to management of lighters and containers for disposal of cigarette butts. It is assumed that matches are not allowed.

Consideration should be given to installing low voltage car-type lighters, or the use of no-flame lighters that can be secured to a wall or mounted onto a post in the designated smoking area - and that also require low voltage power.

503360 132 .13.05 FOOD SERVICES

Consideration should be given to the means by which meals are served. If patients are able to self-serve and make their own toast, sandwiches etc

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rather than having plated meals, this can encourage independence and act as part of ADL therapy. If this option is selected, the unit Kitchen will need to be sized and equipped to accommodate this and should open out onto the Dining Area with capacity to be locked after hours (e.g. roller shutter). There should be supervised refreshment facilities available at all times for patients to make their own drinks.

502433 132 .14.00 STAFFING

Staffing levels and mix will vary depending on the size and configuration of the Unit, service profile and case mix, patient profile and staff availability. However, care must be taken to ensure that staffing levels are adequate to meet emergency needs - particularly at night.

Offices and workstations are listed in the Schedule of Accommodation but actual numbers will depend on the staff establishment. Project staff should refer to the NSW Health Policy Directive - PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service. This policy directive is available on the NSW Health web site.

Planning Models

502434 132 .15.00 LOCATION

A ground floor location is preferred.

Option of locating beds adjacent to a Paediatric Ward to allow children to be involved in activities with other medical patients. (Refer Westmead model).

Functional Areas

502435 132 .16.00 FUNCTIONAL ZONES

Functional zones comprise:

- Main Entry / Reception / Consult / Interview
- Acute admissions area including including police entry, high dependency & seclusion
- Inpatient areas - bedrooms and activities
- Clinical support facilities
- Staff offices and amenities
- Day Unit

If the Day Hospital is (or is to be) colocated with the Inpatient Unit, most of the offices may be included in the former to allow for after-hours shut-down.

502436 132 .17.00 MAIN RECEPTION/ ENTRY AREA

Ideally there should be one main entrance to the two units and one main Reception with diversion to the Inpatient Unit or Day Hospital.

Each component should incorporate a greeting/ waiting area for family, friends and others which is separated from all other functional areas.

Design of the area should assist staff to prevent unauthorised entry to the unit and to provide a safe and therapeutic environment for children and adolescents and their family members.

502437 132 .18.00 INPATIENT UNIT - GENERAL

502438 132 .19.00 PATIENT BEDROOMS

Single bedrooms should be provided one or more of which must be larger than normal to accommodate a bariatric patient or a family member

Bedroom doors must be able to be locked from the outside only. Vision panels where installed should be impact-resistant glass.

Design and décor must permit personalisation of the space. Required fittings and furniture include:

- Built-in wardrobe (no lock)
- Built-in desk
- Mirror
- Lightweight, flexible chairs
- Pinboard for photos and posters.

Whilst a domestic bed may be the ideal, consideration must be given to the OHS needs of staff who have to make the beds.

Fittings must not provide opportunities for self harm and must have a breaking strain of less than 15 kg. Blinds to external windows are to be within double glazing.

Services will include the following:

- Two power outlets - RCD protected
- Optional Internet outlet
- Staff alarm system.
- Low wattage night light switched from outside the room

Medical gases will not be provided.

502439 132 .20.00 PATIENT ENSUITES

An en suite should be provided to each non-secure bedroom to comply with Standard Components En Suite - Mental Health.

The fittings must ensure there are no opportunities for self harm and are to have a breaking strain of less than 15 kg.

They must be lockable from the outside so that staff can deny access if necessary (patients with eating disorders who may use the en suite to either dispose of food or induce vomiting).

Doors must open outwards and if occupancy indicators are used, the doors must be able to be opened by staff in an emergency.

Consideration may be given as to whether shower tracks and curtains are necessary.

502440 132 .21.00 ACTIVITY & RECREATIONAL AREAS

There must be a range of activity and recreation areas including

- Lounge / TV room
- Computer room
- Dining room
- Quiet room
- Education room

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502441 132 .22.00 EXTERNAL RELAXATION/ ACTIVITIES AREAS

Courtyards or terraces for programmed activities, play or relaxation are an essential component of the unit and may be zoned for different activities - barbecue, games etc.

As much design effort and attention to detail should be given to these areas as to internal spaces. Landscaping is essential to promote a feeling of space and tranquillity, and there are many imaginative solutions to creating a very special area for clients and staff within the boundaries of a safe and secure environment. Landscape features and plantings must be set back from the perimeter wall to avoid foot hold points which may permit the wall to be scaled and design should avoid blind spots for good observation

In this guideline courtyards or terraces are treated as therapeutic areas and are included in the schedules of accommodation

Patient access to and from the unit should be able to be easily observed and monitored by staff and staff should be able to prevent or control access at night.

502460 132 .22.05 PERIMETER FENCING

Special attention needs to be given to ensuring that all outdoor areas are as secure and safe as indoor areas. Attention should be given to detailing roof overhangs, guttering and drain pipes which may provide a means of escape but fencing should not be so high as to create a prison-like environment or to increase the possibility of falling injuries should an attempt be made.

Recommended height is a matter for debate that has as yet to be determined and varies from 2.7 to 4m The client profile and topography of the area should be taken into account (e.g. patient acuity, voluntary versus involuntary patients, the physical capabilities of the young and fit, land sloping away etc.).

502442 132 .23.00 STORAGE

Storage will be required for occupational therapy equipment and a range of age-appropriate, therapy, sport and recreation equipment, either in each inpatient zone or in a central shared area. Each patient should have a lockable cupboard for personal items and school work outside of their bedrooms.

502443 132 .24.00 HIGH DEPENDANCY INPATIENT ZONE

The Unit will require a lockable high dependency unit consisting of single bedrooms, at least one seclusion room (operated in accordance with the NSW Mental Health Act 1990) and separate toilets and shower opening onto a locked lounge area which in turn has immediate access to an external secure courtyard separate to other external recreation areas. Entry to this area directly from outside the Unit will be required for police-assisted admissions or where a young person is highly disturbed and at immediate risk of harm to themselves or others.

502444 132 .25.00 QUIET/TIME OUT ROOM

The unit will require a room that can be used for quiet time/ time out for agitated and distressed children. The room should be located in an area that will minimise disruption to other unit activities.

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The room will be very plain and simple with unbreakable fittings and should have ready access to a toilet and washing facilities close by that does not require traversing the unit.

502445 132 .26.00 FAMILY LOUNGE

A small dedicated lounge should be available to parents requiring some time out.

502446 132 .27.00 CLINICAL SUPPORT AREAS

Will include:

- Staff Station
- Medication / Treatment Room
- Linen Store
- Dirty Utility
- Storage for general ward equipment.

503361 132 .27.05 STAFF STATION

The ideal design will enable one staff station to monitor all areas and provide an escape route/safe haven for staff, but location and site footprint may not enable this. A decision to provide a separate staff station in the High Dependency Unit should only be reached after serious consideration of planning options. There are obvious issues of safety and operational efficiency that will be compromised by such a division.

502447 132 .28.00 MEDICATION / TREATMENT ROOM

A lockable room will be required for the storage of drugs and clinical supplies. If also used for dispensing medications then the door to the corridor needs to have a medication dispensing hatch. This will be the only location for the secure holding of scheduled drugs in the unit.

The room may also serve as a Treatment Room for neurological examinations, administration of injections, dressings and other minor procedures in which case an examination couch and examination light and a second exit door will be required and discreet access for patients from the secure section of the Unit needs to be provided.

If used for parking of a medication trolley, the trolley MUST be locked and out of reach of patients undergoing treatment. May also be used to park the resuscitation and ECG trolleys for the unit that must also be out of reach of patients but easily accessible to staff. If used for trolley parking, the room size will need to be increased accordingly.

503362 132 .28.05 MEETING / EDUCATION / MAGISTRATE'S ROOM:

This room may be used for group therapy sessions, staff meetings, patient education and in-service educational sessions for staff, family and other carers. It will also be used for sittings of the Sessional Magistrate. The exact use of such rooms will vary between units due to the different needs of patient groups and services provided. Their use should be determined early in the planning process to ensure adequate utilisation of space.

There will need to be a second egress door.

There needs to be discrete close access from the High Dependency Area

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for patient attendance at magisterial sessions.

503363 132 .28.06 ADMINISTRATION / STAFF OFFICES

Offices and workstations and staff amenities should be located away from inpatient areas with no patient access,

502448 132 .29.00 DAY HOSPITAL

Facilities will/may comprise:

- Shared Entry / Reception / Waiting Areas including Child Play and amenities
- Consulting Rooms
- Meeting rooms for individual, family and group therapy (with or without an adjoining observation room)
- Staff offices and amenities

503364 132 .29.05 CONSULTATION ROOMS

The number of such rooms and their specific uses (i.e. inpatients only or inpatients and outpatients) will be determined by the services provided by the unit.

In the interests of staff safety and security, there must be sufficient rooms to prevent ad hoc use of offices or patient bedrooms for consultation purposes.

At times, six to seven people may be involved in the consultation process or the consultation may be limited to the patient and the health professional. All consultation rooms are to have two exit doors and duress alarms for safety. Refer Part C for further information.

Functional Relationships

- 502449 132 .30.00 The Child and Adolescent Acute Mental Health Unit has functional relationships with the following units, services and organizations:
- Emergency Unit
 - Paediatric Services
 - Child Protection Unit
 - Departments of Education, Community Services, Juvenile Justice, Police and Ambulance
 - Pathology Unit
 - Allied Health Unit
 - Early childhood services
 - Child and family support services
 - Other CAMHS community services including intensive outreach services and day programs
 - Drug treatment services

502450 132 .31.00 INTERNAL

Two separate inpatient zones with a central shared support zone. If collocated with an Adult Mental Health Unit, authorised internal access between the units may be considered.

General

502451 132 .33.00 GENERAL

The following design aspects are mandatory requirements:

- Bedrooms should provide a domestic environment with comfortable, robust furniture and furnishings
- All glazing must be safety glass
- Where colocated, the Child and Family and Adolescent Acute Mental Health Inpatient Units should allow full independent operation and separation while enabling common use of appropriate facilities
- Rooms and equipment need to meet the therapeutic and educational requirements of the patient group, with provisions for video conferencing in at least one large family Meeting Room and video taping in at least one Interview Room or wet and dry Therapy/ Play Room.

Accessibility

502452 132 .34.00 EXTERNAL

Ready access from main hospital for food, linen, supplies etc.

502453 132 .35.00 INTERNAL

- Access to the Unit must not be through other units, also the unit must not form a thoroughfare to any other unit from adjoining units.

Parking

502454 132 .36.00 Short-term parking for police vehicles.

Visitor parking

For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

502455 132 .37.00 Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

502456 132 .38.00 The infectious status of patients admitted to the Unit may be unknown. All body fluids should be treated as potentially infectious and adequate precautions should be taken, particularly with small children.

Handbasins will be provided in clinical areas such as treatment rooms and consultation rooms. Patients will have access to handbasins in en suites and handbasins will be provided in recessed bays in the corridors for staff use.

Refer to Part D of these Guidelines for further information.

Environmental Considerations

502457 132 .39.00 ACOUSTICS

Adequate acoustic treatment is required to ensure that patient privacy is maintained and that disruptive incidents do not compromise the operations of the unit or distress other patients. Areas requiring special attention are noted in the relevant Standard Components.

In acoustically treated rooms, return air grilles should be acoustically treated to avoid transfer of conversations to adjacent areas. Door grilles to these areas should be avoided.

503365 132 .39.05 AMBIENCE

- "Therapeutic" environment
- Scale appropriate to the development and its relationship to its surrounding environs
- Normalisation of the environment in looks, operation and functional content whilst not compromising clinical practice or safety
- Ease of client way finding and "identifiability" of rooms/spaces and a sense of identity for each sub-unit
- Privacy - visual & gender
- Interior design: patients allowed their own means of expression in nominated areas - graffiti walls etc.
-

502458 132 .40.00 NATURAL LIGHT

Wherever possible, the use of natural light is to be maximised. Current investigations support the fact that increased exposure to natural light improves service outcomes and reduces the length of stay especially for persons with mental illness. However, it must be noted that too much sunlight can adversely affects patients with medication-related photosensitivity

502459 132 .41.00 OUTDOOR AREAS

Courtyards or terraces with outdoor views are an essential component of a mental health unit. As much design effort and attention to detail should be given to these areas as to internal spaces. Dispensation should be sought from the NSW Department of Health for courtyard and terrace spaces in which smoking will be permitted.

In this guideline courtyards or terraces are treated as therapeutic areas and are included in the schedules of accommodation

502461 132 .43.00 INTERIOR DESIGN /DÉCOR

Decor is not just colour. It is furnishings, style, textures, ambience, perception and taste and can be very personal and subjective.

Decor can be used to prevent an institutional atmosphere. Cleaning, infection control, fire safety, patient care and the patient's perception of a professional, caring environment should always be considered when dealing with decor.

Interpretations and "research" on the use and value of colour in the clinical area differ; some issues are obvious, others less so and often not backed

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up by empirical evidence.

Consider the following:

- some colours, particularly the bold primaries and green should be avoided as many people find them disturbing;
- re-decoration is not a budgetary priority so care in selection of materials and colour is important;
- extremes of colour should not be used;
- colours and interior design should also be chosen to reflect the tastes and age of patients who will use the facility.

Space Standards and Components

502462 132 .44.00 ERGONOMICS

Refer Part C of these Guidelines for information.

502463 132 .45.00 HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

502464 132 .46.00 ACCESS AND MOBILITY

Refer Part C of these Guidelines for information.

502465 132 .47.00 DOORS AND CORRIDORS

Doors will need to be reinforced including fire exit doors.

Refer Part C of these Guidelines for information.

502466 132 .48.00 WINDOWS AND GLAZING

In areas where damage to glass may be anticipated, avoid larger pane sizes as smaller panes are inherently stronger for a given thickness than larger panes.

Impact-resistant Grade A safety glass to comply with AS/NZS 2208:1996 - Safety Glazing Materials in Buildings is the recommended choice.

Polycarbonate is not recommended as it suffers from surface scratching and deteriorates thus reducing vision.

Where windows are openable, effective security features such as narrow windows that will not allow patient escape, should be provided. Locks, under the control of staff, should be fitted.

Also refer to Part C of the Guidelines

Safety and Security

503366 132 .48.05 GENERAL

Safety and security involves people and policies as well as physical aspects but the latter must be built in as part of overall design and not superimposed on a completed building and a safety audit via a risk analysis of potential

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hazards should be undertaken during the design process.

The Unit must not only be safe, it must feel safe. Security may be physical or psychological and barriers may be real or symbolic, but all must be unobtrusive. Within this context, the least restrictive environment should be the goal.

The following aspects need to be considered:

- Safety of both patients and staff
- Patients' legal rights
- The status of the hospital or part thereof under the Mental Health
- Legislation in force at the time of development.

Project staff should refer to the NSW Health manual - Protecting People and Property, NSW Health Policy and Guidelines for Security Risk Management in Health Facilities.

502467 132 .49.00 PHYSICAL SECURITY ASPECTS

Include:

- Access control
- Containment (if and when necessary)
- Good sight lines and avoidance of isolated spaces for both patient and staff safety (e.g. no unsupervised blind corridors)
- Fittings that minimise the opportunity for patient self-harm or injury to staff.
- Smooth finishes and rounded edges
- Use of impact-resistant glass
- Arrangement and design of rooms and furniture that prevents barricading.

502468 132 .50.00 ACCESS CONTROL

Design should assist staff to carry out their duties safely and to supervise patients by allowing or restricting access to areas in a manner which is consistent with patients' needs/skills. Staff should be able to view patient movements and activities as naturally as possible, whenever necessary.

Security features are required at all entrances and exits. These may include electronic locking, intercoms, and video surveillance.

Controlled and/or concealed access will be required as an option in a number of functional areas. Functionally the only difference in design between an open and a closed (locked) area should be the provision of controls over the flow to, from and throughout the facility. Such controls should be as unobtrusive as possible.

All Meeting, Counselling, Group Therapy, Family Therapy and Review Board Meeting rooms require two means of egress and a duress alarm.

502469 132 .51.00 ACCESS TO OUTDOOR AREAS

The perimeter security of the outdoor area surrounding the building is important in reducing staff anxiety in relation to patients movement and safety

When the Child and Adolescent Unit is located within a multi-storey building, access to external spaces above ground level such as balconies or roof is to be prevented.

502470 132 .51.10 Controlled and/or concealed access will be required as an option in a number of functional areas. Functionally the only difference in design

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between an open and a closed (locked) area should be the provision of controls over the flow to, from and throughout the facility. Such controls should be as unobtrusive as possible.

502471 132 .52.00 A communication system which enables staff to signal for assistance from other staff should be included.

502472 132 .53.00 When the Child and Adolescent Unit is located within a multi-storey building, access to external spaces above ground level such as balconies or roof is to be prevented.

502473 132 .54.00 The perimeter security of the outdoor area surrounding the building is important in reducing staff anxiety in relation to patients movement and safety.

Finishes

502474 132 .55.00 WALL PROTECTION

Wall linings need to be robust and resistant to abuse and physical damage.

Also refer to Part C of these Guidelines

502475 132 .56.00 FLOOR FINISHES

Strong patterns on floors such as geometric designs which may disturb perception should be avoided.

Refer to Part C of these Guidelines

502476 132 .57.00 CEILING FINISHES

In patient areas, ceiling linings need to be solid sheet - not ceiling tiles. In patient areas in secure zones, seclusion rooms and HDU/, ceilings need to be resistant to breakout.

Refer to Part C of these Guidelines

Fixtures & Fittings

502477 132 .58.00 Also refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

502478 132 .59.00 Fixtures and fittings should be safe, durable, heavy duty, concealed and tamper-proof. They must be flush with the surfaces to which they are attached or designed in a way that prevents attachment of cords or belts.

Fittings, including hooks, curtain tracks, pelmets, bathroom fittings, should be plastic where possible and have a breaking strain of not more than 15kgs. Use of horizontal rails in toilets and showers is to be avoided; use vertical rails with infill.

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- 502479 132 .60.00 Exposed services, for example, sink wastes which may be easily damaged should be avoided.
- 502480 132 .61.00 Fittings, including hooks, curtain tracks, pelmets, bathroom fittings, should be plastic where possible and have a breaking strain of not more than 15kgs. Use of horizontal rails in toilets and showers is to be avoided; use vertical rails with infill.
- 502481 132 .62.00 Fittings should avoid the potential to be used either as a weapon or to inflict personal damage. Paintings, mirrors and signage should be rigidly fixed to walls with tamper-proof fixings.
- 502482 132 .63.00 Mirrors should be of safety glass or other appropriate impact-resistant and shatterproof construction but free from distortion. They should be fully glued to a backing to prevent availability of loose fragments of broken glass.
- 502483 132 .64.00 Holland blinds and curtains should be avoided in patient areas.
- 502484 132 .65.00 Light fittings, smoke and thermal detectors and air-conditioning vents to secure areas, particularly the Seclusion Rooms should be vandal-proof and incapable of supporting a patient's weight.

Building Service Requirements

502485 132 .66.00 VIDEO SECURITY

The use of video surveillance may be useful for monitoring areas such as stairways and blind spots. It is not an appropriate alternative to observation of patients by clinical staff and staffing levels should be sufficient to ensure such surveillance is not electronic required.

When considering the use of video security, the following factors should be considered:

- Area Health Service policies
- Relevant NSW Health policies
- The rights of patients to privacy balanced against the need to observe activities for safety and security reasons
- The ability of the staff establishment to manage the level of observation required without video security
- The maintenance costs involved
- The ability to negate the need for video security with improved functional design.

Note that NSW Health has released an additional Chapter to the Manual - Protecting People and Property entitled "Workplace Camera Surveillance".

502486 132 .67.00 VOICE AND DATA

Communication systems may provide for:

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- Alarm systems where necessary (eg. dangerous drug cupboard opening).
- Telephone services for staff, patients and visitors. The extent of provision, location, type (i.e. fixed or portable) and charging will need to be addressed in the Operational Policies. A separate telephone nook within the unit for use by patients should be considered.
- Computer and internet access for patients and staff.

Provision must be made at the outset for cabling and power outlets for computers.

502487 132 .68.00 TELEPSYCHIATRY

At least one room should be cabled and equipped to enable teleconferencing and videoconferencing to be used for staff education, management and patient telepsychiatry services.

502488 132 .69.00 NURSE / EMERGENCY

A patient-to-nurse call system is not recommended but there will need to be a means of staff-to-staff contact in the event of a medical emergency.

502489 132 .70.00 DURESS ALARM SYSTEM

The optimum approach is a combination of personal alarms with location finders and some fixed alarms particularly in areas where staff work in a relatively fixed position such as Reception to ensure there is a back-up system if one system fails.

Refer to NSW Health Manual "Protecting People and Property", Section 2 Chapters 9-14 and Chapter 29 - Duress Response Arrangements.

Refer to Part C of these Guidelines.

COMPONENTS OF THE UNIT

General

502490 132 .71.00 The Child and Adolescent Mental Health Unit will consist of a combination of Standard Components and Non-Standard Components.

This section must be read in conjunction with Part B Standard Components Room Data Sheets and Room Layout Sheets.

The following text describes only specific requirements not covered by these documents.

Standard Components

502491 132 .72.00 Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

502492 132 .73.00 PLAY THERAPY ROOM (Child Unit Only)

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DESCRIPTION AND FUNCTION

A Play Therapy Room may be provided for 'regressive' therapies such as artwork, doll play and clay modelling. The room should be designed with the young child 10-12 years in mind.

LOCATION AND RELATIONSHIPS

The Play Therapy Room should be located within the patient treatment / therapy zone of the Unit.

CONSIDERATIONS

Fittings, fixtures and equipment will include:

- Bench, open under
- Storage cupboards for materials
- Whiteboard
- Chairs
- Handbasin with soap and paper towel fittings.

Finishes should be smooth and easily cleaned, flooring should be vinyl.

502493 132 .74.00 RECREATION / DAY AREA

DESCRIPTION AND FUNCTION

A Recreation / Day area should be provided for a wide range of activities including watching TV, listening to music, computer and other activities.

LOCATION AND RELATIONSHIPS

The area requires ready access to the secured courtyard and must be overseen from the Staff Station

CONSIDERATIONS

Fittings and furniture should be suitable for children up to 10-12 years, for parents in residence in the Child and Family Unit and for teenagers and their visiting family members in the Adolescent Unit.

502494 132 .75.0011 DINING ROOM / PANTRY

DESCRIPTION AND FUNCTION

An area for staff, older patients and family members of children to prepare meals and snacks.

LOCATION AND RELATIONSHIPS

Ready access is required between the Dining Room and Pantry but with the ability to secure the kitchen area if needed. Access and space will be required for food trolleys if a plated meal service is provided.

CONSIDERATIONS

Fittings, fixtures and equipment will include:

- Dining tables and chairs
- Bench with sink, cupboards and drawers
- Dishwasher
- Microwave oven - secured

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- Domestic refrigerator.

APPENDICES

Schedule of Accommodation

502495 132 .76.00 Schedules of Accommodation are provided for a Child and Adolescent Acute Mental Health for Levels 5/6.

Note: (o) in Qty/x m2 column = Optional

Entry / Reception / Interview

ROOM/SPACE	Standard Component					L 5/6 Qty x m2	Remarks
ENTRY / RECEPTION / INTERVIEW							
ENTRY LOBBY / AIRLOCK	yes					1 x 8	
WAITING						1 x 10	
CHILD PLAY						1 x 9	Optional
TOILET - DISABLED/BABY CHANGE	yes					1 x 5	
CONSULTATION ROOM						2 x 14	

502496 132 .77.00 Patient / Family Areas x 8 Beds

PATIENT / FAMILY AREAS						8 Beds	
1 BED ROOM - MENTAL HEALTH	yes					6 x 14	
ENSUITE - MENTAL HEALTH	yes					6 x 5	1 per bedroom
1 BEDROOM - SPECIAL	yes					2 x 18	For bariatric patients and/or a child and parent
EN SUITE - SPECIAL	yes					2 x 7	For designated bariatric room only
BATHROOM - DOMESTIC						1 x 10	Standard domestic bath (optional) and raised shower bath for small children
MEDICATION / TREATMENT ROOM						1 x 16	Includes spatial allowance for Resuscitation Trolley (1m2) & exam couch (3m2).
BAY - HANDWASHING	yes					2 x 1	1 per 4 beds
MULTIPURPOSE ROOM						1 x 20	Classroom, crafts, magistrate sessions. Include lockers for patients' personal items/schoolwork
RECREATION / DAY AREA						1 x 42	Recreation/Dining Areas based on 7m2 per person x 6
PLAY THERAPY ROOM						1 x 12	
DINING ROOM						1 x 24	Assumes 8 patients plus 4 family members
PANTRY / KITCHEN						1 x 12	Collocated with Dining Room
QUIET / TIME OUT ROOM						1 x 9	
COMPUTER ROOM						1 x 12	

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STORE - PATIENT PROPERTY	yes					1 x 6	
LAUNDRY - SELF-CARE	yes					1 x 6	Optional
GYMNASIUM						1 x 20	Optional
PARENT LOUNGE						1 x 12	
COURTYARD						1 x 40	Based on 5m2 per paerson

502497 132 .78.00 High Dependency Unit x 4 Beds

HIGH DEPENDENCY UNIT						4 Beds	
SECURE ENTRY / WAITING						1 x 8	
EXAM / ASSESSMENT						1 x 16	
STAFF BASE						1 x 6	Optional depending on planning layout
SECLUSION ROOM	yes					1 x 15	
1 BED ROOM - MENTAL HEALTH	yes					4 x 14	
PATIENT TOILET	yes					2 x 3	
PATIENT SHOWER	yes					1 x 3	
BAY - HANDWASH	yes					1 x 1	
LOUNGE/DINING/ACTIVITY						1 x 30	7.5m2 per person
COURTYARD						1 x 40	10m2 per patient

502498 132 .79.00 CLINICAL SUPPORT AREAS

CLINICAL SUPPORT AREAS							
BAY - LINEN	yes					1 x 2	Enclosed & lockable
DIRTY UTILITY	yes					1 x 10	
STAFF STATION	yes					1 x 14	
OFFICE - CLINICAL / HANDOVER	yes					1 x 9	
STORE - EQUIPMENT	yes					1 x 14	
STORE - GENERAL	yes					1 x 9	
CLEANER'S ROOM	yes					1 x 5	Share with Day Unit
DISPOSAL ROOM	yes					1 x 8	Share with Day Unit
DISCOUNTED CIRCULATION &						32%	

502499 132 .80.00 OFFICES & STAFF AMENTIES

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OFFICES & STAFF AMENITIES							May be located at the Inpatient Unit / Day Unit interface
OFFICE - CLINICAL DIRECTOR	yes					1 x 12	
OFFICE - PSYCHIATRIST	yes					1 x 9	
OFFICE - NURSE MANAGER	yes					1 x 12	
WORKSTATION - NURSING STAFF	yes					5.5	
WORKSTATION - ALLIED HEALTH	yes					5.5	
WORKSTATION - CLERICAL	yes					5.5	
WORKSTATION - VISITING PROFESSIONALS						4.4	
MEETING ROOM	yes					1 x 15	
STORE - PHOTOCOPY/STATIONERY	yes					1 x 8	
STAFF ROOM	yes					1 x 15	With Beverage Bay
STAFF PROPERTY BAY	yes					1 x 2	
SHOWER - STAFF	yes					1 x 2	
TOILET - STAFF	yes					2 x 3	

502500 132 .81.00 DAY UNIT

DAY UNIT							
RECEPTION / CLERICAL	yes					1 x 12	
STORE - PHOTOCOPY/STATIONERY	yes					1 x 8	
STORE - FILES	yes					1 x 8	
WAITING	yes					1 x 12	
CHILD PLAY	YES					1 x 12	
TOILET / BABY CHANGE - DISABLED	yes					1 x 5	
TOILET - PUBLIC	yes					1 x 4	
CONSULT ROOM	yes					12	No. to be determined by utilisation
OBSERVATION ROOM						1 x 6	One-way observation window
STORE - GENERAL	yes					1 x 9	
DISCOUNTED CIRCULATION &						32%	

Functional Relationships

502502 132 .83.00 A diagram of key functional relationships is attached.

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Checklists

- 502503 132 .84.00 A Security Checklist is appended to this document. For planning checklists refer to Part A,B,C&D of these Guidelines.

References and Further Reading

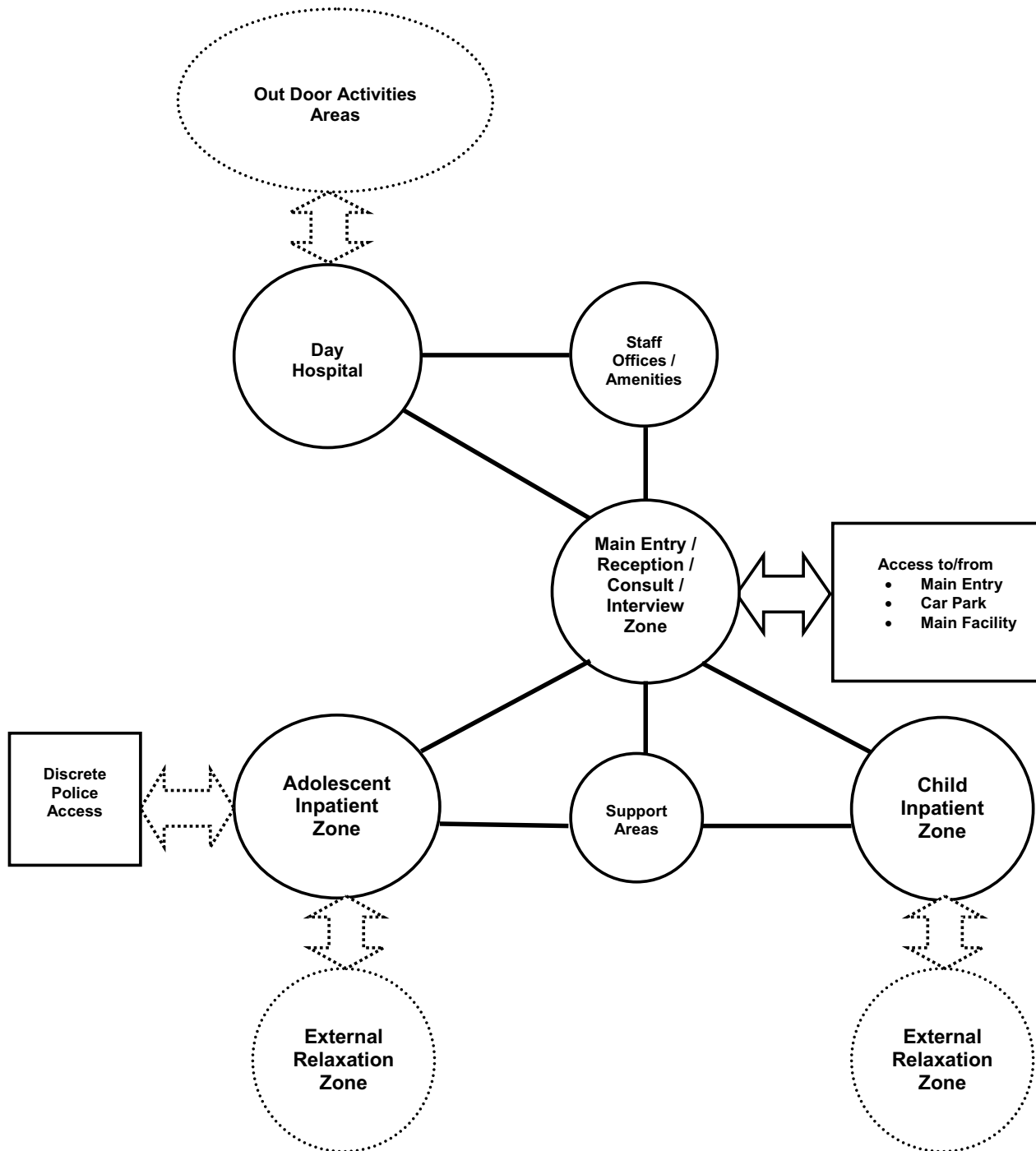
- 502504 132 .85.00 Design Series DS-26 - Mental Health Facility Planning Guideline, Volume 1, Adult and Adolescent Mental Health Acute Inpatient Units, NSW Health Department 2002.

Design Guidelines for Hospitals and Day Procedure Centres: HPU 132 - Adolescent / Child and Family Acute Mental Health Units, Department of Human Services, Victoria, November 2004.

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FUNCTIONAL RELATIONSHIP DIAGRAM –CHILD AND ADOLESCENT MENTAL HEALTH UNIT

The following diagram sets out the relationships between zones in a Child and Adolescent Mental Health Unit:



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SECURITY ISSUES TO BE CONSIDERED IN CHILD AND ADOLESCENT MENTAL HEALTH UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Entry by all relevant personnel visiting or working within the Hospital.	1. CCTV monitoring of Ward entry and exit doorways. 2. After hour's remote switch and intercom on entry doors. 3. Use of reed switches on all external doors and swipe card entries.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Relatives / Visitors	1. Good visibility from staff station to ward. 2. Manage relatives/visitors admittance in the area by restricting visiting hours and/or number of visitors.
2. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
3. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Design shape of interview rooms and location of desks, etc, in such a way that minimises risk to health personnel. 3. Provide storage and store items not in constant use that could be used as weapons. (Operational Policy). 4. Minimise furniture that can be used as a weapon, ie, picked up and thrown.
4. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.
5. Drugs storage	1. Drugs safe to be located in area that can be monitored by staff.

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SECURITY CHECKLIST –CHILD AND ADOLESCENT MENTAL HEALTH UNIT

FACILITY:	DEPARTMENT: Child and Adolescent Mental Health Unit	
RISK ISSUE	DESIGN RESPONSE	
1. How is 'after hours' access provided for patients and how is this access point monitored?		
2. Do staffs have access to both fixed and mobile duress systems?		
3. Is access to patient records restricted to staff entitled to that access?		
4. Is a system implemented to prevent theft of equipment, files, personal possessions, etc ?		
5. Are drug safes installed in accordance with current regulations?		
6. How is after hours access provided for staff?		
7. How are the offices secured during and after hours?		
8. Are there lockable storage areas available for specialised equipment?		
9. Is lockable furniture provided for storage of staff personal effects?		
10. What system has been implemented to prevent the illegal removal of children?		
11. Are interview rooms appropriately designed with specific reference to staff egress, furniture selection, furniture location, provision for storage of equipment, etc.		
12. What surveillance/monitoring system will be implemented to monitor access to rooms/wards?		
DESIGN COMMENTARY /NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

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133 PSYCHIATRIC EMERGENCY CARE CENTRE (PECC)

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Preamble

601701 133 .1.00 The establishment of Psychiatric Emergency Care Centres (PECCs) in Emergency Departments is a NSW Health initiative to improve the health system's responsiveness to persons with mental health illness/disorders requiring acute intervention, by aligning acute mental health services with emergency services.

Emergency Departments have not previously been comprehensively designed to serve the mental health patient group particularly those with acute mental health illness / disorder, and behavioural risk (eg aggression, self harm). There is therefore an urgent need to develop clinical models of service delivery and facilities that can provide more effective, efficient and safe care to this population.

The clinical needs of the patients include:

- appropriate screening for serious medical or surgical co-morbidity;
- timely access to mental health assessment;
- safe and effective management of mental health emergencies;
- safe and effective management of their presenting symptoms, disorder and any behavioural risk.

Design needs to be flexible to meet local needs or in response to operating units over time.

Introduction

601702 133 .2.00 This Health Planning Unit has been developed as a resource to assist project teams in the planning, design and construction of a Psychiatric Emergency Care Centre (PECC). It should be read in conjunction with generic planning requirements and Standard Components described in Parts A, B, C & D of these Guidelines, the PEC Operational Model of Care Guideline (refer below) and the Health Facility Guideline for Acute Adult Mental Health Units. The latter provides some of the more detailed information on design.

This PECC model is intended for hospitals with:

- Level 4 to 6 Emergency Departments;
- gazetted Mental Health Inpatient Units;
- acute assessment and treatment capacity by the Mental Health service within the Emergency Department.

601703 133 .2.05 Psychiatric Emergency Care Centres are part of a broader statewide mental health emergency care (MHEC) program that aims to provide, for people presenting to the hospital Emergency Department (ED) with acute mental health illness or disorder and behavioural risk, and/or substance abuse co-morbidity:

- timely access to specialised mental health care;
- safety for consumers, service providers and the public;
- appropriate roles for the service providers (including Police and Ambulance).

PECCs are a response to the overall NSW priority policy issue of improved access to mental health care.

PECC units are a new service model developed in response to changes in the service delivery environment of recent years, including:

- a policy context featuring the continuing move to mainstreaming, whereby mental health consumers have service entry and delivery at sites in common with other health consumers;
- the demand features of the increasing population burden of mental disorder, and the increasing acuity and co-morbidity of presentations to

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hospital.

PECC units operate in the hospital ED as an extension to the mental health triage and assessment service offered by the existing Consultation Liaison psychiatry services and mental health CNC ED services. They extend service by offering:

- permanent presence in the ED;
- full clinical assessment at the point of intake, and active discharge planning from the outset;
- increased capacity to manage mental health-related behavioural risk in the ED;
- bed capacity for overnight and short stays.

Policy Framework

601704 133 .3.00 "Psychiatric Emergency Care Centres: The PECC Operational Model of Care Guideline", Mental Health and Drug and Alcohol Office, NSW Health, December 2006.

Policy Directive PD2005_339, Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities, NSW Health, January 2005.

Policy Directive PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service, NSW Health, April 2005.

Description of the Unit

601705 133 .4.00 DEFINITION OF HOSPITAL PLANNING UNIT (HPU)

The Psychiatric Emergency Care Centre will be a discreet Unit collocated with an Emergency Department with appropriate space, staffing and security for management of patients presenting with an underlying mental health illness or disorders and behavioural risk. It will not however have its own discreet police/ambulance entry but will share these facilities with ED.

Mental Health patients with non-acute co-morbidities (eg diabetes) can be managed in the PECC.

However, mental health patients with emergency or life-threatening medical conditions, (including acute severe intoxication, delirium and head injury), will be treated in the main Emergency Department until their condition has stabilised and is deemed capable of being safely managed in the PECC.

Services will include assessment, crisis stabilisation, up to 48 hours extended observation and care and discharge planning (including social welfare arrangements) and disposal.

The PECC will be a gazetted facility under the Mental Health Act, giving it capacity to manage involuntary patients.

The PECC must be designed and resourced to manage patients whose condition/behaviour creates risk of harm to themselves or others.

Operational Models

601706 133 .5.00 HOURS OF OPERATION

The PECC will operate 24 hours / day, 7 days / week.

601707 133 .5.05 PATIENT CHARACTERISTICS

The patient demographic such as cultural expectations, male to female ratios, age etc needs to be defined in order to create the most appropriate environment with particular reference to single bedrooms versus multi-bed bays.

601708 133 .5.10 The operational model will be based on an agreed clinical governance structure between the Emergency Department and the Area Mental Health Service.

Operational Policies

601709 133 .6.00 LENGTH OF STAY

48 hours maximum before either admission, discharge or transfer to community mental health services.

601710 133 .6.05 EMERGENCY SEDATION AND MEDICATION

Emergency sedation may be handled within the Unit but protocols will include consideration of the circumstances in which it may be preferable that sedation occur in the Emergency Department resuscitation room.

Clinical monitoring, when indicated, will be via portable monitors.

601711 133 .6.10 MEDICATIONS

As the range of pharmaceuticals required is quite specific and may be required at short notice, the PECC will have its own supply rather than sharing with ED. Quantity cannot justify a separate room, so secure storage cupboards in the Staff Station are recommended.

601712 133 .6.15 SECLUSION AND RESTRAINT

No seclusion room will be provided in the PECC.

The PECC will be fitted with a personal duress alarm system consistent with the guidelines in the Protecting People and Property Manual. The facility must also have an organised duress response to deal with any emergencies.

Project staff should refer to NSW Health policies regarding the management of violence and aggression and use of restraint whether physical, mechanical, seclusion or sedation.

Refer to PD2007_054 - Seclusion Practices in Psychiatric Facilities, July 2007.

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601713 133 .6.20 MANAGEMENT OF AGRESSION AND AGITATION

Emergency sedation will be available in the PECC and there needs to be a Hospital Policy whereby help can be summoned when necessary via duress alarms or similar.

PECC staffing profile may include trained Health Security Assistants to assist with de-escalation and management of behavioural disturbance. Therefore policies applying to their function needs to be incorporated in any general hospital security policy.

601714 133 .6.25 PATIENT VALUABLES

Valuables will be handled according to existing Emergency Department protocols in accordance with Hospital Policy.

601715 133 .6.30 MEDICAL RECORDS

Records will be retrieved/generated in accordance with ED systems and patients will be tracked via the Emergency Department Information System (EDIS).

601716 133 .6.35 SMOKING

Smoking may be permitted in the secure courtyard only if the Hospital Policy permits.

601717 133 .6.40 SUPPORT PERSONS / VISITORS

The presence of a support person and/or visitors should be encouraged but numbers will be restricted according to safety and space availability as necessary.

601718 133 .6.45 STAFFING

Adequate staffing levels and skill mix are required to ensure immediate verbal intervention and other de-escalation techniques applied when a patient shows signs of agitation, with sufficient staff to handle an emergency particularly at night. The establishment will include medical, nursing and social work staff.

Planning Models

601719 133 .7.00 LOCATION

Location may depend on whether an entirely new facility or an addition to an existing Emergency Department but ground floor access is essential.

Functional Areas

601720 133 .8.00 FUNCTIONAL COMPONENTS

The following form the main functional components of the PECC:

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- dedicated waiting area for patients, family, carers, police;
- inpatient beds (4-6) open bays or in combination with a minority of single rooms;
- public and patient amenities;
- small patient/visitor lounge with courtyard access;
- secure courtyard;
- interview / consult / exam room/s with dual egress;
- clinical support areas, Staff Station with double egress etc;
- office space.

The following will/may be shared with the Emergency Department depending on accessibility:

- Dirty Utility;
- Disposal Room;
- Cleaner's Room;
- Staff Amenities, may be necessary/appropriate to locate a Staff Toilet inside the PECC depending on accessibility.

Functional Relationships

601721 133 .9.00 EXTERNAL

Ready access to a Mental Health Inpatient Unit/s.

Close proximity to hospital security service desirable.

Access to the Magistrate's Room in the Mental Health Inpatient Unit/s, to attend Magistrate's Hearings.

Capacity for official visitor to conduct interviews and review legal documentation.

601722 133 .9.05 INTERNAL

Collocated with ED with direct internal access to/from Triage and Resuscitation Bays.

Close proximity to Ambulance / Police vehicle bays.

Staff will need access to amenities etc.

Capacity to accommodate a Health Security Assistant / security staff presence in the PECC.

DESIGN

Accessibility

601723 133 .10.00 EXTERNAL

No direct external access required if all patients are triaged in ED but consideration must be given to means of transfer to a Mental Health Inpatient Unit without re-accessing the ED.

601724 133 .10.05 INTERNAL

Internal access is required:

- direct from ED Triage;
- direct to secure outdoor area;
- direct from ED Reception into Unit for support persons without having to

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travel through the ED.

Parking

601725 133 .11.00 For emergency vehicles.

Disaster Planning

601726 133 .12.00 Refer to Part C of these Guidelines. Planning for the PECC should be incorporated into the Disaster Plan for the Emergency Department.

Infection Control

601727 133 .13.00 Refer to NSW Health PD2007_36 - Infection Control Policy and to Part D of these Guidelines - Infection Prevention and Control.

Environmental Considerations

601728 133 .14.00 GENERAL

Pleasant, safe and secure environment.

Colour may be used to differentiate different “zones” of the Unit.

601729 133 .14.05 ACOUSTICS

Sound attenuation required in:

- single bedrooms, if provided;
- Interview / Consult Rooms;
- small lounge;
- showers & toilets;
- Staff Offices.

601730 133 .14.10 NATURAL LIGHT

Essential in bedrooms / bed bays and waiting areas.

Space Standards and Components

601731 133 .15.00 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all persons using the building.

As the requirements of Occupational Health and Safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in these Guidelines in addition to OHS related guidelines

601732 133 .15.05 ERGONOMICS

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Oral Health Units should be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff as well as the welfare of patients.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

601733 133 .15.10 ACCESS AND MOBILITY

Design must comply with AS 1428 - Design for Access and Mobility.

Refer to Part C Section 730 of these Guidelines for details.

601734 133 .15.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines - Section 710 - Space Standards and Dimensions.

Doorways must be sufficiently wide and high to permit the manoeuvring of wheelchairs, trolleys and equipment without risk of damage or manual handling risks.

Safety and Security

601735 133 .16.00 SAFETY

Design and management must ensure there are no dangerous materials accessible to patients including medications, sharp objects, weapons, material / fittings that may be used for self-harm or harm to another person.

601736 133 .16.05 SECURITY

Both fixed and personal duress alarms systems should be installed.

High visibility security presence as part of routine coverage of the ED.

Consult / exam / interview rooms must have a second point of egress.

Bedroom doors must have a viewing panel to allow for patient observation particularly when asleep. The shape of the room and the location of the door / viewing panel should allow the head of the sleeping patient to be visible from the door.

Video intercom at Unit entries and proximity access cards.

601737 133 .16.10 LAYOUT

Layout should, wherever possible, avoid corners or bends in patient areas that restrict patient observation. Where this cannot be achieved, security cameras will need to be installed.

Finishes

601738 133 .17.00 GENERAL

All finishes durable and easily cleaned.

601739 133 .17.05 WALL PROTECTION

Refer to Part C of these Guidelines and also to the HFG - Adult Acute Mental Health Units.

601740 133 .17.10 FLOOR FINISHES

Refer to Part C of these Guidelines.

601741 133 .17.15 CEILING FINISHES

Refer to Part C of these Guidelines.

Fixtures, Fittings & Equipment

601742 133 .18.00 GENERAL

Within the context of the Health Facility Guidelines and the Room Data and Room Layout Sheets in the associated Health Facility Briefing System (HFBS), Fixtures and Fittings can be described as follows:

Fixtures: Refers to fixed items that require service connection (e.g. electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc

Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Refer to the detailed section on Fixtures and Fittings in the Adult Acute Mental Health Unit and to Part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

601743 133 .18.05 BEDSIDE SERVICES

Medical service panels must be recessed, concealed and secured so as to prevent patient access and potential for self harm.

Services will comprise:

- nurse call;
- staff assist & emergency call;
- GPOs x 4;
- examination, reading and night lighting switches;
- voice/data outlet.

Curtains on flush to ceiling, non-weight bearing tracks to ensure privacy / dignity for patients during examination.

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601744 133 .18.10 MEDICAL GASES

Oxygen and suction will be generally provided via portable units.

For future flexibility of use, consideration may be given to reticulation of oxygen and suction. However, even if the outlets are sealed and concealed, they will still need to be purged when put into commission at some future date and the disruption this may cause to any/all connected services (in adjoining Emergency Department rooms for example) must be taken into account.

Building Service Requirements

601745 133 .19.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

Compatible with Hospital and mental health systems.

601746 133 .19.05 NURSE CALL SYSTEMS

Call systems to be annunciated locally and in the ED and must be compatible with existing hospital systems.

COMPONENTS OF THE UNIT

Standard Components

601747 133 .20.00 Standard Components must comply with details in Standard Component Descriptions in these Guidelines. Refer also to Room Data Sheets and Room Layout Sheets.

Non-Standard Components

601748 133 .21.00 There are no Non-Standard Components in this Guideline.

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APPENDICES

Schedule of Accommodation

601749 133 .22.00 PSYCHIATRIC EMERGENCY CARE CENTRE (PECC)

A Schedule of Accommodation follows:

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
WAITING AREA	yes				1 x 8	1 x 10	6 & 8 seats respectively. Family, police etc
TOILET - PUBLIC	yes				1 x 3	1 x 3	Optional depending on access to ED public amenities
CONSULT / INTERVIEW ROOM	yes				1 x 14	1 x 14	Dual access for staff safety
CONSULT / EXAMINATION ROOM	yes				1 x 14	1 x 14	Dual access for staff safety
STAFF STATION / MEDICATIONS	yes				1 x 14	1 x 14	Secured
OFFICE - NUM	yes				1 x 9	1 x 9	
OFFICE - WORKSTATION	yes				5.5	5.5	Workroom for medical & nursing staff. Number of workstations will depend on Staff Establishment
DIRTY UTILITY - SUB	yes				1 x 8	1 x 8	Unless ready access to ED
BAY - LINEN TROLLEY	yes				1 x 2	1 x 2	With lockable doors
1 BED ROOM - MENTAL HEALTH	yes				1 x 12	2 x 12	
EN SUITE SHOWER / TOILET	yes				1 x 5	2 x 5	
BED BAY - CURTAINED	yes				3 x 10	4 x 10	
PATIENT SHOWER	yes				1 x 4	1 x 4	
PATIENT TOILET - ACCESS	yes				1 x 5	1 x 5	AS 1428
PATIENT TOILET	yes				0	1 x 3	
LOUNGE - PATIENT / VISITOR	yes				1 x 15	1 x 20	Access to Courtyard
BEVERAGE BAY	yes				1 x 4	1 x 4	May be incorporated into Lounge depending on meal / refreshment needs for patients if length of
MEETING ROOM	yes				1 x 12	1 x 14	
PROPERTY BAY - STAFF	yes				1 x 2	1 x 2	
TOILET - STAFF	yes				1 x 3	1 x 3	May be shared with ED
COURTYARD - SECURE					1 x 20	1 x 30	Based on 5sqm per person
DISCOUNTED CIRCULATION %					32	32	

601750 133 .23.00 Note: Shared with Emergency Department:

- Disposal Room;
- Cleaner's Room;
- Staff Lounge & Amenities.

References and Further Reading

601751 133 .24.00 The following documents were used in the development of this Health Facility Guideline:

Proposed Model of Care for Mental Health & Substance-Related Behavioural Emergencies within Level 4 to 6 Emergency Departments, Draft 6, Centre for Mental Health, NSW Department of Health, 11 February 2005.

HPU 134 Acute Adult Mental Health Unit (Based on DS-26).

Psychiatric Emergency Centre, Model of Care, Service Delivery Design Brief & Operational Policies, Northern Sydney Health, Hornsby & Ku-ring-gai Redevelopment Project, November 2004.

Wyong Hospital Redevelopment Proposal for Psychiatric Emergency Centre (Draft), Central Coast Health, Version 9, 5th May 2005.

Liverpool Hospital Design Brief & Floor Plan, 2005.

Royal Brisbane Hospital Psychiatric Emergency Centre, Scheme Design 1:100 Floor Plan, 1996.

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Preamble

502581 134 .2.00 This Guideline reflects advances in the understanding of optimal environments for care, advances in assessment and treatment, and changing practices in the delivery of mental health services. Inpatient care may be required because the person is acutely ill, highly distressed and requiring further assessment and diagnosis or is not responsive to current treatments or to treatment in a community setting.

Some patients may be agitated, aggressive and potentially a risk to themselves or others, including staff. The Unit must therefore provide an environment where there is a high level of security and the capacity for observation and even temporary containment. However, this should be achieved with a therapeutic focus so that while necessary measures for safety and security are in place, they are non-intrusive and do not convey a custodial ambience.

Optimal physical environments are associated with shorter lengths of stay, lower levels of aggression and critical incidents, better client outcomes and better staff conditions and satisfaction. Recurrent costs will be substantially reduced and client services and outcomes improved in such settings.

Introduction

502582 134 .3.00 The ultimate size and function of the unit will vary according to the role delineation of the service and the operational policies.

This document outlines the specific requirements for the planning of an Acute Adult Mental Health Unit and must be read in conjunction with generic requirements and Standard Components as described in Parts A, B, C and D of the Guidelines

It also addresses a Psychiatric Intensive Care Unit (PICU). This is tertiary level service that admits acutely unwell mental health patients requiring containment, security and intensive clinical management and observation. These patients are those that cannot be managed in the secure section of a general mental health unit. As a tertiary unit, it admits patients from across an Area Health Service, not just a local sector.

Facility design, must, where appropriate, meet all necessary criteria to reach accreditation standards with regard to design and equipment.

Child and Adolescent Units, Ambulatory Care Units and Psychiatric Emergency Care Centres (PECC) are covered in separate sections of these Guidelines.

502583 134 .4.00 ELECTROCONVULSIVE THERAPY (ECT)

ECT should only be undertaken in a dedicated ECT Suite, Day Procedures Unit or Operating Unit. No facilities for ECT are provided in the Unit.

Policy Framework

502584 134 .5.00 Mental Health Services in NSW are underpinned by the NSW Mental Health Act 1990 and the National Mental Health Strategy. The National Mental Health Strategy ... "provides a framework for national reform from an institutionally based mental health system to one that is consumer focused with an emphasis on supporting the individual in their community. The Strategy was reaffirmed in 1998 with the Second National Mental Health Plan and again in 2003 with the endorsement by all health ministers of the National Mental Health Plan 2003-2008".

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Also refer: "Charter for Mental Health Care in NSW" and

Restraint, Seclusion and Transport Guidelines for Patients with Behavioural Disturbance - Version 10, NSW Health

PD2005_339. Manual - "Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities".

PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Description of the Unit

502585 134 .6.00

DEFINITION OF HEALTH PLANNING UNIT (HPU)

The function of the Adult Acute Mental Health Unit is to provide - in a safe and therapeutic environment - appropriate facilities for the reception, assessment, admission, diagnosis and treatment of adult patients presenting with known or suspected psychiatric conditions and behavioural disorders. In a gazetted unit, patients may be admitted on a voluntary or involuntary basis. (Refer Mental Health Act 1990).

Depending on the Service Plan, it may also include a Psychiatric Intensive Care Unit (PICU).

The Unit must also provide facilities and amenities to meet the needs of families and staff.

502586 134 .7.00

OPTIMUM UNIT SIZE

The number of beds - with or without Psychiatric Intensive Care beds will depend on the Service Plan. However, it has been suggested that a complex comprising a PICU and acute ward should aim to have at least 6 staff on duty at any time including the night shift in order to facilitate rapid management of psychiatric emergencies and to gain the benefits of economies of scale in staffing costs.

In the interests of staff safety, a Psychiatric Intensive Care Unit (PICU) attached to an acute mental health unit needs to have at least 2 staff on duty at all times including night shift to gain economies of scale with regard to recurrent staffing costs.

Also refer to UK literature - Not Just Bricks & Mortar - that proposes 15 bed modules up to a maximum of 3 x 15 bed units. Based on need for up to 6 staff to deal with violent situations. Also suggests bed occupancy should not exceed 85% if a safe environment is to be maintained and pressure for premature discharge avoided.

502587 134 .8.00

PSYCHIATRIC INTENSIVE CARE UNIT (PICU)

Individual rooms/spaces are identical in most respects to the main unit. Refer Schedule of Accommodation.

Bed numbers will depend on the catchment served and will need to be agreed at an early planning stage.

It is envisaged that a single Reception will serve the entire unit.

It is also envisaged that PICU will share the Secure Entry with the Secure Zone of the main Unit.

All efforts should be made in planning to avoid duplication of shared support

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areas such as Staff Station, Utilities etc. However, sharing of services must not compromise the ability of staff to observe patients in PICU and must not compromise security and safety of staff and patients.

502588 134 .9.00 POPULATION PROFILE

Patients: Depending on the availability of age-specific facilities in the mental health network (child & adolescent and psychogeriatric units), age may range from 16 to 85 years particularly in rural and fringe metropolitan areas.

Staff include Medical, Nursing, Allied Health, Official Visitors, Legal and Mental Health Advocates.

Families / Carers

PLANNING

Description of the Unit

502610 134 .7.05 BED CONFIGURATION & UNIT LAYOUT

The design of the inpatient areas must facilitate safety and security and allow for changing levels of patient acuity and models of care, both in the short and long term.

Rooms may be grouped into clusters that can be defined for distinct patient groups such as male and female patients who may feel threatened if in close proximity to the opposite sex. Small groups of bed rooms with an adjacent recreational space will allow better management of changing patient needs and flexibility of use.

Dead-end corridors where patients may be unable to be seen must be avoided and consideration must be given to safe and supervised access for housekeeping, catering and other staff who may feel uncomfortable in the mental health environment.

Operational Models

502589 134 .10.00 HOURS OF OPERATION.

The Unit will operate 24 hours per day, 7 days per week.

502590 134 .11.00 FLEXIBILITY

Patterns of care frequently change, as do the needs of the populations served. Thus it is critical that physical environments are also flexible and can adapt over time in response to changes in practice and treatment. This flexibility should be provided in ways that will maintain a positive and therapeutic physical environment.

In many instances, facilities - particularly public areas, staff amenities and clinical support rooms may be shared between zones. However, each section of the Unit should have its own lounge/dining and activities area. It is neither safe nor practical to move patients between secure and open areas of the facility to access lounge, dining, interview, activities, treatment etc areas.

Encouraging part-time service providers to share common office and treatment spaces also increases utilisation and reduces operating costs.

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503350 134 .11.05 BUILDING DESIGN

Health facility design involves compromise between the desire to provide the patients, visitors and staff with a safe, pleasant and comfortable environment and the ability to operate the unit efficiently. Health facility design embodies varying solutions to satisfy the most commonly accepted design requirements:

- Compliance with fire safety and building regulations
- Privacy
- Supervision
- Comfort
- Convenience
- Efficiency
- Adaptability
- Ease of access

Factors that can influence these requirements include:

- Surrounding environment
- Building footprint
- Security issues
- Sight lines
- Travel distances
- Occupational Health and Safety requirements for patients, staff and the public
- Noise control
- Infection control

503351 134 .11.06 LAYOUT

Consideration should also be given to the following issues when planning the layout of a mental health unit:

- Prevalence of violence and theft
- Availability of qualified staff
- Need for space, light and a functional layout
- Changes in the composition of the patient population
- Rapid changes in technology
- Maximising efficiencies in recurrent/operating costs.

The final layout of a mental health unit will reflect the interplay between the following factors:

- The interplay between inpatient and ambulatory care services in the Area Health Service model of service delivery
- Special needs of potential patients
- The effect of mixing mental health and non-mental health clients

Operational Policies

502591 134 .12.00 GENERAL

Operational Policies have a major impact on the design and the capital and recurrent costs of health facilities. Policies will vary from Unit to Unit depending on a wide range of factors but the cost implications of proposed policies must be fully evaluated to ensure the most cost-effective and efficient design solutions are developed.

The development of Operational Policies is crucial to defining how the unit will operate within the hospital, the Area Health Service's mental health service as well as in relation to adjoining Area Health Services from which patients may be referred. Users must define their own policies - refer to Part B Section 80 of these Guidelines for further information.

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502592 134 .13.00 USE OF SECLUSION AND RESTRAINT

Project staff are referred to the NSW Health report - Restraint, Seclusion and Transport Guidelines for Patients with Behavioural Disturbances.

502593 134 .14.00 SMOKING

Smoking is a very controversial issue and some units ban it completely and provide assistance via nicotine substitutes. However, assuming smoking is permitted (in outdoor areas only), consideration needs to be given to management of lighters and containers for disposal of cigarette butts. It is assumed that matches are not allowed.

Patient and staff safety is of paramount importance but to provide a facility that prevents staff from being seen in a 'custodial' light may improve therapeutic relationships & patient independence. Consideration may be given to installing low voltage car-type lighters, or the use of no-flame lighters that can be secured to a wall or mounted onto a post in the designated smoking area - and that also require low voltage power.

502594 134 .15.00 PROVISION OF SINGLE GENDER AREAS

Provision of a female-only sitting room to give women a greater sense of security may need to be considered.

There should also be separate male and female toilets in each zone of the Unit.

502595 134 .16.00 FIREARM SECURITY

When planning firearm security arrangements, refer to the operational policy for Admissions. If patients are admitted through the Emergency Department and Psychiatric Emergency Care Centre (PECC), police may not present to the Adult Acute Mental Health Unit and firearm security may not be required.

If however patients are admitted directly to the Adult Acute Mental Health Unit, police officers visiting the unit and/or accompanying a patient to the unit must disarm at the Entry.

A recessed bay in the Entry Lobby for the firearms safe may be considered to provide a protected disarm area.

It is important that contact be made in the first instance with the Duty Officer of the local police station to ascertain current requirements. Each station has a Weapons Officer who can provide advice in the design phase on access requirements and the type of firearm security cupboard, etc. that may be required by any police officers attending the mental health unit.

502596 134 .17.00 STAFFING

Staffing levels and mix will vary depending on the size and configuration of the Unit, service profile and case mix, patient profile and staff availability.

However, care must be taken to ensure that staffing levels are adequate to meet emergency needs - particularly at night - and there must always be at least 2 staff in a PICU.

Overall, the unit should have a total of at least 5-6 staff at any time to expedite management of emergencies. The size of the unit should reflect desirable minimum staffing levels - see clause 502586 Description of the

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Unit - Optimum Unit Size.

Planning Models

502597 134 .18.00 CONFIGURATION

The Adult Acute Mental Health Unit may be developed as:

- a stand-alone unit or group of units as part of a Mental Health complex;
- a dedicated Adult Acute Mental Health Unit within a general hospital;
- a number of dedicated patient bedrooms as an annexe to an Acute Inpatient Unit.

502598 134 .19.00 BUILDING DESIGN

Patients may at times exhibit disturbed or high risk behaviour. Appropriate planning and use of materials (for example impact-resistant glass, low maintenance/ resilient surface etc) can achieve an environment where all patients can co-exist with minimal disruption to each other. The building should be able to accommodate patients of all levels of disturbance without taking on custodial, prison-like characteristics. The building should consciously have a public face with service entry to back of house zone

The design of external spaces, as for the building, should be domestic in nature, rather than formal or monumental and should have the following features:

- It should provide opportunities for privacy, recreation and self expression
- It should provide opportunities for movement/ambulation both indoors and outdoors with unobtrusive environmental boundaries and with appropriate safety provisions.

Functional Areas

502599 134 .20.00 GENERAL

Individual spaces combine to form functional zones or groups of spaces with a similar purpose.

The Adult Acute Mental Health Inpatient Unit will consist of a number of functional zones. Some of the rooms/spaces within those zones are Standard Components as defined in Section B of the Guidelines but are discussed here to highlight the special needs in a Mental Health Unit.

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502600 134 .21.00 MAIN ENTRY / RECEPTION / CLERICAL AREA

For reception of all persons entering the Unit with the exception of involuntary admissions who will access the unit via the Secure Entry.

A safe environment must be provided for staff in this workspace while providing a welcoming ambience for patients and others. Direct access for reception staff to a safe retreat in an adjacent secure area should be provided in the case of any threat to staff safety from persons arriving at the main entry and duress alarms - personal and/or fixed must be available.

A general admissions area for booked patients - as distinct from the Secure Unit - with its own direct access door in close proximity to the main public entry is now becoming common practice where patients can be received and processed in a more discrete environment.

Refer to Part C 5.90 for additional information.

502601 134 .22.00 CONSULTATION ROOMS

The number of such rooms and their specific uses (i.e. inpatients only or inpatients and outpatients) will be determined by the services provided by the unit and whether or not there is an associated Ambulatory Care Mental Health Unit. In the interests of staff safety and security, there must be sufficient rooms to prevent ad hoc use of offices or patient bedrooms for consultation purposes. Assuming for inpatient use only, a minimum of one room for every 5-6 beds is suggested.

At times, six to seven people may be involved in the consultation process or the consultation may be limited to the patient and the health professional. All consultation rooms are to have two exit doors and duress alarms for safety. Refer Part C for further information.

502602 134 .23.00 STAFF STATION

The ideal design will enable one staff station to monitor all areas and provide an escape route/safe haven for staff, but location and site footprint may not enable this. A decision to provide more than one staff station to enable coverage of all inpatient areas should only be reached after serious consideration of planning options. There are obvious issues of safety and operational efficiency that will be compromised by such a division.

502603 134 .24.00 MEDICATION / TREATMENT ROOM

A lockable room will be required for the storage of drugs and clinical supplies. If also used for dispensing medications then the door to the corridor needs to have a medication dispensing hatch. This will be the only location for the secure holding of scheduled drugs in the unit and is shared between Observation (Secure) and General Inpatient Areas.

The room may also serve as a Treatment Room for administration of injections, dressings and other minor procedures in which case an examination couch and examination light and a second exit door will be required and discreet access for patients from the secure section of the Unit needs to be provided.

If used for parking of a medication trolley, the trolley MUST be locked and out of reach of patients undergoing treatment. May also be used to park the resuscitation and ECG trolleys for the unit that must also be out of reach of patients but easily accessible to staff. If used for trolley parking, the room size will need to be increased accordingly.

502604 134 .25.00 STAFF OFFICES

These spaces have been zoned separately to allow offices to be in a location away from patient areas and that may be locked off 'after hours' and at weekends whilst still giving after-hours staff the necessary access to amenities, photocopier etc.

The practice of seeing patients in offices can seriously compromise staff security and safety. There should be no patient access to the area and sufficient Consultation Rooms must be provided to ensure that ad hoc consultations do not occur in offices.

The office for the NUM and registrars' workroom should be located close to the Staff Station so as to be readily available to offer support to and supervise staff and have ready access to clinical information.

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The size of the unit and the staff establishment will determine the number of offices and workspaces. Refer to NSW Policy Directive PD2005_576 - Office Accommodation Policy.

502605 134 .26.00 STAFF AMENITIES

Comprises Staff Room, Property Bay, Toilets and Shower.

The size of the unit and the number of staff employed will determine the number and configuration of spaces in this zone.

It should provide a quiet space for staff to withdraw from the patient environment. Access to a courtyard or external space is important for the well being of staff who work in demanding clinical environments.

Rooms will need to be accessible twenty-four hours per day, seven days a week and are for the use of all staff including clerical, cleaning and administrative staff.

502606 134 .27.00 ASSESSMENT / PROCEDURAL AREA

The ideal location for this zone is adjacent to the Main Entry/Reception Zone with easy access to the inpatient areas. Its location should allow easy access for inpatients as well as for family and/or significant others and community groups. Access to/from the Observation (Secure) Inpatient Area, if required, needs to be discrete.

The zone may need to be locked off for security after hours and at weekends. There should be the ability to also shut down the air conditioning system to this area when it is not in use.

502607 134 .28.00 CONSULT ROOMS:

The number of such rooms and their specific uses will be determined by the services provided by the unit and the patient population.

At times, six to seven people may be involved in an interview or the interview may be limited to the patient and the health professional. All consult /examination rooms are to have two exit doors and duress alarms for safety. Refer Part C for further information.

502608 134 .29.00 MEETING / MAGISTRATE'S ROOM:

Used for group therapy sessions, staff meetings and in-service educational sessions for staff, family and other carers. It will also be used for sittings of the Sessional Magistrate. The exact use of such rooms will vary between units due to the different needs of patient groups and services provided. Their use should be determined early in the planning process to ensure adequate utilisation of space.

Mainly accessed by patients from general inpatient area for activities, and by staff, carers and possibly others from the Community. However, there needs to be discrete close access from the Observation (Secure) Zone for patient attendance at magisterial sessions.

502609 134 .30.00 For safety reasons two points of egress are essential.

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A system of personal duress alarms with location finders should operate throughout the unit so that there may be limited need for fixed duress alarm points. Visiting officers and staff such as magistrates and VMOs should be provided with and trained in the use of personal duress alarms.

Furnishings such as tables and chairs should be appropriate for the various activities in the room but be heavy enough to eliminate their potential use as weapons. The design and/or set-up of tables for magistrate sessions should ensure that the distance between magistrate and patient does not allow the latter to reach across.

This room should be considered for video, telepsychiatry and teleconferencing facilities for consultations, education, and a possible future link to the Law Courts.

Refer to:

Memorandum of Understanding for the Conduct of Review Hearings Under the Mental Health Act by Magistrates of the NSW Local Court, December 1999

502611 134 .32.00 SINGLE BEDROOMS

Single rooms provide gender and age-separable accommodation, a haven for the patient and privacy for visitors; however use as a de facto consultation rooms should be discouraged / avoided on staff safety grounds.

It is recognised that patients with mental illnesses need increased personal and ambulatory space. An external outlook coupled with high ceilings adds to the perception of light and space and is a positive contribution to treatment.

There should be no 'blind spots' in the rooms particularly any created by open doors and the rooms should be key-lockable from the outside.

Doors should be able to be opened from the corridor should a patient attempt to blockade him/herself in. This is of particular importance in the Observation (Secure) Inpatient and PICU bedrooms.

Viewing panels should be provided in bedroom doors in the Secure Unit and PICU but their installation in open unit bedrooms may be a decision made on a project-by-project basis. Their positioning should ensure that should the glass be broken or removed, a patient cannot put an arm through and operate the door lock.

Consider low wattage night light over the bed space for use by staff when carrying out night time observations of patients.

Measures should be taken with acoustics to minimise transference of noise between adjoining bedrooms.

Whilst domestic-style beds may be preferred for ambience, the needs of the staff who may still have to make beds must be considered.

502612 134 .33.00 TWO BED ROOMS

Two bed rooms may be included in the General Inpatient Zone providing an option for sharing, or the accommodation of a mother and child (although 15m² will comfortably accommodate a cot). They can however be restrictive, result in the disruptive movement of patients to other rooms in order to accommodate new admissions and are generally not recommended; and they are not suitable in the secure unit or PICU.

502613 134 .34.00 BEDROOM EN SUITE - OPEN UNIT

Each bedroom in the open unit is to have its own en suite. There are a number of configurations - inboard, outboard and between rooms. The

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latter option is preferred as it maximises bedroom use and patient observation. The inboard option provides privacy and dignity but care must be taken that a narrow passage is not created at the entrance to the bedroom that might minimise good observation through the vision panel in the door where provided, create blind spots inside the bedroom, facilitate barricading and that may compel staff to enter the room in single file.

Doors must be lockable but be able to be opened by staff in an emergency and also be lockable by staff to deny access to patients with eating disorders who may attempt to dispose of food or self-induce vomiting.

The door to en suites should open in a way that does not create a blind spot when open or - with inboard en suites - enable the en suite door and bedroom door to be tied together thus creating a barricade.

Consideration should be given to having separate toilets and showers in the Secure Unit and PICU with access able to be controlled by staff.

Some additional considerations for en suites, showers and toilets include:

- fixed toilet brush with container
- recessed area for garbage bins
- durable toilet roll holders
- ensuring the shower water drains away from the door even with heavy water pressure (consider flow restrictors).
- collapsible hooks for clothing and towels
- in-fill hand rails
- soap and shampoo dispensers
- solid surfaces to vanity benches that will resist water spray
- shower curtains (and tracks) may not be required rooms have good floor-to-fall drainage

502614 134 .35.00 SECLUSION ROOM

The usage of this space will vary from unit to unit. The room is usually occupied for short periods of time, either on an involuntary or voluntary basis. It must provide a safe and secure environment for the client, and must meet all OH&S Guidelines for staff safety.

Acoustic treatment is of the utmost importance for noise isolation. When used on a voluntary basis for "time out" it provides the 'quiet space' needed by the patient.

502615 134 .36.00 The following design features include edited extracts from "Restraint, Seclusion and Transport Guidelines for Patients with Behavioural Disturbances" - NSW Health 2005

- Seclusion rooms should be 15m² in size with a minimum ceiling height of 3.0m.
- Location of the room must provide for patient privacy from passing staff/patients/visitors
- Ideally an external window with impact-resistant glass with an external view and natural light should be provided
- The environment should ensure an agreeable impact on the patient's senses (décor, colour, sound, etc)
- Convenient access to toilet and shower facilities if the patient is in seclusion for extended periods
- Door with an observation panel wide enough to admit a very disturbed patient being escorted by a number of staff.
- Door locks must be strong, multipoint locking. Allow for rapid locking with minimal risk of finger or limb entrapment/injury
- A large clock outside the room visible to patients with time, day of week, month and year.

As a minimum, the room must have:

- good clinical lighting to carry out medical emergency procedures with dimmer switch to control lighting as required to reduce stimulus to the

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- agitated sleep-deprived patient (switches outside)
- low voltage night light (switches outside) for observation
- comfortable temperature (thermostats outside)
- above standard ventilation (particularly if patient's hygiene is poor)
- no smoke detector.
- seamless, easily cleaned wall and floor surfaces

In addition there should/may be:

- Comfortable bed and bedding
- Intercom to Staff Station
- Music system (speakers)
- CCTV camera (optional) positioned so that the patient can be observed at all times - no blind spots.

502616 134 .37.00 DINING ROOM/KITCHEN

Provides a defined space for clients to eat at tables seating four and may be used for general activities outside of meal times.

There should be a direct access from the hospital corridor to the Kitchen/Servery (located in the General Zone) for delivery of food supplies and meals.

Depending on service arrangements, meals may be delivered 'plated' or served from the Unit Kitchen/Servery.

Self-serve beverage facilities including a refrigerator should be included in a large scale dining room - or in a centrally located 'domestic scale' kitchenette and may be used to promote activities of daily living (ADL). These beverage facilities should be accessible by patients 'after hours' and at weekends.

There should be external outlooks and access to outdoor space, which can be used in all weather. High ceilings and the use of skylights as well as windows can promote the perception of light and space. Décor should reflect a 'home like' environment.

502617 134 .38.00 LOUNGE / ACTIVITY AREA

These areas may be used twenty four hours a day and cater for a variety of activities. They may form part of smaller group areas for relaxation or television viewing, or a large space used by all patients in the Zone. The space is sized in accordance with patient numbers and the projected service need.

The areas should overlook and open onto an outdoor area. They should be clearly observable from the Staff Station with transparency and the flow of passing staff aiding activity monitoring.

There should be careful selection of furniture and décor, comfortable but heavy lounges and the use of non-institutional colours to promote a welcoming and safe environment for companionship, the opportunity to be alone, or to be with visitors. The finishes and soft furnishings are to be washable and easily maintained or restored. Cupboards should be lockable and have adjustable shelving.

The space is sized in accordance with patient numbers and the projected service need.

502618 134 .39.00 OUTDOOR AREAS (COURTYARD OR TERRACE)

Courtyards or terraces with outdoor views are an essential component of a

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mental health unit and as much design effort and attention to detail should be given to these areas as to internal spaces. In this guideline, they are treated as therapeutic areas and are included in the schedules of accommodation

There should be separate courtyards for the secure zone and PICU. Patients in the open unit need access to outside areas but they do not need to be secured.

These areas provide external space for patients and are essential to their well being. Nature and sky should be a priority without exposure to too much sunlight which adversely affects patients with medication-related photosensitivity. (Planners could consider wall-mounted sun screen dispensers). Shading and seating with protection from heat and brightness means that summer does not render courtyards useless, and in winter there is protection from winds and rain.

Landscaping is essential to promote a feeling of space and tranquillity, and there are many imaginative solutions to creating a very special area for clients and staff within the boundaries of a safe and secure environment. Courtyards should be designed to reduce the patient's sense of being contained and provide some form of sensory stimulus. Suggestions include textured ground surfaces, resilient plants, shaded areas and attractive but sturdy seating.

Landscape features and plantings must be set back from the perimeter wall to avoid foot hold points which may permit the wall to be scaled and design should avoid blind spots for good observation

Opening off the Lounge/Dining/Activity spaces, the courtyards should be clearly observable from the Staff Station.

502619 134 .40.00 GROUP THERAPY

Space for group therapy should be provided. This may be combined with the dining area described above, provided that an additional 0.7m² per patient is added and a minimum room area of 21m², enclosed for privacy, is available for therapy activities

502620 134 .41.00 BATHROOM

Inclusion of a Bathroom will depend on the patient population. It should comply with the needs of people with disabilities and provide a safe, secure environment for all clients and staff in accordance with OH&S Guidelines. The room must be lockable so that staff can control access and the design of the bath must be compatible with existing, or proposed, lifting equipment.

502621 134 .42.00 OBSERVATION (SECURE) INPATIENT ZONE & PICU

These zones should be capable of secure separation from the remainder of the unit. There should be defined areas for male and female patients some of whom may feel threatened if in close proximity to the opposite sex.

Design should facilitate controlled movement of staff and patients between the Observation, PICU and General Inpatient zones so that all sections may use support facilities.

There should be the ability to increase, or decrease, the number of patient bed rooms between the zones depending on the acuity level of patients and the clinical needs of the unit.

Patients should be accommodated in an appropriate physical environment

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conducive to the treatment of mental illness. They should feel safe and have staff accessible. Equally, staff must be able to carry out their work in a safe and secure environment.

The components of these zones are - in most respects - identical to the General Unit except for size of patient support areas that will be compatible with patient numbers and provision of toilets and showers instead of en suites. (Refer Section 134.34.00.

502622 134 .43.00 EXAMINATION/ASSESSMENT ROOM

This room should be located adjacent to the Secure Entry and the Seclusion Room and should have two egress points and duress alarm point/s. (Personal alarm system is assumed - Refer Section 134.77.00)

Locked cupboards (keyed alike) are required for the storage of clinical equipment, dressings, syringes/needles and other possibly hazardous materials within this room. 'Sharps' containers need to be securely enclosed so the sharps can be easily disposed of and not used as weapons or for self-harm.

Functional Relationships

502623 134 .44.00 The following are probably the most critical relationships:

- Other Units that may form part of a Mental Health Precinct
- Emergency Department and Psychiatric Emergency Care Centre (PECC)
- Operating Suite or Day Procedure Unit (for ECT)
- Security Base

DESIGN

Accessibility

502624 134 .45.00 EXTERNAL

The policy of mainstreaming Mental Health and associated facilities requires that the Mental Health Unit is perceived as an integral and equal part of the health precinct. Its location should afford easy access to the shared services and facilities that will/may be used by the patients and staff of the Mental Health Unit. These services include:

- Diagnostic Services
- Operating Suite or Day Procedure Unit for ECT
- Visitor amenities
- Staff and visitor parking
- Staff education facilities
- Deliveries for meals, laundry, medical records, stores and supplies and waste collection

Parking

502625 134 .46.00 All-weather drop-off parking for patients.

Discreet ambulance access and parking at the Secure Entry.

Refer to Part C, Section 790 for further information.

Disaster Planning

502626 134 .47.00 There must be careful evacuation plans in place in the event of a fire or

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other emergency to ensure the safety of staff and patients.

Refer to Part B Section 80 for further information.

Infection Control

502627 134 .48.00 The infectious status of many patients admitted to the Unit may be unknown. All body fluids should be treated as potentially infectious and adequate precautions should be taken.

Handbasins will be provided in clinical areas such as treatment rooms and consultation rooms. Patients will have access to handbasins in en suites and handbasins will be provided in recessed bays in the corridors for staff use.

Refer to Part D of these Guidelines for further information.

Environmental Considerations

502628 134 .49.00 ACOUSTICS

Adequate acoustic treatment is required to ensure that patient privacy is maintained and that disruptive incidents do not compromise the operations of the unit or disturb other patients. Areas requiring special attention are noted in the relevant Room Data Sheets.

In acoustically-treated rooms, return air grilles should be acoustically treated to avoid transfer of conversations to adjacent areas. Door grilles to these areas should be avoided.

502629 134 .50.00 NATURAL LIGHT

Wherever possible, the use of natural light is to be maximised. Current investigations support the fact that increased exposure to natural light improves service outcomes and reduces the length of stay especially for persons with mental illness. However, it must be noted that too much sunlight can adversely affects patients with medication-related photosensitivity

502630 134 .51.00 PERIMETER FENCING

This only applies to the outdoor areas for the Secure Unit and PICU. There is no requirement to “secure” open areas for patients in the General Unit.

Where required, fence design must avoid foot hold points to avoid scaling the wall.

Attention should be given to detailing roof overhangs, guttering and drain pipes which may provide a means of escape but fencing design and height should not be such as to create a prison-like environment or to increase the possibility of falling injuries should an attempt be made.

Recommended height is a matter for debate that has as yet to be determined and varies from 2.7 to 4m The client profile and topography of the area should be taken into account (e.g. young and fit, elderly, land sloping away etc.).

502631 134 .52.00 INTERIOR DESIGN /DÉCOR

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Decor is not just colour. It is furnishings, style, textures, ambience, perception and taste and can be very personal and subjective.

Decor can be used to prevent an institutional atmosphere. Cleaning, infection control, fire safety, patient care and the patient's perception of a professional, caring environment should always be considered when dealing with decor.

Interpretations and "research" on the use and value of colour in the clinical area differ; some issues are obvious, others less so and often not backed up by empirical evidence. Consider the following:

- Some colours, particularly the bold primaries and green should be avoided as many people find them disturbing.
- Extremes of colour and pattern such as geometric designs which may disturb perception should be avoided. However, strong colours on floors may assist in orienting patients to their bedroom cluster etc
- Colours and interior design should also be chosen to reflect the tastes and age of patients who will use the facility.
- Re-decoration is not a budgetary priority so care in selection of materials and colour is important in the first instance.
- Wall colour should be different to floor colour to define floor plane
- Consider use of colour and stepping of ceiling heights to provide node points along corridors and to define seating alcoves.

Space Standards and Components

502632 134 .53.00 SIZE OF UNIT

The schedule of accommodation has been developed for a 20 and 30 Bed Adult Acute Mental Health Inpatient Unit.

If the proposed unit is to differ from this configuration the following methods should be used to allocate space for key areas:

502633 134 .54.00 Lounge/dining/activity areas - Secure Observation - 7.5m2 per person

Lounge/dining/activity areas - General - 5.5m2 per person

Outdoor areas (courtyards and terraces) - Secure - 10m2 per person

Outdoor areas (courtyards and terraces) - General - 5m2 per person

Courtyard and Terrace - minimum area - 20m2

Consultation rooms - 1 per 5 beds

Examination/assessment rooms - 1-2 per unit

502634 134 .55.00 These spatial allocations are higher than those usually allocated for health capital projects. They have been estimated using benchmarks from past capital planning projects, current standards and guidelines and advice provided by the Centre for Mental Health regarding the special requirements of persons with a mental illness.

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502635 134 .56.00 ERGONOMICS

Refer to Part C of these Guidelines for information.

502636 134 .57.00 HUMAN ENGINEERING

Includes reference to access and mobility. Refer Part C of these Guidelines for information.

502637 134 .58.00 DOORS

Secure Unit and PICU bedroom doors should have a viewing panel
All bedroom, bathroom and toilet doors should be able to be opened outward in an emergency without the use of special tools
The seclusion room needs to have at least one wide door that should open outwards.

Refer to Part C, of the Guidelines with specific reference to Secure Rooms (Clause 710).

502638 134 .59.00 WINDOWS AND GLAZING

In areas where damage to glass may be anticipated, avoid larger pane sizes as smaller panes are inherently stronger for a given thickness than larger panes.

Impact-resistant Grade A safety glass to comply with AS/NZS 2208:1996 - Safety Glazing Materials in Buildings is the recommended choice.

Polycarbonate is not recommended as it suffers from surface scratching and deteriorates thus reducing vision.

Where windows are openable, effective security features such as narrow windows that will not allow patient escape, should be provided. Locks, under the control of staff, should be fitted.

Also refer to Part C of the Guidelines

Safety and Security

502639 134 .60.00 Safety and security within the facility and the surrounding outdoor area as it relates to patient movements requires careful consideration from the start of the planning process. It should be an integral factor of the building and not an add-on at the end.

502640 134 .61.00 The following additional aspects should be considered:

- Safety of staff and visitors
- Patients' legal rights
- The status of the hospital or part thereof under the Mental Health
- Legislation in force at the time of development.

502641 134 .62.00 Design should assist staff to carry out their duties safely and to supervise patients by allowing or restricting access to areas in a manner which is consistent with patients' needs/skills. Staff should be able to view patient movements and activities as naturally as possible, whenever necessary.

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- 502642 134 .63.00 Controlled and/or concealed access will be required as an option in a number of functional areas. Functionally the only difference in design between an open and a closed (locked) area should be the provision of controls over the flow to, from and throughout the facility. Such controls should be as unobtrusive as possible.
- 502643 134 .64.00 A communication system which enables staff to signal for assistance from other staff will be required via personal and fixed duress alarms.
- 502644 134 .65.00 The Adult Acute Mental Health Unit is best located at ground level but where this cannot be achieved, unauthorised access to external spaces such as balconies or roof is to be prevented. This does not however prevent provision of carefully designed external courtyards for patient use.
- 502645 134 .66.00 Refer to Section C of these Guidelines and to the NSW Health Manual - Protecting People and Property.

Finishes

- 502646 134 .67.00 WALL PROTECTION
- Wall linings need to be robust and resistant to abuse and physical damage.
- Also refer to Part C of these Guidelines
- 502647 134 .68.00 CEILING FINISHES
- Ceiling linings need to be solid sheet - not ceiling tiles. In patient areas in secure zones, seclusion rooms and HDU/PICU, ceilings need to be resistant to breakout.
- Refer to Part C of these Guidelines

Fixtures & Fittings

- 502648 134 .69.00 A list of harm-minimisation compliant hardware i.e. door furniture, coat hooks and towel rails, curtain tracks, plumbing fixtures and fittings should be produced and approved by the Client
BCA approval to depart from the Deemed to Satisfy provisions will be required for handrails and grab rails.
- Also refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information
- 502649 134 .70.00 Fixtures and fittings should be safe, durable, heavy duty, concealed and tamper-proof.
- Exposed services, for example, sink wastes which may be easily damaged should be avoided.
- Fittings, including hooks, curtain tracks, pelmets, bathroom fittings, should be plastic where possible and have a breaking strain of not more than

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20kgs.

Fittings should avoid the potential to be used either as a weapon or to inflict self-harm. Paintings, mirrors and signage should be rigidly fixed to walls with tamper-proof fixings.

502650 134 .71.00 Mirrors should be of safety glass or other appropriate impact-resistant and shatterproof construction free from distortion. They should be fully glued to a backing to prevent availability of loose fragments of broken glass.

502651 134 .72.00 Holland blinds, Venetian blinds and curtains should be avoided in patient areas

502652 134 .73.00 Light fittings, smoke and thermal detectors and air-conditioning vents to secure areas, particularly the Seclusion Rooms should be vandal-proof and incapable of supporting a patient's weight.

Building Service Requirements

502653 134 .74.00 VIDEO SECURITY

The use of video surveillance may be useful for monitoring areas such as stairways and blind spots. It is not an appropriate alternative to observation of patients by clinical staff and staffing levels should be sufficient to ensure such surveillance is not electronic required.

When considering the use of video security, the following factors should be considered:

- Area Health Service policies
- Relevant NSW Health policies
- The rights of patients to privacy balanced against the need to observe activities for safety and security reasons
- The ability of the staff establishment to manage the level of observation required without video security
- The maintenance costs involved
- The ability to negate the need for video security with improved functional design.

Note that NSW Health have released an additional Chapter to the Manual - Protecting People and Property entitled "Workplace Camera Surveillance".

503353 134 .74.05 MOTION SENSORS

Motion sensors in bedroom corridors can be a useful adjunct to observation of patients at night between nursing rounds. They can be used to alert staff to patients who have left their bedroom at night and who may be in distress or who may try to gain access to other patient's rooms.

502654 134 .75.00 VOICE AND DATA

Communication systems may provide for:

- Alarm systems where necessary (eg. dangerous drug cupboard opening).
- Telephone services for staff, patients and visitors. The extent of provision,

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location, type (i.e. fixed or portable) and charging will need to be addressed in the Operational Policies. A separate telephone nook within the unit for use by patients should be considered.

- Computer and internet access for patients and staff.

- Teleconferencing, videoconferencing and telepsychiatry facilities that are used for staff education, management and patient services.

Provision must be made at the outset for cabling and power outlets for computers.

502655 134 .76.00 NURSE CALL

The need for and type of patient call system should be reviewed. In bedrooms, it will need to be a call button that may not always be in easy reach, systems can be abused and most patients are ambulant and capable of asking for assistance.

Staff assist and psychiatric emergencies can be handled via personal duress alarms. Medical emergencies will need access to the hospital's cardiac arrest system.

Refer Part C 5.790 for further information.

502656 134 .77.00 DURESS ALARM SYSTEM

The optimum approach is a combination of personal alarms with location finders and some fixed alarms particularly in areas where staff work in a relatively fixed position such as Reception to ensure there is a back-up system if one system fails.

A discreet duress alarm system will be required at all Reception Points and Client Treatment Areas, where a staff member may be alone with a client.

Refer to NSW Health Manual "Protecting People and Property" and Part C of these Guidelines

503354 134 .77.05 VENTILATION AND AIR HANDLING

Newly admitted and very disturbed involuntary patients may have little regard for bodily hygiene and may overwhelm with alcohol fumes etc. It is suggested that the ventilation systems in the Secure Unit be such as to make the environment more comfortable for staff working in the area - and other patients and visitors - by increasing air changes and ensuring fresh rather than recycled air air handling systems.

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COMPONENTS OF THE UNIT

General

502657 134 .78.00 The Adult Acute Mental Health Inpatient Unit will consist of a combination of Standard Components and Non-Standard Components.

This section must be read in conjunction with Part B Standard Components Room Data Sheets and Room Layout Sheets.

The following text describes only specific requirements not covered by these documents.

Standard Components

502658 134 .79.00 Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

503352 134 .80.00 Provide the Non-Standard Components as identified in the Schedule of Accommodation according to the Operational Policy and service demand.

502660 134 .81.00 SECURE ENTRY AREA

DESCRIPTION AND FUNCTION

The Secure Entrance provides direct access to the unit for patients referred for admission as involuntary patients arriving either via police or ambulance and alternative access to the unit for patients arriving via the Emergency Unit of the main hospital. There should be an entry airlock and consideration could be given to providing a secure, ventilated area for agitated patients to smoke.

To offer this facility, will at times help the patient brought in under the mental health act who is agitated/disturbed demanding access to cigarette to settle and cooperate with treatment reducing/minimising the need for medical intervention.

LOCATION AND RELATIONSHIPS

The Entrance should be capable of direct approach by ambulance/ police vehicles and should have provide protect from the elements for patient transfer. The Entrance should have an airlock capable of accepting an ambulance trolley with ease.

There should be easy access to the Examination/Assessment Room and to the Seclusion Room within the Secure Zone. A small waiting area is required for use by the escorting officers to complete required paperwork

CONSIDERATIONS

There should be provision for a video intercom between the Emergency Entrance and the Staff Station

Provision should be made for a gun safe (that complies with relevant firearms legislation) that allows police to deposit firearms when they are in attendance at the Inpatient Unit.

This area should have adequate soundproofing so that noisy incidents do not disrupt the usual operations of the remainder of the unit.

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502661 134 .84.00 MULTIFUNCTIONAL ACTIVITY SPACES

DESCRIPTION AND FUNCTION

A room suitable for television viewing, listening to music, using computers, 'quiet time' or other activities as determined by the nature and service needs of the Unit. There should be at least one "noisy/active" area and one "quiet/passive" area.

In addition, each Adult Acute Mental Health Inpatient Unit should contain 1.5m² of separate space per patient for Occupational Therapy with a minimum total area of 20.0m².

LOCATION AND RELATIONSHIPS

The room should be clearly observable from the Staff Stations and have access to internal or external courtyards or terraces.

CONSIDERATIONS

Lockable storage with adjustable shelving is essential. Surfaces should be washable and finishes and furnishings easily maintained/restored. Bulletin boards and wall spaces for posters, etc. provide atmosphere and may reduce maintenance costs.

Colours and finishes should be carefully selected, the décor reflecting a domestic environment conducive to continued participation in community life and activities of daily living (ADL).

The space should include provisions for:

- Hand-washing
- Workbenches
- Storage
- Displays.

502662 134 .86.00 FOOD SERVERY/TROLLEY HOLDING

DESCRIPTION AND FUNCTION

A shared facility for the receipt and serving of meals. Design will depend on the method of service delivery - i.e. plated or bulk meals, and the management of used crockery and utensils. Facilities for producing light refreshments should be included.

There should be hatch access to the Secure Lounge/Dining/Activity areas for the transfer of plated meals and mid-meal supplies. Counter access, with an 'after hours' grille, is an option for the General Zone main dining area.

LOCATION AND RELATIONSHIPS

Located adjacent to dining spaces in the General Zone. Access should be via the Main Entry.

CONSIDERATIONS

It must be a safe, secure environment for staff in compliance with OH&S and Infection Control Guidelines with plenty of bench tops, open shelving and lockable cupboards for sharps, supplies, etc., and adequate secure storage for food and equipment and sufficient space to store food tray and distribution trolleys. A dedicated power outlet for heating/cooling food trolleys may be required.

This Servery is not suited for patient use for the 'activities of daily living'. The inclusion of a 'domestic scale' well designed kitchenette as part of the Dining Room/Beverage Pantry lends itself to client use and the continued

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promotion of daily living skills.

502663 134 .89.00 STORE - CLEAN LAUNDRY

DESCRIPTION AND FUNCTION

Lockable storage for clean laundry trolley(s) and extra blankets, pillows and bed linen.

LOCATION AND RELATIONSHIPS

This space may be a corridor alcove with lockable doors. Roller shutters are not recommended on OH&S grounds.

CONSIDERATIONS

A cupboard with adjustable shelving wide enough to take sheets, towels, blankets, pillows, etc. may be used as part of the 'activities of daily living' whereby clients may assist in transferring laundry from delivery trolley to the shelves.

502664 134 .92.00 LAUNDRY - PATIENT

DESCRIPTION AND FUNCTION

A space to encourages activities of daily living by providing the facility for washing, drying and ironing of clothing by patients. The scale should be domestic with a laundry tub, washing machine and drier and lockable cupboard for iron and ironing board. There should also be access to an external space with a collapsible and/or low hung clothesline.

LOCATION AND RELATIONSHIPS

Part of the General Inpatients Zone

CONSIDERATIONS

Equipment such as a washing machine and drier should be 'heavy duty' in view of the number of persons using this facility. Adequate ventilation and extraction must be provided to cope with the constant generation of heat and moisture. Additional exhaust may be required if commercial equipment is selected.

Consider a recessed fold-down ironing board and iron unit to minimise loose equipment.

May require space for individual patient laundry baskets.

The door should be lockable to enable staff to control access.

502665 134 .95.00 GYMNASIUM (OPTIONAL ADDITIONAL AREA)

DESCRIPTION AND FUNCTION

This space is included as an optional extra as the use of programmed physical exercise as an adjunct to treatment is being included in many facilities both in Australia and overseas. Careful consideration should be given to the degree of supervision required to safely provide these services.

LOCATION AND RELATIONSHIPS

This room should be located in a space clearly observable from the

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recreational and therapy areas. Transparent walling and the flow of passing traffic can also be used to aid in the monitoring of supervised activities within this room. It should overlook, and preferably open onto, accessible outdoor space.

CONSIDERATIONS

The environment must provide safety and security for all staff and patients and comply with OH&S guidelines. Equipment should be carefully selected to provide appropriate activities for therapy and/or recreation without affording opportunities for injury to self or others. All equipment must be securely bolted to the floor and walls. This facility would be used only under supervision and would be locked at other times.

Schedule of Accommodation

502666 134 .98.00 A Generic Schedule of Accommodation for an Adult Mental Health Inpatient Unit with 20Beds or 30 Beds follows.

Note : (o) in Qty/x m2 column = Optional.

					20 Beds	30 Beds	Note: Not all units will include PICU & bed mix may be adjusted to suit the circumstances
					16 Open, 4 Secure	24 Open, 6 Secure	
ROOM/SPACE	Standard Component				Qty x m2	Qty x m2	Remarks
MAIN ENTRY / RECEPTION							
ENTRY LOBBY / AIRLOCK					1 x 10	1 x 10	
RECEPTION	yes				1 x 10	1 x 12	
PHOTOCOPY / STATIONERY	yes				1 x 8	1 x 8	
FILE STORE	yes				1 x 10	1 x 10	
WAITING	yes				1 x 10	1 x 15	
TOILET - DISABLED	yes				1 x 5	1 x 5	
CONSULTATION/INTERVIEW ROOM	yes				4 x 14	6 x 14	Plus 2m2 for 2nd door. Based on 1 per 10 beds excluding PICU.
MEETING ROOM (& REVIEW BOARD)	yes				1 x 20	1 x 30	Also used for Group / Family Therapy

502667 134 .99.00 GENERAL (OPEN) UNIT
Patient Areas

GENERAL (OPEN) UNIT					16 Beds	24 Beds	
PATIENT AREAS							
1 BED ROOM - MENTAL HEALTH	yes				14 x 14	22 x 14	
2 BED ROOM - MENTAL HEALTH	yes				1 x 28	1 x 28	Optional. May be 2 extra single rooms. Note that 15m2 will accommodate a mother and baby
ENSUITE - MENTAL HEALTH	yes				15 x 5	23 x 5	
SECLUSION / QUIET ROOM	yes				1 x 14	1 x 14	Optional room in General Care Zone.

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BAY - HANDWASHING	yes				4 x 1	6 x 1	
DINING ROOM					1 x 30	1 x 50	Overall size of recreational areas based on 5.5m2 per person. These rooms may be resized..
PANTRY (WITH SERVERY COUNTER)	yes				1 x 8	1 x 8	Standard Component modified with counter
LOUNGE / ACTIVITY AREA					1 x 30	1 x 50	
MULTIFUNCTION ACTIVITY AREA					1 x 28	1 x 32	
GYMNASIUM					1 x 20	1 x 20	Optional
COURTYARD					1 x 70	1 x 100	Based on 5m2 per person
LAUNDRY - SELF-CARE	yes				1 x 6	1 x 8	Lockable; May be combined or devolved to bed clusters
BAY - LINEN	yes				2 x 2	3 x 2	
STORE - PATIENT PROPERTY					1 x 10	1 x 14	
BATHROOM	yes				1 x 15	1 x 15	Optional
TOILET - STAFF	yes				1 x 3	1 x 3	

502668 134 .100.00 Clinical Support Areas (Shared With Secure Unit & PICU)

CLINICAL SUPPORT AREAS							
STAFF STATION					1 x 16	1 x 20	Sized to enable a design that can oversee all sub-units. May be necessary to sub-divide if this
OFFICE - CLINICAL HANDOVER	yes				1 x 12	1 x 12	
MEDICATION / TREATMENT ROOM					1 x 16	1 x 16	Includes spatial allowance for Resuscitation Trolley (1m2) & exam couch (3m2).
DIRTY UTILITY	yes				1 x 10	1 x 10	
STORE - EQUIPMENT	yes				1 x 12	1 x 16	
BACK-OF-HOUSE							
CLEANER'S ROOM	yes				1 x 5	1 x 5	Includes recycling bins
DISPOSAL ROOM					1 x 10	1 x 10	
STORE - GENERAL	yes				1 x 9	1 x 9	

502669 134 .101.00 OBSERVATION (SECURE) UNIT

OBSERVATION (SECURE) UNIT					4 Beds	6 Beds	
ENTRY - SECURED					1 x 6	1 x 6	Shared with PICU. Include safe for police firearms
EXAM / ASSESSMENT ROOM					1 x 15	1 x 15	Shared with PICU.
EN SUITE SHOWER / TOILET					1 x 5	1 x 5	Shared with PICU.
1 BED ROOM - MENTAL HEALTH					4 x 12	6 x 12	

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TOILET - PATIENT	yes				2 x 4	3 x 4	
SHOWER - PATIENT	yes				2 x 4	3 x 4	
BAY - HANDWASH	yes				2 x 1	3 x 1	
LOUNGE / DINING / ACTIVITIES ROOM					1 x 30	1 x 45	Based on 7.5m2 per person
MULTIFUNCTION ACTIVITY AREA					1 x 28	1 x 32	
SECLUSION ROOM	yes				1 x 15	1 x 15	NSW-HFG recommended 15m2, VIC-DGHDP shown as Standard Component 14m2.
SECURED COURTYARD					1 x 40	1 x 60	Based on 10m2 per person
TOILET - STAFF	yes				1 x 30	1 x 3	

502670 134 .102.00 PSYCHIATRIC INTENSIVE CARE UNIT (PICU)

PSYCHIATRIC INTENSIVE CARE UNIT (PICU)					6 Beds	8 Beds	Optional in Tertiary Service only
1 BED ROOM	yes				6 x 14	8 x 14	Sub-divided into "pods" each with its own sitting area.
TOILET - PATIENT	yes				3 x 4	4 x 4	May be combined and shared between bedrooms
SHOWER - PATIENT	yes				3 x 4	4 x 4	May be combined and shared between bedrooms
BAY - HANDWASH					3 x 1	4 x 1	Recessed in corridor
SITTING AREA					6 x 3	8 x 3	Combine as appropriate depending on bedroom arrangements
QUIET / SECLUSION ROOM	yes				1 x 14	1 x 14	
DINING / ACTIVITIES ROOM					1 x 25	1 x 30	Lounge / Dining / Activity in total based on 7.5m2 per person
MULTIFUNCTIONAL ACTIVITY ROOM					1 x 23	1 x 33	Includes 3m2 of storage
TOILET - DISABLED (PATIENT)					1 x 5	1 x 5	
MEETING (INTERVIEW) ROOM					1 x 12	1 x 12	Optional; may also be used as family room
EXAM / ASSESSMENT ROOM					1 x 12	1 x 12	Optional
BAY - LINEN (LOCKED)					2 x 2	1 x 2	
STORE - GENERAL					1 x 9	1 x 9	
STORE - PATIENT PROPERTY					1 x 6	1 x 4	
SECURED COURTYARD					1 x 60	1 x 80	Based on 10m2 per person. Possibility of combining with Secure Area.
STAFF TOILET					1 x 3	1 x 3	
DISCOUNTED CIRCULATION					35%	35%	Based on single rooms

502671 134 .103.00 STAFF OFFICES & AMENITIES

STAFF OFFICES & AMENITIES							

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OFFICE - SINGLE 12M2 (DIRECTOR)	yes				1 x 12	1 x 12	
OFFICE - SINGLE 9M2 (NURSE MANAGER)	yes				1 x 9	1 x 9	
OFFICE - SINGLE 12M2 (PSYCHIATRIST)	yes				12	12	
OFFICE - SHARED - MEDICAL STAFF	yes				5.5	5.5	No. determined by Staff Establishment
OFFICE - SHARED - NURSING STAFF	yes				5.5	5.5	No. determined by Staff Establishment
OFFICE - SHARED - ALLIED HEALTH	yes				5.5	5.5	No. determined by Staff Establishment
STORE - PHOTOCOPY / STATIONERY	yes				1 x 8	1 x 8	
MEETING ROOM	yes				1 x 20	1 x 30	
STAFF ROOM	yes				1 x 15	1 x 20	
PROPERTY BAY - STAFF	yes				1 x 2	1 x 2	
SHOWER - STAFF	yes				1 x 2	1 x 2	
TOILET - STAFF	yes				2 x 3	2 x 3	
DISCOUNTED CIRCULATION					30%	30%	

502672 134 .104.00 NOTES:

PICU: Bed numbers are arbitrary at this stage and do not bear any relationship to the main unit but will depend on catchment area. Size and layout may preclude being able to share all Clinical Support Rooms; there may then need to be a second Staff Station, Clean & Dirty Utilities to be shared between Secure Unit & PICU.

Functional Relationships

502673 134 .105.00 A diagram of key functional relationships is attached.

Checklists

502674 134 .106.00 For Planning Checklists refer to Part A,B,C & D of these Guidelines.

References and Further Reading

502675 134 .107.00 Design Series DS-26 - Mental Health Facility Planning Guideline, Volume 1, Adult and Adolescent Mental Health Acute Inpatient Units, NSW Health Department 2002.

Design Guidelines for Hospitals and Day Procedure Centres: HPU 134 - Adult Acute Psychiatric Unit, Department of Human Services, Victoria, November 2004.

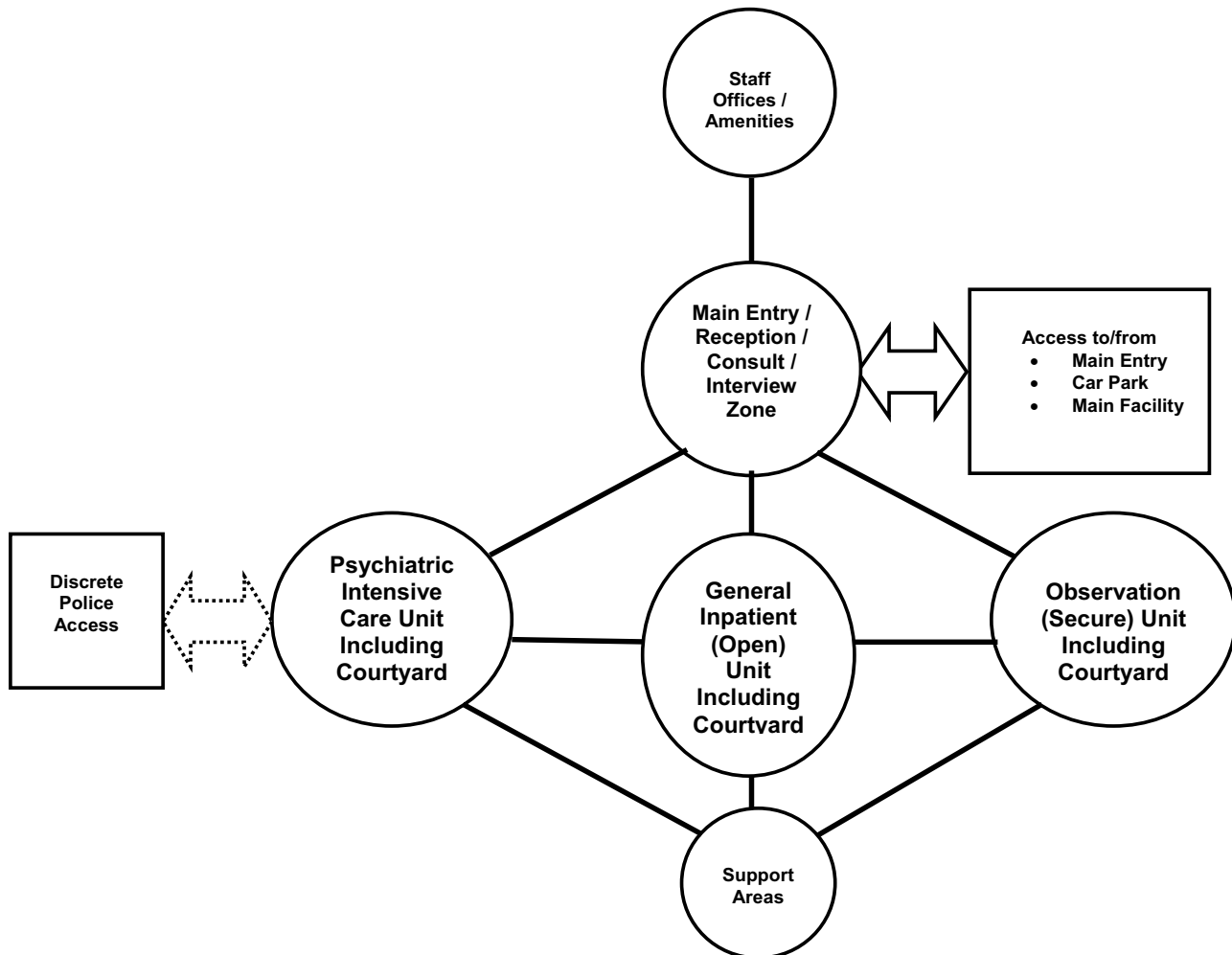
"Not Just Bricks and Mortar", Council Report CR62, January 1998, Royal College of Psychiatrists, London.

Safety, Privacy and Dignity in Mental Health Units - Guidance on Mixed Sex Accommodation for Mental Health Services. NHS Executive, June 1999.

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FUNCTIONAL RELATIONSHIP DIAGRAM – ADULT MENTAL HEALTH ACUTE INPATIENT UNIT (INCLUDING PICU)

The following diagram sets out the relationships between zones in an Acute Mental Health Acute Inpatient Unit (including PICU):



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Preamble

502761 140 .1.00

The Australasian Faculty of Rehabilitation Medicine defines Rehabilitation Medicine as "... that part of the science of medicine involved with the prevention and reduction of functional loss, activity limitation and participation restriction arising from impairments; and the management of that disability in physical, psychosocial and vocational dimensions" (Draft Standard 2005).

Before commencing planning, it is critical that the following is clarified:

- Whether the unit is to be built as a dedicated treatment unit in support of a formal Rehabilitation Medicine service/programme or a Pathway Home programme - with or without additional therapy facilities for acute hospital services
- Whether it will be a hospital-based unit or cluster of units of individual therapy services predominantly supporting the acute medical and surgical services, or
- Whether the Unit will fulfil both functions.

This differentiation is important as facilities and equipment will / may differ and there may be considerable impact on the location of the unit/s.

It is recommended that the design and location of a Rehabilitation Inpatient Unit - if provided - be considered at the same time as the Rehabilitation Allied Health Unit as these units, although separate for the purpose of these Guidelines will share operational policies, staffing philosophies and facilities

If the services provided are predominantly acute hospital oriented, facilities will be better located near those units that generate the most attendances e.g. Orthopaedics, Neurosciences, and Vascular Surgery etc. This may also avoid any consideration of satellite therapy facilities.

The extent of general outpatient services also needs to be quantified and whether or not the Hospital has an Operational Policy in this regard. Referrals may be from GPs and other community-based health professionals - particularly if private practice is unavailable or unaffordable. (Back pain, sports injuries etc.)

Most units will be involved with student training and the spatial impact of this must be taken into consideration with regard to lockers and write-up areas.

Introduction

502762 140 .2.00

This Health Planning Unit (HPU) is a resource to assist project teams with the planning, design and construction of a Rehabilitation Allied Health Unit. It should be read in conjunction with generic requirements in Parts A, C and D and Standard Components (Room Descriptions, Room Data & Room Layout Sheets (RDS/RLS) in Part B of these Guidelines.

This Guideline primarily addresses the disciplines of:

- Physiotherapy - including Hydrotherapy
- Occupational Therapy and
- Speech Pathology.

Units will/may also incorporate facilities for other Allied Health professionals such as Social Work, Clinical Psychology, Neuropsychology, Podiatry, Audiology and Nutrition and Dietetics.

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Policy Framework

502763 140 .3.00 NSW Health Department. NSW Policy Standards for Cardiac Rehabilitation. NSW Health Department 1997.

PD2005_339. Manual - "Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities".

PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Project staff are also referred to the following document:
Standards for Rehabilitation Medicine Services for Public and Private Hospitals, Australasian Faculty of Rehabilitation Medicine, 1995 (in revision 2005).

503370 140 .3.05 PATHWAYS HOME PROGRAM

The Pathways Home Program is a program funded by the Australian Government [Department of Health and Ageing] under the 2003-08 Australian Health Care Agreements. Over five years, the Australian Government will provide funding to the states and territories to increase the rehabilitation and stepdown / transition services provided to patients following an acute hospital admission - particularly those patients who are older or who have some form of mental disability, as a means of expediting their return to optimal functionality as soon as possible.

Description of the Unit

502764 140 .4.00 DEFINITION OF HPU

The Rehabilitation Allied Health Unit is a discrete unit of a hospital providing rehabilitation services to inpatients and outpatients.

Facilities for Physiotherapy and Occupational Therapy will vary greatly, ranging from large, purpose-designed, central facilities for inpatients and/or outpatients, to basic on-ward or bedside services. Extent, design and location of facilities will be affected by presence or otherwise of the following services (not inclusive):

- Rehabilitation Medicine
- Aged Care
- Spinal Cord Injury Service
- Orthopaedic Services
- Neurosciences - General (strokes, MS etc)
- Neurosciences - Traumatic Brain Injuries
- Amputees
- Hand Surgery / Plastic Services.

Speech Pathology plays a major role in Neonatal, Paediatric, ENT / Maxillofacial and neurological services; in the absence of these, Speech Pathology may be provided on a part-time basis.

Children's Hospitals or major Paediatric Services generate their own specific spatial needs.

At Levels 5 and 6 it is possible that each discipline may have its own discrete department but every attempt should be made to co-locate the therapy units to maximise the potential for sharing and to facilitate multidisciplinary care.

The rehabilitation services will be supported by full time Social Work services. At Level 4, Dietetics and Podiatry are generally provided as part time services and can be incorporated into the Unit. At Levels 5 & 6 they will have their own discrete Units and are excluded from the Schedule of

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Accommodation at those levels. Clinical Psychology and Neuropsychology also play an important role in some aspects of service provision and will need their own or access to office/treatment areas.

502765 140 .5.00 PATIENT CHARACTERISTICS

All ages from children to the frail aged. Almost all patients attending for physiotherapy are physically incapacitated to some extent many of whom use wheelchairs or walking aids and - increasingly - motorised chairs that have implications for parking and recharging. Many patients may be disfigured (burns, throat surgery etc) and require a non-threatening, private environment.

Many patients will require access to Interpreter Services.

PLANNING

Operational Models

502766 140 .6.00 HOURS OF OPERATION

The Unit will generally operate during business hours Monday to Friday with after-hours on-call physiotherapy services available for wards as required. Some departments may provide a limited service at evenings and week-ends.

If used for health education classes (e.g. antenatal classes), after-hours access will be required.

If a hydrotherapy pool is part of the facility, this too may be made available to the community after hours and at week-ends and therefore careful consideration will need to be given to location, controlled access and security.

502767 140 .6.05 FLEXIBILITY

The facilities of the Unit will be utilised by inpatients and outpatients. It is expected that the majority of inpatients accommodated in the Rehabilitation Inpatient Unit will attend the Unit on a daily basis. The function of these two units is inter-related and the design of the Rehabilitation Unit could provide areas common to both units.

As with other areas of health care, rehabilitation services are constantly evolving. This is manifest in terms of:

- clinical development - many more categories of patient are able to be rehabilitated than was previously considered feasible
- organisational development - the interrelationship of the various medical, nursing and allied health services that participate in the rehabilitation process is of paramount importance
- technological development - advances in technology have developed techniques which will ultimately become routine aspects of rehabilitation. Such developments include kinematic analysis, electromyography and ergometry.

502768 140 .6.10 MODELS OF CARE

Traditionally the model of care has been one-to-one, therapist to patient.

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Increasingly an educative model is being used that assumes a staff to patient ratio of 1:4 or more and incorporates:

- group sessions for peer support;
- group exercise classes;
- involvement of carers so that they can learn how much activity the patients can safely tolerate at home and how best to support them;
- education programmes.

There may need to be separate areas for Respiratory and Cardiac Rehabilitation and general rehabilitation as the patients have differing needs and sometimes equipment. However this will depend on the number of sessions and every opportunity should be made to share areas between programmes.

502769 140 .6.15 SATELLITE UNITS

One of the problems of providing therapy services for inpatients within the Unit itself is transport to and from wards, particularly, for example, neuroscience patients whose attention span may be limited and who need a quiet environment. It also requires either a portering service or use of valuable therapist time in transport functions. If distance from wards to the Therapy Units is considerable and throughput can justify, provision of a small satellite unit may be considered - mainly for physiotherapy - near the wards most affected, usually Neuroscience & Orthopaedics. Or alternatively, a small therapy / multipurpose room in a ward may serve such a purpose. However, satellite units should probably be avoided wherever possible.

502770 140 .6.20 HYDROTHERAPY

Whilst there are differing opinions as to the therapeutic benefits of hydrotherapy, a designated Rehabilitation service will probably require access to a hydrotherapy pool. However, in other circumstances, the need for a pool should be carefully considered as the cost per unit of treatment is high and conditions for which hydrotherapy is the only appropriate treatment are limited. In many projects provision of a pool will be a matter for a separate business

Hydrotherapy pools should only be provided where patient numbers can justify and where the pool is required for a minimum of four hours each days, five days a week. Utilisation of the pool may be extended by making the pool available to groups within the community for their use at times when it is not required for specific therapeutic purposes.

Alternatively, use of a pool already established in the community may be used.

502832 140 .6.21 GAIT ANALYSIS LABORATORY

Quantitative gait analysis is useful in objective assessment and documentation of walking ability as well as identifying the underlying causes of walking abnormalities in patients with cerebral palsy, stroke, head injury and other neuromuscular problems. The results of gait analysis have been shown to be useful in determining the best course of treatment in these patients.

However, full scale, often research laboratories are extremely costly, few and far between and outside the scope of this Guideline. However, equipment for gait analysis on a smaller scale may be incorporated into a gymnasium and is addressed in a future section.

502771 140 .6.25 OUTDOOR GAIT AREA

Essential to provide mobility training on a range of uneven surfaces necessary for community integration.

503371 140 .6.30 DIVERSIONAL THERAPY

Rehabilitation Units may wish to provide diversional therapy services by a qualified diversional therapist.

"Diversional therapy practitioners work with people to provide, facilitate and co-ordinate leisure and recreational activities. These activities are designed to support, challenge and enhance the psychological, spiritual, social, emotional and physical well-being of individuals who experience barriers to participation in leisure and recreational pursuits affecting their quality of life."

Source: The Diversional Therapy Association of NSW web site.
www.diversionaltherapy.com.au

Service provision will require office space for the therapist, storage space and space for group activities. This latter may also serve as a dining / refreshment area for day patients.

Operational Policies

502772 140 .7.00 GENERAL

Depending upon the needs of the individual hospital, it may be decided that the Rehabilitation Allied Health Unit will provide the location for the hospital's Acute Therapy Services. If such a Policy is adopted it may be necessary to upgrade the accommodation to provide:

- additional therapy spaces for general acute inpatient and outpatient therapy
- additional group office space for physiotherapists to write up notes
- additional staff amenities.

The Guideline defines functional spaces as discrete areas for defined activities. The Operational Policy of a facility may compel the design team to view the various functions and activities within the Unit from the framework of a team philosophy. Accordingly, patient flow would determine the definition of spaces rather than individual allied health discipline.

A list of general operational policies to be developed e.g. linen handling, waste management - can be found in Section B of the Guidelines and should be developed as early as possible in the planning process.

503372 140 .7.02 OUTPATIENTS VERSUS DAY PATIENTS

The original "Day Hospital" concept often accommodated patients for respite care; in modern units patients are admitted for treatment, not respite.

Patients attending for a single treatment by a single therapist are classified as outpatients. Patients attending for a series of treatments by different therapists will be admitted as day patients where stay is in excess of 4 hours. This latter category will need an area for rest and refreshment between treatments. A Diversional Therapy Room may be appropriately used for this purpose.

It is important to note the difference between day admissions for treatment and respite care as the latter is Commonwealth funded.

502773 140 .7.05 MANAGEMENT OF RESPIRATORY PATIENTS

Some patients with respiratory conditions will require access to a dedicated room for privacy and for infection control reasons. To minimise cross-infection risks, appointments should ideally be scheduled for the end of the day. Individual units will need to determine whether there is a need to provide negative pressure ventilation.

There will need to be access to oxygen for patients who may be on continuous oxygen therapy via wall-mounted gases or portable cylinders on carriers close to the equipment being used. Care needs to be taken to ensure that oxygen tubing does not trail across the floor and create an occupational health and safety hazard.

502774 140 .7.10 MEDICAL RECORDS & X-RAYS

Assuming a hard copy system, it is usual for non-inpatient records to be kept in the Unit for the duration of treatment.

When records become electronic, there will be direct data entry and design should indicate likely locations for computers and allow for appropriate power and cabling.

Assuming a digital PACS system, X-ray films available on screen so viewing monitors will be needed. If still hard copy, x-ray viewing boxes will be required and films requested from the Medical Imaging Unit.

503373 140 .7.11 PATIENT LIFTING / TRANSFERS

Ceiling hoist system for transfers from wheelchair to plinth, or mobile lifters. If the latter, a bay or bays will be required with power for recharging, either part of or outside the Gymnasium; but if inside the additional space must be added to the overall gymnasium size.

503374 140 .7.12 RECHARGING OF ELECTRICAL WHEELCHAIRS

Inpatients normally using electric wheelchairs or motorised chairs may need somewhere to park and recharge their equipment whilst in hospital.

Facilities to recharge patients' electric wheelchairs and motorised chairs overnight. In rehabilitation units with a lot of wheelchair-dependent patients it is a logistic problem at night finding sufficient power points to plug in batteries. Ideally there should be a large space with docking stations so the rechargers and power extension cords are not spread out across the gymnasium each night, only to be collected up the next morning

502775 140 .7.15 SPECIFIC NEEDS IN INPATIENT UNITS

To avoid unnecessary transport to and from the main unit, space and facilities for ward-based therapy could be considered. Include but not confined to:

- 10m corridor length for walking tests
- Storage for equipment & mobility aids
- Ward-based treatment space larger than the area around a patient's bed
- Access to stairs for practising crutches

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- Access to write-up area and storage of resource material.

Facilities will be addressed in detail in the Guideline for the Rehabilitation Inpatient Unit.

502776 140 .7.20 STAFFING

The staffing operational policy assumptions made in this guideline are:

- Office space will be provided where required for clerical and allied health staff including workstations in open treatment areas for immediate documentation.
- "hot" desks will be available for students and visiting staff
- Staff wearing uniforms will arrive at the Unit in uniform however shower / change facilities will be required for comfort reasons as much of the work is labour-intensive.

The number of staff will depend on the needs of the individual hospital / service. Planners are referred to the Australasian Faculty of Rehabilitation Medicine Standards (Draft 2005) that provides staff to patient ratios for every 10 inpatients and outpatients. Staff mix may include - either permanently or when required by referral:

- Director of Rehabilitation Medicine and/or the head of each therapy discipline
- Medical staff
- Nursing staff
- Physiotherapists
- Occupational therapists
- Social workers
- Speech pathologist
- Neuropsychologist (where brain impairment is an issue)
- Clinical psychologist (for treatment of complex behavioural disturbances)
- Prosthetists / Orthotists
- Aides
- Podiatrist
- Sport & Recreational Officers
- Dietitians
- Diversional Therapist
- Vocational Trainers
- Case Co-ordinators
- Rehabilitation Engineers
- Clerical staff
- Housekeeper and cleaning staff
- Artisan and transport staff.
- Students of various disciplines

503375 140 .7.21 TEACHING

Most units will be involved with undergraduate and / or postgraduate training. Attendance will be variable. Students will need write-up space near the area of activity and numbers will need to be ascertained. Facilities will include a workstation for the supervisor and student lockers.

502777 140 .7.25 EMERGENCY EQUIPMENT

- Oxygen (wall panels or cylinders) for oxygen-dependent patients
- Cardiac monitor for cardiac patients
- Resuscitation trolley/s
- Medical gas service panels in selected locations for emergency use.

Planning Models

502778 140 .8.00 LOCATION

A Rehabilitation Unit should be in a ground floor location for ease of access by patients with disabilities, especially outpatients, and also have access to an external area for retraining purposes. The unit should be located immediately adjacent to the Rehabilitation Inpatient Unit.

This location is less critical for acute units if separate from the Rehabilitation Allied Health Unit. A ground floor access is desirable for access by outpatients but may create problems with regard to inpatient access.

Functional Relationships

502779 140 .9.00 The most critical relationship in circumstances where Rehabilitation Medicine is an established service is with its own Inpatient Unit/s.

However, consideration must also be given to necessary relationships with those wards most utilising therapy services in terms of the logistics of patient travel and transport. In some instances there may need to be duplication of facilities.

The Unit should have ready access to allied health units such as speech pathology, social work and the like where those units are not represented or located within the Unit itself.

Ready access to Orthopaedic Clinics by Physiotherapy.

Functional Areas

502780 140 .10.00 FUNCTIONAL ZONES

The Unit will / may comprise the following zones:

- Entry / Reception / Waiting
- Therapy Areas for Physiotherapy and Occupational Therapy with or without Speech Pathology and Podiatry
- Psychosocial Therapy Areas - Social workers, psychologists, Speech Pathologists, Diversional Therapist
- Assessment / Consulting Areas for primary services
- Patient Areas - Resource Room/Library, Dining, Hairdressing
- Shared non-clinical Support Areas - Stores, Loan Equipment, Utilities, Linen, Disposal
- Staff Offices and Amenities.

Additional / optional facilities may include:

- Hydrotherapy Pool
- Gait Analysis Laboratory
- Orthotics / Prosthetics.

502781 140 .10.05 ENTRY / RECEPTION / WAITING

Waiting will generally be for outpatients and supporters; inpatients will mostly be taken directly to the treatment areas. Numbers will need to be ascertained based on appointment systems.

Child play area may need to be considered for paediatric patients and siblings, oversighted by Reception.

Chairs should have arm support, be comfortable and resistant to damage and there should be space for a number of wheelchairs and patients with walking aids.

Doors should be automatic opening.

Patients and supporters will need one accessible toilet for people with disabilities as a minimum, a cold water fountain / dispenser and possibly a public phone.

Depending on the size of individual sub-units (Physiotherapy, Occupational Therapy, Speech Pathology, Social Work etc), one Reception will ideally serve the whole department.

502782 140 .10.10 ASSESSMENT / CONSULTING AREAS

A room or rooms will be available for initial assessment, consultations, interviews. May be shared between therapy disciplines. If rehabilitation clinics are conducted in the Unit, there must be sufficient rooms to accommodate throughput and rooms with dual access from corridor and also opening onto the gymnasium may facilitate gait analysis etc.

The zone may include office / consulting rooms for Social Workers, Clinical Psychologists, Dieticians etc (full time staff)

502783 140 .10.15 OCCUPATIONAL THERAPY

The following specific facilities will be required:

- Therapy rooms - for individuals and groups for static & dynamic activities
- Facilities for Activities of Daily Living (ADL)
- Storage for equipment and materials
- Loan Equipment Store if provided.

Depending on the service profile, additional areas may include:

- Facilities for splint making & hand therapy
- Dedicated paediatric treatment room
- Space for fitting and manufacture of pressure garments
- Heavy duty workshop
- Computer and vocational retraining
- Wheelchair storage & modification
- Garden therapy area.

It must be noted that a considerable amount of Occupational Therapy assessment of inpatients such as toileting and showering may be conducted at ward level if facilities are available and appropriate

502784 140 .10.20 ADL (ACTIVITIES OF DAILY LIVING) FACILITIES

Depending upon the specific Operational Policies of the Unit, these spaces will be fitted out in such a way as to demonstrate to patients the options available to them to modify their home environment to suit their particular disabilities. For example, different bench heights and leg space under benching to allow for wheelchair access. (Note that not all patients are in wheelchairs but may be ambulatory). Specially adapted equipment may also be demonstrated by occupational therapists. Functions and activities will include education and assessment.

Facilities may comprise:

- Domestic bathroom
- Toilet / shower cubicle
- Kitchen
- Lounge Room
- Bedroom (May or may not be combined with the Lounge Room)
- Domestic Laundry.

502785 140 .10.25 DAY ROOM / DIVERSIONAL THERAPY

Day patients and families / supporters will need access to a Day Room for meals and refreshments. Operational policies will determine whether this area can / will also be used by inpatients attending the Unit or whether inpatients will return to their wards.

In between meals, this room may also be used by patients and carers during periods between treatments, for education sessions and other patient activities including diversional therapy.

If located adjacent to the open Occupational Therapy Area and sharing an operable wall, it will enable the creation of a larger space when required. Such a room is not required in a hospital acute unit.

502786 140 .10.30 PHYSIOTHERAPY - ACTIVITIES

Individual activities may include

- "... exercise programmes on mats or raised mats
- ... exercises on plinths using slings & springs attached to mesh
- pulley work
- gait training on bars, frame, crutches or stick
- tilt table work
- balance re-education
- climbing steps / stairs
- electrotherapy
- games."

Treatments may include:

- Wax treatment
- Hand therapy
- Plastering & splinting - limbs and body casts.

There are categories of patients that benefit from group / class work including:

- Stroke and other neurologically impaired patients
- Spinal cord injured patients
- Amputees and orthopaedic patients
- Cardiac and pulmonary rehabilitation
- Rheumatology or back exercises.

Open spaces may also effectively be used for health education programmes e.g. diabetic, cardiac or asthma patients.

(Source: Physiotherapy Department Design Guide 1981):

502787 140 .10.35 PHYSIOTHERAPY - FACILITIES

The following facilities will be required:

- Individual treatment areas - curtained bays and some enclosed rooms for patient privacy
- respiratory treatment room - well-ventilated. Medical gases. ?? Negative pressure
- open exercise area/s with equipment appropriate to the level and range of intended services (acute treatment & remedial)
- storage for equipment and supplies
- facilities for splint making / hand therapy (may be shared with Occupational Therapy)
- access to appropriate outdoor therapy areas.

Optional areas may include:

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- PUVA treatment (unless in a Dermatology Unit)
- Hydrotherapy - if provided - will be managed by the Physiotherapy service and will require patient showering, toilet and change facilities with secure storage for clothing and valuables
- Consult / Exam Rooms opening onto a Gymnasium to enable appropriate mobility assessment during the course of a clinic.

Part of Physiotherapy services will be ward-based especially in critical care units.

502788 140 .10.40 GYMNASIUMS

There are two basic types of gymnasiums:

- Exercise Gym for group strength and fitness training with the major equipment (noisy); sprung floor, high ceiling. Used for acute rehabilitation, cardiac rehab etc. May also be used for recreational activities such as ball games.

- Open Gym for 1:1 skill training with plinths, stairs, parallel bars etc. Used for slow stream rehabilitation and for inpatients who may require a greater degree of privacy. May need lifting equipment and/or hoists. Will need access to oxygen and suction. Sufficient wall space capable of supporting the attachment of heavy equipment such as pulleys and wall bars. Will include curtain treatment bays - often with double plinths and wall and ceiling mesh screens for attaching accessories.

Ideally the rooms should have a northern aspect to assist in temperature control and one of the rooms should have direct access to an outdoor exercise area if provided.

All equipment must be wheelchair accessible.

Consider an overhead track system that runs the length of the gymnasium to enable patients to walk in a harness system without fear of falling (requires a reinforced ceiling)

502789 140 .10.45 WORKROOM

"Wet" area used for manufacture of limb supports, body casts and splints using a variety of materials and for preparing ice packs, heat packs and wax baths.

Will need plaster traps to sinks.

502790 140 .10.50 SPEECH PATHOLOGY

Speech Pathology utilizes acoustically-treated combined office / consulting / treatment rooms for treatment of adults and children with a range of speech and swallowing disorders.

May also require access to space on a Neonatal Unit for management of feeding problems, cleft palates etc. where the babies cannot be removed from the Unit and access to an acoustically- treated room in wards allows for ward-based treatment.

502791 140 .10.55 PODIATRY

Unless a full-time position (which is rare), the room should be able to be

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used for other purposes when not occupied by the Podiatrist providing equipment can be secured - either in the room or elsewhere. Consideration will need to be given to sterilization of podiatry instruments.

502792 140 .10.60 SHARED AREAS

- Dirty Utility
- Linen
- Resuscitation trolley
- General stores

502793 140 .10.65 STAFF OFFICES & AMENITIES

Offices and workstations will depend on Staff Establishment and will be allocated in accordance with NSW Health Policy Directive PD2005-576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Staff rostered to ward work will need access to workstations in the main unit; these should be allocated on the basis of approximately two thirds of FTE staff.

There will need to be work areas within the gymnasiums and in the open plan treatment cubicle area for write-up / access to computers.

502794 140 .10.70 HYDROTHERAPY

AS 3979-1993 (Under revision DR 05261) Hydrotherapy Pools sets out requirements and recommendations for the design, construction and operation of pools for use in the treatment of conditions requiring hydrotherapy. Does not apply to pools with a water capacity of 7500 L or less, nor to small tanks of the type which may incorporate fixed or rotating water jets.

Some specific design requirements for patient and staff safety include:

- Adequate change facilities for patients and staff including accessible showers and toilets for people with disabilities. And open shower on the pool concourse.
- Adequate emergency call points including ceiling-suspended call points for therapists in the water.
- Recovery area comprising resuscitation trolley and bed or plinth should a patient collapse in the pool.

502795 140 .10.75 GAIT / MOTION ANALYSIS

A gait analysis laboratory is outside the scope of this guideline. However facilities for gait analysis comprising a force plate, computer equipment and camera may be incorporated into a Gymnasium. It is preferable that the computer equipment and camera are locked away when not in use.

There must be sufficient space lengthways (minimum 5m) and widthways (full arm span) to film the sagittal and coronal views of a walking patient and access to a treadmill.

Will be used by medical clinicians, Physiotherapists, Podiatrists and Orthotists in support of various medical / surgical clinical services,

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particularly neurosciences and Orthopaedics.

502796 140 .10.80 ORTHOTIC / PROSTHETIC SERVICES

An Orthotics Unit provides a comprehensive range of custom made and ready to fit orthoses for patients either as an outpatient service or an inpatient service. This includes the following functions:

- in/outpatient assessment
- prescription advice
- orthotic treatment
- treatment planning and review
- measurement, casting, design manufacture, fitting and adjustment of orthoses.

Orthotists attend Outpatient Clinics, team meetings, ward rounds and other activities to enhance patient care. The Orthotics Unit will also provide in-service training and lectures to other health care personnel and raise awareness of orthotics in the local community.

It is frequently collocated with other Therapy Units particularly Physiotherapy with which it has very close synergies but is outside the scope of this Guideline.

DESIGN

Accessibility

502797 140 .11.00 EXTERNAL

If at ground floor unit with its own entry, an undercover set-down bay should be provided at the entrance to the Unit for those outpatients who arrive by bus or car and for return of loan equipment with parking for people with disabilities.

Access to:

- Medical Imaging
- Pharmacy
- Ophthalmology
- Audiology.

502798 140 .11.05 INTERNAL

The Unit should be accessible from the inside hospital's main entrance.

Wheelchair access is required to all patient-accessed areas of the Unit.

Access for large items of equipment.

Parking

502799 140 .12.00 Drop-off and parking for people with disabilities.

For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

502800 140 .13.00 Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

502801 140 .14.00 Staff hand-washing facilities must be provided close to each therapy treatment space and in all Speech Pathology Treatment Rooms.

Consideration will need to be given to means of sterilizing podiatry instruments.

Consideration also to be given to storing and cleaning of returned loan equipment prior to returning to the Loan Store.

Refer to Part D of these Guidelines for further information.

Environmental Considerations

502802 140 .15.00 ACOUSTICS

The majority of the therapy areas of the Unit are open space. Further, the activities undertaken therein require hard, impervious flooring (timber or sheet vinyl) and generate noise.

Other areas within the Unit require acoustic privacy in order to be effective or prevent embarrassment such as Respiratory Treatment Rooms and rooms used for women's health disorders.

Account should be taken of the potential sources of noise within as well as from outside the Unit.

Solutions to the various acoustic characteristics and requirements include:

- use of curtains and other soft fabrics
- use of solid core doors
- co-locate potentially noisy areas
- strategic positioning of storage areas to create a sound buffer

Carpet in patient areas is not recommended.

Speech Pathology rooms have specific requirements in order to operate effectively.

502803 140 .15.05 LIGHTING

Natural lighting is essential in large treatment areas such as gymnasiums and in Staff Rooms.

Consideration should be given to lighting levels for patients who are visually impaired.

502804 140 .15.10 CLIMATE CONTROL

Good temperature control and ventilation in treatment areas as work can be arduous for both patients and staff.

It is important to remember that certain patients such as those with spinal cord injuries are unable to regulate their body temperature. It is therefore imperative that the gymnasium is air-conditioned.

Regardless of orientation, there must be means of sun control.

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502805 140 .15.15 INTERIOR DESIGN

The rehabilitation process is often a long one with patients commencing attendance at the Unit as inpatients and continuing as outpatients. Consequently, the Unit should seek to provide a welcoming and supportive environment as it is essential that patients feel positive about returning to the Unit on a regular basis

Space Standards and Components

502806 140 .16.00 ERGONOMICS

Refer Part C of these Guidelines for information.

502807 140 .16.05 HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

502808 140 .16.10 ACCESS AND MOBILITY

Refer Part C of these Guidelines for information.

502809 140 .16.15 DOORS, WINDOWS AND CORRIDORS

Patient-accessed doors should be automatic and sized for wheelchairs.

Refer Part C of these Guidelines for information.

Safety and Security

502810 140 .17.00 SAFETY

The patient population of this unit in particular requires special consideration in terms of safety as they will be at once disabled or incapacitated and yet are being encouraged to be mobile and self-sufficient.

“Unless otherwise approved, a Rehabilitation Unit should provide rails and hand holds in all corridors, ramps, stairs, bathrooms and toilets to ensure safe movement of disabled people.” Source - Standards for Rehabilitation Medicine Services in Public and Private Hospitals, 1995 in revision

Every aspect of unit design with regard to finishes, surfaces and fittings must be assessed to determine the potential for accidents or hazards to both patients and staff.

Sanitary facilities are where most accidents or mishaps occur, to both patients and staff. In particular, consider:

- slippery or wet floors
- protrusions or sharp edges
- stability and height of equipment or fittings
- choice of floor covering

Handrails and wheelchair access are mandatory.

502811 140 .17.05 SECURITY

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After hours access control if used by the general public for classes, hydrotherapy.

Finishes

502812 140 .18.00 WALL PROTECTION

Refer to Part C of these Guidelines

502813 140 .18.05 FLOOR FINISHES

Essential that they are non-slip and do not create “drag” for patients using walking aids and wheelchairs.

Also refer to Part C of these Guidelines

502814 140 .18.10 CEILING FINISHES

Gymnasium ceiling heights minimum of 3.3m.

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

502815 140 .19.00 Height of light switches

Handrails on both sides of corridors

Also refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

502816 140 .20.00 INFORMATION TECHNOLOGY AND MANAGEMENT

IT infrastructure must be compatible with overall hospital systems. There must be sufficient data points and power for computers and student laptops for direct entry of electronic records in the future and for viewing of digital images. (PACS).

502817 140 .20.05 DURESS ALARM SYSTEM

Locate at Reception and in Treatment Areas.

502818 140 .20.10 NURSE & EMERGENCY CALL SYSTEMS

Nurse call systems in all individual rooms and cubicles including those in Gymnasiums.

Staff Assist and Emergency Call at regular intervals.

Annunciators (non-scrolling) located in Reception, corridors, treatment areas and Staff Room.

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COMPONENTS OF THE UNIT

General

- 502819 140 .21.00 Allied Health Units will consist of a combination of Standard Components and Non-Standard Components. Standard Components must comply with details in Standard Components described in these guidelines. Refer also to Standard Components Room Data Sheets.

Standard Components

- 502820 140 .22.00 Provide the Standard Components as identified in the Generic Schedule of Accommodation. Provision of accommodation for Allied Health will be dependant on the Operational Policy and service demand.

Non-Standard Components

- 502821 140 .23.00 Provide the Non-Standard Components as described in this section, according to Operational Policy and service demand.

- 502822 140 .23.05 ADL LOUNGE

DESCRIPTION AND FUNCTION

The ADL Lounge is a domestic style lounge for patient assessment and training purposes. It may effectively be combined with the ADL Bedroom.

LOCATION AND RELATIONSHIPS

The ADL Lounge may be located with other ADL facilities, in the Occupational Therapy patient treatment zone, with ready access to waiting and amenities areas.

CONSIDERATIONS

The ADL Lounge will require the following fittings and furniture

- seating of varying heights and types
- access for wheelchairs and other mobility aids.

The area may be carpeted - wholly or in part.

- 502823 140 .23.10 AUDIOLOGY ROOM

DESCRIPTION AND FUNCTION

The Audiology Room is an acoustically isolated room containing an audiology booth and workstation area to undertake audiology testing and assessment.

LOCATION AND RELATIONSHIPS

The Audiology Room should be located in a quiet zone within the Allied Health patient consult and treatment areas. It should have ready access to waiting and amenities areas.

CONSIDERATIONS

The following fittings and equipment will be required:

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- Soundproof booth
- Desk and chairs
- Microphone

502824 140 .23.15 OCCUPATIONAL THERAPY AREA

DESCRIPTION AND FUNCTION

The Occupational Therapy area is a large open space to enable a range of static and dynamic activities to take place. The area may include space for table based activities, such as upper limb activities or functional mobility activities such as woodwork or splinting activities.

The area will be sized according to the number of patients to be accommodated and will be dependant on Operational Policy and service demand.

LOCATION AND RELATIONSHIPS

The Occupational Therapy area may be located adjacent to other therapy areas, with ready access to waiting and amenities areas.

If a Day Room is provided, collocation with this room and an operable wall will allow the increased flexibility of space.

CONSIDERATIONS

Fittings and equipment required in this area may include:

- Benches with inset sink, wheelchair accessible
- Shelving for storage of equipment or tools
- Tables, adjustable height
- Chairs, adjustable height
- Pinboard and whiteboard for displays
- Sufficient GPOs for equipment or tools to be used in activity areas

502825 140 .23.20 PODIATRY TREATMENT

DESCRIPTION AND FUNCTION

A Treatment Room with a podiatry chair for a Podiatrist to undertake assessment and treatment of the feet.

LOCATION AND RELATIONSHIPS

The Podiatry Treatment Room should be located within the patient treatment zone, with ready access to waiting and amenities areas.

CONSIDERATIONS

The following fittings and services will be required:

- Bench with sink, cupboards and drawers for preparation, storage and cleaning
- Podiatry chair (may be electric and adjustable)
- X-ray viewing boxes (optional)
- Examination light to chair area
- Staff handbasin with liquid soap and paper towel fittings
- Workstation for writing-up with clerical chair
- GPOs for treatment and workstation areas
- Telephone and computer outlets

Note that electronic worktables are available to which are attached the various electrical instruments used in the course of treatment.

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502826 140 .23.25 STORE - LOAN EQUIPMENT

DESCRIPTION AND FUNCTION

A secure room for the storage of equipment and aids for loan to patients of the Unit in their homes.

Depending upon the Operational Policies of the Unit, the administrative control of the loan equipment may be performed in the store.

Functions and activities in the Loan Store may include:

- storage of items of equipment and aids
- distribution of equipment and aids
- receipt of equipment and aids returned to the Unit
- cleaning of returned items.

Detailed consideration should be given to storage capacity that will depend upon many factors including the size of the catchment area and the relationship which exists between the Unit and other facilities in respect of loan equipment.

The Store may be either be divided into "clean" and "dirty" zones or preferably a discrete holding area provided for returned items that will need cleaning associated with a Clean-Up Area. This may be a partitioned section of the main Store but it may be necessary to provide a hose.

LOCATION AND RELATIONSHIPS

Access to a loading dock is highly desirable car parking for collection and return of loan items to avoid double handling. If this cannot be achieved within the main Unit, consideration should be given to an alternate location that fulfils these criteria.

If within the Unit, direct access is required to the Unit Corridor.

Ready access to a cleaning area is required for cleaning equipment.

CONSIDERATIONS

Fittings and services should include:

- Shelving, heavy duty
- Hooks, for hanging equipment such as walking frames

502827 140 .23.30 STORE - OCCUPATIONAL THERAPY

DESCRIPTION AND FUNCTION

Secured room for storage of splinting equipment, mobility aids, adaptive equipment, demonstration equipment and appliances.

The room will be sized according to the amount of equipment and consumables to be accommodated.

LOCATION AND RELATIONSHIPS

The Store should be located adjacent to the Occupation Therapy Room.

CONSIDERATIONS

Fittings and services should include:

- Shelving, heavy duty
- Hooks, for hanging equipment such as walking frames
- GPOs for recharging of equipment.

502828 140 .23.35 STORE - PHYSIOTHERAPY

DESCRIPTION AND FUNCTION

There are two types of storage required:

1. A secured room for storage of general equipment and mobility aids including crutches, and consumables used for physiotherapy treatment. The room will be sized according to the amount of equipment to be accommodated.
2. Electromedical equipment ideally needs to be in a bay adjacent to the outpatient cubicles so as to be readily accessible. Project staff should ascertain the type, quantity and dimension of the machines in order to ensure parking is adequate.

LOCATION AND RELATIONSHIPS

The Physiotherapy Store will be located with close access to the Gymnasium and other Physiotherapy treatment areas. The electromedical equipment should be immediately accessible from the outpatient cubicles.

CONSIDERATIONS

Fittings and services will include:

- shelving, heavy duty;
- hooks, for hanging of equipment such as walking frames;
- GPOs for recharging of equipment.

502829 140 .23.40 PHYSIOTHERAPY TREATMENT CUBICLES

DESCRIPTION AND FUNCTION

Individual treatment cubicles are required that provide visual privacy for the patient. If student training is undertaken a number of larger cubicles may be required and cubicles accommodating traction plinths will/may need additional length depending on the configuration of the cubicles.

There must be adequate space between plinths to enable patients to “park” their wheelchairs whilst practising transferring between wheelchair and plinth and sufficient personal screening around each plinth to ensure patient privacy if they are incontinent.

LOCATION AND RELATIONSHIPS

Treatment Cubicles may be located in close proximity to the Gymnasium and other patient treatment areas. Close access to patient amenities, handbasins and regularly used electrotherapy equipment is required

A small staff Workbase should be provided for access to computers for patient records and x-ray films (if PACS).

CONSIDERATIONS

Fittings and equipment include:

- Plinth - may be electric and/or adjustable height
- Patient chair
- Hooks for patient clothing
- Cubicle screen track and curtains
- Patient/nurse call point and access to an emergency call point
- Body protected power outlets.

Optional:

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- Storage for pillows, linen
- Write-up bench
- Access to handbasins.

502830 140 .23.45 VIEWING / OBSERVATION ROOM

DESCRIPTION AND FUNCTION

A discrete room with one-way glass for unobserved viewing of patients undergoing therapy in an adjoining room.

LOCATION AND RELATIONSHIPS

The Viewing Room may be located adjacent to Speech Pathology Consult/Treatment Rooms, Group Rooms as required.

CONSIDERATIONS

The efficiency of one-way glass is compromised if the viewing side is illuminated. Accordingly, the viewing side should:

- be separately light controlled
- have a light proof curtain around the doorway to allow entry/exit without filling the room with borrowed light
- have a light proof curtain which can be drawn over the viewing window if required
- be sound-proof so as to allow talk among the viewers without intruding into the viewed activity

The viewed room should contain a curtain which can be drawn over the viewing window when privacy is required.

An electronic sound system is required to transmit sound into the Viewing Room from the room being viewed. The microphone(s) should be removable when not in use so as to ensure peace of mind to other users of the room.

502831 140 .23.50 OT WORKSHOP

DESCRIPTION AND FUNCTION

The Workshop is an artisan/industrial area with defined areas of function and activities that may include:

- manufacture and repair of independent living aids;
- occupational therapy and retraining in physical skills for patients e.g. - woodwork, metal work, plastic moulding
- materials and equipment storage

The area requirements of this space will depend upon its particular function and range of activities.

LOCATION AND FUNCTIONAL RELATIONSHIPS

Being an industrial type environment, this area may:

- generate excessive noise
- require extreme ventilation provisions
- require direct delivery of materials

In order to allow for these characteristics it may be necessary for the location of the Workshop (including support areas) to be either a perimeter location or constructed separately from the main Unit.

CONSIDERATIONS

Special exhaust or dust extraction may be required.

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Acoustic treatment may be required to reduce excessive noise transmission from the area.

An adequate level of general lighting including natural lighting is required.

Storage is required for:

- tools & equipment accessories
- materials in use
- safety goggles and other clothing
- timber and metal
- screws, bolts and other fasteners
- glue
- spare parts
- loose/mobile artisan equipment
- items in production

Major equipment requiring servicing will depend upon the activities planned and may include:

- pedestal drilling machinery
- woodworking lathe
- grinder
- band saw or drop saw.

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APPENDICES

Schedule of Accommodation

502833 140 .24.00 A Generic Schedule of Accommodation for a Rehabilitation / Allied Health Unit at Level 4, 5, and 6 follows.

The following Schedule of Accommodation is based on the premise that at Levels 5 and 6, Social Work, Clinical Psychology and Dietetics will be discreet departments in their own right, and that Audiology will also be a discreet unit or form part of an ENT Department/Clinic.

Services at Level 3 may be modified from Level 4 (Refer Role Delineation)

Note: (o) in Qty/x m2 column = Optional

ENTRY/RECEPTION

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
ENTRY/RECEPTION							
RECEPTION	yes			1 x 10	1 x 12	1 x 12	2 staff
STORE - PHOTOCOPY/STATIONERY	yes			1 x 8	1 x 8	1 x 8	
STORE - FILES	yes			1 x 4	1 x 6	1 x 6	
WAITING	yes			1 x 12	1 x 21	1 x 32	Based on 1.2m2 per person, 1.5m2 for wheelchairs. Modify to circumstances
BAY - PATIENT HOLDING				0	1 x 4	1 x 4	Part of Waiting space
BAY - DRINKING FOUNTAIN	yes			1 x 1	1 x 1	1 x 1	
BAY - PUBLIC PHONE				Share	1 x 2	1 x 2	
BAY - STROLLER / WHEELCHAIR PARK	yes			1 x 4	1 x 4	1 x 4	
TOILET - PATIENT/PUBLIC	yes			0	1 x 4	1 x 4	Or access to same
TOILET - DISABLED	yes			1 x 5	2 x 5	2 x 5	

502834 140 .25.00 Allied Health

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
AUDIOLOGY BOOTH	yes			1 x 10	0	0	2.7 x 3.4 Refer Notes below
AUDIOLOGY OBSERVATION				1 x 9	0	0	Separate Unit
OFFICE/TREATMENT - SPEECH PATHOLOGY	yes			1 x 15	15	15	No depends on service level
OBSERVATION ROOM - SPEECH PATHOLOGY				1 x 5 (o)	5	5	
STORE - SPEECH PATHOLOGY	yes			1 x 4 (o)	1 x 4	1 x 4	
OFFICE/CONSULT - CLINICAL PSYCHOLOGY	yes			1 x 12 (o)	12	12	No depends on service level. 16m2 Neuropsychology
OFFICE - DIETETICS	yes			1 x 9	0	0	No depends on service level. Unit Manager = 12m2 in large Department

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STORE - DIETETICS	yes			1 x 4 (o)	0	0	
OFFICE - S/WORKER	yes			1 x 9	9	9	No depends on service level. Assumes access to Interview & Group Rooms. Unit Manager =
PODIATRY TREATMENT				1 x 14	1 x 14	1 x 14	May be multipurpose. If podiatry only, 10m2. At Level 5/6 may be located elsewhere.
GROUP ROOM				0	1 x 16	1 x 16	
OBSERVATION ROOM				0	1 x 8	1 x 8	Optional

502835 140 .26.00 Occupational Therapy

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
ADL BATHROOM	yes			1 x 12	1 x 12	1 x 12	Optional
ADL LOUNGE					1 x 12	1 x 12	Optional
ADL BEDROOM	yes				1 x 13	1 x 13	Optional
ADL BEDROOM / LIVING				1 x 18	0	0	
ADL COMPUTER ROOM				1 x 10 (o)	1 x 10	1 x 10	2 patients. Optional
ADL KITCHEN	yes			1 x 12	1 x 22	1 x 22	Size allows for a number of patients
ADL LAUNDRY	yes			1 x 8	1 x 11	1 x 11	Optional
LOAN POOL EQUIPMENT				1 x 14	1 x 20	1 x 20	Size will depend on extent of service
CLEAN-UP ROOM					1 x 6	1 x 6	For returned loan equipment
SPLINT ROOM					1 x 16 (o)	1 x 16 (o)	Specifically hand splinting. 2-3 patients plus wet prep area
OCCUPATIONAL THERAPY ROOM - LIGHT - ADULT				1 x 28	1 x 42	1 x 70	Approx 7m2 per patient
OCCUPATIONAL THERAPY ROOM - LIGHT - PAED.					1 x 40 (o)	1 x 40 (o)	10m2 per patient
OCCUPATIONAL THERAPY ROOM - WORKSHOP				0	1 x 50 (o)	1 x 50 (o)	5 patients. Optional
STORE - ONGOING WORK				1 x 4	1 x 7	1 x 7	
STORE - MATERIALS & EQUIPMENT				1 x 12	1 x 14	1 x 20	
STORE - TIMBER & METAL				0	1 x 20	1 x 20	If workshop provided
STORE - ASSESSMENT WHEELCHAIRS				1 x 10 (o)	1 x 15	1 x 15	

502836 140 .27.00 Physiotherapy

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
GYMNASIUM - INDIVIDUAL TREATMENT				1 x 80	1 x 100	1 x 120	Approx 6m2 per patient. May need 2 gyms to separate ortho/vascular patients from neuro
GYMNASIUM - GROUP CLASSES				0	1 x 50	1 x 80	Treadmills, Bikes etc
STORE - GYM EQUIPMENT				1 x 8	1 x 10	1 x 12	

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BAY - WATER FOUNTAIN				1 x 1	1 x 1	1 x 1	Disabled access. In / near gymnasium
OFFICE - WRITE-UP BAY	yes			1 x 6	1 x 9	1 x 12	Part of Gymnasium
TOILET - DISABLED	yes			1 x 5	1 x 5	1 x 5	Access from Gymnasium
PATIENT BAY - TREATMENT - SINGLE				7.5	7.5	7.5	Outpatient Area; single plinths. No. will depend on utilisation and throughput. 2.7 x 2.7
PATIENT BAY - TREATMENT - SINGLE				10	10	10	Extra length for traction plinths. 2.7 x 3.6. Minimum of 1.8m aisles between facing cubicles
TREATMENT ROOM	yes			1 x 12	12	12	Respiratory & other conditions requiring privacy. No. will depend on service profile
BAY - MOBILE EQUIPMENT	yes			1 x 4	1 x 10	1 x 10	Parking for various items of electrotherapy equipment near Outpatient Area
BAY - HANDWASH - TYPE B	yes			2 x 1	4 x 1	4 x 1	
PLASTER / SPLINT ROOM	yes			0	1 x 16	1 x 16	2 & 3 patients
WORKROOM				0	1 x 14	1 x 14	"Wet" area for manufacturing splints, ice machine, hydrocollator etc
OFFICE - WORKSTATION				1 x 4.4	4.4	4.4	Near treatment bays/rooms. Collocate with handbasins
STORE - EXERCISE EQUIPMENT	yes			1 x 14	1 x 20	1 x 20	
OUTDOOR GAIT ASSESSMENT							Optional
DISCOUNTED CIRCULATION %				30%	32%	32%	

502837 140 .28.00 Shared Clinical Support Areas

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
ASSESSMENT / INTERVIEW ROOM				1 x 10	10	10	No. will depend on operational policy re clinics
CONSULTING/EXAMINATION ROOM	yes			1 x 12	12	12	No. will depend on operational policy re clinics
SPLINT ROOM				1 x 14			Shared Physio / OT at Levels below Level 5
BAY - LINEN	yes			1 x 2	2 x 2	2 x 2	
BAY - RESUSCITATION TROLLEY	yes			Shared	1 x 2	1 x 2	
CLEAN UTILITY (NO DRUGS)				0	1 x 9	1 x 9	
DIRTY UTILITY - SUB	yes(draft)			1 x 8	1 x 8	1 x 8	
DISPOSAL ROOM	yes			Shared	1 x 8	1 x 8	
CLEANER'S ROOM	yes			1 x 5	1 x 5	1 x 5	

502838 140 .29.00 Staff Areas

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
OFFICE - DIRECTOR	yes			1 x 9	1 x 12	1 x 12	
OFFICE - CHIEF OT	yes			0	1 x 12	1 x 12	

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OFFICE - WORKSTATIONS - OTS	yes			0	4.4	4.4	No. will depend on staff establishment
OFFICE - CHIEF PHYSIO	yes			1 x 9	1 x 12	1 x 12	
OFFICE - PHYSIO 2 PERSONS - SHARED	yes			1 x 12	0	0	
OFFICE - WORKSTATIONS - PHYSIOS	yes			0	4.4	4.4	No. will depend on staff establishment
STUDENT ROOM				1 x 9	1 x 14	1 x 14	
MEETING ROOM	yes			1 x 15	1 x 20	1 x 20	
PROPERTY BAY - STAFF	yes			1 x 3	2 x 6	2 x 6	Male & female
STAFF ROOM	yes				1 x 25	1 x 25	
SHOWER - STAFF	yes			1 x 2	2 x 2	2 x 2	Male & female
TOILET - STAFF	yes			1 x 3	2 x 3	2 x 3	Male & female
DISCOUNTED CIRCULATION %				25%	30%	30%	

502839 140 .30.00 Hydrotherapy (Optional)
Note : Inclusion will depend on policy/service

ROOM/SPACE	Standard Component			Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
OFFICE - SINGLE PERSON - 9M2	yes			0	1 x 9	1 x 9	May double as a rest room
OFFICE - WORKSTATION	yes			1 x 4.4	0	0	
OPEN SHOWER AREA				1 x 3	1 x 6	1 x 6	
POOL & SURROUNDS				1 x 90	1 x 240	1 x 240	
STORE - GENERAL	yes			1 x 9	1 x 16	1 x 16	Hydrotherapy aids & equipment (that may be wet or damp).
SHOWER - DISABLED				1 x 5	1 x 5	1 x 5	
TOILET - DISABLED	yes			1 x 5	1 x 5	1 x 5	
TOILET/SHOWER/CHANGE - PATIENT				2 x 8	2 x 24	2 x 24	
TOILET/SHOWER/CHANGE - STAFF				1 x 3	1 x 6	1 x 6	
PLANT ROOM				1 x 10	1 x 20	1 x 20	
DISCOUNTED CIRCULATION %				20%	20%	20%	

502840 140 .31.00 Notes:
Audiology: Major audiology services will need to be separately briefed and may have a number of rooms performing different functions.
Occupational Therapy Treatment: Depending on service profile, may need separate paediatric treatment area.

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Functional Relationships

502841 140 .32.00 A diagram of key functional relationships is attached.

Checklists

502842 140 .33.00 A Security Checklist is appended to this document. Refer also to Part C of these Guidelines for general requirements.

References and Further Reading

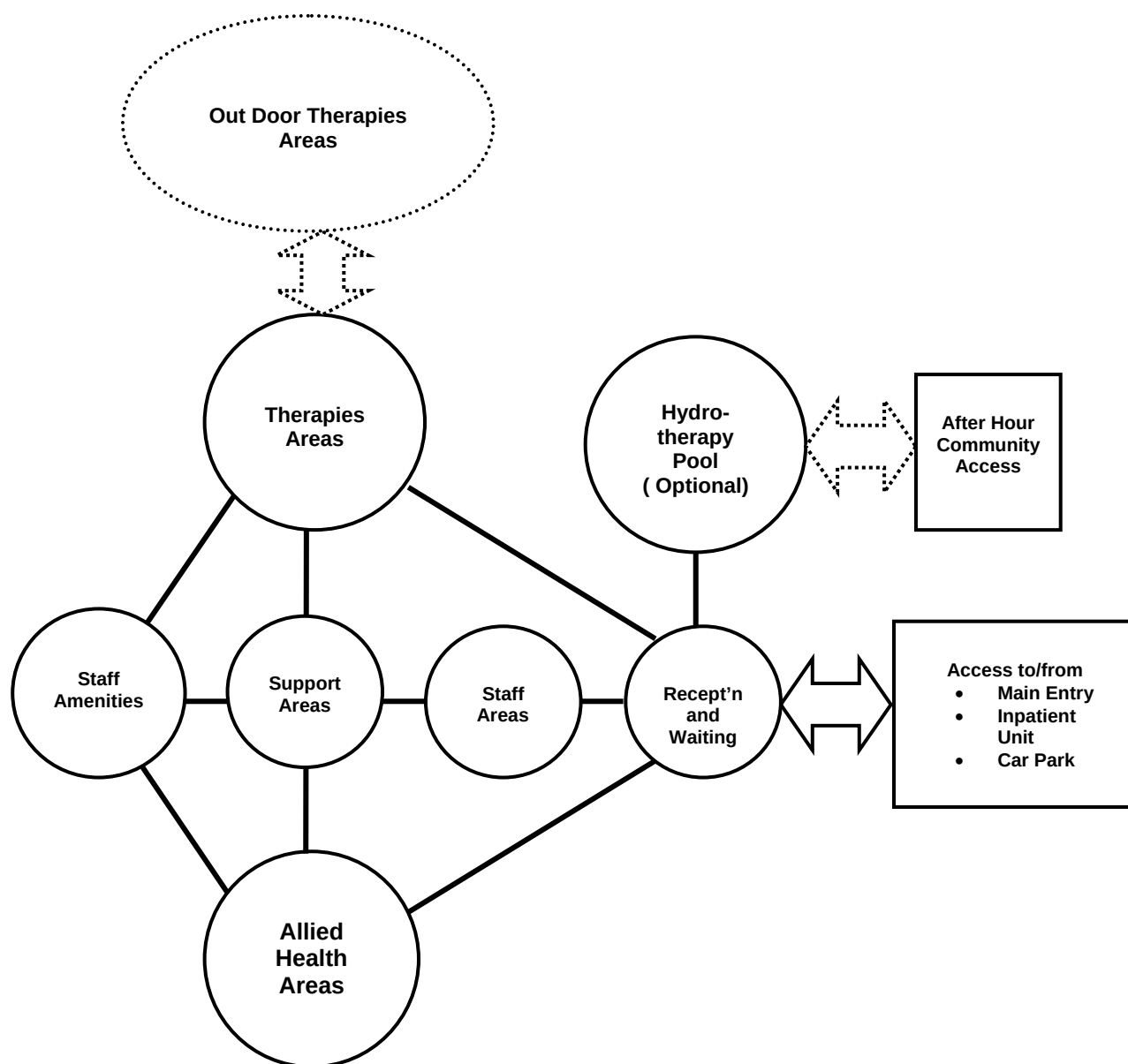
502843 140 .34.00 DS-27 - HBG - Rehabilitation / Day Hospital Unit, NSW Department of Health, Capital Works Branch, October 1992.

Physiotherapy Department Design Guide, Australian Physiotherapy Association, Sydney, 1981.

Standards for Rehabilitation Medicine Service in Public and Private Hospitals 1995 (Under review 2005), Australasian Faculty of Rehabilitation Medicine, Royal Australian College of Physicians.

FUNCTIONAL RELATIONSHIP DIAGRAM –REHABILITATION/ ALLIED HEALTH UNIT

The following diagram sets out the relationships between zones in a Rehabilitation/ Allied Health Unit:



SECURITY ISSUES TO BE CONSIDERED IN REHABILITATION /ALLIED HEALTH UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Area to treat inpatient and outpatient	1. Control access.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Patient files	- Personnel working on these files must return to secure area after use or return to Medical Records Department. - If any electronic files are produced, locate in restricted area of hard drive.
2. Furniture Fitting and Equipment including Computers, Office and Medical Equipment	- Non-removable 'Asset No.' on all equipment above a predetermined value. - Keep equipment in lockable area.
3. Staff personal effects	Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.
4. Hospital Personnel Safety	- Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. - Locked doors between patient and work areas.
5. Patient "wandering"	Appropriate alarm system on doors and/or personal locator system.
6. Hydrotherapy Pools	- More than one staff member to be always present to provide assistance. - Strategic location of fixed duress buttons to summon assistance. - Alternate means of egress.

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SECURITY CHECKLIST –REHABILITATION / ALLIED HEALTH UNIT

FACILITY:	DEPARTMENT: Rehabilitation/ Allied Health Unit	
RISK ISSUE	DESIGN RESPONSE	
1. Do staff have access to both fixed and mobile duress systems?		
2. Is access to patient records restricted to staff entitled to that access?		
3. Is a system implemented to prevent theft of equipment, files, personal possessions, etc?		
4. How is this area secured during and after hours?		
5. Are there lockable storage areas available for specialised equipment?		
6. Is lockable furniture provided for storage of staff personal effects?		
7. How are the offices secured during and after hours?		
8. Has a system been included to address 'patient wandering'?		
DESIGN COMMENTARY /NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

SPACE REQUIREMENTS FOR GYM EQUIPMENT IN REHABILITATION / ALLIED HEALTH UNIT

Item	Dimensions in metres	Total m2	Circulation Around m2	Total m2
Bike: Upright	1 x 1.5	1.5	2.0	3.5
Bike: Reclining	1 x 2	2.0	2.0	4.0
Steps with rail	1.5 x 1.5	2.25	1.0	3.25
Step	0.5 x 1	0.5	1.0	1.5
Treadmill	2.5 x 1.5	3.75	2.0	5.74
Rower	1 x 2.5	2.5	2.0	4.5
Table with armgrinders	1.5 x 0.7	1.05	1.0	2.05
Weight racks: wall space	1 x .02	0.02	1.0	1.02
Parallel Bars	0.85 x 5.0	4.25	0.9 at each side of rails for therapist = 2.65 wide; additional 1.5 at each end for access = 8m L	21.2

Note that circulation can be used more than once.

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500313 155 .0.10

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INTRODUCTION

Preamble

500860 155 .1.00 This Facility Planning Guideline reflects advances in the understanding of optimal environments for care and changing the practices in primary health care service delivery.

Major ongoing changes in Australia's population, health technology and clinical practice are creating increasing demand for Ambulatory Care Services.

Priority must be given to ensuring that the physical environment in an Ambulatory Care Facility is therapeutic and welcoming for all its users, including children, young people, people of culturally and linguistically diverse backgrounds, Aboriginal people and others with special needs.

There is no clear and universally accepted definition of Ambulatory Care. This is understandable given Ambulatory Care can be considered an 'approach' to patient care that ensures that patients receive care in the most appropriate location.

Ambulatory Care can therefore encompass care provided in Hospitals, Outpatient and Emergency Departments, Community Centres, Ambulatory Care Centres, patients' homes or workplaces, or General Practitioner or Specialists' rooms. It may include hospital-in-the home programs, supported discharge, emergency services, post acute programs, community health and day medical and surgery services.

Introduction

501554 155 .2.00 This Guideline is a resource to assist with the planning, design and construction of an Ambulatory Care Facility. Generic requirements and Standard Components are described in Parts A, B and C of these Guidelines and must be read in conjunction with this Guideline.

Capital planning should not be undertaken without the provision of a completed Service Plan.

Policy Framework

500862 155 .3.00 NSW Health policies as they relate to the provision of services in the Ambulatory Care Unit are underpinned by:

- the development of appropriate models of service delivery aimed to minimise the need for admissions to an inpatient unit;
- enabling patients to have access to a range of diagnostic and treatment services in an 'one-stop-shop' venue.

Description

500861 155 .4.00 DEFINITION OF HPU

For the purposes of this Guideline, Ambulatory Care is defined as the provision of health services on a same day basis on the hospital campus, either as a stand-alone facility or integrated with acute-care services. Given the potential diversity of services and individual models being developed (Polyclinic, Integrated Care Centres), there will need to be reference to other HFGs as required (eg Operating Rooms, Community Health).

Services accommodated in the Ambulatory Care Unit may include, but are not limited to:

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- multidisciplinary and specialist consultation and treatment clinics for medical and surgical sub-specialties;
- Same Day Surgery;
- Same Day Medical services such as Renal Dialysis, Oncology and Haematology;
- Maternal and Child Health services;
- Mental Health services;
- Pharmacy;
- Dental;
- Ophthalmology including Eyecare Centre;
- Imaging Services including general radiology, ultrasound and CT;
- Occupational Health;
- Pathology collection and Urgent Testing service;
- GP services;
- Radiotherapy;
- Telehealth;
- Rehabilitation Therapy services.

Some of the services may also be provided in Community Health Centres. The Ambulatory Care Unit may also accommodate commercial services and other government or non-government agencies.

General

503030 155 .5.00 GENERAL ARRANGEMENT

Ambulatory Care Units will vary in size. Components and allocated spaces will depend on the outcome of a needs analysis and a service plan. The service plan is based on the location, size and the needs of the area in which an Ambulatory Care Unit is to be sited. Space requirements will therefore be based on the throughput/occasions of service. These need to be well detailed in the service plan prior to the commencement of the capital planning process.

Hours of Operation

503031 155 .7.00 HOURS OF OPERATION

It is assumed the Unit will generally operate up to 12 hours per day, 5 days per week. Some services (eg crisis counselling) may require staff to be in attendance 24 hours per day.

PLANNING

Operational Models

500863 155 .6.00 Operational policies that may affect planning of the Ambulatory Care Unit include:

- the hours of operation of the facility;
- the cluster of services to be provided within the facility;
- the opportunity to share facilities;
- medical records management.

503032 155 .8.00 FLEXIBILITY

Service mix, how services are delivered by individual staff (even within the same team) and demand for services, change over time within a centre. Providing a flexible accommodation model will improve 'future proof' accommodation and reduce territoriality and perceptions of equity by clinical staff.

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Operational policies and facility design should provide for optimal use and sharing of equipment. The location of this equipment must enable easy access to users.

The use of space must be carefully managed and the design must ensure that there are opportunities to adapt and expand the facility as more services are located in Ambulatory Care Units.

503033 155 .9.00 OPERATIONAL POLICIES

Operational Policies have a major impact on facility requirements and the capital and recurrent costs of health facilities. These policies should be clearly articulated so that the facility design can reinforce the new practices.

Operational Policies will vary from Unit to Unit depending on a wide range of factors. Users must define their own Operational Policies. Refer to Part B of these Guidelines for general discussion on Operational Policies.

STAFFING LEVELS

Staffing levels will vary for each Ambulatory Care Unit depending on Operational Policies, services provided by the centre, availability of staff, case mix and activity levels.

STORAGE

The amount and type of storage space provided will vary depending on the size of each Ambulatory Care Unit. Careful analysis of storage requirements and good management in organising the stores and supply systems are essential.

Models of Care / Work Practices

500864 155 .10.00 The model of Ambulatory Care provides the basis for the configuration of the Ambulatory Care Unit and determines the functional relationship of the Unit to other facilities. The following are examples of models of Ambulatory Care:

- the 'Comprehensive Ambulatory Care Model' where collating services are provided on a day-only basis including outpatients, imaging, minor surgery, interventional cardiology and medical procedures;
- the 'Single Specialty Ambulatory Care Model' provides for a range of ambulatory services for a specific clinical specialty. The Renal Dialysis Centre, or the Cancer Care Centre (incorporating chemotherapy, radiotherapy, consultation and pharmacy), are examples of this model;
- the 'Minor Emergency Care Model' which is usually collocated with the hospital's Emergency Department providing GP services and treatment for patients presenting to the Emergency Department with non-urgent conditions.

Planning Models

503034 155 .11.00 LOCATION

The location of Ambulatory Care Units will vary, depending on the outcome of Service Planning at an Area Health Service level. Options for locating centres include:

- free standing in a community location;
- attached or included in the development of commercial facilities e.g. shopping centres;
- on the grounds of a Hospital Facility.

DESIGN

An Ambulatory Care Unit may be sited in a new purpose-built facility, in an existing building that requires redevelopment or in a combination of both. The design should be selected with consideration of the factors relating to integrating new designs within an existing old facility/building.

Building design must be flexible and adaptable to enable an Ambulatory Care Unit to cater for varying client and service needs and allow for future service delivery changes. The design philosophy for an Ambulatory Care Unit, which is part of the local community, must convey a friendly and inviting environment that will encourage community members to use the available facilities for a variety of purposes.

CONFIGURATION

The configuration of an Ambulatory Care Unit will depend on:

- the number of staff to be accommodated;
- the service mix;
- the population who will use the service;
- whether it is colocated with another facility or free-standing.

Functional Areas

500866 155 .12.00 CORE UNIT

The Unit may comprise a large number of subcomponents, and may range in form from a small stand-alone unit, to a large multidisciplinary centre as a key component of a major teaching hospital.

This Guideline describes a Core Unit which may be a unit at the lower end of the scale or the central core of a larger Unit that would be developed by adding a series of additional or peripheral units to suit the service plan for the site in question.

UNIT FUNCTIONAL ZONES

The Core Unit comprises three key functional areas:

- Reception / Admission Area;
- Patient Areas - waiting and treatment;
- Staff Areas.

500867 155 .13.00 To this additional units could be added that may form part of the following HFGs:

- Operating Unit;
- Renal Unit;
- Pharmacy;
- Dental Unit;
- Ophthalmology;
- Imaging Services including general radiology, ultrasound and CT;
- Occupational Health;
- Pathology collection and urgent testing service;
- Interventional Cardiology.

Functional Relationships

500868 155 .14.00 EXTERNAL

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Depending on whether it is free standing or part of a larger facility, the Ambulatory Care Unit may have working relationships with many other Units.

If they are not included within the Ambulatory Care Unit, the following areas will have a close working relationship:

- Transit Lounge;
- Main Entry;
- Emergency;
- Medical Imaging;
- Pharmacy;
- Pathology;
- Outpatients;
- Car Park / Drop off Zone;
- Day Procedures / Surgery.

500869 155 .15.00 INTERNAL

Internally the Unit needs to be planned around the functional areas identified above.

- the Reception / Admission Area must be designed for efficiency, allow patients to move easily to and from the treatment areas and accommodate large numbers of patients, support persons and mobility aids;
- the Patient Treatment and Waiting Areas must be efficient from the staff viewpoint, but provide a pleasant environment for patients, some of whom will have only a few visits while others with chronic conditions may visit regularly for long periods;
- the Staff Area must be an efficient Unit that allows staff to easily move to and from the Treatment Area, and to and from the Reception/Admissions Area. It must provide a degree of privacy for staff and a quiet area where they can work away from the demands of patients and relatives;
- the Unit must be flexible to accommodate different uses at different times of day;
- the Unit must allow for sections to be closed off when not in use.

The three functional areas must work together effectively to provide a safe efficient and pleasant environment in a smaller unit, or provide the core of a larger, more diversified unit, in a larger more complex environment.

DESIGN

Accessibility

502000 155 .16.00 EXTERNAL

Ambulatory Care is an Outpatient Unit where people who are acutely ill are treated. Ambulatory Care is now required to have an all-weather vehicle drop-off with easy access for patients who are elderly, frail, have limited mobility or are wheelchair bound.

Parking

502001 155 .17.00 Adequate car parking must be provided for clients and staff. In particular, the need for secure staff parking should be assessed. Times of attendance for staff and overnight parking of health service vehicles will impact on requirements.

Refer also to Part C of these Guidelines.

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Disaster Management

500870 155 .18.00 All Units in the facility should be assessed for their potential role in a disaster management situation. When included as a part of a larger facility, the Ambulatory Care Unit has a number of attributes that make it potentially very useful in a disaster situation which include the following:

- access to the Unit is usually available from ground floor level;
- the unit is often located close to the main entrance;
- it is often in close proximity to support services such as Medical Imaging etc;
- it is often close or adjacent to the Emergency Department.

These issues should be considered in the planning of this Unit including its proximity to other Units.

Disaster planning is discussed in more detail in Part B, Section 80 of these Guidelines.

Infection Control

500871 155 .19.00 Consideration of infection control is important in the design of this Unit. Treatment spaces in this Unit will be used for a variety of patients.

It is possible that infectious patients will use the same treatment spaces as immunosuppressed patients at different times on the same day. Standard precautions must be taken for all patients regardless of diagnosis or presumed infectious status.

See Part D of these Guidelines for further information. Staff handwashing facilities including disposable paper towels, must be readily available.

Environmental Considerations

500872 155 .20.00 GENERAL

Patients in this Unit may be acutely ill and undergoing treatment that is unpleasant, painful or takes long periods of time.

501599 155 .21.00 ACOUSTICS

Many functions undertaken within an Ambulatory Care Unit require consideration of acoustic privacy including:

- discussions / interviews with clients;
- exclusion of disturbing or distracting noises during patient consultations / treatment;
- isolation of noisy areas such as Public Waiting;
- staff discussions regarding patient information.

Solutions to be considered include:

- selection of sound absorbing materials and finishes;
- use of sound isolating construction;
- planning separation of quiet areas from noisy areas;
- changes to operational management.

501600 155 .22.00 NATURAL LIGHT

Natural lighting contributes to a sense of wellbeing, assists orientation of

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building users and improves service outcomes. The use of natural light should be maximised throughout the Unit.

Access to natural light and preferably a pleasant outlook will minimise stress and discomfort for patients and staff.

501601 155 .23.00 PRIVACY

Attention to patient comfort and privacy generally will minimise stress and discomfort.

There must be a balance between the need to observe patients, the need to minimise stress and discomfort caused by intrusive noise, and the need to maintain a degree of privacy for the patient.

Patient privacy and confidentiality are important considerations to be addressed. The facility should be designed to:

- ensure confidentiality of patient discussions and records;
- appropriately locate windows and doors to ensure privacy of patients, while maintaining security of staff.

500229 155 .24.00 INTERIOR DESIGN

Interior design includes furnishings, style, colour, textures, ambience, perception and taste. This can assist in relaxing patients and reducing an institutional atmosphere. Interior design should seek to minimise the institutional environment by appropriate use of colours, fabrics and artworks.

However, cleaning, infection control, fire safety, service delivery and the patient's perception of a professional environment must always be considered.

Some colours and patterns can be disturbing to some clients. Bold primaries and green should be avoided in areas where clinical observation may occur such as Consultation / Treatment Areas.

Space Standards and Components

500875 155 .25.00 ERGONOMICS

Treatment spaces may be used for a variety of functions. Care should be taken to ensure the ergonomic functionality of the spaces in all possible configurations.

Refer Part C of these Guidelines for further information.

500874 155 .26.00 HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

500876 155 .27.00 ACCESS AND MOBILITY

While many patients in this Unit will be quite able, many will use various aids to assist with mobility. These could include crutches, walking frames, wheel chairs and, depending on the model of care, even trolleys or beds. These aids should be allowed for in spatial allocations, and room and corridor dimensions. It is important to consider where they are stored while

treatment is in progress.

500877 155 .28.00 DOORS, WINDOWS & CORRIDORS

These issues are discussed in detail in Part C of these Guidelines.

Safety and Security

500880 155 .29.00 SAFETY

An Ambulatory Care Unit should provide a safe and secure environment for clients, staff and visitors, and remain a non-threatening and supportive atmosphere conducive to the delivery of services.

Clients will have varying levels of physical and mental capabilities. They may be weak, unsteady, affected by medication or confused.

The facility, furniture, fittings and equipment must be designed and constructed in such a way that all users of the facility are not exposed to avoidable risks of injury.

A list of security issues to be considered in Ambulatory Care settings is appended to this document.

Refer to Part C of these Guidelines.

SECURITY

Security issues are important due to the increasing prevalence of violence and theft in Health Care Facilities.

The configuration of spaces and zones should offer a high standard of security by grouping like functions, controlling access and egress from the Unit and providing optimum observation for staff.

The level of observation and visibility has security implications.

Planning should allow for after hours access to public areas without compromising security of Staff Areas.

Refer to Part C of these Guidelines.

Finishes

500091 155 .30.00 WALL PROTECTION

Refer to Part C of these Guidelines.

500093 155 .31.00 FLOOR FINISHES

Floor finishes should be appropriate to the function of the space. Refer to Part C of these Guidelines.

Consideration must be given to the appearance and quality of environment required e.g. non-institutional, acoustic performance, slip resistance, consequences of client falls, infection control, movement of trolleys and maintenance.

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500094 155 .32.00 CEILING FINISHES

Refer Part C of these Guidelines.

Ceiling finishes should be selected with regard to appearance, cleaning, infection control, acoustics and access to services.

Fixtures, Fittings & Equipment

500885 155 .33.00 See Part C, Room Data Sheets and Room Layout Sheets for discussion of finishes, fixtures and fittings.

Building Service Requirements

500886 155 .34.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

This Unit will manage a diverse range of patients and may have functional links to many departments of the Hospital. Reliable and effective communications and IT service are essential for the efficient and effective functioning of the Unit.

Unit design should address the following Information Technology/Communications issues:

- Paperless records;
- hand-held computers;
- PACS;
- Patient Administration System (PAS);
- paging and personal telephones replacing some aspects of call systems;
- data entry including scripts and investigation requests;
- email;
- bar coding for supplies and X-rays / records.

500887 155 .35.00 EMERGENCY CALL

All Bed Spaces and Clinical Areas, including Toilets and Bathrooms, should have access to an emergency call facility so staff can summon urgent assistance. The emergency call facility should alert to a central module situated adjacent to the Staff Station, as well as to the Staff and Tutorial Rooms. The Nurse Call / Emergency Call System is to comply with AS 3811.

502026 155 .36.00 NURSE CALL

Facilities must provide a call system that allows patients and staff to alert nurses, and other health care staff, in a discreet manner at all times.

Nurse Call Systems must be designed and installed to comply with AS 3811 - Hard wired Patient Alarm Systems.

502027 155 .37.00 DURESS ALARM SYSTEM

Refer to Protecting People and Property Manual and Part C of these Guidelines.

A discreet duress alarm system will be required at all Reception Points and Client Treatment Areas, where a staff member may be alone with a client.

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COMPONENTS OF THE UNIT

General

- 502002 155 .38.00 This section must be read in conjunction with Part B Standard Components, Room Data Sheets and Room Layout Sheets. The following text describes only specific requirements not covered by these other documents.

The components of an Ambulatory Care Unit will vary for each facility. Components and allocated spaces will depend on the outcome of a needs analysis and a Service Plan that is based on the location, size and the needs of the area in which an Ambulatory Care Unit is to be sited.

Standard Components

- 501559 155 .39.00 Provide the Standard Components as identified in the Generic Schedule of Accommodation. Provision of Offices, Workstations and support areas will be dependant on the Operational Policy and service demand and may vary from the Schedule of Accommodation, however, room sizes should remain consistent.

Non-Standard Components

- 501561 155 .40.00 Provide the Non Standard Components as described in this section, according to Operational Policy and service demand.

Reception / Admission

- 500892 155 .41.00 CLERICAL SUPPORT/MEDICAL RECORDS

DESCRIPTION AND FUNCTION

An Ambulatory Care Unit should provide a work area for clerical staff - particularly for management of medical records which may be delivered and returned on a daily basis.

The use of this area is to be reviewed as part of the assessment of operational policy.

LOCATION AND RELATIONSHIPS

Adjacent to both the Staff Station and the Reception Clerical Area, privacy is required from the public areas. Staff from this area may need to relieve reception staff. It is important to assess carefully the equipment proposed to be used in this room to ensure a successful outcome.

- 502003 155 .42.00 ENTRY CANOPY

DESCRIPTION AND FUNCTION

This is an optional component and the need will vary from project to project. An Entry Canopy is required to provide undercover access to the building from vehicles. The canopy should be large enough to allow vehicles such as taxis, buses, cars, and ambulances to manoeuvre beneath it.

LOCATION AND RELATIONSHIP

The Entry Canopy should be located immediately adjacent to Lobby/Airlock.

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500888 155 .43.00 LOBBY/AIRLOCK

DESCRIPTION AND FUNCTION

A Lobby/Airlock is an optional component and the need will vary from project to project. It is recommended for weather protection where the Unit has direct access to external undercover drop off. The size of this space must allow for the use of trolleys, wheelchairs and walking frames.

LOCATION AND RELATIONSHIPS

The Lobby/Airlock should have direct access to the Reception Clerical Area and Waiting Area. Visibility from the Reception Area is desirable for both security and patient assistance.

Patient Areas

500891 155 .44.00 PATIENT BAY - HOLDING

DESCRIPTION AND FUNCTION

A Patient Bay for holding of patients on trolleys pre or post treatment.

This space is optional and depends on operational policy. It may be used for patients from other institutions such as nursing homes.

LOCATION AND RELATIONSHIPS

The Holding Bay should have direct access to the Reception Clerical Area and Toilets, and be directly accessed from the Airlock. Visibility from the Reception Area is required for both security and patient assistance. Patient dignity and privacy must be considered and an agreed level of both visual and acoustic privacy should be achieved.

Staff Areas

500913 155 .45.00 BAY - PATHOLOGY

DESCRIPTION AND FUNCTION

An area to conduct basic pathology tests such as blood gases etc.

Need depends on proximity to main pathology lab and turnaround times for tests.

LOCATION AND RELATIONSHIPS

Adjacent to the Treatment Area - away from Public Areas where security and safety can be ensured.

502004 155 .46.00 BLOOD STORE

DESCRIPTION AND FUNCTION

An area for refrigerated storage of blood and blood products.

LOCATION AND RELATIONSHIPS

Centrally within the unit, accessible from Treatment and Patient Care/Holding Areas.

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500911 155 .47.00 CYTOTOXICS

DESCRIPTION AND FUNCTION

The Cytotoxics Room is for the storage, dispensing and disposal of cytotoxic medications.

LOCATION AND RELATIONSHIPS

The Cytotoxics Room should be located adjacent to the Treatment Area - away from Public Areas where security and safety can be ensured.

500912 155 .48.00 WATER TREATMENT ROOM

DESCRIPTION AND FUNCTION

A Water Treatment Room is for storage of a reverse osmosis plant to purify water for use in Dialysis.

LOCATION AND RELATIONSHIPS

The Water Treatment Room should be located adjacent to the Treatment Area - away from Public Areas where security and safety can be ensured, and easy access for maintenance can be assured.

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APPENDICES

Schedule of Accommodation

500918 155 .49.00 INTRODUCTION

The content and size of an Ambulatory Care Unit varies depending on the location, services provided and throughput.

At larger facilities, it is assumed that separate Outpatients Units are provided.

A generic Schedule of Accommodation is provided that lists generic spaces that can be combined to form an Ambulatory Care Unit. Sizes and quantities of each space will be determined in accordance with service need and operational policy.

ROOM / SPACE	Standard Component			8 SPACES	16 SPACES	24 SPACES	REMARKS
				Qty x m2	Qty x m2	Qty x m2	* Optional requirement
ENTRY / RECEPTION AREAS:							
CLERICAL SUPPORT / MEDICAL RECORDS				1 x 9	1 x 9	1 x 9	Depends on operational policy re photocopy, etc.
ENTRY CANOPY				n/a	n/a	n/a	Depends on project requirements
LOBBY / AIRLOCK				1 x 12*	1 x 12*	1 x 12*	
RECEPTION / CLERICAL	yes			1 x 9	1 x 9	1 x 12	
TOILET - DISABLED	yes			1 x 5	1 x 5	1 x 5	
TOILET - PUBLIC	yes			2 x 3	2 x 3	2 x 3	Increase to 4m2 if babychange facilities included.
PATIENT AREAS:							
1 BED ROOM (CLASS S ISOLATION)	yes			1 x 12	1 x 12	2 x 12	
BAY - RESUSCITATION TROLLEY	yes			1 x 2	1 x 2	1 x 2	
CONSULT ROOM	yes			1 x 12	1 x 12	1 x 12	
ENSUITE - ISOLATION ROOM	yes			1 x 5	1 x 5	1 x 5	'partially assisted'; direct access to 1 Bed Room - Isolation.
LOUNGE - PATIENT	yes			1 x 12	1 x 16	1 x 20	
MEETING - MEDIUM	yes					1 x 20	May include telemedicine area, varies to suit use.
MEETING - 12M2	yes			1 x 12	1 x 12	1 x 12	Also for patient education
PATIENT BAY - ACUTE TREATMENT	yes			8 x 9	16 x 9	24 x 9	Acute treatment spaces; may include dialysis chair
PATIENT BAY - HOLDING	yes/varies			1 x 4*	1 x 4*	1 x 8*	Pre/post treatment; inclusion depends on operational policy.
TOILET - PATIENT	yes			1 x 4	1 x 4	1 x 4	
TREATMENT ROOM	yes			1 x 14	1 x 14	1 x 14	
STAFF AREAS:							
BAY / ROOM - BEVERAGE	yes			1 x 4*	1 x 4*	1 x 4*	May be shared between Admissions and Treatment Area.

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BAY - LINEN	yes			1 x 2	1 x 2	1 x 2	Includes storage for pillows over
BAY - PATHOLOGY				1 x 3*	1 x 3*	1 x 3*	
BLOOD STORE				1 x 1	1 x 1	1 x 1	Bay
CLEANER'S ROOM	yes			1 x 5	1 x 5	1 x 5	
CLEAN UTILITY	yes			1 x 12	1 x 14	1 x 16	Incl. medications, may also be used for prepackaged cytotoxic drug storage.
CYTOTOXICS ROOM				1 x 8*	1 x 8*	1 x 8*	
DIRTY UTILITY	yes			1 x 14	1 x 14	1 x 14	Includes Disposal Room function.
OFFICE - CLINICAL / HANDOVER	yes			1 x 12	1 x 16	1 x 16	staff work, handovers, etc.
OFFICE - SINGLE PERSON 9M2	yes			1 x 9	2 x 9	2 x 9	Nursing and Medical
PROPERTY BAY - STAFF	yes			1 x 2	1 x 3	1 x 3	
STAFF STATION	yes			1 x 12	1 x 16	1 x 16	
STORE - EQUIPMENT / GENERAL	yes			1 x 12	1 x 14	1 x 16	Combined.
TOILET - STAFF	yes			1 x 3	2 x 3	2 x 3	
WATER TREATMENT ROOM				1 x 12*	1 x 12*	1 x 12*	Where dialysis is provided.
SUB TOTAL				301	402	521	
CIRCULATION @ 32%				96	129	168	
TOTAL				387	531	688	

Functional Relationships

500919 155 .50.00 A diagram of key functional relationships is attached.

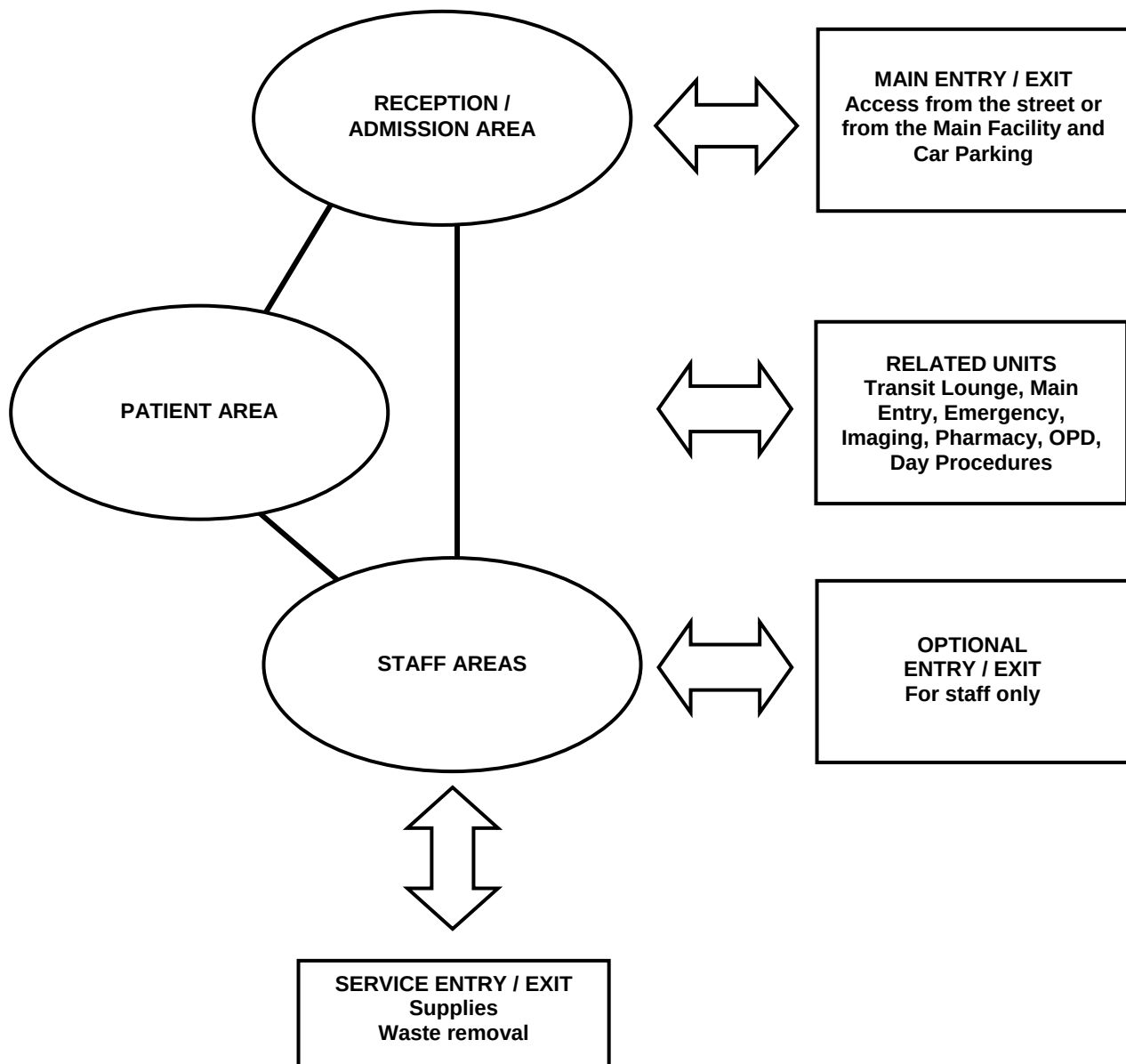
Checklists

500923 155 .51.00 A security checklist for Outpatient Areas is appended to this document.

Refer also to Part C of these Guidelines.

FUNCTIONAL RELATIONSHIP DIAGRAM – AMBULATORY CARE UNIT

The following diagram sets out the relationships between zones in an Ambulatory Care Unit:



SECURITY ISSUES TO BE CONSIDERED IN AMBULATORY CARE CENTRES

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Treatment Area.	1. Minimise entry and exit doors.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Patient files	1. Personnel working on these files must return the files to the secure area use or return them to the Medical Records Department. 2. If any electronic files are produced, save in restricted area of hard drive.
2. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
3. Drugs storage	1. Dangerous drug safe within the Clean Utility Area.
4. Hospital personnel safety	1. Staff working in this area should know the location of the fixed duress system and/or use a mobile duress pendant. 2. Appropriately designed waiting area including, where possible: - barrier between staff and patients, - bench seating, - ensure no loose fittings that can be utilised as a weapon, - vending machines. 3. Design shape of Interview Rooms and location of desks etc, in such a way that minimises risk to health personnel. 4. Provide storage and store items not in constant use that could be used as weapons. 5. Minimise furniture that can be used as a weapon ie picked up and thrown.
5. Staff personal effects	1. Provision for lockers in Staff Areas and lockable desk drawer to keep small personal effects.

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SECURITY CHECKLIST – AMBULATORY CARE

FACILITY:	DEPARTMENT: Ambulatory Care	
RISK ISSUE	DESIGN RESPONSE	
1. Is access to patient records restricted to staff entitled to that access?		
2. Is a system implemented to prevent theft of equipment, files, personal possessions, etc?		
3. Are drug safes installed in accordance with current regulations?		
4. How is this area secured during and after hours?		
5. Are there lockable storage areas available for specialised equipment?		
6. Is lockable furniture provided for storage of staff personal effects?		
7. Is waiting area appropriately designed to include, where appropriate: - barrier between patients and staff; - appropriate seating for patients; - absence of loose fittings; - vending machines; - TV		
8. Are Interview Rooms appropriately designed with specific reference to staff egress, furniture selection, furniture location, provision for storage of equipment, etc.		
9. Is there an adequate duress alarm system that meets required standards?		
10. Are offices for Community Nurses, Palliative Care Nurses and Post Acute Care staff who work after hours, easily accessible to a secure entry point, toilets and beverage area?		
11. Is a secure entry point provided for after hours staff, including movement between car parking areas and the facility?		
DESIGN COMMENTARY /NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

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Description

601350 190 .0.10

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INTRODUCTION

Introduction

601351 190 .1.00

GENERAL

Healthcare facilities must provide adequate facilities for cleaning, sterilization or disinfection and storage of equipment and instruments to ensure the care and safety of patients and the safety of staff.

This document is a resource to assist project staff, potential users and client groups in the planning, design and construction of Sterile Services Units (SSU) in the hospital setting. It should be read in conjunction with generic planning requirements and standard components described in parts A, B, C and D of these guidelines which can be found at www.healthfacilityguidelines.com.au

Facility design, must, where appropriate meet all necessary criteria to reach accreditation standards with regards to design, equipment and safety.

This Guideline does not address procedural practices and does not replace procedure manuals.

601352 190 .1.05

STERILIZATION

Sterilization is the destruction of all forms of microbial life, including bacteria, viruses, and spores. To be effective, sterilization must be preceded by meticulous cleaning (mechanical or manual) to remove all foreign material.

There are a variety of sterilising methods suitable for health care facilities including steam sterilisation (autoclaving), dry heat sterilisation, and low temperature sterilising processes (ethylene oxide, peracetic acid and hydrogen peroxide plasma).

601353 190 .1.10

DISINFECTION

Disinfection is a process that only removes or kills organisms that are regarded likely to cause disease and may be achieved by either thermal or chemical methods. Thermal disinfection (hot water / pasteurisers) must be used in preference to chemical disinfection.

Chemical disinfection may only be used for items for which thermal methods are unsuitable.

The manufacturer's instructions must be checked for compatibility of the instrument or equipment with the method of disinfection to be used.

Where thermal disinfection is used, all parts of the item must be subjected to moist heat at or above the recommended temperature for the recommended duration.

Disinfecting equipment includes anaesthetic washer / disinfectors and utensil washer / disinfectors.

Policy Framework

601354 190 .2.00

NSW HEALTH POLICIES

Project staff should familiarize themselves with the following:

NSW Health, Infection Control Policy, PD2007_036, May 2007.

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NSW Health, Glutaraldehyde in NSW Public Health Care Facilities (Policy and Guidelines for Safe Use of), PD2005_108, 25 January 2005.

Sterilising Equipment and Products - Purchase and Installation of (Non Ethylene Oxide), PD2005_055, 25 January 2005.

601355 190 .2.05 AUSTRALIAN / NEW ZEALAND / INTERNATIONAL STANDARDS

The overarching standard for Sterile Services Units is AS/NZS 4187 - Cleaning, Disinfecting, and Sterilizing Reusable Medical and Surgical Instruments and Equipment, and Maintenance of Associated Environments in Health Care Facilities, Standards Australia International Ltd, Sydney.

Sterilization outside of the hospital setting (medical, dental, surgical, allied health and skin penetration practices) is addressed in the Australian Standard AS/NZS 4815 - 'Office-based health care facilities not involved in complex patient procedures and processes - Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of the associated environment'.

Equipment-specific Standards are listed in Section 190.17.10 of this Guideline.

Description of the Unit

601356 190 .3.00 DEFINITION OF HEALTH PLANNING UNIT (HPU)

The Sterile Services Unit is a discrete unit of the hospital which has the following functions:

- to process re-usable instruments required sterile for patient care in all hospital departments including operating suites, wards and special care areas, and, depending on the Unit's role, outlying centres;
- to disinfect selected specialised items;
- to ensure that all processes are validated by means of quality assurance practices;
- to ensure that the items supplied meet the requirements of the user;
- to provide technical advice to users, suppliers and hospital administrators on standards for sterile products.

Note that it is no longer the role of the Sterile Services Unit to store and distribute medical / surgical single use items to wards and departments or to process theatre linen other than to sterilize packs if necessary.

601357 190 .3.05 THEATRE STERILIZING SERVICES UNIT (TSSU)

A TSSU processes re-usable items for the operating suite only. Sterile storage areas may be located in the TSSU or in the Operating Suite and the TSSU may contain facilities for preparation of case carts or trolleys for the items required for surgical procedures. Design principles are the same as for the SSU.

Because of duplication of resources, establishment of a TSSU should be avoided where possible.

601358 190 .3.10 UNIT CONFIGURATION

With the exception of the contained Decontamination Area, the SSU should be designed as an open plan work area subdivided by benches and / or equipment into functional work areas. These work areas are to be linked by

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circulation space and arranged to allow for a progressive work flow that commences with a “dirty” entry and receiving area, proceeds to a cleaning, decontamination and drying area, into a sorting and packing area, through to a sterilization and cooling area, to finish with sterile storage, distribution and exit areas.

Work flows should prohibit the flow of non-sterilized items through areas where sterilized items are held or stored.

601359 190 .3.15 MAJOR SPACE DETERMINANTS

Major space determinants are:

- projected workload (throughput);
- number of operating theatres / suites serviced;
- extent of storage required in the Operating Suite itself and in other wards and departments. (Consideration needs to be given to the provision of commercially produced sterile stores through either the SSU or the Supply Unit);
- types of cleaning equipment selected such as index / tunnel washers or batch washers;
- number of sterilizers and whether front or double sided loading;
- extent of staff amenities that may or may not be shared with the Operating Suite.

601360 190 .3.20 DESIGN CRITERIA

In addition, design of the unit must address the following:

- safety: particular attention is to be paid to chemical, biological, electrical and fire hazards, air contaminants / particulates and odor containment / removal;
- transportation systems (hoists) and equipment (trolleys);
- signposting to allow staff from user departments controlled access to the despatch and soiled goods reception;
- cost efficiency;
- fire egress;
- access for installation and maintenance of large items of equipment;
- infrastructure, present and future for information technology particularly with regard to quality assurance and instrument tracking.

PLANNING

Operational Models

601361 190 .4.00 HOURS OF OPERATION

Generally staff will cover two shifts per day from approximately 0800 hours to 2200 hours Monday to Friday. Night, weekend and public holidays coverage will be at the discretion of the individual health care facility.

If no 24 hour service, there will need to be arrangements for emergency services and after-hours access by authorized personnel.

601362 190 .4.05 SERVICE MODELS

The sterilization process may be carried out entirely or partially on-site, the latter relying on an external supply source to regularly restock the hospital sterile goods store.

The scale of operation can be small or large, dependent upon the requirements of the serviced departments: for example, an Operating Unit

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requires the services of a Theatre Sterile Services Unit (TSSU) or a full Sterile Services Unit, whereas an Acute Ward requires only a basic Sterile Services Unit.

The following models of service delivery may apply:

- central SSU, with or without a TSSU;
- regional service with collection and receipt only in outlying centres.

Where this latter model is considered / adopted, care must be taken to ensure appropriate transport is available for timely delivery and pick-up and adequate instrumentation to avoid last-minute crises. This will require considerable negotiation with surgeons to ensure they have the necessary instruments.

601363 190 .4.10 STERILIZING METHODS

The following methods of sterilization are available:

- steam under pressure (moist heat);
- low temperature sterilization;
- dry heat.

The sterilization method chosen must be compatible with the item to be sterilized to avoid damaging the instrument and manufacturer's recommendations should be followed.

601364 190 .4.15 STEAM STERILIZATION

Steam sterilization involves the use of steam under pressure, delivered at a particular temperature for an appropriate time. Items must be thoroughly dry prior to removal from the autoclave and procedures must be in place to monitor the sterilization process.

Steam sterilization is suitable for all instruments capable of withstanding heat and moisture. There are two types of steam-under-pressure sterilizers for porous loads used in SSUs:

- downward displacement (gravity) sterilizers;
- pre-vacuum sterilizers.

The two types vary slightly with regard to temperature range and means of air extraction. Pre-vacuum sterilizers provide a more effective method of air removal thus giving a faster operating cycle and therefore greater productivity. Downward displacement sterilizers are not recommended, as they cannot sterilise cannulated (laparoscopic) instruments.

Benchtop sterilizers are not addressed in this Guideline.

601365 190 .4.20 LOW TEMPERATURE STERILIZATION

There are three low temperature sterilization processes identified by AS4187 for use in health care facilities to sterilize items at temperatures of 55°C or lower. The active sterilants are:

- hydrogen peroxide gas plasma;
- peracetic acid;
- ethylene oxide.

601366 190 .4.25 HYDROGEN PEROXIDE GAS PLASMA

An automated machine using hydrogen peroxide plasma to chemically process medical and surgical instruments is currently available

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(STERRAD™). The system uses hydrogen peroxide gas plasma at low temperature for heat-sensitive and moisture-sensitive instruments with no toxic residues and is normally used for wrapped items.

The system cannot be used to process liquids, powders, or strong absorbers (cellulosics), and there are some lumen restrictions. Also not recommended for liquids and devices that can be damaged physically or changed by exposure to low pressure.

601367 190 .4.30 PERACETIC ACID

Peracetic acid is a low temperature chemical sterilant and high level disinfectant. Instruments are processed unwrapped at point of use and are wet when removed from the machine. An automated machine using peracetic acid to chemically process medical and surgical instruments such as endoscopes and arthroscopes is currently available (STERIS™). The system is most commonly used for processing endoscopes and would not normally be found in the SSU.

601368 190 .4.35 ETHYLENE OXIDE (ETO)

Ethylene oxide sterilizers utilise ethylene oxide gas and humidity to sterilize items that are unable to withstand temperatures above 60°C and are therefore incompatible with steam or dry heat. They are also used for those few items that are incompatible with the gas plasma system e.g. lumens and lens.

The emergence of sterilants such as gas plasma has reduced the need for ETO sterilizers and the relevant Australian standards (AS 1714 and AS 1862) have been withdrawn. However, they may still be installed in approved hospitals and their use should be made available to other facilities as a regional service.

As ethylene oxide gas is toxic and is absorbed into materials during the sterilizing process, a period of aeration is essential to remove the ETO residue. Recommended aeration times are considerable and although goods may be aerated within the sterilizer, a separate aeration cabinet may be required to improve turnover time.

The following may be used as references:

Safe Use of Ethylene Oxide in Sterilisation / Fumigation Processes National Code of Practice for the Safe Use of Ethylene Oxide in Sterilisation / Fumigation Processes [NOHSC:2008(1992)] Australian Government Publishing Service, Canberra'

BS EN 1422:1998: Sterilizers for medical purposes. Ethylene oxide sterilizers. Requirements and test methods.

601369 190 .4.40 DRY HEAT

Dry heat sterilization is only minimally used in health care facilities today. Whereas steam sterilization is fast due to steam delivering both heat and moisture to the items being sterilized, dry heat sterilization subjects items to dry hot air for a long length of time. It is more commonly seen in use in laboratories for sterilization of some glassware items.

Operational Policies

601370 190 .5.00

GENERAL

Operational policies have a major impact upon the planning and design and capital and recurrent costs of health facilities. Design teams should be constantly reviewing their design proposals with these in mind and be able to demonstrate that the capital and recurrent cost implications of proposed operational policies have been fully considered.

Operational Policies may have hospital-wide application or be unit-specific. A list of general Operational Policies that may apply can be found in Part B Section 80 of these Guidelines.

601371 190 .5.05

SSU-SPECIFIC

Operational Policies will vary from unit to unit depending on a wide range of factors. Following are examples for consideration:

- will/will not be responsible for the emergency sterilizing required by the Operating Suite;
- will be responsible for maintaining the stock supplied for the "out of hours" cupboard;
- will/will not be responsible for sterilizing theatre linen;
- will/will not be responsible for processing scopes used in other hospital units;
- will/will not be responsible for processing respiratory tubing from critical care areas (many units will process their own and increasingly tubing is disposable).

601372 190 .5.10

AFTER HOURS SUPPLIES

As the majority of facilities do not operate a 24 hour sterilizing service, provision should be made to enable wards and departments to obtain sterile stock required in an emergency and there should be written procedures indicating the method by which these supplies may be obtained.

Emergency supplies should be held in a secure cupboard accessible only by authorised hospital personnel and if design permits, should be located on the periphery of the SSU with internal access from the dispatch area.

601373 190 .5.15

FLASH STERILIZATION

Emergency instrument ("flash") sterilizers are designed for one-off sterilization of instruments (eg an instrument which has been inadvertently left out of a set or dropped) and are generally located in the Operating Suite.

These sterilizers should be under the control of SSU and should be performance tested daily to ensure that the parameters of the sterilizer performance comply with Australian Standard AS 4187.

601374 190 .5.20

HANDLING AND COLLECTION OF USED ITEMS

All users in all departments have a responsibility for the correct handling and disposal of the contents of packs after use.

Used single-use items must be discarded into appropriate containers.

Linen wraps and drapes should be placed in soiled linen containers and returned to the linen / laundry service. Soiled linen should NOT be returned

to the SSU.

"Sharps" should be placed in appropriate leakproof and puncture-proof containers and should not be returned to the SSU, but in the event of this inadvertently happening, an appropriate container should be provided in the SSU.

Re-usable items should be rinsed in water (20-40°C) to remove gross contaminants and placed in the containers dedicated to that purpose for return to SSU.

601375 190 .5.25 INSTRUMENT CLEANING / DECONTAMINATION

Thorough cleaning / decontamination of all instruments and equipment is an essential prerequisite in the processing of items in order to remove all infectious residual soil, tissue debris, blood etc. Cleaning methods should be appropriate for the item and may be mechanical or manual.

Manual methods are used for washing certain delicate or complex instruments where mechanical methods are contra-indicated. These instruments should be carefully hand-washed and rinsed.

Mechanical ultrasonic cleaners are available for use with a limited range of jointed and serrated stainless steel instruments; they usually operate with cold tap water and only detergents approved by the equipment manufacturer should be used. Items that are lensed or unable to be submerged in a solution should not be cleaned by this method.

Mechanical decontaminators are of two types:

- Batch-Type Washer / Disinfectors;
- Index / Tunnel Washers.

These machines are used for cleaning instruments and utensils, complex equipment such as anaesthetic breathing circuits, flexible fibre optic endoscopes, and laboratory glassware.

All SSUs will require an ultrasonic cleaner or cleaners but will need to determine whether batch washers or tunnel washer or a mix of both will be the preferred mechanical equipment as this will have major implications on space within and layout of the Decontamination Area.

If a tunnel washer is the equipment of choice, there must be a secondary method available in case of equipment breakdown or down time for maintenance, whether manual or mechanical.

All manual and/or mechanical cleaning MUST be done "As per the Manufacturers Recommendations" (AS/NZ 4187) and these recommendations MUST be kept for the accreditation process.

601376 190 .5.30 INSTRUMENT DRYING

Drying reduces the risk of re-contamination during inspection and assembly of instruments, and minimises rusting and staining. Residual moisture interferes with the sterilization process, and can damage instruments. Following any method of cleaning (pre-cleaning, manual, mechanical and ultrasound) instruments need to be dried.

Drying cabinets should be used for drying instruments, hollowware, tubing and anaesthetic equipment.

Hot air drying may also occur during the last stage of the cycle of washer / disinfectant machines, batch washers or multi stage tunnel washers.

601377 190 .5.35 INSTRUMENT TRACKING

An instrument tracking system requires that all instruments are engraved and scannable (a form of bar coding) ensure that a particular instrument may be traced back to a particular case / patient. This does not require space as such but does require that the packing tables are appropriately serviced with computers and scanners.

601378 190 .5.40 LOAN INSTRUMENTS

The use of surgical 'loan sets' is commonplace in most hospitals. The use of these sets requires careful coordination between surgical suppliers, transport companies, hospitals and their sterilizing services. The process is extremely labour-intensive, requiring repeated manual checking, unpacking and rechecking prior to return.

Delivery crates may be numerous, bulky and heavy. The contents must be unpacked and checked (and may be photographed) against the supplier's inventory and for damage before being put through the normal sterilizing cycle. On return, they must again be checked. This delivery and checking process requires an appropriate delivery area with space to stack the crates, benches for checking and a workstation with computer for the instrument database.

The Loan Equipment Store may be incorporated into the SSU or into the Operating Suite but should be accessible from a main hospital corridor and have ready access to the SSU cleaning area. Responsibility for checking will lie jointly with SSU and OR staff.

601379 190 .5.45 MAINTENANCE

There must be a planned maintenance programme for all major equipment (sterilizers, washer / decontaminators, index tunnel washers).

601380 190 .5.50 SCOPE PROCESSING

In those health care facilities with only a small endoscopy case load insufficient to justify a dedicated Endoscopy Unit and associated scope cleaning room, facilities for scope cleaning will be incorporated into the SSU. Fume cupboard / extraction.

For details, refer to "Standards for Endoscopic Facilities and Services", Gastroenterological Society of Australia and Gastroenterological Nurses Society of Australia, February 1998.
http://www.gesa.org.au/members_guidelines/endoscopy_ps/endoscopy_standards.pdf

Also, equipment for processing ultrasonic intraoperative probes if used in the Operating Suite may be required.

601381 190 .5.55 STERILIZATION RECORDS

The use of items incorrectly processed carries inherent risks in terms of infection. It is essential, therefore, that records be kept of all items processed and all sterilizing cycles so that a defective item may be recalled if necessary and malfunctioning equipment, operator error and/or product and processing defects identified and corrected.

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These records may be included in the individual sterilizer log book or in a separate record and they must be retained for fifteen (15) years following last entry or print-out in accordance with the State Records Act 1998 and State Records Regulation 2005.

601382 190 .5.60 STORAGE - BULK SUPPLIES

It is important to consider the overall unit's storage requirements in some detail.

Bulk storage areas should be located on the periphery of the unit so that deliveries of bulk, non-sterile, and commercially purchased sterile stocks are not delivered through the work areas, but wherever possible have controlled access from areas outside the unit into the storage area concerned.

Storage needs can be divided into:

- non-sterile stock, both "in use" and "back-up" supplies;
- non-sterile linen, both "in use" and "back-up" supplies;
- medical / surgical consumables that may be incorporated into case packs;
- packaging material (drapes, plastic bags etc);
- spare unsterilized instruments;
- chemicals. Detergents, disinfectants and chemicals with high acidity or alkalinity should be stored in a chemical storage cabinet. Users are advised to check for chemical incompatibilities before storing different chemicals together.

601383 190 .5.65 STORAGE - STERILE SUPPLIES

Sterile supplies must be handled and stored in a manner that maintains the integrity of packs and prevents contamination from any source (dust, vermin, sunlight, water, condensation etc). Storage areas must be temperature and light controlled and easily cleaned.

Supplies should be stored off the floor, with the lowest shelf at least 300 mm above floor level so as to avoid mechanical damage during cleaning.

601384 190 .5.70 THEATRE LINEN

The preparation of sterile drapes and gowns ('linen') for operating room use is usually a major aspect of SSU activities. Despite a move to disposable drapes, woven textiles remain in widespread use, requiring transporting, laundering, and checking and pack preparation separate from the processing of instruments and equipment.

Some facilities receive a service of laundered linen for sterilization or already sterile linen packs from an external organisation. However, there are many health care facilities laundering their linen within the facility. After laundering, linen is passed to the SSU for checking, pack preparation, sterilizing and storage, or delivery as sterile packs. Due to linting, linen **MUST** be folded in a separate room with its own air conditioning system in accordance with AS/NZ 4187.

Wherever operating room linen is laundered on-site, the following standards must be present so that reference can be made to them for quality management of the linen service.

Australian Standard AS 3789.2 Textiles for Health Care Facilities and Institutions Part 2: Theatre linen and pre-packs.

Australian/New Zealand Standard AS/NZS 4146 Laundry Practice.

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601385 190 .5.75 TRANSPORTATION SYSTEMS

Equipment and systems to collect used items from wards / departments and operating suites and to deliver sterile items to wards and departments and operating suites must be addressed. ALL soiled Instruments MUST be collected in closed puncture proof containers.

Delivery to wards and departments will be manual and will require trolleys that will be stored in the main Sterile Stock Store.

Transfer of items to/from the Operating suite will also require a trolley system whether open or closed carts and if the SSU is not on the same level as the Operating Suite, two hoists will be required, one for used items, one for sterile items.

Case management may be done in a number of ways that will affect storage requirements in both SSU and Operating Suite and may include:

- shopping trolley or similar - 1 per case;
- closed case carts - 1 per case;
- flat top trolleys - 1 per case;
- shelved trolleys - 1 per list.

601386 190 .5.80 TROLLEY WASHING

All transport trolleys will need to be cleaned after each use, either by hand or by means of a trolley washing system.

601387 190 .5.85 WASTE DISPOSAL

Most items returned to the unit for sterilization and reissue should have the sharps, linen and biological waste removed and sorted at source. Categories of waste within the SSU will include:

- plastic aprons, gloves, cleaning cloths and some sharps;
- general office waste;
- packaging and cartons from bulk supplies stored in the unit;
- liner bags used to collect reusable items.

Waste should be placed in the appropriate containers and should not be transferred from bag to bag during collection.

Liner bags used to collect re-usable items, and other soiled materials should be treated as contaminated waste, discarded into appropriate containers and disposed of in accordance with the facility's policy.

"Sharps" containers should be provided for disposal of condemned needles and used, single use needles and syringes inadvertently returned to the department with re-usable items.

All waste should be removed from the department via a dedicated disposal exit. Holding space within the unit prior to its collection and disposal via the hospital's waste disposal system will need to be considered by the design team.

601388 190 .5.90 STAFF EDUCATION AND TRAINING

There should be a formal, departmental orientation programme for new staff and a formal programme or system for continuing in-service education. Access to a tutorial room is essential.

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601389 190 .5.95 STAFFING

Staff qualifications and staffing levels should be sufficient to ensure the continuous, safe and efficient operation of the SSU.

There should be a written job description for each category of staff.

Departments should be managed by persons qualified to the appropriate level by education, training and experience and who hold a sterilizing technology certificate. Their responsibilities may include:

- training and supervision of staff;
- allocation of duties;
- rostering and leave arrangements;
- communication and liaison with other departments and organisations;
- development and implementation of policies and procedures;
- budget management;
- maintenance of records;
- quality assurance programmes.

The staff may include:

- Unit Manager;
- Team Leaders;
- Sterilizing Technicians;
- Supervisor, Educator and Loan Co-ordinator particularly in centres providing a 24 hour service.

Details such as numbers of staff, shift hours, etc should be developed in accordance with individual hospital needs.

Planning Models

601390 190 .6.00 LOCATION

The Sterile Services Unit should be conveniently located for access to all consumer areas of the health facility and with direct or ready access to the operating suite.

Functional Areas

601391 190 .7.00 FUNCTIONAL AREAS

The functional requirements for the SSU may be addressed according to the various areas as follows:

- reception and administrative functions and access control;
- receiving area for soiled / used items from external sources and from the Operating Suite;
- cleaning / decontamination / disinfection area;
- checking / packing workroom;
- sterilizing area (including loading and cooling);
- sterile stock storage - OR and wards;
- staff amenities.

All Sterile Services Units regardless of the level of service provided will require these areas in varying combinations and sizes.

601392 190 .7.05 RECEPTION AREA

The Reception area will/may have the following functions:

- the "public" entry point for receiving and meeting with visitors, manufacturer representatives etc;
- area for clerk / clerical duties and Unit Manager's office or workstation;
- the distribution point for items requested by wards and departments in the

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form of a counter or pass-thru hatch from the external service corridor;
- may be the delivery point for clean bulk goods and couriers;
- may act as staff entry if immediate access to change rooms without accessing the Unit proper can be achieved.

601393 190 .7.10 RECEIVING AREA FOR USED ITEMS

Area where all soiled articles for reprocessing are received on trolleys from the main corridor from user departments throughout the hospital and outlying centres and - by an internal route (hoists or horizontal corridor), from the Operating Suite. Here the trolleys are unloaded and sorted and trolleys washed, by hand or via trolley wash if installed. Trolleys should not be transferred into any clean zone.

601394 190 .7.15 CLEANING / DECONTAMINATION / DISINFECTION

Area where all articles are sorted, used / soiled material disposed, items rinsed, manually or mechanically washed and dried.

Equipment will/may include:

- unpacking bench/es;
- multiple outlet manifold with air and water under pressure for tubing cleaning;
- sink/s and ultrasonic tank/s;
- drying cabinet/s;
- pass-thru hatch to the packing area;
- index / tunnel washer and/or;
- batch-type washer / disinfectors, ideally pass-thru to the packing area;
- handbasin.

Space to park trolleys is essential.

A trolley wash, if provided, would be accessed off this area.

601395 190 .7.20 CLEAN WORKROOM

Clean Workroom where clean and dried instruments, equipment and other articles are sorted, checked, scanned and packaged for sterilizing.

One or more tables will be required for instruments but as packaging needs vary, a dedicated area for holloware and dedicated areas for items intended for low temperature sterilization are recommended.

Packing tables require power and data for use with computers and instrument scanners.

Space for mobile shelving units containing the items awaiting packaging.

Storage rails and shelves for packaging drapes.

Paper, laminate and heat sealers.

A handbasin should be readily accessible but location should ensure that splash contamination of clean, dry goods cannot occur.

601396 190 .7.25 STERILIZING AREA

Area where loading trolleys are parked, sterilizers are loaded, set into operation, unloaded for cooling and plastic wrapped as necessary following

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completion of the sterilizing cycle.

The size of the area will be dependent on the number and type of sterilizers installed and whether front loaded / unloaded or double-sided loaded. Access will be required to the Sterilizer Plant Room.

If loading trolleys are electric, power outlets for recharge will be required.

601397 190 .7.30 STERILE STOCK STORE - OPERATING SUITE

Location of the Sterile Stock Store for the Operating Suite may depend on whether Operating Suite staff or SSU staff are responsible for assembling the case trolleys. If the former, the Sterile Stock Store will be located within the Operating Suite but must have ready internal access from the SSU; if the latter, the Store will be located in the SSU in which case direct internal access to the Operating Suite is essential.

The Sterile Store should be ventilation, humidity and temperature controlled. Supply air pressure should be positive with respect to surrounding areas and the level of filtration should equal or exceed that of the Operating Room.

Shelving may be dust-free wire fixed or mobile shelving units or compactus-style system.

Storage cupboards should be fitted with doors.

There should be space to park and manoeuvre case assembly trolleys.

Recommended 10sqm per Operating Room.

601398 190 .7.35 STERILE STOCK STORE - WARDS AND DEPARTMENTS

A dedicated store should be provided for the storage and issue of sterile stock to wards and departments. It should be designed so that stock can be easily rotated and issued in date order as well as facilitate safe cleaning procedures.

Direct access will be required to the external corridor and there must be space to park the trolleys.

601399 190 .7.40 SHELVING AND CONTAINERS

- Shelving systems are to be designed and constructed to avoid inaccessible corners, with sealed seams, having non-porous surfaces which facilitate damp dusting and vacuum cleaning;
- shelving to be 250 mm above the floor and 440 mm from the ceiling;
- area to be protected from direct sunlight;
- sterile items to be stored within the original packaging or decanted into receptacles which are enclosed and able to be cleaned to reduce risk of contamination and/or damage;
- reusable cardboard boxes should not be used as storage containers as they are porous cannot be adequately cleaned and may harbour organism;
- routine cleaning with detergent and water to be scheduled.

601400 190 .7.45 STAFF AMENITIES

Showers and toilets for staff employed in this area should be provided. These facilities should be conveniently located and may be shared with the Operating Unit staff in cases where the Sterile Services Unit is adjacent to

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the Operating Suite. Staff must be provided with full length lockers especially if they are to wear "theatre scrubs".

A Staff Room may be a shared central facility outside the Sterile Services Unit.

Access to a training room in close proximity to SSU for formal training activities is essential.

Facilities should also be provided in the Change Room to store caps, overalls and footwear protection. 'Barrier' principles are observed when entering the SSU.

Functional Relationships

601401 190 .8.00 It is highly desirable that the SSU has immediate horizontal or vertical adjacency to the Operating Suite (with own controlled point of entry).

Ready access to:

- Critical Care Units (ICU, NICU, Birthing Suite);
- Inpatient Units;
- Emergency Unit;
- Oral Health Unit;
- Linen Handling Unit;
- Stores / Supply Unit.

DESIGN

Accessibility

601402 190 .9.00 EXTERNAL

There should be separate and distinct entry to the SSU well separated from other hospital traffic and located to avoid entry by unauthorised personnel.

The SSU should be signposted to allow staff from user departments controlled access to the reception area only.

The entry to the receiving area requires trolley access for department returns as well as returns from the operating suite.

These return entry points may be achieved by either controlled doors or vertical transport from areas outside the SSU.

Both internal and external access to the sterilizing plant room should be provided.

Easy route from loading docks or wherever goods being transported may occur.

601403 190 .9.05 INTERNAL

Where possible a direct internal point of access should be available from the dispatch area of the SSU to the sterile storage area of the operating suite.

Controlled exit for trolleys reissuing sterile supplies to departments. This exit must not be used for the return of "dirty" items to the SSU which requires a separate entry to the SSU reception area.

Outside double door access to couriers for Loan Equipment Deliveries.

Special attention should be given to identifying major pieces of equipment

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early in the design process to ensure that door openings and room dimensions will allow easy delivery and removal (from the point to entry of the building) and access to the equipment for servicing.

601404 190 .9.10 MAINTENANCE

Access to the sterilizer plant room for maintenance should be such that disruption to the staff and the operation of the unit is minimal; in particular, access to services should be outside "clean areas" wherever practicable and it is preferred to be away from staff work areas.

Parking

601405 190 .10.00 Where the SSU provides a regional service to outlying centres, there should be ready access to parking for transport vehicles along a route that ideally does not cross public corridors.

Staff parking should be provided under or within close range of the workplace. The area should be well lit and protected from the elements. In high risk areas the Car Park may need to be monitored by security personnel or cameras.

Disaster Planning

601406 190 .11.00 An internal or external disaster could place extraordinary demands on the SSU and plans should be in place to cater for these demands.

Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

601407 190 .12.00 The procedural aspects of cleaning, packing and sterilizing are outside the scope of this guideline and may be found in procedure manuals.

Major planning and design factors in infection prevention and control include:

- restricted / controlled access;
- workflows that progress from dirty to clean to sterile with no cross contamination;
- appropriate air handling systems and heat / moisture management;
- storage areas and systems that prevent contamination or spoliation of all products;
- adequate number and location of hand hygiene facilities (refer below);
- provision of personal protection items i.e. gloves, masks, eye protection and plastic aprons or gowns when there is any likelihood of splashing by blood, body fluids or mucous membranes;
- suitable materials and finishes that are easily cleaned;
- appropriate facilities for cleaning and waste management;
- provision of staff uniforms and appropriate change facilities.

Refer to NSW Health PD2007_036 - Infection Control Policy.

Also refer to Part D of these Guidelines - Infection Prevention and Control.

601408 190 .12.05 HAND HYGIENE

Handbasins should be located so as to allow staff to wash their hands:

- on commencement and completion of duty (in change rooms);
- after using the toilet;

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- before and after meal breaks;
- after working in a "dirty" area;
- before entering a "clean" area;
- any other action which may cause heavy contamination of the hands.

However, locations must be such to ensure there is no possibility of splash contamination of clean, dry goods.

Hand hygiene techniques and their importance in reducing cross-infection should be taught during orientation programmes and stressed continually at regular intervals.

Refer to AS/NZ 4187, Appendix J - Handwashing.

Environmental Considerations

601409 190 .13.00 AIR-HANDLING

Good ventilation is required in the sterilizing area to remove heat and airborne moisture from the sterilizers, from trolleys cooling in front of the sterilizers and from washing and drying equipment in the unit.

The control of air movements within the SSU is of major significance in controlling both the movement of steam and the spread of potential infection between the "clean" and "dirty" areas of the unit. The following factors need to be addressed:

- storage areas need to be protected from steam penetration, especially the sterile stock store;
- positive air pressure is required in the "clean" areas of the unit to reduce air movements into these areas from the "dirty" areas of the unit.

Heat and vapour from sterilizers should be collected and exhausted without effecting the occupied environment.

601410 190 .13.05 LIGHTING

Natural light is highly desirable especially for the packing workroom. Artificial lighting should take into account bench layout and the occupational health and safety requirements of staff.

Light fittings should be fully recessed and selected to prevent dust and insects from entering.

601411 190 .13.10 TEMPERATURE

Temperatures within the Unit should be maintained within the "comfort" range of 22-24°C.

In storage areas, temperatures should not exceed 27°C and supplies should be protected from direct sunlight.

Space Standards and Components

601412 190 .14.00 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all persons using the building.

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As the requirements of Occupational Health and Safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in these Guidelines in addition to OHS related guidelines.

601413 190 .14.05 ERGONOMICS

Sterile Services Units should be designed and built in such a way that staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

601414 190 .14.10 ACCESS AND MOBILITY

Design must comply with AS 1428 - Design for Access and Mobility.

Refer to Part C Section 730 of these Guidelines for details.

601415 190 .14.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines Section 710 Space Standards and Dimensions.

Doorways should be sized to admit delivery and despatch trolleys without impediment.

Door and corridors must be wide enough to accommodate large items of equipment.

Safety and Security

601416 190 .15.00 SAFETY

Safety and security involves people and policies as well as physical aspects, but the latter must be considered as part of overall design and not superimposed on a completed Unit and a safety audit via a risk analysis of potential hazards should be undertaken during the design process.

Of concern is the necessary manual handling of what can be very heavy instrument trays and attention must be paid to maximum allowed loads on sterilizer loading trolleys, storage systems and bench heights.

The following must be addressed with regard to safety:

- choice of flooring particularly in wet areas;
- slippery or wet floors;
- protrusions or sharp edges;
- stability and height of equipment or fittings;
- adequate drainage facilities in wet areas;
- fittings which should be well above floor level and/or waterproof.

The periphery of the Unit and indeed its location within the Hospital must be such as to control unauthorised access at all times.

Refer to PD2005_339 - Protecting People and Property, NSW Health Policy and Guidelines for Security Risk Management in Health Facilities.

Finishes

601418 190 .16.00 WALL PROTECTION

These surfaces should be washable and/or scrubbable with adequate protection against damage by trolleys.

Refer to Part C of these Guidelines.

601419 190 .16.05 FLOOR FINISHES

Non-slip flooring is essential for all wet work areas.

The floor surface should be impervious, have adequate drainage and be easy to clean. Welded sheet vinyl, coved up the wall, is recommended.

Refer to Part C of these Guidelines.

601420 190 .16.10 CEILING FINISHES

Ceilings must be washable, impermeable and non porous.

Refer to Part C of these Guidelines.

Fixtures, Fittings & Equipment

601421 190 .17.00 DESCRIPTION

EQUIPMENT - GENERAL

The various zones within the SSU should accommodate the equipment manufacturer's recommendations, as space requirements may vary from one manufacturer to another. All items of equipment will need to be itemised and the dimensions of large items obtained to ensure they can be suitably housed and that:

- doors are sized to allow passage of equipment;
- heat loads are estimated and catered for;
- weight loads are estimated and checked structurally.

Equipment requiring services such as water and special power must be duly noted and passed to project engineers.

Adequate space for maintenance of major equipment must also be considered.

All sterilizers should be located to have service / maintenance access to equipment from outside the unit whenever possible.

601422 190 .17.05 EQUIPMENT - SPECIFIC

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Equipment should be provided for washing, drying, sealing, sterilizing, storage and transport of supplies.

Equipment required for the unit may include:

- sinks, hot and cold water and brushes;
- compressed air guns;
- high pressure water equipment;
- ultrasonic washers;
- batch washers / disinfectors and/or tunnel washers;
- drying cabinets - general;
- trolley wash;
- respiratory equipment washer / disinfectant and dryer;
- packing tables;
- heat sealers - paper, plastic and laminate;
- sterilizers - steam;
- sterilizer loading trolleys;
- other types of sterilizer as indicated;
- storage shelving;
- collection / delivery equipment.

Quantity and size of equipment will be determined by the size and/or requirements of the facility.

601423 190 .17.10 EQUIPMENT STANDARDS

Sterilizers should comply with:

- AS 1410 Sterilizers - Steam - Pre-Vacuum;
- AS 2182 Sterilizers - Steam - Bench top;
- AS 2192 Sterilizers - Steam - Downward displacement;
- AS 2487 Dry heat sterilizers.

Washer / disinfectors should comply with:

- AS 2945 Batch-type washer / disinfectors for health care facilities;
- AS 3836 Rack conveyor washers for health care facilities.

Ultrasonic cleaners should comply with:

- AS 2773.1 Ultrasonic cleaners for health care facilities - Non- portable;
- AS 2773.2 Ultrasonic cleaners for health care facilities - Bench top.

Sterile services equipment should pass commissioning tests specified in the standards.

Building Service Requirements

601424 190 .18.00 GENERAL

High cost engineering areas which should receive careful consideration by design teams include:

- lighting and the impact of deep planning on lighting requirements;
- extent of the required emergency power system;
- extent of provision of emergency doors;
- extent of provision of essential back-up systems (eg dual generators, chillers, boilers and dual electrical circuits).

601425 190 .18.05 INFORMATION TECHNOLOGY AND COMMUNICATIONS

The following will/may be required:

- intercom at reception entry to Packing Area;
- hands-free intercom to/from Operating Suite;
- data outlets to packing tables - ceiling-suspended;
- general phone / data outlets to workstations.

601426 190 .18.10 COMPRESSED AIR

Compressed air outlets and pressure guns are required at all cleaning sinks.

601427 190 .18.15 HOISTS

Where hoists are envisaged as a means of transporting supplies between the SSU and other departments, especially the Operating Suite, at least two (2) hoists should be installed. One should be dedicated to the delivery of sterile items to departments, the second to the return of used items to the SSU.

The hoists should be located so as to maintain the integrity of designated 'clean' and 'dirty' areas at all department levels.

601428 190 .18.20 HYDRAULIC SERVICES

The trade waste plumbing and drainage system must be designed to meet the requirements of the relevant Sewerage authority and Health Department.

Information of the quality of chemicals to be used / discharged must be provided by the client to the hydraulics engineer.

Main drains should be protected from potential contaminants.

601429 190 .18.25 POWER SUPPLY

An emergency back-up system for the power supply should be available for high priority equipment and illumination. One sterilizer may be on uninterrupted power supply (UPS).

Power to the packing tables should be ceiling-suspended.

601430 190 .18.30 STEAM SUPPLY

Steam should be provided in accordance with the requirements of AS 1410 - Sterilizers-Steam-Pre-Vacuum.

Supply pipework should be correctly trapped to remove condensate and fitted with appropriate strainers.

As the SSU may be the sole user of steam in a healthcare facility and the size of the steam plant itself would be relatively small, it is important to establish early in the planning process how steam will be delivered, by gas-fired or electric generators.

If gas is selected, the generator is often located quite a distance from the SSU in a multipurpose plant area particularly if space is limited in the sterilizer plant area. If this is the case then there must be a suitable reticulation system factored into the project as a good steam supply is critical to the function of the sterilizers.

If electric is preferred, then this may require installation in close proximity to the sterilizers. Electric steam generators are compact in size (approx the dimensions of a domestic refrigerator) but require space around them for service access. This type of generator is often located in the plant room along with the steam sterilizers and hence the master plan needs to consider

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a larger area for plant if electric is opted for in the final plan.

601431 190 .18.35 WATER QUALITY

Tests should be conducted weekly on the hardness of the available water and records kept of the results. Useful information on the quality of water may be obtained from the local water authority.

Water hardness is determined by the amount of calcium and magnesium ions present in the water. Water hardness reduces the rate of kill of certain disinfectants and generally reduces the efficiency of cleaning materials.

Some cleaning agents are specifically designed for use with hard water. Information about local water quality will aid in selecting an appropriate cleaning agent, particularly in inland parts of the State.

Demineralised water will be required for ETO sterilizers (tank).

COMPONENTS OF THE UNIT

General

601432 190 .19.00 Rooms / spaces are defined as "Standard" and "Non Standard" Components. Standard Components (SC) refer to rooms / spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by "Yes" in the SC column of the Schedule of Accommodation.

Refer to Part B Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets.
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Non-Standard Components are generally very unit-specific and are described below.

Non-Standard Components

601433 190 .20.00 RECEIVING AREA

DESCRIPTION AND FUNCTION

Area where soiled articles for processing are received on trolleys from Units throughout the facility and any waste is disposed of. Will/may also contain facilities for washing trolleys.

LOCATION AND RELATIONSHIPS

Direct access from main corridor.

Direct access from Operating Suite either horizontally or vertically via hoists.

Adjacent to Disposal Room.

CONSIDERATIONS

FF&E will include:

- stainless steel bench;
- trolley washing facilities with adequate drainage;
- trolleys;
- hand basin.

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Given the weight of some of the instrument trays, consideration may be given to a roller bench that itself must be of a height to enable loading.

601434 190 .20.05 CLEANING / DECONTAMINATION

DESCRIPTION AND FUNCTION

Area for the cleaning of equipment for reprocessing.

LOCATION AND RELATIONSHIPS

The Decontamination area should be located between the Receiving area and the Packing / Clean Workroom area.

CONSIDERATIONS

FF&E will include:

- stainless steel deep bowl sinks with tubing manifolds (air and water) and additional water outlets for water pistols;
- stainless steel benches;
- instrument and tubing washers / decontaminators according to service requirements plus parking space for loaded / spare trolleys;
- ultrasonic cleaner according to service requirements;
- instrument and tubing dryers, according to service requirements;
- staff hand washing basin;
- exhaust air extraction over sinks and equipment doors;
- pass-thru hatch to the packing area.

All decontamination and washing equipment should be installed and commissioned to the requirements of all relevant Australian Standards and Occupational Health requirements, in particular AS 2773 for Ultrasonic Cleaners and AS 2945, AS 3836 for Washer / Disinfectors.

601435 190 .20.10 PACKING / CLEAN WORKROOM

DESCRIPTION AND FUNCTION

Packing Area (Clean Workroom) where clean instruments, equipment and other articles are sorted, checked and packaged for sterilizing.

LOCATION AND RELATIONSHIPS

Located between Cleaning / Decontamination and Sterilizing Zones

CONSIDERATIONS

FF&E will include:

- packing tables;
- trolleys;
- heat sealers (paper);
- storage of drapes;
- hand washing facilities.

601436 190 .20.15 STERILIZING AREA

DESCRIPTION AND FUNCTION

Area where sterilizers are loaded, set into operation and unloaded following completion of the sterilizing cycle.

The cooling / unloading area needs to provide parking space for sterilizer

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loading trolleys holding cooling packs and a work area for plastic wrapping and sealing.

Specialised sterilizers such as ethylene oxide and low temperature plasma require separate installation and accommodation according to manufacturer's recommendations.

The size of the area will be dependent on the number and type of sterilizers installed and, importantly, whether the sterilizers are front loaded or double sided.

LOCATION AND RELATIONSHIPS

The Sterilizing and Cooling area should be located between the Sorting and Packing area and the Dispatch area.

CONSIDERATIONS

Special consideration should be given to the location of the sterilizers.

External access to a sterilizer plant is highly desirable so that repairs or routine maintenance do not interfere with the activities within the Workroom.

A duct enclosure can also minimise heat build-up within the Workroom. An exhaust over the front of the sterilizer/s should also be considered, to extract both heat (cabinet) and steam (opening door).

The air handling system should be filtered or discharged direct to the outside to prevent lint build-up and related industrial and fire safety problems.

High level supply and low level exhaust is the recommended airflow pattern, with localised high level extraction for heat removal only.

FF&E will include:

- sterilizers;
- sterilizer loading trolleys (and area for charging same);
- work station for computer and QA activities;
- wheeled trolleys;
- mobile storage shelving for stacking respiratory circuits and accessories;
- workstation for sealing sterilized packs;
- mobile storage shelving for completed items awaiting placement into steam sterilizers.

APPENDICES

Schedule of Accommodation

601437 190 .21.00 A Schedule of Accommodation follows.

601438 190 .21.05 STERILE SUPPLY UNIT

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
					2 sterilizers	4 sterilizers	
RECEPTION	yes				1 x 9	1 x 9	Pass-thru hatch or counter with shutter to corridor
STORE - PHOTOCOPY / STATIONERY	yes				1 x 8	1 x 8	
OFFICE: MANAGER	yes				1 x 9	1 x 9	

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LOAN EQUIPMENT STORE					1 x 9	1 x 12	Optional; may be located in OR
RECEIVING AREA - USED ITEMS					1 x 20	1 x 35	
TROLLEY WASH					0	1 x 15	Optional
DISPOSAL ROOM	yes				1 x 8	1 x 8	Access to external corridor
CLEANING / DECONTAMINATION					1 x 50	1 x 80	
PACKING / CLEAN WORKROOM					1 x 50	1 x 80	
STERILIZER - STEAM					1 x 20	1 x 40	Includes plant
STERILIZER LOADING / UNLOADING					1 x 20	1 x 40	Plus spare trolleys
STERILIZER COOLING					1 x 10	1 x 20	If separate from loading and in sterile stock area
STERILIZER - ETO					0	1 x 9	Free standing plus aeration cabinet
STERILIZER - LOW TEMPERATURE					1 x 6	1 x 6	Free-standing
STERILE STOCK STORE - WARDS					1 x 20	1 x 40	
STERILE STOCK STORE - OR					1 x 40	1 x 80	Adjust for 10 sqm per OR
GENERAL STORE					1 x 12	1 x 20	Bulk goods receipt, decartoning, Linen
CLEANERS ROOM	yes				1 x 5	1 x 5	Within Unit
AFTER HOURS CUPBOARD					1 x 4	1 x 6	Access from inside and outside unit

601439 190 .21.10 STERILE SUPPLY UNIT - Staff Areas

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
					2 sterilizers	4 sterilizers	
STAFF TOILET	yes				1 x 3	2 x 3	
STAFF SHOWER (UNISEX)	yes				1 x 2	1 x 2	
STAFF CHANGE	yes				1 x 10	1 x 16	Could be shared with adjacent OR
STAFF LOUNGE / TEA ROOM	yes				1 x 15	1 x 12	Could be shared with adjacent OR
TRAINING ROOM	yes				Incl	1 x 12	
DISCOUNTED CIRCULATION %					20	20	

Functional Relationships

601440 190 .22.00 A diagram of key functional relationships is attached.

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Checklists

601441 190 .23.00 For planning checklists, refer to Parts A, B, C and D of these Guidelines.

References and Further Reading

601442 190 .24.00 Sterilization and Disinfection Core Competencies - NSW Department of Health, 2003.

NHS Estates Schedules of Accommodation v2.0, HBN13A - Sterile Services Departments.

Disinfection and Sterilisation - Extract from Infection Control Guidelines, Queensland Government, November 2001.

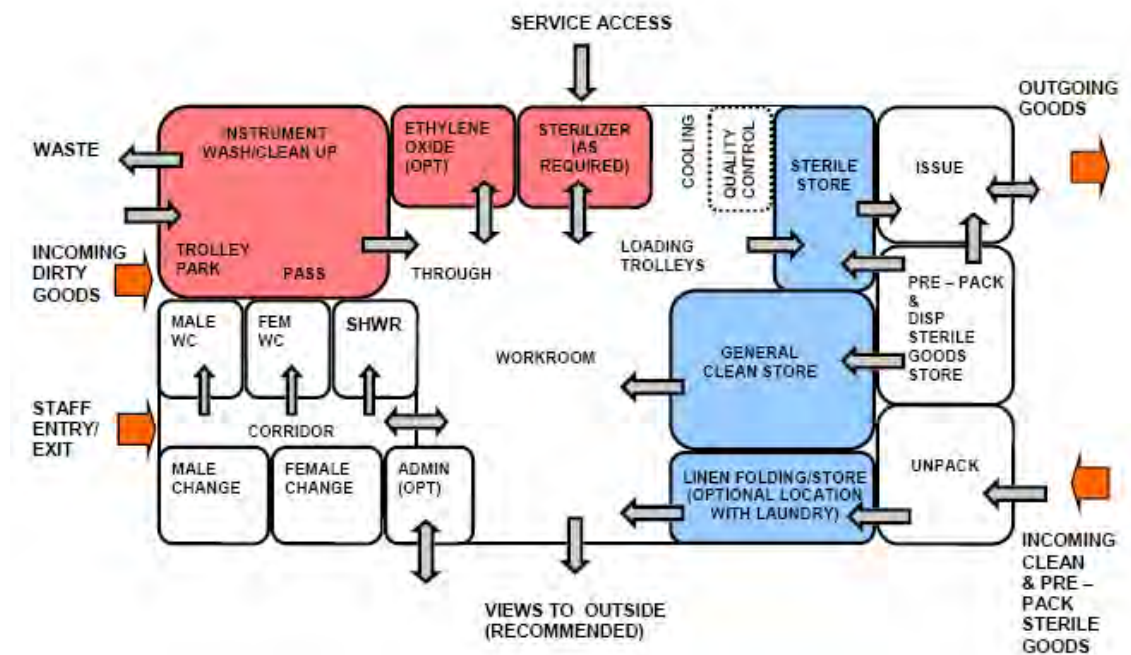
WA Hospital Design and Operation Guidelines for Engineering Services V2, Draft 4.

Central Sterile Supply Unit (CSSU), Design Guidelines for Hospitals and Day Procedure Units, Department of Human Services, Victoria, November 2004.

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FUNCTIONAL RELATIONSHIP DIAGRAM – STERILE SERVICES UNIT

The following diagram sets out the relationships between zones in a Sterile Services Unit.



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502103 240 .0.10

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INTRODUCTION

Preamble

502106 240 .1.00

For reasons associated with the development of the database, the title "Clinical Information Unit" has been used to describe the Unit. However, In different hospitals, the Unit may be called a Health Information Unit or Medical Records Unit.

Health Information systems and management are currently undergoing considerable change and a fully electronic, paperless system is becoming closer to a reality. However, for the purpose of this Guideline, at this time, continuance of hard copy records generation and storage is assumed. Provision of facilities for scanning files for entry into an electronic data base (as a precursor to a full electronic record) has been factored in.

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Introduction

- 502107 240 .2.00 This Health Planning Unit (HPU) is a resource to assist project teams with the planning, design and construction of a Health Information Unit. It should be read in conjunction with generic requirements and Standard Components (Room Data & Room Layout Sheets (RDS/RLS) in Parts A, B, C, D and E of these Guidelines.

Policy Framework

- 502108 240 .3.00 NSW Health Privacy Manual (2004).

NSW Health Policy Directives:

- PD2005-004, 24-Jan-2005, Medical Records in Hospitals & Community Care Centres.
- PD2005-015, 24-Jan-2005, Medical Records.
- PD2005-127, 25-Jan-2005, Principles for Creation, Management, Storage and Disposal of Health Care Records
- NSW Health Information Bulletin 2004/20, 26.05/04, General Retention and Disposal Authority - Public Health Services: Patient/Client Records (GDA 17)

Description of the Unit

- 502109 240 .4.00 DEFINITION OF HEALTH PLANNING UNIT (HPU)

The function of the Clinical Information Unit is the development and maintenance of health information systems involving the following:

- retrieval, assembly, sorting and distribution of records for and to the wards, the Emergency and Outpatient Units and any location where a patient is being admitted/treated.
- medico-legal/release of health information duties with regard to subpoenas, freedom of information requests, adoption requests and other enquiries whilst maintaining the rights and confidentiality of patients and staff
- maintenance of accurate and up-to-date information systems such as the Patient Master Index (PMI), Admissions, Transfers and Separations (ATS) and Disease Index (DI) and any other Patient Administration System (PAS)-related application.
- transcription / typing service for outpatient letters, discharge summaries and operation reports
- classification (clinical coding) of diseases and procedures for inpatient admissions using an International Classification of Diseases for maintenance of the Disease Index, generation of DRGs and provision of morbidity/mortality statistics to the NSW Inpatient Statistics Collection
- supply of cancer data to the NSW Cancer Registry
- supply of perinatal statistics to the NSW Health (as appropriate)
- provision of information to management and other authorised staff for purposes such as planning, utilisation review, quality Assurance, casemix studies and research
- quality assurance of the medical record to ensure standards are met
- participation in undergraduate training from tertiary institutions.

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- secure storage - primary, secondary and archival that complies with Occupational Health & Safety regulations.

Additional responsibilities of Health Information Management (HIM) staff may include:

- data collection and analysis
- planning and development of computer information systems
- financial management
- design of manual and computerised medical records
- co-ordination of quality improvement programmes
- management of clerical staff in health information services, outpatients and emergency departments and admissions offices.

PLANNING

Operational Models

502110 240 .6.00 HOURS OF OPERATION

The Unit will operate routinely during business hours Monday to Friday. Large Units will operate a skeleton 24 hour service for retrieval of files primarily for the Emergency Unit.

Provision should be made for 24-hour availability of medical records either by a computerised or manual system.

503262 240 .6.05 PAPER-BASED RECORDS

Historically the way records have been and continue to be generated and still mainly the current form in use.

502111 240 .7.00 ELECTRONIC HEALTH RECORD (EHR)

The primary purpose of the EHR is to provide a documented record of care that supports present and future care by the same or other clinicians. This documentation provides a means of communication among clinicians contributing to the patient's care. The primary beneficiaries are the patient and the clinician(s).

Any other purpose for which the medical record is used may be considered secondary, as are any other beneficiaries. Much of the content of EHRs is currently defined by secondary users, as the information collected for primary purposes was insufficient for purposes such as billing, policy and planning, statistical analysis, accreditation, etc.

Secondary uses of EHRs include:

- Medico-legal - evidence of care provided, indication of compliance with legislation, reflection of the competence of clinicians.
- Quality management - continuous quality improvement studies, utilisation review, performance monitoring (peer review, clinical audit, outcomes analysis), benchmarking, accreditation.
- Education
- Research - development and evaluation of new diagnostic modalities, disease prevention measures and treatments, epidemiological studies, population health analysis.
- Public and population health - access to quality information enables the effective determination and management of real and potential public health risks
- Policy development - health statistics analysis, trends analysis, casemix analysis
- Health service management - resource allocation and management, cost management, reports and publications, marketing strategies, enterprise risk

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management.

- Billing/finance/reimbursement - insurers, government agencies, funding bodies.

Source: ISO/TC 215 Ad Hoc Group Report, Standards Requirements for the Electronic Health Record & Discharge/Referral Plans
Final Report, July 26, 2002

502112 240 .8.00 SCANNING

An optical disk-based record management system achieved by scanning of paper-generated records to create digital images can significantly increase access to medical records whilst dramatically reducing the space required to store records.

Optical scanning of records also allows for transition from paper-based records into a full electronic health record.

It is expected that even when records become electronic, there may be an ongoing need for records to be scanned - either readmissions or documents such as GP referrals. Major scanning will be carried out in a dedicated area of the Unit; minor scanning such as referrals could be carried out locally - Outpatients. Emergency etc.

Operational Policies

502113 240 .9.00 GENERAL

Comprehensive examples of the issues on which unit decision-makers will be required to develop specific operational policies are listed below:

- A centralised record system should be maintained for all inpatient, emergency and outpatient/day patient attendances. Where a centralised system is not possible, the existence of a sub-file must be flagged to allow retrieval of the sub-file for patient care or medico-legal purposes.

- A unit numbering system will be used which will provide a single identifying number for every patient who presents to the Hospital i.e. the Medical Record Number (MRN). The MRN will be issued at the time of first admission or attendance and will be used for all subsequent admissions and treatment. Patient identification / registration must comply with Patient Registration standards.

- Accurate and up-to-date Patient Administration Systems will be maintained. and information relating to patient movements will be updated as soon as the Department is notified.

- Terminal digit filing will be used in both active storage and secondary storage

- Correctly completed requests for each record leaving the unit will be required. The tracking of medical records will be facilitated by the use of bar coding on the record folder

- The Hospital's Confidentiality Policy (which includes borrowing rules) will be adhered to. This policy will be based on local decisions, relevant NSW Health Policy Directives and Legislative Acts.

- Information will only be released to a third party with the patient's authority except if required for continuing patient care, or requested under subpoena. Records will not be removed from the Hospital except as a result of a court subpoena, statutory authority, for a coronial investigation, by order of the Director-General or if authorised by the Director of Medical Services.

- Medico-legal reports and subpoenas will be prepared in accordance with

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the Confidentiality Policy and relevant NSW Health Policy Directives.

- Records will be retained in accordance with NSW Health Information Bulletin 2004/20, 26/5/04, General Retention and Disposal Authority, Public Health Services: Patient/Client Records (GDA 17).

- Medical records will be retrieved from Secondary Storage after hours only if deemed clinically necessary and staff may be accompanied by a security officer if necessary.

- All inpatient attendances will be coded according to the Australian Modification of an international disease and procedure classification system

- A centralised dictating system utilising the telephone system may be used.

- Transcription of discharge summaries, operation reports and outpatient letters may be carried out in the Unit.

The record management system chosen will also require consideration of operational policies related to when the hospital will implement new technologies; cabling for departments; integration with existing communications systems; location of workstations; space and security requirements; air conditioning requirements and the transition process to be utilised when moving from one system to another.

502114 240 .10.00 STORAGE

Medical records must be kept for at least 10 or 15 years after last attendance or official contact or access by or on behalf of patient, or until the patient attains the age of 25 years, depending on Peer Hospital Group category.

If a commercial company is used to dispose of the records they should provide certification to confirm confidentiality.

Records must be stored in a fire-rated construction as indicated in the Building Code of Australia and regulations under the State Records Act. Note that sprinklers should NOT be installed.

502115 240 .11.00 TERMINAL DIGIT FILING SYSTEM (HARD COPY)

Terminal digit filing is a method of filing where records are filed by the last two digits (primary or terminal digits) of a number instead of the first two digits.

The entire number (which may range from 6 to 10 digits) is broken into groups of twos or threes (and in some instances fours), with the last group being filed first, followed by the second group of digits, and so on.

Filing storage is divided into 100 primary sections numbered 00 to 99.

502116 240 .12.00 STAFFING LEVELS

The Staff Establishment in a Unit based on hard copy files will include the following:

- Health Information Managers - a Unit Head of Department and additional professional staff depending on size of Unit
- Clinical coders
- Medical typists
- Administrative staff.

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In a paperless electronic environment, the staff mix will change as many of the staff currently involved in transcription, record assembly and filing will no longer perform traditional functions but will change to perform duties associated with access and quality control.

Planning Models

502117 240 .13.00 LOCATION

Location will / may depend on whether or not a pneumatic or mechanical automated records transport system is to be installed and the departments to which it is linked. The decision to include such a system will strongly influence the external functional relationships of the Unit with the Outpatients Clinic area, in particular and may reduce the importance of direct access to the Emergency Unit.

It must be located so as to provide natural light and - if possible - views to staff who occupy the area 8 hours a day.

Planners must consider possible future uses of the unit envelope for such time as an electronic record system has evolved with consequent reduction in staff and diminishing storage needs. The Unit should be considered as "soft" space into which an adjoining unit could expand or a new unit established.

Secondary storage ideally will be readily accessible to minimise time wasted in access.

502118 240 .14.00 BUILDING DESIGN

If a ground level location cannot be achieved, structural engineers must be consulted to calculate the weight of the records in order to ensure appropriate floor reinforcement.

Functional Areas

502119 240 .15.00 FUNCTIONAL ZONES

- Entry / Reception
- Transcription
- Clinical Coding
- Assembly / Sorting areas
- Staff Amenities
- Files Store/s.

502120 240 .16.00 ENTRY / RECEPTION / ADMINISTRATION

A single controlled point of entry to the Clinical Information Unit for the reception of visitors and staff. A temporary storage area will be required for returned files or files awaiting delivery to departments.

A small amount of waiting will be required.

May be optimum location for the offices for medico-legal staff with dual access from the Waiting Area and from inside the Unit.

Entry door should have a buzzer and key card or similar for secure access for authorised staff.

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For units that run a 24 hour service, a peep hole in the door and/or a camera/intercom is required for after-hours access.

Access will be required within this area to Dictating / Research Cubicles so that visiting staff do not have to traverse the Unit.

502121 240 .17.00 TRANSCRIPTION

This area will provide the medical transcription service.

Staff should be located in a quieter area of the unit but within close proximity to the dictating and general assembly/sorting area.

Consideration should be given to the acoustic treatment of this area as staff need to listen to transcription machines, however staff should not be totally separated from the other department activities.

502122 240 .18.00 CLINICAL CODING

Coding requires an even greater degree of concentration to ensure accuracy so a quiet area is essential. Each coder will need a filing bay to store files awaiting attention plus storage for coding and reference manuals.

502123 240 .19.00 OFFICES

The staff side of the Reception Desk is a convenient location for offices for Health Information Managers to allow easy access for visitors to the Unit.

502124 240 .20.00 PHOTOCOPYING / PRINTING

Dedicated, acoustically-treated and ventilated space.

May also be location for generating bar code labels etc.

May also include stationery storage.

Locate with ready access to the medico-legal offices that generate a large amount of photocopying.

502125 240 .21.00 ASSEMBLY & SORTING

An open plan area used for the processing activities associated with the filing and preparation of the medical records for clinics, admissions etc.

Workstations and sorting tables. Each records officer will need a records storage bay and a trolley at or in close proximity to their workstation.

Storage will be required for:

- records awaiting sorting and assembly
- records awaiting filing
- newly assembled records

Note that records awaiting medico-legal attention will be stored in the Medico-Legal Office

-

As this area will be the major activity area of the Unit, it should have natural daylight.

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This area should be located with direct access to the filing storage areas and Photocopy & Stationery Store.

502126 240 .22.00 SHELVING & AISLES

The most common and suitable method to file active medical records is on fixed metal shelving units (bays). Archived files may be stored in a compactus but a compactus is not recommended for active files as it can be dangerous and inconvenient if a number of staff wish to access files at the same time.

Standard bays are usually 900mm wide and 300mm deep. Regardless of the number of shelves in each bay (may be 7), the highest shelf should be accessible by a short member of staff using a library stool - usually six levels of shelving. Step ladders are not recommended. Maximum height should be 2175mm.

A minimum width of 750mm per aisle between facing bays must be provided; however for efficient retrieval of records, 900mm is recommended as it allows space for trolleys, library stools and for staff to pass each other in the aisles.

The main access aisle/s should be at least 1500mm wide to allow for trolleys passing each other, and for exit in the event of fire.

When configuring the arrangement of shelving, planners must ensure that the length of a row of bays between main aisles does not contravene BCA codes for fire egress.

502127 240 .23.00 CALCULATION OF ACTIVE RECORDS STORAGE

Refer to Appendix.

Functional Relationships

502128 240 .24.00 GENERAL

In a traditional, "hard copy" environment, the critical relationship is with the Emergency Department for immediate record retrieval.

Less critical is the relationship with Ambulatory Care / Outpatient Unit/s as files are usually pulled and delivered to the Units prior to clinic sessions. However, distances for transport of heavy records do need to be considered.

It is also useful to locate the Unit to encourage medical staff access to unwritten discharge summaries and for ease of access for record review etc.

In a paperless environment, there will probably be no critical relationships except for staff wanting to access records still in hard copy for research purposes etc.

502129 240 .25.00 ARCHIVE FILE STORE

All the records requiring storage to meet the statutory requirements beyond the 5 year active storage period.

There are a number of advantages for keeping non-active medical records readily accessible and available.

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Two of these are:

- time saving for staff;
- easy access for refiling.

If storage space is a problem and microfilming or scanning of inactive records is being considered, a special room for microfilming will need to be planned.

The optimum solution is to locate the archival store within the Unit itself or directly underneath connected by a stairway. It is not often practical to include the space for all the records in a prime clinical area. Consideration should be given to locating the records in a low activity area of the hospital and at the same time remain secure, dry and free from vermin, silverfish and other insects likely to attack the paper. Fire sprinklers should NOT be installed.

DESIGN

Accessibility

- 502130 240 .26.00 One main entry and exit for all staff and records is required to ensure the security and confidentiality of the unit and the medical record is maintained.

Parking

- 502131 240 .27.00 For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

- 502132 240 .28.00 Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

- 502133 240 .29.00 Refer to Part D of these Guidelines for further information.

Environmental Considerations

- 502134 240 .30.00 ACOUSTICS

Refer to Part B of these guidelines.

- 502135 240 .31.00 NATURAL LIGHT

Essential in general work areas.

- 502136 240 .32.00 INTERIOR DESIGN

Refer to Part B of these Guidelines

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Space Standards and Components

502137 240 .33.00 **ERGONOMICS**

Refer Part C of these Guidelines for information.

502138 240 .34.00 **HUMAN ENGINEERING**

Refer Part C of these Guidelines for information.

502139 240 .35.00 **ACCESS AND MOBILITY**

Refer Part C of these Guidelines for information.

502140 240 .36.00 **DOORS, WINDOWS AND CORRIDORS**

Refer Part C of these Guidelines for information.

Safety and Security

502141 240 .37.00 **SAFETY**

Shelving and workbenches must meet Occupational Health & Safety Standards

502142 240 .38.00 **SECURITY**

Due to the confidential nature of the documents being handled in the Unit, careful consideration must be given to the security of the unit. The unit should be secure at all times to protect the records against loss, damage or use by unauthorised personnel.

There must also be adequate security for staff and visitors should not be able to enter the department proper without being let in by the receptionist. The counter should be designed so that it would be difficult/impossible to climb over.

The required level of security can be achieved by limiting Unit entry / exit points to one (1) equipped with access control - keyed or electronic. All other egress points should be locked and / or locally alarmed. Well signed, local alarms are a strong deterrent to unauthorised egress but the system must be overridden in the case of fire alarm activation in the area.

Hospital policy may require a security officer to accompany non medical records staff in the department where records are required after hours.

502143 240 .39.00 **OPTICAL DISC SECURITY**

Once a document is scanned, it cannot be lost or tampered with. By storing the original set of disks and using duplicates as working copies, complete sets of records are maintained at all times.

The second issue is security of access to the confidential records on the optical disk system. If a full system is implemented, terminals would be located throughout the Hospital. This could pose problems for security of the information being accessed and displayed on these terminals. This means

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that safeguards must be put in place to prevent viewing of images by unauthorised persons.

System access and security systems must have multi-dimensional passwords that can avoid unauthorised intrusion into the system and particular records.

Finishes

502144 240 .40.00 WALL PROTECTION

Refer to Part C of these Guidelines

502145 240 .41.00 FLOOR FINISHES

Refer to Part C of these Guidelines

502146 240 .42.00 CEILING FINISHES

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

502147 240 .43.00 Refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

502148 240 .44.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

In addition to the usual hospital communication systems, the Clinical Information Unit has particular needs. These include the need for remote dictating from the administrative and clinical areas to a central dictating unit.

Communication systems may include:

- office phones
- two-way intercom between designated staff areas or public address system in large units
- phone between the archival and main unit (if archives located off site or not adjacent to the main Medical Record Unit)
- computer networking systems associated with the Medical Record technology

502149 240 .45.00 DURESS ALARM SYSTEM

Locate at Reception.

502150 240 .46.00 LIGHTING

Overhead lighting in the records store must run parallel to the direction of the filing bays to ensure adequate lighting of each aisle.

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502151 240 .47.00 FLOOR LOADING

Structural engineers must be consulted to calculate the weight of the records in order to ensure appropriate floor reinforcement if a ground level location cannot be provided.

COMPONENTS OF THE UNIT

General

- 502152 240 .48.00 The Clinical Information Unit will consist of a combination of Standard and Non-Standard Components.

Standard Components

- 502153 240 .49.00 Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data and Room Layout Sheets.

Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

- 502154 240 .50.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

- 502155 240 .51.00 ASSEMBLY / SORTING AREA

DESCRIPTION AND FUNCTION

An open plan area used for the processing activities associated with the filing and preparation of medical records for clinics, admissions etc. It will incorporate parking for medical record transport trolleys. (Number and dimensions will need to be ascertained).

May have "zones" for assembled files ready for issue and records waiting to be refiled. Will need workstations and sorting tables.

LOCATION AND FUNCTIONAL RELATIONSHIPS

This area should have direct access to the filing storage areas.

CONSIDERATIONS

At least part of this area should have access to natural light as it will be the major activity area of the department.

- 502156 240 .52.00 DICTATING CUBICLE

DESCRIPTION AND FUNCTION

The dictating area will be used by medical staff and others to view and research medical records as well as dictating and completing the discharge summaries.

LOCATION AND FUNCTIONAL RELATIONSHIPS

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The cubicles should be located on the perimeter of the unit adjacent to but inside the reception area.

CONSIDERATIONS

The number of cubicles will depend on usage and the cubicles may be self-contained or in an open plan office in which case cubicle partitions will be required.

The auditory separation of personnel is preferred as extraneous noise will be distracting to the person dictating.

502157 240 .53.00 ACTIVE FILE STORE

DESCRIPTION AND FUNCTION

All the medical records will be stored in adjustable steel shelving bays. The number of years held in active storage will depend on available space. 5 years is ideal but spatial constraints may restrict this to 3-4 years only but anything less is not acceptable with regard to efficiency of record retrieval.

The average size of the medical record is 305 x 240mm and may be stored vertically or horizontally (i.e. number of shelves per 100 bay 7 for the latter and 6 for the former). Each file is allocated a unique identifying number.

LOCATION

Direct access to / from the assembly/sorting area.

CONSIDERATIONS

Lighting to be parallel with direction of filing bays to ensure adequate lighting of each aisle.

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APPENDICES

Schedule of Accommodation

502158 240 .54.00 A Generic Schedule of Accommodation for a Clinical Information Unit at Levels 3/4 and 5/6 follows.

In the NSW Health - Guide to the Role Delineation of Health Care Facilities, (Third Edition 2002), Medical Records is not defined by level of service as are other Clinical Support Services such as Pharmacy. Therefore for the purpose of developing this schedule of accommodation, levels are assumed to provide the necessary support to the hospital overall.

WORK AREAS

ROOM/SPACE	Standard Component			Level 3/4 Qty x m2		Level 5/6 Qty x m2	Remarks
WORK AREAS							
RECEPTION	yes			1 x 10		1 x 10	
WAITING - SUB	yes			1 x 4		1 x 6	
MEETING (INTERVIEW) ROOM - SMALL	yes			1 x 9		1 x 9	Interviews
RECORD PROCESSING				1 x 25		1 x 50	Main work area
BAY - MOBILE EQUIPMENT	yes			1 x 4		2 x 6	Trolleys
REVIEW / DICTATION CUBICLES				1 x 9		1 x 20	
RECORDS STORE - ACTIVE				Project specific		Project specific	Sqm assessment needs to include circulation between aisles otherwise increase the 15%
OFFICE - SINGLE - HI DEPUTY MANAGER	yes			0		1 x 9	
OFFICE - SINGLE - HI MANAGER	yes			1 x 9		1 x 12	
WORKSTATION - HIM				5.5		5.5	According to Staff Establishment
OFFICE - MEDICO-LEGAL	yes			1 x 9		1 x 12	12 sqm = 2 staff
OFFICE - WORKSTATION (TYPING)				4.4		4.4	No. determined by staff establishment and operational policy
OFFICE - WORKSTATION (CODING)				1 x 6		6	Quiet environment. No. determined by staff establishment and operational policy
STORE - GENERAL				1 x 9		1 x 9	
WORKROOM - SCANNING & PROCESSING	yes			1 x 20		1 x 20	Optional, depending on Policy
STORE - PHOTOCOPY / STATIONERY	yes			1 x 8		1 x 8	

502162 240 .54.10 STAFF AREAS

STAFF AREAS							
MEETING ROOM - MEDIUM	yes			Share		1 x 15	Unit meetings
PROPERTY BAY - STAFF	yes			1 x 2		1 x 2	
BAY - BEVERAGE	yes			1 x 3		1 x 5	After-Hours use

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TOILET - STAFF	yes			1 x 2		1 x 2	Particularly for after-hours access
DISCOUNTED CIRCULATION %				15%		15%	Refer Active File Store
RECORDS STORE - ARCHIVE				Project Specific		Project Specific	May be remote

Functional Relationships

502159 240 .55.00 A diagram of key functional relationships is attached.

Checklists

502160 240 .56.00 A Security Checklist is appended to this document. Refer also to Part C of these Guidelines for general requirements.

References and Further Reading

502161 240 .57.00 DS-20 - HBG - Medical Records Unit, NSW Department of Health, Capital Works Branch, July 1993.

Patient Matters Procedure Manual for NSW Health System.
http://www.health.nsw.gov.au/audit/manuals/patient_matters_toc.html

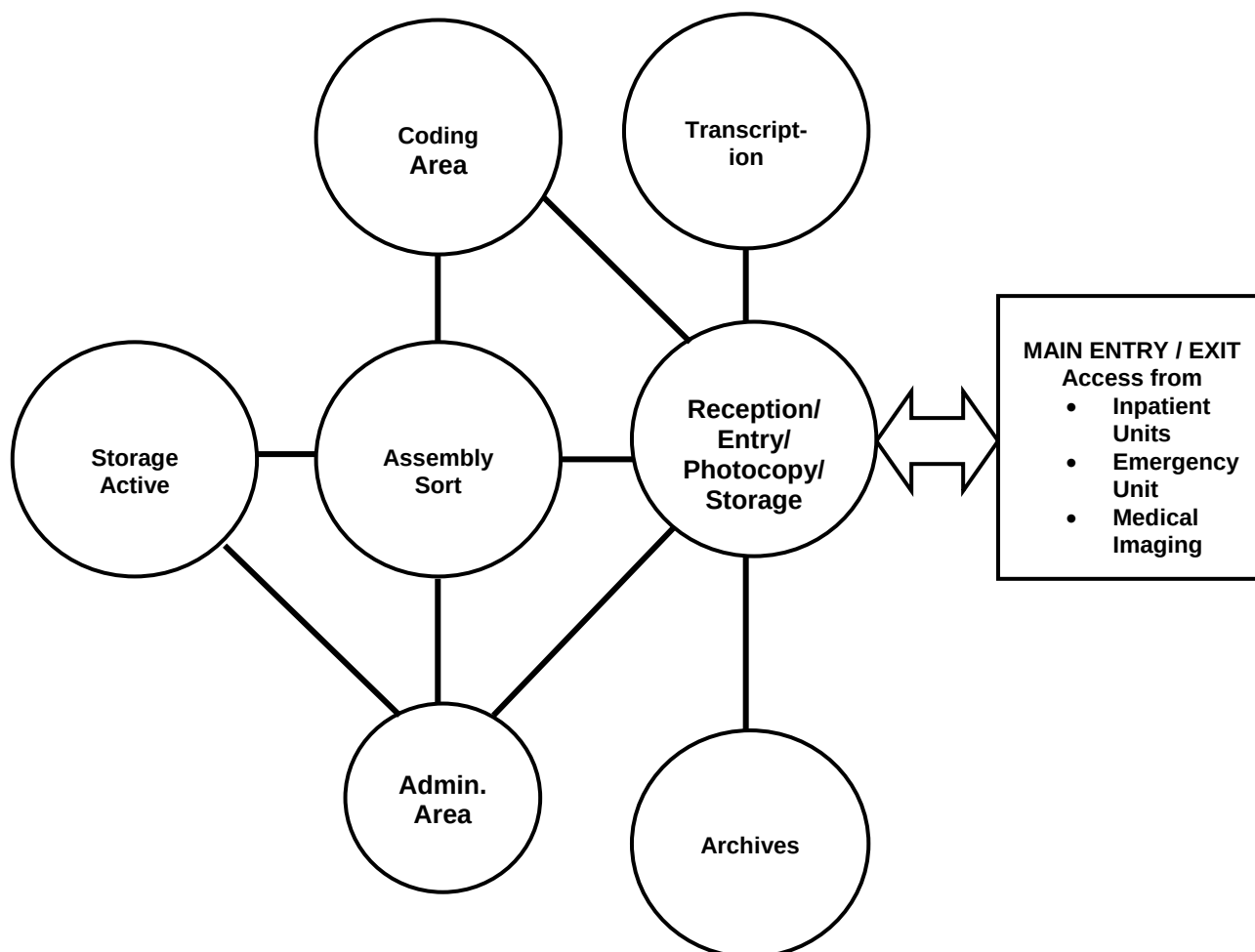
"Filmless & Paperless Hospitals - An Emerging Reality in the UK, Medical Architecture Research Unit, London, UK, August 2001.

Calculations of Active Records Storage

503263 240 .58.00 A Schedule is attached.

FUNCTIONAL RELATIONSHIP DIAGRAM –CLINICAL INFORMATION UNIT

The following diagram sets out the relationships between zones in a Clinical Information Unit:



SECURITY ISSUES TO BE CONSIDERED IN CLINICAL INFORMATION UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Area where patient records are maintained including active and archival files.	1. Minimise entry and exit doors with lockable area at all time.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Patient files	1. Personnel working on these files must return to secure area after use. 2. If any electronic files are produced, locate in restricted area of hard drive.
2. Furniture fittings and equipment including Computers and Office Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value.. 2. Keep equipment in lockable area.
3. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Provide appropriate after-hours access and security, including secure access from all parts of the facility.
4. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.

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SECURITY CHECKLIST – CLINICAL INFORMATION UNIT

FACILITY:	DEPARTMENT: Clinical Information Unit	
RISK ISSUE	DESIGN RESPONSE	
1. Do staff have access to both fixed and mobile duress systems?		
2. Is access to patient records restricted to staff entitled to that access?		
3. Is a system implemented to prevent theft of equipment, files, personal possessions, etc?		
4. How is after hours access provided for staff?		
5. How is this area secured during and after hours?		
6. Are there lockable storage areas available for specialised equipment?		
7. Is lockable furniture provided for storage of staff personal effects?		
8. How is after-hours access provided for staff, including access from all other areas of the facility?		
9. Has a secure waiting area been planned in this area that allows for the public to present at a counter, sign forms, wait and then receive photocopies of relevant records as requested?		
DESIGN COMMENTARY / NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

CALCULATION OF ACTIVE RECORDS STORAGE

Step 1 – Estimate number of medical records required to be stored per annum

Determine the current records to be stored per annum

- a) Annual Admitted Patient Separations + Annual New Non-Admitted (Outpatient & ED) Patient Registrations = Total number of records per annum

Note: These figures do not allow for number of actual records as separations will include readmissions. However, these are more appropriate figures to use for admitted patients than new MRNs (registrations) issued per year (which would provide actual number of records) as it allows for the expansion of the file with each readmission.

Registration (new patient) figures, not attendance, are used for non-admitted record calculations as each attendance is usually only one piece of paper (or less) and thus does not greatly impact on the thickness of the record.

As well as determining what will meet current needs, future needs also need to be considered

- b) Estimate % increase in activity in future years

This information should be available from the overall Health Services Planning process

- c) Multiply total number of current records per annum by % to give total number of records required to be stored per annum

Step 2 – Determine the number of years to be stored in active records storage

An active records storage area should be able to store at least five(5) years worth of records before records are deemed 'inactive' and are removed to secondary storage.

Step 3 – Determine Total Number of Records to be Stored

Total number of records required to be stored per annum x number of years to be stored

Step 4: Calculate Average Size of Each Medical Record

Undertake a physical count of a sample number of randomly distributed 'typical' active storage shelves in the current active storage area. This will indicate an average of number of records per shelf (usually 900 mm wide)

Equate this number per shelf to number of records per linear metre (1000mm).

Step 5: Calculate Total Linear Metres Required

Formula: $\frac{\text{Number of records}}{\text{Number of records per linear metre}} = \text{Total linear metres required}$

Step 6 : Total Bays Required (Note / = divided by)

Identify shelving configuration e.g. 6 shelves per bay x 900w = 5.4 linear metres per bay.

Can be calculated in two ways.

- a) *Total Records by Shelves*

Formula: $\frac{\text{Total Number of Records}}{\text{Number of records per shelf} \times \text{number of shelves}} = \text{Total Number of Bays}$

- b) *Total Linear Metres by Linear Metres per Bay*

Formula: $\frac{\text{Total Linear Metres}}{\text{Linear Metres per Bay}} = \text{Total Number of Bays}$

Note: It is useful to perform both calculations as a cross-check as total should be the same.

Step 7 : Terminal Digit (TD) Filing

To enable TD filing, the number of linear metres of shelving required for each primary digit is calculated as follows:

$$\begin{aligned} \text{Formula} &= \frac{\text{Metres of Shelving Required}}{\text{Number of Primary Digits}} \\ &= \text{linear metres per TD section} \end{aligned}$$

Step 8: Determine Total Number of Storage Bays with TD Filing

$$\begin{aligned} \text{Formula} &= \frac{\text{Linear Metres per TD section}}{\text{Number of Metres Storage per Bay}} \times 100 \\ &= \text{Total bays} \end{aligned}$$

Note: Compare this figure to that obtained in Step 6. Should be the same.

Step 9: Floor Area Required

There are two ways to calculate the floor space required based on number of bays to be stored – either by assuming the layout of shelving or estimating the area required for each bay aisle space and discounted circulation for file area.

a) Assume layout

Assume bays are arranged to form double sided 'stacks', a designated number of bays to each side. Such a stack will hold the estimated records per shelf x 6 shelves high x number of bays in the stack. E.g. Bays are arranged 10 bays to each side of stack. Such a stack will hold (Number of records per shelf) x (number of shelves) x 20 bays.

Estimate how many records each stack will hold.

To store the required total number of records divide total number of records by number of records per stack.

Calculate length and width of each stack, e.g. if stack is 10 bays long and 2 bays wide, length will be 10 x 900mm = 9.1m long and 0.62m wide

Calculate gangways (minor aisle) and main aisle widths (e.g. 900mm and 1500mm)

e.g. If 8 stacks are required, assume stacks are arranged in 4 rows of 2 stacks

The total length required is:

$$(2 \times 9.1\text{m stacks}) + (1 \times 1.5\text{m main aisles}) + (2 \times 0.9\text{ minor aisles})$$

$$= 18.2\text{m stacks} + 1.5\text{ main aisles} + 1.8\text{ aisles}$$

$$= 21.5\text{ metres}$$

The total width required is:

$$(4 \times 0.62\text{m stacks}) + (2 \times 1.5\text{ aisles}) + (3 \times 0.9\text{ minor aisles})$$

$$= 2.48\text{m stacks} + 3.0\text{ main aisles} + 2.7\text{ aisles}$$

$$= 8.18\text{ metres}$$

$$\text{The floor area required is thus } 21.5 \times 8.18 = 175.87\text{m}^2 \text{ (176 m}^2\text{)}$$

Note: Need to include space for aisles in calculation otherwise 15% discounted circulation for the whole Unit will be inadequate

Note: that this is an approximation and final amount would depend on layout of shelving.

b) Assign estimated area required for each bay, aisle space and discounted circulation

Estimate bay width and minor aisle width per bay (aisle width divided by 2)

Calculate main aisle(s) utilising 15% discounted circulation

$$\text{Eg. } = 300\text{mm} + 450\text{mm} = 750\text{mm per bay width}$$

$$= 0.75\text{ m}^2 \text{ per bay} \times \text{number of bays} \times 15\%$$

$$= \text{Estimated floor area required}$$

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502680 250 .0.10

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Preamble

502681 250 .1.00 This Health Facility Guideline reflects advances in the understanding of optimal environments for care, advances in assessment and treatment, and changing practices in mental health service delivery. Clients who require ambulatory care have frequently been assessed and may have received initial treatment in a community setting. The person presenting for care may be acutely ill, highly distressed and require further assessment and diagnosis or is not responsive to current treatments. Suicide risk may be a further complexity to treatment. Thus, settings for mental health services must be flexible and optimally therapeutic to provide a setting that will enhance the individual's capacity for reassurance and responsiveness to treatment.

Open, spacious environments, natural light and pleasant surroundings can assist the recovery process. Cramped enclosed spaces that are dark with low ceilings can create a negative ambience that may add to the individual's agitation, fearfulness and even depression. A pleasant and relaxing environment can help to create an appropriate atmosphere of hope and positive expectation.

Research in Australia and overseas supports the need for built environments that enables sufficient space to be provided to prevent people from feeling confined and restrained and that reduce the incidence of aggression towards staff.

Optimal physical environments are associated with lower levels of aggression and critical incidents, better client outcomes and better staff conditions and satisfaction. Recurrent costs will be substantially reduced and client services and outcomes improved with such settings.

Introduction

502682 250 .2.00 The guideline is offered as a resource to assist in the planning, design and construction of Ambulatory Mental Health Units. The information provided seeks to place the capital planning process within a framework that depends on prior and thorough service planning. It is expected that a service plan will be completed and approved prior to embarking on the design of a new facility or the reconfiguration of an existing facility.

Ambulatory Mental Health Units (AMHUs) are recognised as an essential component of mental health services in all Area Health Services. The continuum of care proposed for mental health services requires that non-inpatient services be provided for patients with mental illness who still need a regular interface with health professionals, while not requiring inpatient accommodation

502683 250 .3.00 EMERGING TECHNOLOGY AND CLINICAL WORK PRACTICES

In determining specific requirements and design, the impact of new technology and clinical work practices should be reviewed prior to commencing capital planning e.g. telepsychiatry - an expanding service linked to specialist clinicians in other locations and to inpatient units as well as for educational uses.

Policy Framework

502684 250 .4.00 Mental Health Services in NSW are underpinned by the NSW Mental Health Act 1990 and the National Mental Health Strategy. The National Mental Health Strategy... provides a framework for national reform from an institutionally based mental health system to one that is

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consumer focused with an emphasis on supporting the individual in their community. The Strategy was reaffirmed in 1998 with the Second National Mental Health Plan and again in 2003 with the endorsement by all health ministers of the National Mental Health Plan 2003-2008."

Also refer:

"Charter for Mental Health Care in NSW"

PD2005_339. Manual - "Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities".

NSW Health Policy Directive PD2005-576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Description of the Unit

502685 250 .5.00

DEFINITION OF HEALTH PLANNING UNIT (HPU)

The function of the Ambulatory Mental Health Unit (AMHU) is to provide - in a safe and therapeutic environment - appropriate facilities for the reception, assessment, diagnosis, treatment and rehabilitation of patients presenting with known or suspected psychiatric conditions and behavioural disorders.

The AMHU may be the patient's first point of contact with mental health services.

Referrals to the Unit may be from Intake Team Members, General Practitioners, inpatient services and others. However, patients may present to the Unit with no referral and no appointment.

Interview spaces will be readily available at the Reception for the prompt attention of persons presenting for care or attention to reduce stressful or anxiety-producing situations.

The operational policies are based on the philosophy of the AMHU, its role and function as well as the interface with other related service elements e.g. inpatient units, specialist services etc.

502686 250 .6.00

SIZE OF UNIT

The schedules of accommodation in this section propose a freestanding AMHU that can accommodate:

- Twenty persons sitting in the Waiting Area (Based on 1.2m² per person & 1.5m² for a wheelchair)
- Up to four staff in the Reception/Clerical/Assessment area
- Up to 40 consultations or interviews per day outside of office areas, being ten per consultation/interview room
- Up to 20 persons at a time in the large Meeting/Activities Room
- Up to 10 persons at a time in the small Meeting/Activities Room
- Office space for 15 full time staff;
- Courtyard or terrace to accommodate 10 persons.
- Amenities for up to 20 staff.

If the proposed unit is to differ from the above workload, the following method should be used to allocate space for key areas:

- Offices for permanent staff according to staff establishment using office sizes as a guide.

- Offices for visiting staff - casual office space in a group setting should be included to enable visiting staff to share a workstation with other visiting staff for the time required.

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- Consultation/examination rooms - One per 10 anticipated appointments per day that are to be held in consultation/interview spaces.

PLANNING

Operational Models

502687 250 .7.00 HOURS OF OPERATION

It is expected that the AMHU will generally operate during business hours from Monday to Friday but this may depend on Operational Policy. And it may be necessary to arrange for after-hours access by staff.

502688 250 .8.00 LOCATION

The location of the Unit will depend on the outcomes of Area Health Service planning across the catchment area. Options may include:

- free-standing;
- attached to a mental health inpatient unit (existing or planned);
- attached to (or integrated with) an existing Community Health Centre;
- attached to an existing hospital.

502689 250 .9.00 CONFIGURATION

The configuration of the AMHU will depend upon:

- whether it is collocated with another facility with which it could share facilities or free-standing
- the population of people who will use the service
- the number of staff to be accommodated
- the service mix.

502690 250 .10.00 SHARING

Operational policies and the design of facilities should provide for optimal use and sharing of major equipment. Sharing of equipment should be considered in the context of other service providers in the network. For example, one telepsychiatry unit could serve all the needs of multiple service providers if centrally located.

Operational Policies

502691 250 .11.00 GENERAL

Refer to Part B of these Guidelines for general examples such as Linen and Waste Handling etc

If the unit is to be part of a hospital precinct the operational policies already in place for the precinct will affect the operations of the ACU.

502692 250 .12.00 SPECIFIC POLICIES

Policies specific to the AMHU will need to be ascertained and defined and may include:

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- Whether a purely consultational / treatment service or whether allied health services and recreational activities will be provided - and the extent of same
- Whether patients will attend for a day or half-day or on a sessional basis for activities
- Whether clients will be provided with meals and refreshments
- That all consultation/interview will take place in rooms designed for these purposes. Use of offices can compromise staff safety and is not recommended.
- Storage and administration of medications
- Provision of Telepsychiatry services
- Management of medical records and appointment systems
- Handling of violent situations and restraint
- Arrangements for transfer to an inpatient facility if deemed necessary

502693 250 .13.00 STAFFING

Staffing levels and mix will vary depending on the size and configuration of the Unit, service profile and case mix, patient profile and staff availability

Planning Models

502694 250 .14.00 CONFIGURATION

Options may include:

- within an existing hospital;
- new building;
- freestanding building;
- ground floor or higher level location;
- in an established mental health service;
- mental health unit in a new hospital.

502695 250 .15.00 FLEXIBILITY AND SHARING

Design teams should ensure that by good design and functional location the sharing of spaces is maximised.

Encouraging part-time service providers to share common office and treatment spaces also increases utilisation and reduces operating costs.

It should also be remembered with regard to sharing, that the sharing of meeting rooms is considered good practice. But this should be cognisant of the demand from both services (ambulatory care unit and inpatient unit) and the fixed uses required of the space e.g. staff handover and magistrate's hearings.

Functional Areas

502698 250 .18.00 FUNCTIONAL ZONES

Zones will generally comprise the following:

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- Main Entry / Waiting / Reception
- Client Activities
- Clinical and non-clinical support facilities
- Staff Offices & Amenities

502699 250 .19.00 MAIN ENTRY / WAITING

The Main Entry will be approached via a ground floor lobby or lift lobby dependent on the site and will be the designated entry point to the Unit.

It is one of the most important spaces in the building - essentially 'consumer friendly', welcoming and non-threatening to all users.

The environment should be non-institutional and 'home like' in nature with a safe play area for children to entertain themselves in full view of their parents if required.

The Waiting Area may be divided into sub-zones with actual or perceived separations to provide clients and their families with comfortable discrete spaces while waiting. Comfortable seating should be provided for clients awaiting appointments, relatives and/or significant others.

An Accessible Toilet for People with Disabilities / Baby Change should be accessed off the Waiting Area and additional public toilets as dictated by population and/or availability of toilets close by.

A bay for parking prams, wheelchairs etc should be included.

Secure and discreet access to Staff Offices and Amenities Zone. May be used 'after hours' for access to meeting rooms by support groups and others.

502700 250 .20.00 RECEPTION / CLERICAL /ASSESSMENT

The area provides reception services to clients, relatives and significant others, as well as space for clerical services for the administration of the unit. Access to secure storage for active medical records and other files is required and to stationery and office equipment.

Clear sight lines for single entry control and observation of the Waiting Areas.

There is an identified security risk for clerical staff working in this area and a second egress door to a safe retreat is essential. However, although this may reduce the risk, it does not eliminate it altogether; therefore very careful consideration must be given to the design of the reception desk such as a wide counter so that disturbed or angry clients/supporters cannot reach across and a physical glass or Perspex barrier designed so as to not interfere with communication and is not intimidating. Fixed and personal duress alarm systems should be in place.

The desk should have an access point for persons in wheelchairs and acoustic treatment is necessary to maintain confidentiality of client information and telephone conversations.

This area may also include an assessment office for staff on intake or telephone services.

CONSULTATION / INTERVIEW ROOM

Used for the consultation with and assessment of clients and interview and counselling of family members and significant others.

The number of such rooms and their specific uses will be determined by the services provided by the unit and the client population. At times four or five persons may be involved in an interview or the interview may be limited to the client and the health professional.

Toughened glazing panels are to be used to enable observation from the corridor with window treatments preserving privacy whilst allowing client/clinician observation. This is particularly important in a 1:1 client/staff consultation.

All rooms are to have two doors for egress and duress alarms for security in addition to the use of personal duress system.

Rooms should be located in a quiet area remote from areas of high and noisy Activity. High level acoustic privacy.

The use of soft furnishings provides a less confrontational atmosphere whilst maintaining a secure/safe environment.

502702 250 .22.00 EXAMINATION / ASSESSMENT / MEDICATION ROOM

Located adjacent to Consult/Interview rooms. Discrete observation panel. Locked cupboards with adjustable shelving for storage of clinical equipment, drugs, dressings, syringes/needles and other possibly hazardous materials.

'Sharps' containers to be securely enclosed with easy access for sharps disposal. Adequate bench space. Handbasin with paper towels in container without sharp cutting edges. Furniture/joinery designed to prevent patient/ staff injury.

Two points of egress and duress alarms.

Medication storage must meet the requirements of the Poisons Act (1966) No. 31 (NSW).

A clinical washbasin with elbow operated tapware is required to meet Infection Control Guidelines as well as an examination couch and examination light if the room is to be used for patient examination and/or treatment.

A small desk and chair is also required for note taking.

It should be located in a quiet area remote from noisy waiting or activity areas.

502703 250 .23.00 EN SUITE SHOWER / TOILET

Locate so as to be accessible from two consultation/interview rooms or the examination/assessment/medication room and a consultation/interview room to increase access.

The en suite includes a shower, hand basin and toilet with spaces for toiletries.

Shower curtain rails - if required at all - are to either be flush with the ceiling, or to have a very low breaking strain. Grab rails - if needed - are to be solid.

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All showerheads should be able to be hand-held.

A minimum of two floor wastes are to be included and the floor is to be sloped away from the door to avoid flooding if taps are left on deliberately or inadvertently.

The mirror is to be constructed of toughened material that does not distort the image of the user.

502704 250 .24.00 MEETING/ ACTIVITIES ROOMS - LARGE & SMALL

All rooms may be used for group activities, meetings, education and training sessions. The large room may additionally be used for Magistrates Sessions, if required.

The exact use of such rooms will vary between units due to the different needs of patient groups and services provided and their use should be determined early in the planning process.

Occupational Therapy will need a sink with plaster trap, and possibly a kiln/exhaust.

Computer and/or TV/video need power outlets and appropriate seating; quiet spaces for 'time out' or listening to music need isolation from noise. Clearly observable spaces.

Access should be possible from the Main Entry/Reception Cluster so that public groups can utilise the space for self-help and client advocate groups.

For safety reasons two points of egress are essential. There should be multiple discrete duress alarm points and more than one telephone outlet.

Furnishings should be appropriate for the various activities in the room and be heavy enough to eliminate their potential use as weapons.

High ceilings and an external outlook are important in creating a spacious and less confrontational atmosphere. The colour scheme for this space should be selected with care to enhance a non-threatening environment.

Lockable cupboards (keyed alike) should be provided for the storage of educational and therapy equipment.

At least one room should be considered/cabled for video, telepsychiatry and teleconferencing facilities for consultations, education, and a possible future link to the Law Courts.

Refer to: Memorandum of Understanding for the Conduct of Review Hearings Under the Mental Health Act by Magistrates of the NSW Local Court, December 1999.

502705 250 .25.00 BEVERAGE PANTRY

The Activities Zone should have access to a Beverage Pantry located at the entry to the meeting/activity rooms so that attendees can prepare beverages and snacks prior to attending functions or meetings in the Unit. Self-serve access for clients. This room should be lockable so that staff can control access if necessary.

The cluster of spaces created by the meetings rooms, public toilet and the beverage pantry should be ideally located so that they can be utilised by public groups after hours without having access to the remainder of the unit.

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502706 250 .26.00 SUB-WAITING

It may be appropriate to provide sub-waiting area/s close to the consultation/interview rooms for use by clients who would be adversely affected by waiting in the main waiting area. If the space is not required for waiting it could be designated as a quiet sitting space adjacent to the courtyard for persons requiring a separate area to sit and relax.

The number of sub-waiting areas will be governed by the nature of services provided and the possible mix of clients accessing Community services

502708 250 .28.00 SUPPORT FACILITIES

Provision of Stores, Dirty Utility, Disposal Room, Linen Storage, Cleaner's Room etc will depend on adjacency or otherwise to an adjoining unit. Unit layout should allow such spaces to be shared wherever possible.

502709 250 .29.00 STAFF ZONE

These spaces have been zoned separately to allow offices and staff amenities to be in a discreet location away from patient areas.

If any staff allocated to / working in the Ambulatory Mental Health Unit already has an office in another part of the precinct, no additional office space will be allocated or added to this Unit

The size of the unit and the number of staff employed will determine the number and configuration of spaces in this zone. Ideally, the office zone will provide a secure precinct for staff in accordance with Occupational Health & Safety Guidelines. Planners are referred to the NSW Health Policy Directive on Office Accommodation.

Staff Amenities may be shared with an adjoining Unit.

Functional Relationships

502710 250 .30.00 INTERNAL

Several relationships between spaces are considered important to ensure that the AMHU operates efficiently and effectively. These are:

Reception/Clerical area should have a clear view of the Main Entry and Waiting Area and be visible from and adjacent to the Staff Zone. There should be easy access to the Stationery/Files Store.

Rooms used for consultation/examination room should be easily accessible from the Main Entry/Waiting Area as well as from the Staff Zone.

Meeting/activity rooms should be easily accessible from the Main Entry/Waiting Area and be able to be locked off from the rest of the unit so that community and support groups can use the area 'after hours'.

Accessibility

502711 250 .31.00 EXTERNAL

The policy of mainstreaming Mental Health and its associated facilities requires that the Mental Health Unit is perceived as an integral and equal part of the health precinct. Its location should afford easy access to the shared services and facilities that will/may be used by the patients and staff of the Mental Health Unit. These services include:

- Diagnostic Services
- Visitor amenities
- Staff and visitor parking
- Staff education facilities
- Deliveries for meals, laundry, medical records, stores and supplies and waste collection

If colocated with an adjoining Inpatient Unit, direct but controlled access for staff should be investigated.

Parking

502712 250 .32.00 All-weather drop-off parking for patients.

Discreet ambulance access and parking may need to be considered for patient transfer if necessary.

Refer to Part C, Section 790 for further information.

Disaster Planning

502713 250 .33.00 Refer to Part B Section 80 for further information.

Infection Control

502714 250 .34.00 Handbasins as indicated in Standard Components. Routine precautions.

Refer to Part D of these Guidelines for further information.

Environmental Considerations

502715 250 .35.00 ACOUSTICS

Adequate acoustic treatment is required to ensure that patient privacy is maintained and that disruptive incidents do not compromise the operations of the unit. Areas requiring special attention are noted in the relevant Room Data Sheets.

In acoustically treated rooms, return air grilles should be acoustically treated to avoid transfer of conversations to adjacent areas. Door grilles to these areas should be avoided.

502716 250 .36.00 NATURAL LIGHT

Wherever possible, the use of natural light is to be maximised.

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502718 250 .38.00 INTERIOR DESIGN /DÉCOR

Decor is not just colour. It is furnishings, style, textures, ambience, perception and taste and can be very personal and subjective.

Decor can be used to prevent an institutional atmosphere. Cleaning, infection control, fire safety, patient care and the patient's perception of a professional, caring environment should always be considered when dealing with decor.

Space Standards and Components

502719 250 .39.00 ERGONOMICS

Refer to Part C of these Guidelines for information.

502720 250 .40.00 HUMAN ENGINEERING

Includes reference to access and mobility. Refer Part C of these Guidelines for information.

502721 250 .41.00 DOORS

Refer to Part C, of the Guidelines with specific reference to Secure Rooms (Clause 710).

502722 250 .42.00 WINDOWS AND GLAZING

Where areas of risk are identified, planners are referred to the Windows Section in Adult Acute Inpatient Units. Also refer to Part C of the Guidelines

502723 250 .43.00 Security within the facility and the surrounding outdoor area as it relates to patient movements requires careful consideration. The security of access for staff, community and domestic service deliveries should also be considered

502724 250 .44.00 Design should assist staff to carry out their duties safely and to supervise patients by allowing or restricting access to areas in a manner which is consistent with patients' needs/skills. Staff should be able to view patient movements and activities as naturally as possible, whenever necessary.

502725 250 .45.00 A communication system which enables staff to signal for assistance from other staff should be included.

Finishes

502726 250 .46.00 WALL PROTECTION

Refer to Part C of these Guidelines

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502727 250 .47.00 FLOOR FINISHES

Refer to Part C of these Guidelines

502728 250 .48.00 CEILING FINISHES

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

502729 250 .49.00 Refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

502730 250 .50.00 VIDEO SECURITY

The use of video security as an adjunct to personal observation of internal and external areas should only be decided after the operational policies have been developed for the unit. It should not be seen as an alternative to, or replacement for, the direct and necessary clinical observation of patients. When deciding on the use of video security, the following factors should be considered:

- Area Health Service policies;
- relevant NSW Department of Health policies;
- the rights of patients to privacy balanced against the need to observe activities for safety and security reasons;
- the ability of the staff establishment to manage the level of observation required without video security;
- the maintenance costs involved;
- the ability to negate the need for video security with improved functional design.

502731 250 .51.00 VOICE AND DATA

Communication systems may provide for:

- alarm systems where necessary (e.g. dangerous drug cupboard opening);
- telephone services for staff, patients and visitors;
- computer and internet access for patients/supporters and staff;
- teleconferencing, videoconferencing and telepsychiatry facilities that are used for staff education, management and patient services.

Provision must be made at the outset for cabling and power outlets for computers.

502732 250 .52.00 DURESS ALARM SYSTEM

Refer to Part C of these Guidelines

A discreet duress alarm system will be required at all Reception Points and Client Treatment Areas, where a staff member may be alone with a client.

Also refer to "Protecting People and Property, Chapter 11 - Alarm Systems.

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COMPONENTS OF THE UNIT

General

- 502733 250 .53.00 The Mental Health Ambulatory Care Unit will consist of a combination of Standard Components and Non-Standard Components.

This section must be read in conjunction with Part B Standard Components Room Data Sheets and Room Layout Sheets.

The following text describes only specific requirements not covered by these documents.

Standard Components

- 502734 250 .54.00 Provide the Standard Components as identified in the Schedule of Accommodation

Non-Standard Components

- 502735 250 .55.00 Provide the Non-Standard Components as identified in the Schedule of Accommodation according to the Operational Policy and service demand.

- 502736 250 .56.00 OFFICE / CONSULTING ROOM

DESCRIPTION & FUNCTION

Room used by senior clinical staff as both office and for client interviews.

LOCATION & RELATIONSHIPS

Part of Staff Zone but easily accessible from the Main Entry without having to access other staff areas.

CONSIDERATIONS

Duress call.
Second egress door.
Door observation panels.
Comfortable chairs.

Schedule of Accommodation

- 502737 250 .57.00 A Generic Schedule of Accommodation for a Ambulatory Mental Health Unit at Levels 3, 4, 5, and 6 follows.

Notes: [o] next to qty/area = optional.

Public / Treatment Areas

ROOM/SPACE	Standard Component		Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	
PUBLIC / TREATMENT AREAS							
RECEPTION	yes		1 x 10	1 x 10	1 x 10	1 x 10	Increase if more than 1 staff
WAITING	yes		1 x 20	1 x 20	1 x 30	1 x 30	
CHILD PLAY (OPTIONAL)			0	1 x 9	1 x 9	1 x 9	
STORE - PHOTOCOPY / STATIONERY	yes		1 x 8	1 x 8	1 x 8	1 x 8	May be combined with File Store

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STORE - FILES			1 x 6	1 x 6	1 x 8	1 x 8	Will depend on Operational Policy
TOILET - DISABLED	yes		1 x 5	1 x 5	1 x 5	1 x 5	1 disabled/female/baby change
TOILET - PUBLIC	yes		1 x 3	1 x 3	1 x 3	1 x 3	1 male
CONSULT ROOM			14	14	14	14	Number will depend on service profile & throughput
SUB-WAITING	yes		1 x 5	1 x 6	1 x 10	1 x 12	
MEDICATION DISPENSING			0	1 x 8	1 x 8	1 x 8	May be combined with Treatment Room
TREATMENT ROOM			1 x 15	1 x 15	1 x 15	1 x 15	May incl. medication storage & dispensing
PATIENT TOILET / SHOWER - DISABLED			0	1 x 6	1 x 6	1 x 6	
PATIENT TOILET	yes		1 x 3	1 x 3	2 x 3	2 x 3	
ADL KITCHEN	yes		1 x 8 (o)	1 x 10 (o)	1 x 12 (o)	1 x 12 (o)	
ADL COMPUTER ROOM			1 x 12 (o)	1 x 12 (o)	1 x 12 (o)	1 x 12 (o)	
MEETING ROOM - SMALL (COUNSELLING ETC)	yes		12	12	12	12	Counselling
MEETING ROOM - LARGE (FAMILY GROUPS)	yes		1 x 20	1 x 20	2 x 30	2 x 30	Family groups, Group Therapy
BAY - BEVERAGE, ENCLOSED	yes		Share	1 x 5	1 x 5	1 x 5	Accessible to meeting rooms. Lockable.
STORE - GENERAL	yes		Share	1 x 9	1 x 9	1 x 9	
DISPOSAL	yes		1 x 2	1 x 2	1 x 2	1 x 2	
CLEANER'S ROOM	yes		Share	Share	1 x 5	1 x 5	
DISPOSAL ROOM	yes		Share	Share	1 x 8	1 x 8	

502738 250 .58.00 Staff Offices & Amenities

LIBRARY / RESOURCE ROOM			1 x 12 (o)	1 x 12 (o)	1 x 15 (o)	1 x 15 (o)	
OFFICE - SINGLE 12M2	yes		0	12	12	12	Service Manager, Director. Will depend on Staff Establishment
OFFICE - SINGLE 9M2	yes		9	9	9	9	Will depend on Staff Establishment & need for individual offices
OFFICE - WORKSTATION	yes		5.5	5.5	5.5	5.5	Will depend on Staff Establishment & need for individual offices
PROPERTY BAY - STAFF	yes		1 x 2	1 x 2	1 x 2	1 x 2	
STAFF ROOM	yes		Share	1 x 2 (o)	1 x 15	1 x 15	
SHOWER - STAFF	yes		Share	Share	1 x 2 (o)	1 x 2 (o)	
TOILET - STAFF	yes		2 x 3	2 x 3	2 x 3	2 x 3	
DISCOUNTED CIRCULATION %			30%	30%	32%	32%	

Functional Relationships

502739 250 .59.00 A diagram of key functional relationships is attached.

Checklists

502740 250 .60.00 Refer to Part C of these Guidelines for general requirements.

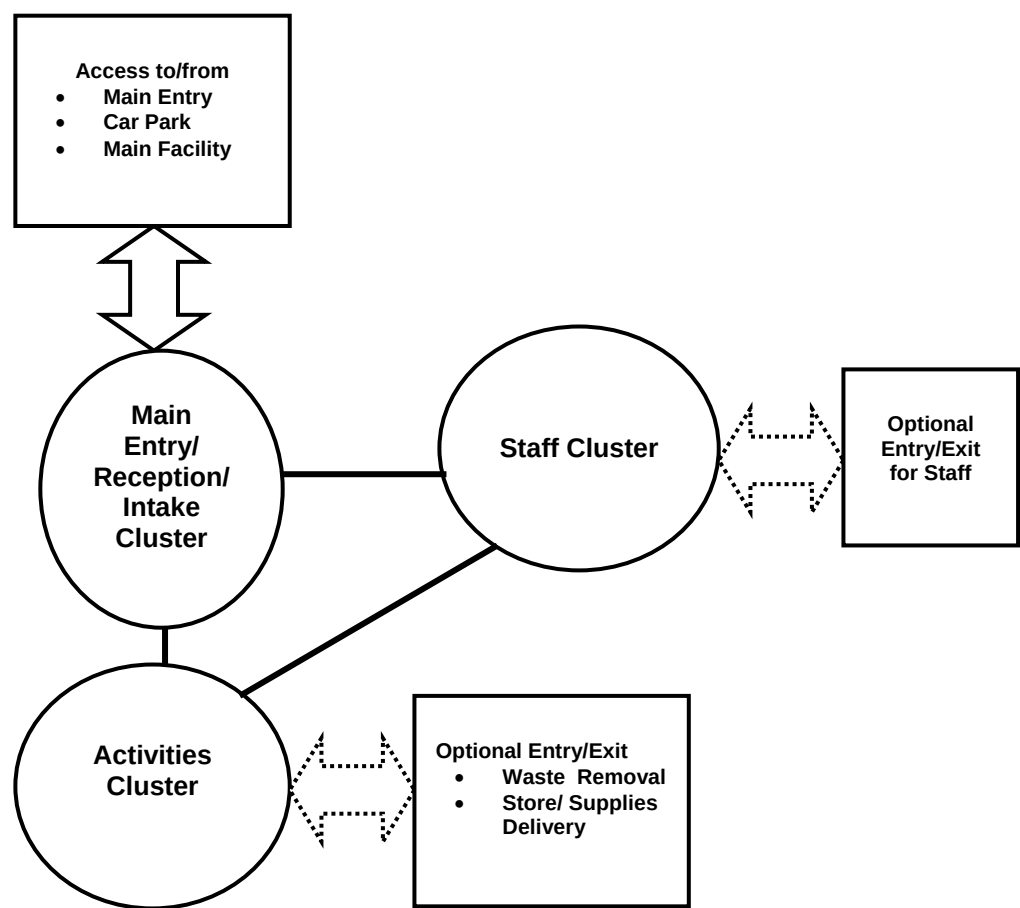
References and Further Reading

502741 250 .61.00 Design Series DS-26 - Mental Health Facility Planning Guideline, Volume 2, Ambulatory Care Unit, NSW Health Department 2003.

Safety, Privacy and Dignity in Mental Health Units - Guidance on Mixed Sex Accommodation for Mental Health Services. NHS Executive, June 1999.

FUNCTIONAL RELATIONSHIP DIAGRAM –AMBULATORY MENTAL HEALTH UNIT

The following diagram sets out the relationships between zones in an Ambulatory Mental Health Unit:



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500314 255 .0.10

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Preamble

500925 255 .1.00 This Facility Planning Guideline reflects advances in the understanding of optimal environments for the care and changing practices in primary health care service delivery.

Major ongoing changes in Australia's population, health technology and clinical practice are creating increasing demand for community based services, and leading to a reorientation of primary health care to meet consumer needs. To meet these challenges, it is vital to improve coordination between primary health care service providers. This task is greatly simplified when a range of primary health care services are located together in Community Health Centres.

Priority must be given to ensuring that the physical environment is therapeutic and welcoming for all its users, including children, young people, people of culturally and linguistically diverse backgrounds, Aboriginal people and others with special needs.

The physical relationship between services such as mental health, sexual health, drug and alcohol, and other health services requires careful consideration.

However welcoming the environment, there is always the possibility that some persons may be agitated or aggressive and potentially a risk to themselves or others, including staff. Therefore the environment must also have an appropriate level of security for both visitors and staff.

502007 255 .2.00 The physical environment in which care is to be provided should be developed and built in ways that clearly indicate:

- the person is valued, respected, and entitled to have his/her health care needs met in a pleasant, non-intimidating setting with appropriate amenities;
- the facility is able to provide optimal therapeutic settings, bearing in mind that a broad range of services may be provided for people of all ages and backgrounds;
- there is recognition of the positive value of light, space and high quality environments on providing Health Care Services;
- the staff who provide care are valued, skilled and supported to achieve optimal care of the person in a safe and rewarding working environment.

502008 255 .3.00 Models and patterns of service delivery change frequently, as do the needs and priorities of the populations served, so the facility design must continually evolve in response to community requirements. For example, Polyclinics in NSW are now providing services that may include after hours medical care, dental care, specialist health clinics, diabetes education and many other types of service.

502009 255 .4.00 Equally, there is increasing recognition of the relationship between social and economic factors and health status, and the importance of building healthy communities to promote and protect the health of individuals and populations. In the future, the functions of Community Health Centres will extend beyond the provision of health services to an increased emphasis on serving as a focal point for action to build strong, healthy communities.

Introduction

500926 255 .5.00 This Guideline is a resource to assist with the planning, design and

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construction of a Community Health Centre (CHC). It must be read in conjunction with generic requirements and Standard Components, which are described in Parts A, B and C of these Guidelines.

Community Health Centres may also contain facilities that are more fully covered by other unit specific Guidelines e.g. Mental Health, Ambulatory Care, Rehabilitation.

Policy Framework

500936 255 .6.00

NSW HEALTH POLICY

The following section sets out the significant features of contemporary primary health care policy that have been used in the development of these Guidelines.

Primary health care is the most visible and commonly used part of the health sector, with over 90% of people in NSW accessing this form of care every year. The NSW Government is committed to the development of a whole-of-community system of primary health care that will improve the health and wellbeing of the people of NSW.

The policy framework for the provision of primary health care services gives priority to achieving the following outcomes (NSW Health Department, 2002. Strengthening Health Care in the Community. Sydney: NSW Government Action Plan):

- improving health outcomes for people requiring health care in the community;
- improving the quality of life for people requiring health care in the community, their carers and their families;
- strengthening primary health care services in NSW;
- improving the management of demand for all health services.

The following foundations underpin the policy framework to provide a direction for primary health care services. With the support of the NSW Health Department, each Area Health Service will:

- develop strategic plans for primary health care services, including clear directions for the development of primary health care services in their Area;
- define and implement a model of care for local primary health care that will identify the core range and level of services that can reasonably be expected in the local community e.g. community nursing, therapy, mental health, drug & alcohol, early childhood, and child protection services;
- work towards an optimum mix of investment in health care, in order to improve the capacity of the health care system to manage demand effectively for all health services;
- prepare and implement a documented plan for each hospital that details discharge arrangements/transitional care, in order to ensure the seamless provision of services for patients leaving hospital for community setting;
- work together with other key interest groups in that Area to establish Primary Health Care Networks for coordinating and integrating the provision of primary health care services to geographically defined populations. Each Network will focus on the key factors that contribute to the health of the population in that Area.

The policy framework recognises that there are many compelling reasons to improve NSW's primary health care system:

- early health and social interventions are increasingly being recognised as a more effective way to improve the health of the population than treatment services alone;
- primary health care - delivered in the community where people live - has the best chance of reducing the gap in health status between the most and least disadvantaged in NSW, particularly for the Aboriginal community;

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- greater coordination between primary health care providers would enable improved health care planning and delivery. It is particularly important to create better links with general practitioners, who have a central role in managing patients in the community setting;
- a significant number of hospital admissions and re-admissions are now recognised as avoidable if the appropriate primary health care services are in place;
- if we are to achieve better management of demand for health services, it is essential to invest in a stronger and more effective primary health care sector, focusing on health promotion, early intervention and support in the community;
- better collaboration between the health care sectors has the potential to improve the effectiveness and efficiency of the health care system as a whole.

Description

500927 255 .7.00

DEFINITION OF HPU

Community Health Facilities range from single rooms to Polyclinics and can either be stand-alone buildings or integrated with a Hospital Facility. Requirements for the Facility are determined by the range of services based at the Facility and the model of service delivery.

Community Health Services are provided to non-admitted patients and encompass Public Health, Health Promotion and Early Intervention Treatment Services such as Post Acute, Palliative, Episodic, Chronic, and Complex Care. Community Mental Health may be collocated with this facility or collocated with Mental Health Inpatient Facilities.

500928 255 .8.00

FUNCTION

The prime functions of a Community Health Centre are to provide suitable accommodation to facilitate the delivery of health care services to clients, whilst also providing facilities and conditions to meet the working needs of staff. Activities undertaken include counselling, therapy, health education, community support and group programmes.

Community Health Services are typically ambulatory services delivered in a community based rather than hospital based setting. These services may include Community Acute Care, Post Acute Care and range from Hospital in the Home to Community Health Centre based services.

A Community Health Centre may be the physical base for a service rather than where the service is delivered or a combination of both. For example, outreach staff may be based in a CHC but deliver service in the home, whilst allied health services are delivered from the Centre, or in the home.

Some Community Health Services could also be provided in an Ambulatory Care facility. The Services Plan for a Facility must clearly define the services to be provided.

500929 255 .9.00

POPULATION PROFILE

The population of a Community Health Centre comprises:

- staff;
- clients and carers;
- community groups;

There are two main groups of staff:

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- unit based staff who are predominantly based in the Centre and provide a service at the Centre;
- field staff who undertake work in the community but return to the Centre for supplies and to carry out administrative tasks, attend meetings etc.

In addition, community health staff may be based at a Centre and provide outreach services from that Centre. There may also be other services provided as outreach to a Centre from services based at other locations.

The client population may range from the young to the old, comprise a variety of conditions, and come from a number of different ethnic backgrounds. The diversity of client needs to be accommodated by the Centre must be identified during the briefing stages, and the facility must be designed with the flexibility to meet these needs.

A consumer consultation process will assist in ensuring the service to be provided meets realistic consumer expectations.

Community groups using the facility would do so outside normal working hours.

500930 255 .10.00 GENERAL ARRANGEMENT

Community Health Centres (CHC) will vary in size. Components and allocated spaces will depend on the outcome of a needs analysis and a Service Plan that is based on the location, size and the needs of the area in which a CHC is to be sited. Space requirements will therefore be based on the throughput/occasions of service. These need to be well detailed in the Service Plan prior to the commencement of the capital planning process.

A CHC may be colocated with Ambulatory Care or Acute Inpatient Facilities.

Current policy is to colocate Community Mental Health in CHCs. However, a separate Guideline exists for these facilities which are therefore excluded from this CHC Guideline. This will eventually be integrated into a future edition of this Guideline.

500932 255 .11.00 SERVICES PROVIDED:

Services that may be included in a Community Health Centre include:

PRIMARY HEALTH CARE

- Aboriginal Health services;
- Allied Health services;
- Physiotherapy;
- Occupational Therapy;
- Podiatry;
- Chiropractic;
- Social work;
- Speech pathology;
- Psychology;
- Dietetics;
- Audiology;
- Nutrition;
- Ambulatory and post-acute care services;
- Antenatal / Postnatal clinics;
- Assessment and/or referral (including Aged Care Assessment Teams);
- Child and family health services;
- Child assessment;
- Early childhood centres;
- Early childhood nursing (including Aboriginal early childhood nursing);
- Immunisation;

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- Nurse home visits (post-natal);
- Child Protection Services (including developmental issues, early intervention services and child protection counselling);
- Chronic disease management services;
- Continence services;
- Counselling services (eg Bereavement, Adolescents, Problem Gambling, Generalist);
- Dental services;
- Eating Disorders services;
- Family planning;
- Health Education (eg Asthma, Diabetes);
- Health-related transport;
- HIV/AIDS services;
- Home nursing services;
- Men's health services;
- Multicultural health services;
- Outreach Medical Clinics;
- Palliative care;
- Primary medical services (GPs and nurse practitioners);
- Rehabilitation;
- Sexual Assault services;
- Sexual health services;
- Stomal therapy;
- Women's health services;
- Youth health services.

500933 255 .12.00 MENTAL HEALTH

- Adolescent mental health;
- Child mental health (including early intervention services);
- Community mental health;
- Early intervention in general with mental health issues;
- Mental Health crisis mobile team;
- Rehabilitation services.

500934 255 .13.00 HEALTH PROMOTION

- Alcohol and Drug Treatment programs (including drug diversion programs, needle exchanges and social health services);
- Community development (capacity building, community participation);
- Health education;
- Health information;
- Nutrition (including eating disorders programs).

500935 255 .14.00 PUBLIC HEALTH

- Health education;
- Health protection (including AIDS & infectious diseases, environmental health, food health).

Staffing

500940 255 .

STAFFING LEVELS

Staffing levels will vary for each CHC, depending on Operational Policies, services provided, availability of staff, case mix and activity levels.

Operational Models

500938 255 .15.00

HOURS OF OPERATION

It is assumed the Unit will generally operate up to 12 hours per day, 5 days per week. Some services (eg crisis counselling) may require staff to be in attendance 24 hours per day. There is an increasing trend towards extended hours services.

Outreach services (eg community nursing) may be provided over weekends and public holidays.

Out of hours access may be required on a planned basis for community groups, voluntary organisations or other specific activities.

500937 255 .16.00

FLEXIBILITY

Service mix, how services are delivered by individual staff (even within the same team), and demand for services change over time within a centre. A flexible accommodation model will enable change to be accommodated.

In many instances, facilities may be shared between different disciplines within a CHC e.g. Reception and Waiting Areas, Interview and Treatment Rooms. The capacity to share spaces should be maximised, reducing the need for potentially under-utilised special purpose rooms.

Operational Policies and facility design should provide for optimal use and sharing of equipment. The equipment must be located in a position that is easy for users to access.

The use of space must be carefully managed and the design must ensure that there are opportunities to adapt and expand the facility as more services are located in Community Health Centres.

Operational Policies

500939 255 .17.00

OPERATIONAL POLICIES

Operational Policies have a major impact on facility requirements and the capital and recurrent costs of health facilities. These policies should be clearly articulated so that the facility design can reinforce the new practices.

Operational Policies will vary from Centre to Centre depending on a wide range of factors. Users must define their own Operational Policies.

Refer to Part B Section 80 of these Guidelines for general discussion in regard to Operational Policies.

STAFFING LEVELS

Staffing levels will vary for each CHC, depending on Operational Policies, services provided, availability of staff, case mix and activity levels.

Planning Models

501993 255 .18.00 LOCATION

The location of CHCs will vary, depending on the outcome of Service Planning at an Area Health Service level. Options for locating centres include:

- free standing in a community location;
- attached or included in the development of commercial facilities e.g. shopping centres;
- on the grounds of a hospital facility.

500924 255 .19.00 DESIGN

A CHC may be sited in a new purpose-built facility, in an existing building that requires redevelopment or a combination of both.

500942 255 .20.00 Building design must be flexible and adaptable to enable a CHC to cater for varying client and service needs and future service delivery changes. The design philosophy for a CHC, which is part of the local community, must convey a friendly and inviting environment that will encourage community members to utilise the available facilities for a variety of purposes.

501994 255 .21.00 CONFIGURATION

The configuration of a CHC will depend on:

- the number of staff to be accommodated;
- the service mix;
- the population who will use the service;
- whether it is collocated with another facility or free-standing;
- OHS risk profile.

500943 255 .22.00 TYPES OF COMMUNITY HEALTH CENTRES

Community Health Centres may vary in size from a few rooms shared with other community services to large complexes.

500944 255 .23.00 DETERMINING OFFICE ACCOMMODATION

The NSW Health Office Accommodation Policy should apply when determining office accommodation. Service planning and operational policies will also influence office provision for a facility.

In general:

- an individual office is provided for the Centre Manager;
- staff with significant supervisory responsibilities e.g. service managers, may also have individual offices;
- staff will undertake client treatments and consultations in a booked Client Treatment Room. Personal offices will not be used for this purpose;
- all other staff (regardless of role/status etc) are assigned a workstation as part of an open office arrangement;
- workstations should be 5.5 square metres for staff who spend much of their working day at their desk e.g. administration staff, team leaders, and 4.4 square metres for all other staff;

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- where possible, shared workstations should be provided for part-time or job share staff;
- shared work base facilities should be provided for visiting staff and students.

500945 255 .25.00 DETERMINING CLINICAL ACCOMMODATION

Essentially the method described below is intended to maximise use of clinical spaces by all clinical staff and allows for changes in space usage as service delivery models change over time. For example some clinical staff may prefer to offer a range of services in a group environment while others prefer one-to-one consultation. The ageing population increases demand for some services, and increasingly, visiting services are delivering care on a booked basis in community health centres to increase access to a range of services such as Women's Health, Acute and Chronic care programs and Aged Care Assessment.

Estimation of interview, consultation and other group room requirements:

- determine the number and range of services delivered from the Centre;
- determine the mix of services delivered by clinical staff in the Centre and out of the Centre;
- determine the projected number of in-Centre appointments including visiting services. Incorporate trends in changes to care patterns such as increased use of Community Health Services for chronic care programs;
- estimate scheduled length of in-Centre appointments;
- determine client / patient mix including sex, age and likely support numbers;
- indicate room utilisation by plotting weekly or monthly appointment numbers and times by accommodation type required i.e. generic facilities such as Interview, Consult and Group Rooms, or spaces for specific functions e.g. dental, audiology, physiotherapy;
- aim for 80% occupancy of specific spaces on a booked basis;
- implement a booking system for rooms. Clinical rooms should be available to all who have a specific need for a specific period of time;
- ensure that under-utilised specific clinical spaces can be used by other groups. For example an open plan gym area can be used after hours for ante-natal classes or community groups on a pre-booked basis;
- large group rooms should be planned to allow for their use after hours without impacting on the security of the rest of the facility.

Functional Areas

500946 255 .26.00 FUNCTIONAL ZONES

Individual spaces combine to form zones or groups of spaces with a similar purpose. The relationship between zones is considered important to ensure that CHCs operate efficiently and effectively.

A Community Health Centre can be subdivided into three key Functional Zones:

- Main Entry / Reception;
- Client Areas - activities and treatment;
- Staff Areas.

Functional Relationships

500947 255 .27.00 EXTERNAL

ENVIRONMENT

Where possible, Community Health Centres should be in a quiet location,

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with a pleasant outlook and maximum environmental benefits.

500948 255 .28.00 LOCATION

A CHC should be located in an area that is accessible to the community by both public and private transport and in close proximity to other local resources. Ideally this location will adjoin other public amenities routinely used by the community e.g. shopping precinct, transport hub, library. It should be noted that a CHC services may be located over more than one site and in more than one community.

Where a CHC is to be located on a hospital site, it should provide easy access to:

- Main Entrance;
- Diagnostic facilities such as Medical Imaging and Pathology;
- Emergency Unit;
- Rehabilitation services;
- Pharmacy;
- Car Parking.

500949 255 .29.00 ACCESS

Off-street access for vehicles transporting clients must be provided. Easy access is required to Car Parking Areas and other Health Care Facilities on the site if provided.

Some services may require a separate and discreet entry point. Ambulance access must be provided to the facility with trolley access to the Main Entry, Waiting and all Client Areas.

All-weather vehicle drop-off points should be provided for easy access by clients who are elderly, frail, have limited mobility or who are wheelchair bound.

500950 255 .30.00 INTERNAL

The internal plan of the CHC must allow clients to easily move to and from treatment and activity areas, and enable efficient staffing.

Optimum internal relationships include:

- Reception / Clerical Areas should have a clear view of Main Entry / Waiting Areas and be visible from adjacent Staff Areas. There should be easy access to stationery and medical records. The Reception Area should provide a barrier controlling access between Waiting and Treatment Areas.
- Consultation / Examination / Interview Rooms should be easily accessible from the Main Entry / Waiting Area as well as the Staff Area;
- Meeting / Activity Rooms should be adjacent to the Main Entry / Waiting Area so they can be accessed after hours, with the rest of the centre safely secure.
- Staff areas must be designed so they allow staff to easily move between the Main Entry / Reception and Client Areas. Staff offices and amenities should be separate from Client and Public Areas to provide privacy and a quiet work area.

General

- 500951 255 .31.00 Refer to Part B, Sections 80 and 90, and to Part C of these Guidelines for general design requirements.

Parking

- 500974 255 .32.00 Refer to Part C of these Guidelines.

Generally car parking will be provided for clients and staff. In particular, times of attendance for staff and overnight parking for health service vehicles will impact on requirements. Security issues need to be addressed when planning for after-hours parking. These issues will vary from site to site, and will need to be determined in accordance with Local Authority requirements.

Disaster Management

- 500952 255 .33.00 Refer to Part B Section 80 of these Guidelines for issues to be considered.

The potential role of Community Health Centres in a disaster management situation should be assessed.

Attributes which make it potentially useful in a disaster situation include:

- large open spaces for disaster management or emergency accommodation;
- Consult / Interview Rooms for assessment of victims;
- focal point in the community.

Infection Control

- 500953 255 .34.00 Consideration of Infection Control is important in the design of this Unit. Treatment spaces will be used for a variety of clients.

It is possible that infectious patients will use the same treatment spaces as immunosuppressed patients at different times on the same day. Standard precautions must be taken for all clients regardless of their diagnosis or presumed infectious status.

Refer to Part D of these Guidelines for further information. Staff handwashing facilities, including disposable paper towels, must be readily available.

Environmental Considerations

- 500955 255 .35.00 ACOUSTICS

Many functions undertaken within a CHC require consideration of acoustic privacy including:

- discussions / interviews with clients;
- exclusion of disturbing or distracting noises during client consultations / activities e.g. relaxation therapy, speech pathology, audiology assessments;
- isolation of noisy areas such as Public Waiting, Dental, Child Health Facilities;
- staff discussions regarding patient information.

Solutions to be considered include:

- selection of sound absorbing materials and finishes;

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- use of sound isolating construction;
- planning separation of quiet areas from noisy areas;
- changes to operational management.

500956 255 .36.00 NATURAL LIGHT

Natural lighting contributes to a sense of wellbeing, assists orientation of building users and improves service outcomes. The use of natural light should be maximised throughout the Unit.

Access to natural light and preferably a pleasant outlook will minimise stress and discomfort for patients and staff.

500957 255 .37.00 PRIVACY

Client privacy and confidentiality are important considerations to be addressed. The facility should be designed to:

- ensure confidentiality of client discussions and records;
- provide discrete sub-waiting areas for clients wishing or needing to be separated;
- enable the reason for attendance to be kept confidential e.g. through use of generic consultation rooms. This is particularly important for services such as mental health, sexual health, drug and alcohol, etc;
- appropriately locate windows and doors to ensure privacy of clients, while maintaining security of staff.

500958 255 .38.00 INTERIOR DESIGN

Interior design includes furnishings, style, colour, textures, ambience, perception and taste. This can assist in relaxing clients and preventing an institutional atmosphere. However, cleaning, infection control, fire safety, client service and the client's perception of a professional environment must always be considered.

Some colours and patterns can be disturbing to some clients. Bold primaries and green should be avoided in areas where clinical observation may occur such as Consultation / Treatment Areas.

Space Standards and Components

500959 255 .39.00 ERGONOMICS

Refer to Part C of these Guidelines.

500960 255 .40.00 ACCESS AND MOBILITY

Refer to Part C of these Guidelines.

Wheelchair access from Car Parks is required.

500961 255 .41.00

Buildings should be designed to cope with a wide range of possible conditions. The aim is to provide an environment that will allow the maximum mobility possible for each person. The CHC facility will include access for people with disabilities as required in the BCA.

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500962 255 .42.00 DOORS

Refer to Part C of these Guidelines.

Doorways must be sufficiently wide and high to permit the manoeuvring of wheelchairs, trolleys and equipment without risk of damage to the doorway or the item being moved, and without creating manual handling risks.

500963 255 .43.00 WINDOWS

Refer to Part C of these Guidelines.

Careful attention should be given to windows in Interview Rooms, Consulting Rooms, Treatment Rooms, Group Rooms, etc to preserve privacy for occupants.

500964 255 .44.00 CORRIDORS

Refer to Part C of these Guidelines.

Safety and Security

500965 255 .45.00 SAFETY

Refer to Part C of these Guidelines.

A Community Health Centre should provide a safe and secure environment for clients, staff and visitors while remaining a non-threatening and supportive atmosphere conducive to the delivery of services.

Clients will have varying levels of physical and mental capabilities. They may be weak, unsteady, affected by medication or confused.

The facility, furniture, fittings and equipment must be designed and constructed in such a way that all users of the facility are not exposed to avoidable risks of injury.

500966 255 .46.00 SECURITY

Refer to Part C of these Guidelines.

Security issues are important due to the increasing prevalence of violence and theft in Health Care Facilities.

The configuration of spaces and zones should offer a high standard of security by grouping like functions, controlling access and egress from the Unit and providing optimum observation for staff.

The level of observation and visibility has security implications.

Planning should allow for after hours access to Public Areas without compromising security of Staff Areas.

500967 255 .47.00 Security issues to be considered in Community Health Centres are appended to this document.

Finishes

500968 255 .48.00 WALL PROTECTION

Refer to Part C of these Guidelines.

500969 255 .49.00 FLOOR FINISHES

Floor finishes should be appropriate to the function of the space. Refer to Part C of these Guidelines.

Consideration must be given to the appearance and quality of environment required e.g. non-institutional, acoustic performance, slip resistance, consequences of client falls, infection control, movement of trolleys and maintenance.

500970 255 .50.00 CEILING FINISHES

Refer Part C of these Guidelines.

Ceiling finishes should be selected with regard to appearance, cleaning, infection control, acoustics and access to services.

Fixtures, Fittings & Equipment

500971 255 .51.00 Refer to Part C and FF&E in these Guidelines.

Building Service Requirements

500972 255 .52.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

Refer to Part B Section 80 of these Guidelines.

Unit design should address the following Information Technology / Communications issues:

- paperless records;
- handheld computers;
- Picture Archiving Communication System (PACS);
- Community Health Information Management Enterprise (CHIME);
- paging and personal telephones replacing some aspects of call systems;
- data entry including scripts and investigation requests;
- email;
- bar coding of supplies and X-Rays / records.

All clinical rooms, interview rooms and clinician work stations require data outlets to enable electronic use of records now and in the future.

500973 255 .53.00 NURSE CALL

The need for provision of a call system that allows clients and staff to alert other health care staff in a discreet manner at all times should be considered.

Nurse call systems must be designed and installed to comply with AS 3811 - Hard wired Patient Alarm Systems.

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501995 255 .54.00 DURESS ALARM SYSTEM

Duress alarms should be provided in accordance with NSW Health Policy. Refer to Part C of these Guidelines.

A discreet duress alarm system will be required at all Reception Points and Client Treatment Areas, where a staff member may be alone with a client.

COMPONENTS OF THE UNIT

Client Areas

500997 255 .24.00 MEETING ROOMS

A number of Meeting Rooms of varying size should be provided for interviews and meetings with clients, their carers, by staff or by community groups. Larger rooms will be required for group activities such as conferences, therapy sessions and tutorials. Operational policies may determine that one room is used for the intake function.

All rooms should be multi-functional.

Storage for equipment and materials should be provided nearby.

Introduction

500975 255 .55.00 This section must be read in conjunction with Part B Standard Components, Room Data Sheets and Room Layout Sheets. The following text describes only specific requirements not covered by these other documents.

General

500976 255 .56.00 The components of a Community Health Centre will vary for each facility. Components and allocated spaces will depend on the outcome of a needs analysis and a Service Plan that is based on the location, size and the needs of the area in which an CHC is to be sited.

500977 255 .57.00 The generic Schedule of Accommodation outlines the particular facilities required for each of the various services that may be contained within a CHC. For further details of Allied Health spaces refer to Allied Health Unit (future guideline).

Standard Components

501562 255 .58.00 Provide the Standard Components as identified in the Generic Schedule of Accommodation. Provision of Offices, Workstations and support areas will be dependant on the Operational Policy and service demand and may vary from the Schedule of Accommodation, however, room sizes should remain consistent.

Non-Standard Components

501564 255 .59.00 Provide the Non Standard Components as described in this section, according to Operational Policy and service demand.

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Main Entry/Reception

500981 255 .60.00 BAY - PRAM, WHEELCHAIRS

DESCRIPTION AND FUNCTION

An area for the temporary holding of prams, strollers, etc while clients are attending the CHC and for the storage of wheelchairs.

LOCATION AND RELATIONSHIPS

The Pram, Wheelchair Bay should be located adjacent to the Main Entry and Waiting Areas. The Bay must not encroach on circulation areas.

500989 255 .61.00 ENTRY CANOPY

DESCRIPTION AND FUNCTION

An Entry Canopy is required to provide undercover access to the building from vehicles. The Canopy should be large enough to allow vehicles such as taxis, buses, cars, and ambulances to manoeuvre beneath it.

LOCATION AND RELATIONSHIPS

Provide at Main Entry.

500991 255 .62.00 EXTERNAL AREAS

DESCRIPTION AND FUNCTION

Outdoor Areas, such as drought resistant gardens, courtyards and terraces should be provided to give a pleasant domestic setting for the building.

Outdoor Treatment Areas may be required to provide specialised outdoor treatment space for clinical activities such as Occupational Therapy and Physiotherapy.

Design considerations include:

- a secure area that does not allow exit from the CHC, unless necessary for an emergency exit;
- actively seeks to minimise security problems;
- adequate seating and other rest areas;
- facilities and surfaces for access for people with disabilities;
- a range of surfaces, steps and slopes.

LOCATION AND RELATIONSHIPS

The Outdoor Treatment Areas need to have ease of access from the Physiotherapy and Occupational Therapy Clinical Areas.

500990 255 .63.00 MAIN ENTRY

DESCRIPTION AND FUNCTION

The Main Entry to the facility should display clear directions informing people where to proceed. The Entry should have weather protection and may incorporate an airlock space. Doors that open automatically should be provided for easy access.

LOCATION AND RELATIONSHIPS

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This should be located adjacent to a vehicle set down point and readily accessible from the street and parking areas. Reception and Waiting Areas should be adjacent.

501998 255 .64.00 SUB - WAITING AREA

DESCRIPTION AND FUNCTION

Depending on the proximity of the services, there may be one or more smaller or Sub-Waiting Areas within an individual CHC facility. These are for use by clients who may require privacy due to distress or confidentiality, or associated with discrete services e.g. Dental, Early Childhood.

LOCATION AND RELATIONSHIPS

A Sub-Waiting Area should be positioned adjacent to facilities served.

Client Areas

500978 255 .65.00 ADL KITCHEN

DESCRIPTION AND FUNCTION

An ADL Kitchen provides facilities for assessment and teaching of activities of daily living (ADL) as part of Occupational Therapy services in the CHC. It should contain fittings and fixtures of varying heights and types to cater for both wheelchair users and ambulant people.

LOCATION AND RELATIONSHIPS

An ADL Kitchen should be located adjacent to other occupational therapy facilities.

500979 255 .66.00 SPECIALIST AREAS

Specialist clinical areas such as Occupational Therapy, Physiotherapy, Prosthetist, Orthotist, may be sited in close proximity to each other so that where possible they can share facilities such as outdoor treatment areas and splinting activities. Physiotherapy and Occupational Therapy staff should have visibility to the treatment areas from their offices.

Direct access to an outdoor area from the clinical area is required for Occupational Therapy and Physiotherapy.

Occupational Therapy requires a relatively large treatment area to facilitate individual function activities, activities of daily living, evaluation of equipment needs and group therapeutic activities.

If Physiotherapy is to be provided, an area is required to facilitate evaluation, therapeutic exercise and ambulation training. The treatment area needs to accommodate equipment such as electrotherapy machines, several plinths, gym equipment, mats, treatment tables, parallel bars and steps.

A specifically designated area should be provided where electric treatment modalities are required for Physiotherapy.

A suitable variety and number of counselling/interview rooms should be provided for use by psychologists, social workers and counsellors. See 'meeting room' description and RDS/RLS for fixtures and fittings.

Easy access and exit should be provided to meet OHS needs. One-way glass or point of vision (eg 'peep hole') may be required to meet safety

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requirements.

For further details of Allied Health Specialist areas refer to Allied Health Section of these guidelines (to be developed).

500986 255 .67.00 DENTAL FACILITIES

DESCRIPTION AND FUNCTION

Depending on the CHC, there may be a specifically designated Dentistry Consulting Room or a sessional dentist and dental nurse may share accommodation with a Podiatrist.

If Dental facilities are included, there will be a need for space for sterilising equipment, portable X-Ray and X-Ray developing equipment. Design of the area for decontamination and sterilising must comply with the relevant Australian Standard.

Areas for Dentistry or Podiatry need to be investigated to allow room for specialised equipment including chairs.

LOCATION AND RELATIONSHIPS

The Dental Facilities should be located with ready access to the Main Entry and Waiting Areas. The Dental facilities must be acoustically isolated and it may be better to separate them from other areas.

Access is required for patients using mobility aids such as walking frames or wheelchairs.

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APPENDICES

Schedule of Accommodation

501016 255 .68.00 INTRODUCTION

The content and size of a Community Health Centre varies depending on the location, services provided and throughput.

Community Health Services are categorised into six levels of service. However, these do not necessarily lead to different physical requirements.

A generic Schedule of Accommodation follows that lists generic spaces that can be combined to form a Community Health Centre. Sizes and quantity of each space will need to be determined on a case by case basis.

ROOM / SPACE	Standard Component					Area m2 *Optional	Remarks
ENTRY / RECEPTION AREAS:							Note: All room sizes depend on size of service.
BAY - MOBILE EQUIPMENT	yes					3	
ENTRY CANOPY						30	Allows for ambulances.
EXTERNAL AREAS						-	Varies for each facility.
MAIN ENTRY						12	Directly adjacent to Reception & Waiting Areas
PARENTING ROOM	yes					6	
PLAY AREA	yes					10 - 15	Should relate to Sub-Wait areas, esp for Child & Family services.
RECEPTION	yes					20	up to 4 staff, may include admin function, or c/w clerical/admin area.
SUB-WAITING AREA						30	Allows for up to 20 clients waiting. Size & distribution depends on client numbers & mix.
TOILET - PUBLIC	yes					3	Near Waiting Area. May also be req'd for other areas eg Rehab, Early Childhood.
TOILET - DISABLED	yes					5	
WAITING	yes					40	20+ clients, prams, etc; info display; view from reception, adj to Child Play area.
CLIENT AREAS:							
BAY / ROOM - BEVERAGE	yes					8	For conference & large meeting room
CONSULT ROOM	yes					12	15m2- child-related services; multi funcn, programmed use; possible clinical play area.
MEETING ROOM - 9M2	yes					9	Up to 5 people. Possibler interview function, eg mental health, D & A counselling, etc.
MEETING ROOM - 12M2	yes					12	Suitable for childhood-related services, Intake & Family Therapy.
MEETING ROOM - MEDIUM	yes					20	Up to 15 people; may include req'ts for Telehealth
MEETING ROOM - LARGE	yes					Up to 40	One x ext access for a/hrs use. Others with internal access. Consider Telehealth req'ts.
MEETING ROOM - CONFERENCE						Up to 50	Ext access for a/hrs use. Consider Telehealth req'ts.
OBSERVATION ROOM						9	One way window to small/medium meeting room.
TREATMENT ROOM	yes					14	Multi-functional, used on programmed basis; ready access from waiting areas.

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STAFF AREAS:							
BAY / ROOM - BEVERAGE	yes					3	Staff use.
BAY - HANDWASHING	yes					1	Distributed as required.
BAY - LINEN	yes					2	Need depends on operational policies
BAY - RESUSCITATION TROLLEY	yes					2	
CHANGE - STAFF	yes					30	Size depends on staff numbers, adj to staff toilets and showers.
CLEANER'S ROOM	yes					5	Per 1000m2.
CLEAN UTILITY	yes					14	Also for medications.
DIRTY UTILITY	yes					12*	Optional provision.
DISPOSAL	yes					8	
OFFICE - 4 PERSON SHARED	yes					20	Administration; size varies according to size of facility; may be c/w Reception function.
OFFICE - SINGLE PERSON 12M2	yes					12	Centre Manager; adj to Reception & admin areas.
OFFICE - SINGLE PERSON 9M2	yes					9	Depends on staffing & operational policies.
OFFICE - WORKSTATION	yes					4.4 - 5.5	For each clinical staff member; number & size depends on staffing profile.
SHOWER - STAFF	yes					3	OHS requirement.
STAFF ROOM	yes					25	May include library/resources; size depends on size of service.
STORE - EQUIPMENT	yes					20	More than one may be required e.g physio eqt, OT mobility aids, medical eqt, etc.
STORE - GENERAL	yes					9	Goods, non-sterile supplies, med supplies; > one may be reqd, central location.
STORE - FILE (ACTIVE)	yes					30	Active medical records, secure, ready access from reception + clinical areas.
STORE - FILE (ARCHIVE)	yes					30	Archived medical records, secure, may be remote from main work areas.
STORE - MEDICAL GAS	yes					2	Safe & secure, various size cylinders, adeq ventilation; near loading & service areas
STORE - PHOTOCOPY / STATIONERY	yes					8	
TOILET - STAFF	yes					3	
SPECIALIST AREAS:							
PHYSIOTHERAPY -							
ASSESSMENT / TREATMENT ROOM						12	
CHANGE CUBICLE - PATIENT	yes					2 - 4	Mix of small/large depends on profile of clientele.
GYMNASIUM						60	For up to 13 patients/hour. Includes write-up area.
PLASTER ROOM	yes					14	
BAY - RESUSCITATION TROLLEY	yes					2	
SHOWER - PATIENT	yes					4	

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TOILET - DISABLED	yes					5	
TREATMENT CUBICLE - OPEN						7	
TREATMENT CUBICLE - CLOSED						10	
OFFICE - WRITEUP BAY	yes					3	Physio - adjacent to Treatment Areas
OCCUPATIONAL THERAPY -							
ADL KITCHEN						12	
ADL BATHROOM						12	
ASSESSMENT/TREATMENT						12	
EQUIPMENT CLEANING						12	
STORE - EQUIPMENT	yes					12	
TREATMENT ROOM - HAND SPLINTING						25	Shared by Physio
TREATMENT ROOM - PAEDIATRIC						Up to 70	Includes storage and wet areas. Size dependent on service demand.
OFFICE - WRITEUP BAY	yes					3	OT
SPEECH PATHOLOGY -							
OFFICE / CONSULT						12	Combined office and consult rooms depends on operational policies of unit.
OBSERVATION						9	
STORE - GENERAL	yes					10	Includes Resource Store
AUDIOLOGY -							
CONSULT						20	Sound proof booth included in room
PODIATRY -							
TREATMENT ROOM						12	To be shared where possible
UTILITY ROOM						10	
CARDIAC / PULMONARY -							
CONSULT - STRESS TEST						20	Includes write up and recovery areas.
SHOWER / WC - PATIENT	yes					5	Use Std Comp for Ensuite bathroom.
DENTAL -							
CLEAN UP / STERILISING						6	
STORE - GENERAL	yes					8	
TREATMENT - DENTAL						12	
WORKROOM - DENTAL						12	
OFFICE - WRITEUP BAY	yes					6	

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X-RAY AREA						6	storage and developing.
METHADONE UNIT -							
DISPENSARY						9	
DOSING AREA						6	
OFFICE - 3 PERSON SHARED	yes					15	
TOILET - PATIENT	yes					5	Specimen collection.
WAITING AREA	yes					15	6 - 10 people.
OTHER AREAS -							
SERVICE ENTRY / LOADING BAY	yes					varies	Need for this, and its size depends on the facility size.
WASTE HOLDING AREA	yes					varies	Depends on size of facility

Functional Relationships

501019 255 .69.00 A diagram of key functional relationships is attached.

Checklists

501020 255 .70.00 A security checklist for Outpatient Areas is appended to this document.

References and Further Reading

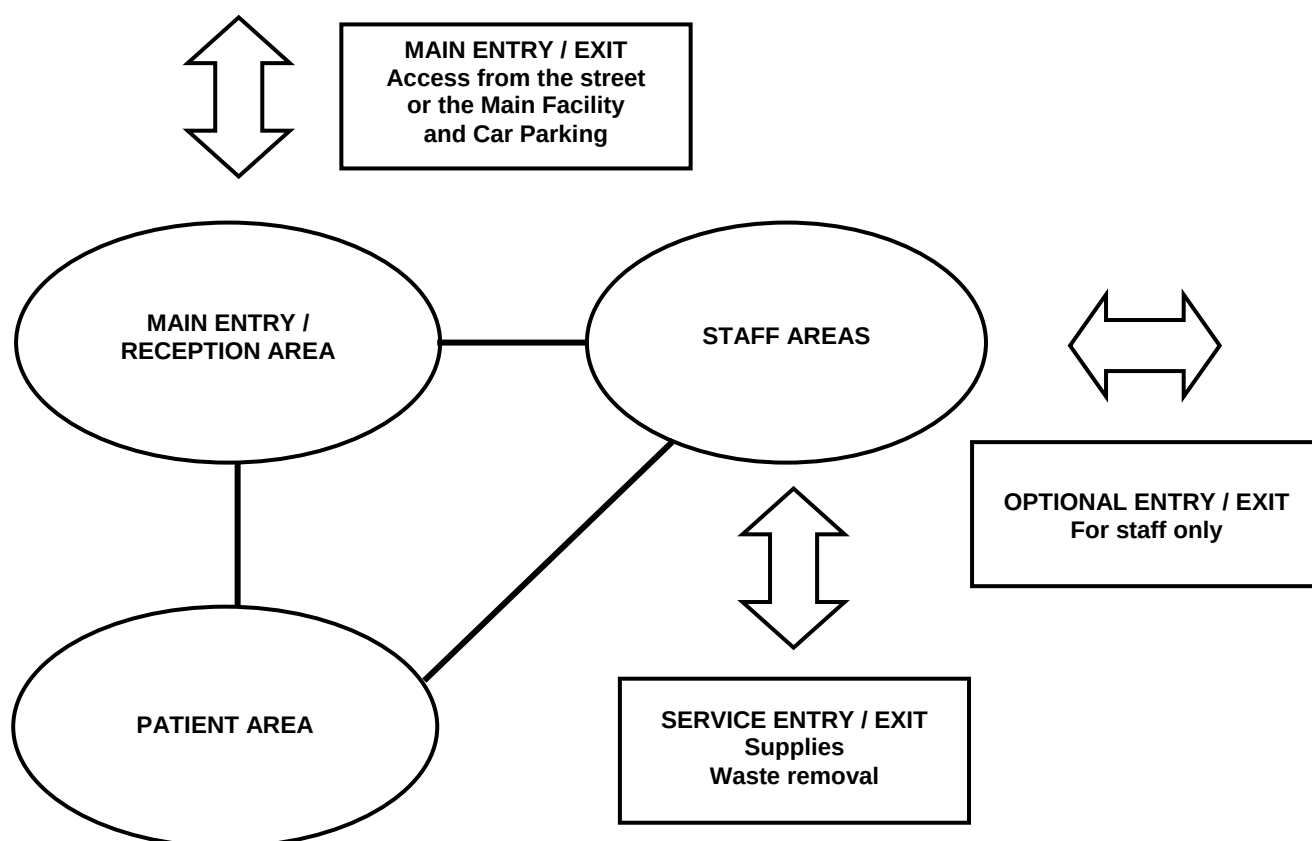
501023 255 .71.00 The following references should be read in addition to the general references provided in these Guidelines:

DS 3.01 Community Health Unit Health Building Guideline, Capital Works Branch, NSW Health Department, 1992

DS 26 Mental Health Facility Planning Guideline, Volume 2 Ambulatory Care Unit, NSW Health Department, 2003

FUNCTIONAL RELATIONSHIP DIAGRAM – COMMUNITY HEALTH UNIT

The following diagram sets out the relationships between areas in a Community Health Unit:



SECURITY ISSUES TO BE CONSIDERED IN COMMUNITY HEALTH CENTRES

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Treatment Area.	1. Minimise and secure entry and exit doors.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Client files	- Personnel working on these files must return them to secure area after use or return to the Medical Records Store. - If any electronic files are produced, save in restricted area of hard drive.
2. Furniture fittings and equipment including Computers, Office and Medical Equipment	- Non-removable 'Asset No.' on all equipment above a predetermined value. - Keep equipment in lockable area.
3. Drugs storage	1. Dangerous drug safe within the Clean Utility Area.
4. CHC personnel safety	- Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. - Appropriately designed waiting area including, where possible: - barrier between staff and patients, - bench seating, - ensure no loose fittings which can be utilised as a weapon, - vending machines. - Design shape of Interview/Meeting Rooms and Sub-Waiting Areas, and locate desks, etc, in such a way that minimises risk to health personnel. - Provide storage and store items not in constant use that could be used as weapons. - Minimise furniture that can be used as a weapon, ie, picked up and thrown. - Security procedures for after-hours staff including outreach workers. - Ensure secure access to staff office area especially after hours. - Easily accessible and well lit parking for health service and personal vehicles used by after-hours staff.
5. Staff personal effects	1. Provision for lockers in Staff Areas and lockable desk drawer to keep small personal effects.

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SECURITY CHECKLIST – COMMUNITY HEALTH CENTRE

FACILITY:		DEPARTMENT: COMMUNITY HEALTH CENTRE	
RISK ISSUE		DESIGN RESPONSE	
1. Is access to patient records restricted to staff entitled to that access ?			
2. Is a system implemented to prevent theft of equipment, files, personal possessions, etc ?			
3. Are drug safes installed in accordance with current regulations ?			
4. How is this area secured during and after hours?			
5. Are there lockable storage areas available for specialised equipment?			
6. Is lockable furniture provided for storage of staff personal effects?			
7. Is waiting area appropriately designed to include, where appropriate: - barrier between patients and staff, - appropriate seating for patients, - absence of loose fittings, - vending machines, - TV			
8. Are Interview Rooms appropriately designed with specific reference to staff egress, furniture selection, furniture location, provision for storage of equipment, etc.			
DESIGN COMMENTARY/NOTES		DESIGN SIGN-OFF	
		Name:	
		Position:	
		Signature:	
		Date:	
		Name:	
		Position:	
		Signature:	
		Date:	
		Name:	
Position:			
Signature:			
Date:			

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INTRODUCTION

Preamble

601801	270 .1.00	This Guideline aims to promote the development of optimal environments for the conduct of a range of surgical and endoscopic procedures performed on a day only and extended care basis, and the pre and post procedural management of patients whilst enabling the adoption of emerging technologies, changing models of care and accommodating day-to-day fluctuations in caseload and the corresponding fluctuations in staff.
		It outlines the specific requirements for the planning of a Day Surgery / Procedures Unit and should be read in conjunction with Generic Planning Requirements (Section 80) and Standard Components (Section 90) in Part B of these Guidelines.

Description

601802	270 .1.05	ENDOSCOPY

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Endoscopy literally means “looking into” and endoscopic equipment can be used to visualize the following areas some but not all of which are suitable for a Day Procedure Unit.

601803 270 .1.10 GASTROINTESTINAL (GI) TRACT

- Upper GI tract - oesophagus, stomach and duodenum (oesophagoscopy, gastroscopy, duodenoscopy);
- Lower GI Tract - colon (colonoscopy), sigmoid colon (proctoscopy, sigmoidoscopy).

In an endoscopic retrograde cholangiopancreatography (ERCP), an endoscope is used to introduce radiographic contrast medium into the bile ducts so they can be visualized on x-ray.

601804 270 .1.15 RESPIRATORY TRACT

- Nose (rhinoscopy);
- Lower respiratory tract (bronchoscopy).

Bronchoscopy is the visualization of the lower airways using a flexible or rigid endoscope. Often performed for diagnostic purposes (tumor, bleeding, infection, or trauma, sputum induction for suspected TB), it is also useful in the treatment of airway obstruction by tumors or foreign bodies, for removal of secretions and as an assistive technique in difficult intubation of the trachea.

There are two types of bronchoscopes: flexible (fiberoptic) and rigid. Flexible bronchoscopy is often performed under local anesthesia with the patient awake. Rigid bronchoscopes may be employed to remove foreign bodies or to place stents. Such procedures are done under general anesthesia.

601805 270 .1.20 URINARY TRACT (ENDOUROLOGY)

Cystoscopy [Endourology] involves the use of small fiberoptic scopes which can be passed through the urethra to visualize internally the lining of the urinary tract from kidney to bladder. The majority of endourology procedures can be done on a day only basis.

601806 270 .1.25 FEMALE REPRODUCTIVE SYSTEM

- Cervix (colposcopy);
- Uterus (hysteroscopy);
- Fallopian tubes (Falloscopy).

These procedures are often undertaken in a dedicated women's health unit.

601807 270 .1.30 MINIMALLY INVASIVE SURGERY

Examination of normally closed body cavities via a small incision:

- abdominal or pelvic cavity (laparoscopy);
- interior of a joint (arthroscopy);
- organs of the chest (thoracoscopy and mediastinoscopy);
- uterus during pregnancy (amnioscopy, amniocentesis).

Policy Framework

- 601808 270 .2.00 NSW Health policies that impact on the management of procedural and surgical services and the operation of Day Procedure Units include:
- Guide to the Role Delineation of Health Services Third Edition, 2002.
 - What a difference a day can make - Same Day Surgical and Endoscopic Procedures Policy, May 1999.
 - Glutaraldehyde in NSW Public Health Care Facilities (Policy and Guidelines for Safe Use of), PD2005_108, 25 January 2005.
 - Extended Day Only (EDO) Admission Policy, PD2006_082, October 2006.

Description of the Unit

601809 270 .3.00 DEFINITION OF HEALTH PLANNING UNIT (HPU)

This guideline for a Day Surgery / Procedures Unit describes the facilities necessary for the treatment and care of patients undergoing a range of endoscopic and/or surgical procedures with provision to deliver Inhalational and other anaesthetic agents and provide accommodation for the reception, pre-procedural preparation and post-procedural recovery of patients.

Provision of an Extended Care Unit will affect the facility requirements and is discussed below.

601810 270 .3.10 RANGE OF SERVICES/PROCEDURES

The range of procedures that may be undertaken in a Day Surgery/Procedures Unit and the clinical services that may access the unit are almost limitless and may include:

- Surgical procedures, particularly but by no means exclusively for ENT, Dental and Plastic Surgery and Ophthalmology as improved technology has allowed more complex procedures to move to day or 23 hour stay. The range of such procedures is addressed in NSW Health "Extended Day Only (EDO) Admission Policy" PD2006_082, October 2006;
- Endoscopy - gastrointestinal, respiratory, urology;
- ECT (where there is no dedicated unit within a Mental Health complex);
- Day Medical Procedures such as:
 - infusion of blood / & blood products, steroids & other intravenous treatments;
 - lumbar punctures;
 - removal/replacement of urinary catheters;
 - biopsies including "lumps and bumps";
 - aspirations (joints, pleural cavity, abdominal);
 - insertion of PIC lines (peripherally inserted catheter) and venous access catheters for dialysis under radiological or ultrasound control.

601811 270 .3.15 PATIENT/CLIENT CHARACTERISTICS

Patients may be fully ambulant, on trolleys and/or in wheelchairs. Bed access for and discrete holding of inpatients will need to be addressed in hospital-based units.

The majority of patients will be adults but special consideration should be given to the needs of children and their parents where a paediatric service is provided.

"Patient selection is based on but not limited to:

- general health [triage, risk management, sick inpatients];

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- age;
- obesity;
- social circumstances;
- post-discharge carer support;
- transport and distance from the clinic";
- expected level of patient compliance / willingness.

Source: Australian Day Surgery Association - About Day Surgeries in Australia.

PLANNING

Operational Models

601812 270 .4.00 HOURS OF OPERATION

The Day Surgery/Procedures Unit will be available for scheduled elective procedures generally during business hours but will/may need to be accessible for after-hours emergencies and, depending on operational policies, may extend services into evening hours and Saturday mornings or times decided by hospital policy. Provision of Extended Care facilities and staggered admission times enable sessions to be extended.

601813 270 .4.05 MODELS OF CARE

The Day Surgery / Procedures Unit may be:

- general multidisciplinary endoscopy with day surgery conducted elsewhere;
- mix of day surgery and endoscopy;
- dedicated, single specialty endoscopy unit;
- day surgery only.

The unit may also include angiography rooms and facilities for day medical procedures.

All of the above may be supported by an Extended Care Unit.

601814 270 .4.10 GENERAL ENDOSCOPY

A single unit for a wide range of endoscopic procedures, almost certainly Gastroenterology and Respiratory bronchoscopy and perhaps Endourology.

601815 270 .4.15 SURGERY / ENDOSCOPY MIX

As above but with all necessary facilities for day surgery.

The inclusion of day surgery will need to be addressed and may depend on case mix, possibility of full-time sessions and the surgeons' preference for incorporating day cases into an inpatient list.

601816 270 .4.20 SINGLE SPECIALTY ENDOSCOPY UNIT

Major centres may be able to justify dedicated units for individual specialties such as Gastroenterology, Respiratory Medicine and Urology and will depend on the level of service of each specialty and a viable throughput. In these instances the Unit will probably also include all the offices for medical, nursing and support staff.

Under these circumstances, day surgery will probably be conducted through

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the main Operating Suite unless a separate Day Surgery Unit is envisaged and viable.

601817 270 .4.25 ADDITION OF ANGIOGRAPHY

Depending on hospital policy and location, the Unit may also incorporate the angiography suite to facilitate provision of anaesthetic services, recovery and access to the main Operating Unit in case of emergency.

601818 270 .4.30 ADDITION OF DAY MEDICAL UNIT

In smaller but nonetheless acute hospitals, the collocation of a Day Medical Unit could be considered as a viable proposition to enable optimum sharing of support facilities. Project staff should refer to the Ambulatory Care HPU in Part B of these Guidelines for additive rooms / spaces.

Operational Policies

601819 270 .5.00 GENERAL

Operational Policies have a major impact on the design requirements and capital and recurrent costs of health facilities and must be established at the earliest stage possible. Refer to Part B Section 80 of these Guidelines for a list of general operational policies that may apply.

The following are examples of policies that may be specific to a Day Surgery / Procedures Unit. Users must be guided by their own policies in their own health facility.

601820 270 .5.05 PRE-PROCEDURE / ADMISSIONS

A pre-admission assessment for all patient is assumed but facilities will be required in the DSPU or Extended Care Unit for the following:

- completion of the admission process, clerical and clinical;
- consent on the day;
- anaesthetic review and examination as necessary;
- completion of bowel preparation for patients undergoing colonoscopy if necessary (older patients in particular do not always comply with instructions).

Refer to "Best Practice Guidelines for Ambulatory Surgery & Procedures", Australian Day Surgery Nurses Association.

601821 270 .5.10 ANAESTHESIA AND RECOVERY

Anaesthesia may be local, regional, conscious sedation or general anaesthesia (GA). For flexibility, all procedure and operating rooms should be GA capable.

The likely extent of anaesthesia will determine if dedicated 1st stage recovery beds are needed but there should always be bed bays capable of first stage recovery and these beds may form part of overall recovery bed complement for the area and used on an as needs basis.

Project staff may refer to the following Australian and New Zealand College of Anaesthetists Guidelines:

PS4: Recommendations for the Post-Anaesthesia Recovery Room, 2006.

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PS9: Guidelines on Conscious Sedation for Diagnostic, Interventional Medical and Surgical Procedures, 2005.

PS15: Recommendations for the Perioperative Care of Patients Selected for Day Care Surgery, 2006.

PS24: Guidelines on Sedation for Gastrointestinal Endoscopic Procedures, 2004.

PS29: Statement on Anaesthesia Care of Children in Healthcare Facilities Without Dedicated Paediatric Facilities, 2002.

601822 270 .5.15 ENDOSCOPE REPROCESSING

There will be a central processing room in the unit for all scope cleaning and processing. Staff from individual clinical disciplines may wish to undertake their own cleaning and assembly. In hospitals without a dedicated Endoscopy Unit, the processing function may be performed in the Sterile Services Unit.

Scope cleaning may be by:

- immersion in fixed sink or mobile container, or
- automated via Automated Flexible Endoscope Reprocessors (AFERs) followed by rinsing, if necessary, and drying.

Whatever the method, fume extraction is necessary either inherent to the AFER or via fume cabinet.

The process is critical for effective infection prevention and control and is addressed in detail in "Infection Control in Endoscopy, 2nd Edition, Gastroenterological Nurses College of Australia Inc (GENCA).

601823 270 .5.20 ERCP

Project staff will need to determine whether ERCPs (Endoscopic Retrograde Cholangiopancreatography) will be undertaken in the Day Surgery Unit or in the Imaging Unit as the procedure requires radiology facilities and appropriate room screening etc.

601824 270 .5.25 MANAGEMENT OF BRONCHOSCOPIES

Patients having bronchoscopy for sputum induction to determine their TB status should be managed both pre and post-procedure in an isolation room with appropriate negative pressure air-conditioning.

It is preferred that the Procedure Room itself have "negative pressure exhaust ventilation or high efficiency particulate air filtration." (HEPA filter) Refer to "Fibre-optic bronchoscopy in adults: a position paper", The Thoracic Society of Australia and New Zealand, R Wood-Baker, J Burdon, A McGregor, P Robinson and P Seal, Internal Medicine Journal 2001; 31: 479-487, <http://www.thoracic.org.au>

This paper provides excellent guidelines as to requirements for bronchoscopic work.

601825 270 .5.30 MANAGEMENT OF CHILDREN/YOUNG PEOPLE

Age range may be from 0 to 18 years. If children / young people must be

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cared for in an adult unit, there must be a specific area for them and their parents/carers, and separate sessions and/or facilities should be provided including a separate small waiting area for smaller children and parents and a few beds in Recovery designed so that they can be screened during paediatric sessions with facilities and privacy for breast feeding.

The environment must be childsafe and child-friendly. Suitable equipment, toys, games and a play area should be provided to reduce anxiety and speed recovery. Parents / carers should have access to a telephone and utilities to help them in caring for their child.

Appropriate equipment and environmental controls will be required. For details, refer to Section 13 - Paediatric Services in "Standards for Endoscopic Services and Facilities".

Transfer to the procedure / operating room will depend on the age but may be carried, walking, trolley, tricycle / small car. Storage will need to be provided for special child-friendly transfer items.

There must be contingencies for unexpected requirement for paediatric admission in accordance with NSW Health Guidelines on Hospitalisation of Children.

601826 270 .5.35 MANAGEMENT OF EMERGENCIES

Policies will need to be in place to handle two types of emergency:

Medical emergencies occurring to patient whilst in the Unit requiring access to resuscitation equipment and ongoing care and possible admission to an inpatient bed.

Emergencies occurring outside the Unit requiring immediate access to the Unit for a procedure e.g. bleeding varices. Such an emergency requires access for a bed or trolley, a direct path to the Procedure Room and emergency endoscopy equipment, particularly after hours.

601827 270 .5.40 PATIENT PROPERTY

The method of receiving, recording, holding and return of patient's clothing, effects and valuables must be determined.

601828 270 .5.45 PATIENT WAITING

The design should separate patients awaiting their procedure from those awaiting discharge. Waiting patients, particularly children, should not be exposed to frightening and distasteful sights and noises and distractions should be provided in the form of music, television, magazines and toys for children.

601829 270 .5.50 RADIOLOGY REQUIREMENTS

The following is an edited extract from "Standards for Endoscopic Facilities and Services:

"X-ray equipment must conform to the appropriate Australian Standard. Either fixed or mobile units that are suitable for fluoroscopy should be available in a radiation protected procedure room. ... X-ray apparel (such as gowns and thyroid protectors) and radiation monitoring devices must be worn by staff during screening. ... Storage of lead apparel must be

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appropriate i.e. hangers for gowns to prevent cracking of lead.

Where ERCP and associated pancreatobiliary therapeutic procedures are to be undertaken, the x-ray equipment must be of a more sophisticated level. The equipment must be able to produce high definition images and there must be a facility for image storage, either as hard copy or video.

Appropriate radiation protection of rooms and doors in which x-ray equipment is used is necessary. "X-ray in use" signs should be in place to alert staff outside of rooms of radiation danger."

601830 270 .5.55 STORAGE

Storage Bays should be provided for equipment such as portable x-ray equipment, patient trolleys, warming devices, auxiliary lamps etc.

Equipment Bays should be provided at the minimum rate of 5m² per procedure room with a minimum depth of 0.8 m (1m preferred). These areas should not impede on corridors or disrupt traffic. This can be satisfied by recessing the Bay into the corridor walls or adding the minimum equipment bay width to the corridor width.

601831 270 .5.60 STAFFING

An office will be required for the Unit Manager and CNC and any other staff permanently based in the Unit. In addition there will need to be write-up workstations for visiting medical and nursing staff.

Provision of offices for the medical staff will depend on whether or not the Unit itself is dedicated to a single specialty to form e.g. an integrated Gastroenterology Unit located elsewhere in the hospital.

Refer to PD2005_576 Office Accommodation Policy - Public Health Organisations and Ambulance Service, NSW Health, April 2005.

Operational Models

601832 270 .6.00 OPTIONS

The Day Surgery Unit may be:

- a free-standing centre;
- a discrete fully self-contained unit within a hospital;
- collocated with a specialist clinical service within a hospital such as Gastroenterology Department or Respiratory Medicine Department;
- incorporated into the Operating Unit with which it will share facilities.

601833 270 .6.05 If free-standing, the Day Surgery / Procedure Unit must be located in a community which has a large enough population to support it and is not already serviced by similar health care facilities. An acute bed hospital should be within a reasonable distance (less than one hour drive) of the centre for transfer of patients in cases of emergency.

The most efficient hospital-based day surgery services are provided by dedicated units which are functionally separate from the inpatient sections of the hospital.

601834 270 .6.10 DESIGN

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Paramount in its design is a patient flow pattern that ensures maximum efficiency from admission to pre-op area to operating rooms to recovery and finally discharge, and the flow path should be unidirectional.

Functional Areas

601835 270 .7.00 FUNCTIONAL ZONES

The Day Surgery / Procedure Unit comprises the following Functional Zones:

- Reception / Administration;
- Perioperative Area (unless separate Extended Care Unit established);
- Procedural Area;
- Recovery Area;
- Extended Recovery;
- Staff Areas;
- Day Medical Unit (if collocated).

601836 270 .7.05 RECEPTION / ADMINISTRATION

Provides for reception and admission of patients to the Unit, with general oversight of day-to-day operations, control of entry and exit from the Unit and completion of general administrative tasks (eg files management, clerical admissions/discharges, statistics compilation, typing). Areas may include:

- Reception Desk;
- Administrative Office/s and support including the office for the Unit Manager;
- Consult / Exam / Interview rooms (for consents etc);
- Public Waiting;
- Public Amenities including accessible toilet for people with disabilities.

601837 270 .7.10 PRE-PROCEDURE PREPARATION AND HOLDING AREA

Facilities comprise:

- Patient Amenities - toilets, showers, lockers and change rooms;
- Examination room with en suite and discreet small sub-waiting area (for completion of bowel preparations for colonoscopies);
- Changed Waiting - chairs and trolleys - 3 places per room;
- Staff base and medications cupboard/safe;
- Access to Dirty Utility (depending on size and layout, may be able to share with Recovery).

601838 270 .7.15 PROCEDURAL AREA

The number and mix of Procedure / Operating Rooms should be as determined by the Service Plan and the range of procedures to be undertaken.

Room configuration will vary dependent upon:

- whether for endoscopy or general surgery;
- the use of video equipment;
- electrosurgical laser treatment;
- multiple scope activity;
- multiple observers;
- the use of x-ray (image intensifying).

Ideally all rooms will be of the same size for flexibility and Endoscopy Room/s should be fitted out as for an Operating Room (refer Standard Components) with regard to GA capability.

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A scrub basin should be provided outside the entrance to the Procedure Rooms.

Direct access to the Scope Cleaning Room is recommended from nominated Endoscopy Room/s.

601839 270 .7.20 PROCEDURE SUPPORT AREAS

Facilities include:

- Induction Rooms / Bays (may be optional);
- Endoscope Reprocessing Room;
- Clean-up Room (for Operating Rooms);
- Scrub Bay/s;
- Equipment Store / Bays;
- Linen Trolley Bays.

601840 270 .7.25 RECOVERY AREAS

In larger facilities it is preferable to have a three recovery areas - Stage 1, Stage 2A and Stage 2B (Discharge Lounge). Smaller units may combine Stage 1 and Stage 2A.

If paediatric services are provided, the Recovery Room should cater to the needs of parents/attendants.

Given the rapid case turnaround, it is vital to recognise that an inadequate number of recovery places can cause OR lists to be stopped while the Recovery Room clears and does not allow any flexibility when clinical problems occur necessitating the patient staying for longer than usual for that procedure.

A negative pressure single room may need to be provided for patients undergoing bronchoscopy for TB diagnosis and single rooms can be useful for the care of children.

The Recovery Area is supported by :

- Staff Station (shared between 1st stage and Stage 2A recovery);
- Clean Utility;
- Dirty Utility;
- Resuscitation Trolley;
- Linen and equipment storage.

601841 270 .7.30 RECOVERY - STAGE 1

Stage 1 Recovery accommodates unconscious patients who require constant observation and monitoring with, ideally one-to-one patient nurse ratio.

The Australian Day Surgery Council recommends four trolley spaces (each space 9 square metres) for every operating / procedure room with a minimum of 2.5 metre central corridor between facing bays to facilitate the movement and manipulation of trolleys.

601842 270 .7.35 RECOVERY - STAGE 2A

Stage 2A Recovery Room accommodates:

- patients who have regained consciousness after anaesthesia but require further observation;
- patients who have undergone procedures with local anaesthetic who may

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“bypass” 1st stage recovery.

A minimum of three recliner chairs/trolleys for each Operating / Procedure room, in addition to the 1st stage recovery bay requirement, is considered appropriate.

601843 270 .7.40 STAGE 2B RECOVERY (DISCHARGE LOUNGE)

The discharge lounge must have large comfortable chairs with adequate space between them for small tables. There should be a minimum of three chairs for each procedure room with low level partitions to separate male and female patients.

Centres which have a high volume of more rapid turn over patients with shorter first stage recovery e.g. endoscopy, cystoscopy, ophthalmology, plastic surgery, will require larger discharge lounges with more chairs to avoid overcrowding.

Centres which treat paediatric patients should provide a separate section in the discharge area designed specifically for the recovery of children.

Refreshment facilities must be available.

Access to a small interview room for confidential follow-up discussions and instructions.

The exit from the discharge area should be separate from the admission entrance.

The covered ambulance bay for transfer of patients to hospital in cases of emergency should be close to and easily accessible from the recovery areas.

601844 270 .7.45 EXTENDED (23 HOUR) CARE UNIT

It must be noted that NSW Health is moving away from the terminology “23 hour care” to “extended care”.

The following is an extract from “Surgical Services - 23 hour care units - Toolkit for implementation”:

“23 Hour Care Units are based on the premise that the majority of surgical care can be administered within a 24-hour period in a non-ward environment. Patients can be admitted, prepared for the surgical procedure, then monitored and provided with appropriate pain relief post-surgery before protocol based discharge occurs within 24 hours.”

Establishment of an Extended Care Unit in a facility will have a major impact on the facility requirements of a DPU and also on its location. If, as is the intention, the Extended Care Unit assumes the preoperative management of patients and the 3rd stage/discharge process, a stand-alone DPU may not be a viable proposition and it may be more appropriate to either collocate the Procedure Rooms with the Extended Care Unit or within the envelope of the Operating Suite.

Depending on its location relative to the main Operating Suite, it must be noted that the Extended Care Unit may also handle the pre-operative management of Day of Surgery Admissions in order to obviate the need for duplicated pre-operative facilities in the main Operating Suite.

It is emphasised that these extended recovery units should be of hotel type and do not require the sophisticated and expensive acute hospital wards/rooms, with inbuilt resuscitation and related equipment. The capital and running costs of these units would therefore be considerably less than

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acute bed hospital accommodation.

601845 270 .7.50 STAFF AREAS

- Male/Female Change Rooms;
- Staff Room;
- Meeting / Tutorial Room;
- Offices as required according to the Staff Establishment.

Functional Relationships

601846 270 .8.00 EXTERNAL

- Acute Hospital, if free-standing;
- Operating Suite;
- Extended Care Unit if not integrated with procedure rooms;
- Pre-Admission Clinic;
- To a lesser degree, the Emergency Department;
- Transit Lounge.

601847 270 .8.05 INTERNAL

- Key issues to be managed include:
- separation of clean and dirty traffic flows;
 - logical orderly patient flow from arrival at Reception, through Pre Operative Holding, Procedure Rooms and Recovery back to either the Peri-Operative Unit, Inpatient Unit, Extended Care Unit or discharge to home;
 - the ability of staff to monitor the condition and safety of patients at all times;
 - the efficient management of the Unit, in particular ensuring the design does not result in additional staffing costs.

DESIGN

Accessibility

601848 270 .9.00 INTERNAL

The general staff of the hospital and visitors should only be able to access the Unit as far as the Reception / Entry area. Only authorised staff and visitors should be able to enter the Unit beyond this point.

Discreet access is required for inpatients on beds or trolleys.

The number of doors on the perimeter of the Unit should be limited to an absolute minimum particularly those to/from the hospital corridor. Such doors and their fittings should be compatible with the hospital's fire safety and security systems.

The majority of patients will be day stay but the unit will need to be designed for access and management of inpatients both elective and emergency. If a free-standing unit, there must be policies and procedures in place for transfer of patients to a nearby acute hospital in an emergency.

601849 270 .9.05 EXTERNAL

- To facilitate easy access to the Unit by the patients and carers, consideration should be given to the following:
- provision of a covered pick-up area adjacent to the main entrance to the

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facility;
- clearly signposted directions to the area;
- provision of car parking for visitors to the area within easy access of the main entrance to the facility.

Ambulance access also needs to be considered.

Parking

601850 270 .10.00 Consideration should be given to accessible drop-off and parking for people with disabilities and ambulance parking.

For staff parking, refer to Part C Clause 790 of these Guidelines for further information.

Disaster Planning

601851 270 .11.00 The role of the Day Surgery / Procedure Unit within the context of the health care facility's disaster plan should be defined early in the planning process.

Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

601852 270 .12.00 The infectious status of many patients admitted to the Unit may be unknown. All body fluids should be treated as potentially infectious and adequate precautions should be taken.

Refer to "Infection Control in Endoscopy", 2nd Edition, Gastroenterological Society of Australia and to Part D of these Guidelines for further information.

Refer to NSW Health - Infection Control Policy, PD2007_036.

Also refer to Part D of these Guidelines - Infection Prevention and Control.

Environmental Considerations

601853 270 .13.00 ACOUSTICS

The ambient noise level should not exceed the recommendations of AS/NZS 2107 - Acoustics - Recommended design sound levels and reverberation times for building interiors.

Of particular consideration are consulting / interview rooms where privacy is critical.

601854 270 .13.05 NATURAL LIGHT AND EXTERNAL VIEWS

As far as practicable the design of the unit should incorporate external views and natural light. This is especially so in the case of rooms such as the Waiting Area, Pre-Operative Holding Area, Recovery and the Staff Lounge.

It would also be advantageous if external views and natural light could be incorporated in areas where staff, by the nature of their work, are confined to one location e.g. Reception / Entry Area.

When external views and natural light are introduced into patient areas, care must be taken to minimise glare and ensure privacy is not compromised.

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Sun penetration should be controlled to exclude glare and heat gain or loss

If daylight does enter the Procedure Rooms then consideration may have to be given to the provision of black out facilities when procedures require a controlled level of lighting.

601855 270 .13.10 INTERIOR DESIGN

Interior design should be soothing and non-threatening.

Space Standards and Components

601856 270 .14.00 HUMAN ENGINEERING

Human Engineering covers aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all people.

Refer Part C Section 730 of these Guidelines for information.

601857 270 .14.05 ACCESS AND MOBILITY

Refer to:

AS1428 - Design for Access and Mobility (set)

Part C Section 730 of these Guidelines for information.

601858 270 .14.10 BUILDING ELEMENTS

Building elements include:

- corridors;
- ramps;
- ceiling heights;
- doors;
- observation glass;
- windows.

Refer Part C Section 710 of these Guidelines for details.

Safety and Security

601859 270 .15.00 SAFETY

Employers and employees have a statutory obligation to ensure the health, safety and welfare at work of all users of the Unit - staff, patients and visitors.

The design of the Unit should seek to prevent injury and reduce the number of potential hazards that may include:

- exposure to infectious substances;
- exposure to radioactive materials;
- exposure to anaesthetic gases;
- exposure to decontamination agents, particularly glutaraldehyde;
- injury from machines;
- injuries related to manual handling;
- fire safety including fire doors and adequate egress should be addressed.

601860 270 .15.05 SECURITY

Security should address:

- access control;
- staff and patient security;
- drug security;
- personal property security;
- equipment security.

In NSW, refer to "Protecting People/Property: NSW Health Policy/Guidelines for Security Risk Management in Health Facilities", PD2005_339, January 2005.

Finishes

601861 270 .16.00 GENERAL

As with most Units, the selection of finishes for the Day Surgery / Procedure Unit is influenced by both durability and infection control issues.

The finishes should be easy to clean to facilitate infection control. At the same time, they should be hard wearing and impervious to moisture.

See Part C of these Guidelines for further information.

601862 270 .16.05 WALL FINISHES AND PROTECTION

Wall surfaces are subject to the cleaning protocols documented in the Operational Policy for the Day Procedures Unit.

Ceramic tiles are not recommended as a wall finish due to their potential to compromise infection control. These tiles are also susceptible to damage from trolleys and if cracked or broken individual tiles may be difficult to replace.

Due to the high number of trolley movements in the Unit, wall protection is an important issue, and wall and corner protection is required wherever there is the potential for damage from trolleys.

Refer to Part C of these Guidelines.

601863 270 .16.10 FLOOR FINISHES

Floor finishes should be of a type that are impervious to moisture, easily cleaned, stain resistant, comfortable for long periods of standing and suitable for wheeled traffic.

In the Procedure Room, the colour should be such that there is sufficient contrast to find small dropped items.

Non-slip sheet vinyl with welded joints and coved skirtings is considered appropriate throughout the Unit.

Some substances heavily stain sheet vinyl. This should be considered when choosing a colour and pattern for the floor material.

Carpet may be used in the non-clinical areas. A short dense pile is recommended.

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601864 270 .16.15 CEILING FINISHES

Ceilings will be subjected to the cleaning protocols documented in the Operational Policy for the Unit.

Fixtures, Fittings & Equipment

601865 270 .17.00 DEFINITION

Within the context of the Health Facility Guidelines and the Room Data and Room Layout Sheets in the associated Health Facility Briefing System (HFBS), Fixtures and Fittings can be described as follows:

Fixtures: Refers to fixed items that require service connection (eg electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc (but excluding services equipment such as theatre pendants).

Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Also refer to Part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

Building Service Requirements

601866 270 .18.00 GENERAL

The provision of appropriate building services to the Unit, and easy access to these from the unit, is essential for efficient and safe operation.

Services and systems will/may include:

- communication and data systems such as telephones, email and internet and telemetry;
- mechanical air-conditioning and humidity control;
- light and power;
- patient monitoring systems;
- bar code readers;
- thermostatic mixing valves;
- fume extraction where glutaraldehyde is used.

These are described in more detail in both Room Data and Room Layout Sheets.

601867 270 .18.05 WATER QUALITY

Sterile water is required for all rinsing of scopes.

601868 270 .18.10 NURSE CALL SYSTEMS

Emergency call in all holding area, all procedure rooms and in Recovery.

Patient / nurse call at all recovery beds and in the pre-procedure holding area.

601869 270 .18.15 MEDICAL GASES

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Oxygen, suction, scavenging, medical air and nitrous oxide will be provided in all Procedure Rooms.

Oxygen and suction will be required to all bays in 1st stage Recovery and shared between trolley bays in 2nd stage recovery.

Compressed air (for cleaning and drying) in the Reprocessing Area.

In rural and remote units, gas cylinders may be required if gases cannot be piped.

601870 270 .18.20 RADIATION SHIELDING

Radiation shielding to recommended safety standards will be required in all procedure rooms where imaging will occur.

COMPONENTS OF THE UNIT

General

601871 270 .19.00 Rooms/spaces are defined as "Standard" and "Non Standard" Components.

Standard Components (SC) refer to rooms/spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by "Yes" in the SC column of the Schedule of Accommodation.

Refer to Part B, Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets
www.healthfacilityguidelines.com.au

Non-Standard Components are generally very unit-specific and are described below.

Non-Standard Components

601872 270 .20.00 ENDOSCOPE REPROCESSING ROOM

DESCRIPTION AND FUNCTION

Dedicated room for cleaning and disinfecting endoscopes and accessories.

The room should be divided into 3 "zones"

CLEANING ZONE

"Dirty" bench with sink of a material impervious to solution. Large enough to adequately hold a coiled full length colonoscope. Hot & cold water and compressed air outlet. Adequate bench space for holding equipment awaiting chemical disinfection.

DISINFECTION ZONE

Rinsing may be automatic or manual. Digital timers. Automated Flexible Endoscope Reprocessors (AFERs) or manual disinfectant sink or container for soaking plus rinsing sink contained within a fume extraction cabinet & timers. Purge with compressed air. Specially designed container plus rinsing sink placed in a fume cabinet. An ultrasound tank will be required for accessories and small items. Cleaned scopes must be rinsed with sterile water. An area contiguous with the disinfection zone should be provided for drying the rinsed scopes.

CLEAN ZONE

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Clean assembly bench and endoscope storage cupboard.

LOCATION AND RELATIONSHIPS

Direct access from the Endoscopy Room/s.

CONSIDERATIONS

- handbasin;
- storage for personal protective clothing;
- waste disposal.

APPENDICES

Schedule of Accommodation

601873 270 .21.00

A Schedule of Accommodation follows and assumes a 2 room and a 4 room suite that may incorporate day surgery. The schedule will need to be amended in accordance with the requirements of the Service Plan.

Provision of Offices, Workstations and support areas will be dependant on the Operational Policy and service demand and may vary from the Schedule of Accommodation.

Standard Component - Refer to Part B & RDS/RLS.

601874 270 .21.05 DAY SURGERY / PROCEDURES UNIT - Entry / Waiting / Reception / Administration

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
					2 rooms	4 rooms	
RELATIVE/PATIENT WAITING	yes				1 x 10	1 x 15	8 and 12 seats respectively
TOILET - PUBLIC	yes				1 x 3	1 x 3	
TOILET - ACCESS	yes				1 x 5	1 x 5	Add baby change table as necessary. Refer to AS 1428.
RECEPTION	yes				1 x 10	1 x 10	1 - 2 staff
CLERICAL WORKROOM					1 x 9	1 x 12	1 and 2 staff respectively
STORE - PHOTOCOPY/STATIONERY	yes				1 x 8	1 x 8	Include stationery recycle bin
STORE - FILES					1 x 4	1 x 6	
OFFICE - UNIT MANAGER	yes				1 x 9	1 x 9	
OFFICE - DPU CNS	yes				0	1 x 9	
OFFICE - SHARED (MEDICAL AND NURSING WRITE-UP ROOM)	yes				1 x 12	1 x 20	2 and 4 workstations for visiting staff attending unit for sessions
MEETING/EDUCATION/GROUP ROOM	yes				1 x 12	1 x 15	Patients & Staff

601875 270 .21.10 DAY SURGERY / PROCEDURES UNIT - Patient Exam / Prep / Waiting

ROOM/SPACE	Standard				Qty x	Qty x	Remarks

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	Component				Area sqm	Area sqm	
					2 rooms	4 rooms	
CONSULT/EXAM/INTERVIEW ROOM	yes				1 x 12	2 x 12	May also be used for medical student training
SUB-WAITING (ENDOSCOPY)					1 x 2	1 x 4	For bowel preps
PREP ROOM (GASTRO)					1 x 9	1 x 9	Bowel Preps
TOILET - ENSUITE (TO PREP ROOM)	yes				1 x 4	1 x 4	
PATIENT CHANGE/LOCKERS - FEMALE					1 x 10	1 x 10	2 cubicles, handbasin, 4 banks lockers
PATIENT CHANGE/LOCKERS - MALE					1 x 10	1 x 10	2 cubicles, handbasin, 4 banks lockers
PATIENT TOILET	yes				1 x 4	2 x 4	
ACCESS TOILET/SHOWER/CHANGE	yes				1 x 7	1 x 7	
LINEN TROLLEY BAY	yes				1 x 2	1 x 2	Gowns etc
"CHANGED" WAITING - CHAIRS							
"CHANGED" WAITING - TROLLEY BAY					1 x 6	2 x 6	
STAFF BASE					1 x 6	1 x 8	To oversight changed waiting

601876 270 .21.15 DAY SURGERY / PROCEDURES UNIT - Procedure Unit

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
					2 rooms	4 rooms	
PROCEDURE ROOM	yes				2 x 42	4 x 42	Able to rotate bed through 360 degrees
SCOPE REPROCESSING					1 x 12	1 x 16	If possible, direct access from Endoscopy Rooms
ENDOSCOPE STORE					1 x 2	1 x 2	Special cupboards
SCRUB BAY	yes				1 x 6	2 x 6	Shared between rooms
GENERAL CLEAN-UP ROOM	yes				0	1 x 7	Optional for surgical instruments processing
BAY - MOBILE EQUIPMENT	yes				2 x 2	4 x 2	X-ray units etc
BAY - LINEN	yes				1 x 2	1 x 2	

601877 270 .21.20 DAY SURGERY / PROCEDURES UNIT - Recovery

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
					10 Bays	20 Bays	
STAFF STATION					1 x 9	1 x 9	
CLEAN UTILITY	yes				1 x 9	1 x 12	
DIRTY UTILITY / DISPOSAL ROOM	yes				1 x 12	1 x 14	

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RESUSCITATION TROLLEY BAY	yes				1 x 2	1 x 2	
LINEN TROLLEY BAY	yes				1 x 2	1 x 2	Add 1 sqm if blanket warmer included
SINGLE RECOVERY ROOM	yes				1 x 12	2 x 12	Children; Neg/neutral air-conditioning for patients post-bronchoscopy
BAY - TROLLEY - 1ST STAGE	yes				7 x 9	14 x 9	
BAY - TROLLEY/CHAIR - 2ND STAGE	yes				6 x 9	12 x 9	
BEVERAGE BAY	yes				1 x 3	1 x 3	
DISCHARGE LOUNGE (3RD STAGE RECOVERY)					1 x 18	1 x 36	6 and 12 chairs respectively at 3sqm per chair
INTERVIEW ROOM	yes				1 x 9	1 x 9	
EQUIPMENT STORE	yes				1 x 12	1 x 16	With power points for recharging pumps etc
DISCOUNTED CIRCULATION %					35	35	

601878 270 .21.25 DAY SURGERY / PROCEDURES UNIT - Staff Amenities

ROOM/SPACE	Standard Component				Qty x Area sqm	Qty x Area sqm	Remarks
STAFF LOUNGE/BEVERAGE	yes				1 x 12	1 x 15	
STAFF TOILET/LOCKERS: MALE	yes				1 x 10	1 x 10	Full lockers - adjust mix as required
STAFF TOILET/LOCKERS: FEMALE	yes				1 x 10	1 x 14	Full lockers - adjust mix as required
STAFF SHOWER	yes				1 x 3	1 x 3	
CLEANER'S ROOM	yes				1 x 5	1 x 5	

Functional Relationships

601879 270 .22.00 A diagram showing key functional relationships is attached.

Checklists

601880 270 .23.00 For planning checklists, refer to Parts A, B, C and D of these Guidelines.

References and Further Reading

601881 270 .24.00 Infection Control in Endoscopy, 2nd Edition, Gastroenterological Nurses College of Australia Inc, 2003.
<http://conjoint.gesa.org.au/document/Infection%20Control%20in%20Endoscopy%202nd%20Edition%20Final.pdf>

Surgical Services - 23 hour care units - Toolkit for implementation in NSW Health facilities.

Standards for Endoscopic Facilities and Services, Gastroenterological Society of Australia and Gastroenterological Nurses Society of Australia, February 1998.

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http://www.gesa.org.au/members_guidelines/endoscopy_ps/endoscopy_standards.pdf

Minimal Staffing Requirements for Endoscopy Procedures-Position Statement, Gastroenterological Nurses College of Australia Inc.
http://www.genca.org/html/s02_article/article_view.asp?id=140&nav_cat_id=131&nav_top_id=56&dsa=42

Best Practice Guidelines for Ambulatory Surgery and Procedures. Australian Day Surgery Nurses Association, 2005.

Design Guidelines for Hospitals and Day Procedure Centres - Day Procedure Unit, Victorian Department of Human Services, 2005.

601882 270 .24.05 Fibre-optic bronchoscopy in adults: a position paper of The Thoracic Society of Australia and New Zealand, R Wood-Baker, J Burdon, A McGregor, P Robinson and P Seal, Internal Medicine Journal, 2001; 31: 479-487.

601883 270 .24.10 Day Surgery in Australia, Report and Recommendations of the Australian Day Surgery Council of Royal Australian College of Surgeons, Australian and New Zealand College of Anaesthetists and The Australian Society of Anaesthetists, Revised Edition, 2004.
http://www.medeserv.com.au/anzca/publications/adsc_handbook.pdf

Day Surgery Centres In Australia Planning And Design, Lindsay Roberts FRCS FRACS - Chairman, Australian Day Surgery Council, 1990 - 2000, March 2005.

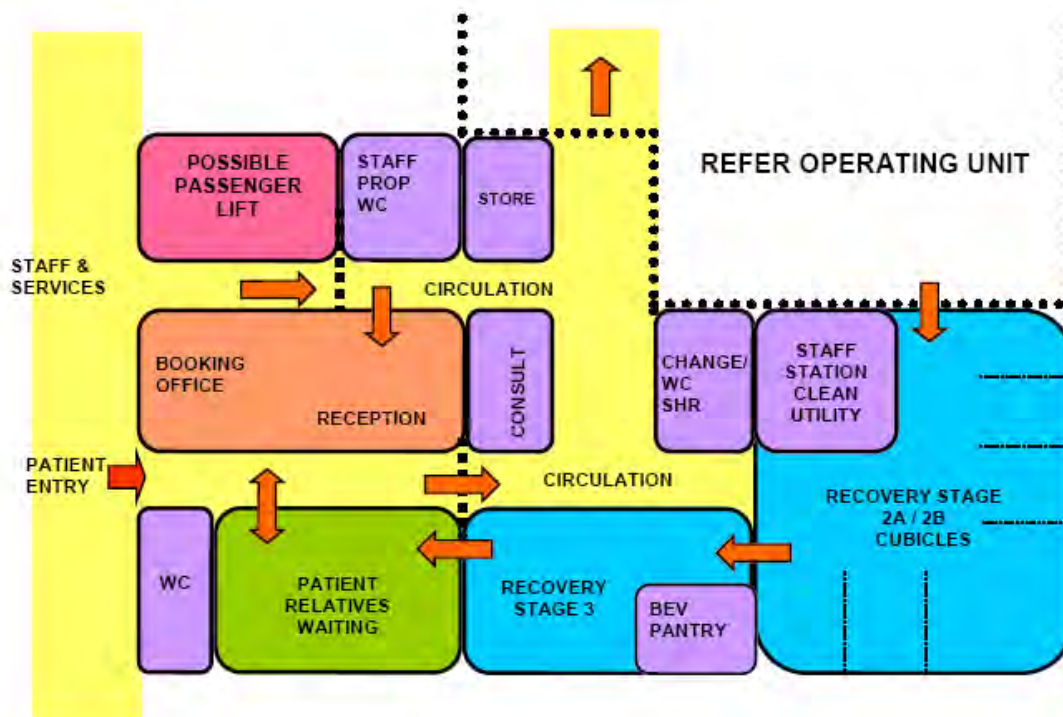
601884 270 .24.15 NHS Estates Schedules of Accommodation v2.0: HBN52V1A - Accom. for Day Care, Vol. 1: Day Surgery Unit, 2 Theatres.

Children/young people in day surgery, Day Surgery Information Sheet 3, Royal College of Nursing, London, UK, 2004.

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FUNCTIONAL RELATIONSHIP DIAGRAM – DAY SURGERY / PROCEDURE UNIT

The following diagram sets out the relationships between zones in a Day Surgery / Procedure Unit.



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Preamble

600801 280 .1.00 This Oral Health Unit guideline reflects ongoing changes in health technology, clinical practices and the increasing reorientation of oral health services to preventative oral health care.

It is recognised that statutory and regulatory requirements will vary from health authority to health authority but review of the relevant web sites would indicate that all states and territories in Australia and New Zealand provide oral health services to very similar categories of eligible clients within the public health sector, and their aims and objectives are similar with especial emphasis on prevention. Therefore this guideline is aimed at ensuring a consistent approach to the design of Oral Health Units to meet the needs of patients and the staff who work in them.

While it is accepted that standards and requirements will change over time, any non-compliance with the guidelines will need to be justified to gain approval to the proposed non-compliant components.

Introduction

600802 280 .2.00 GENERAL

This Guideline is a resource to assist with the planning, design and construction of Oral Health Units. It must be read in conjunction with generic planning requirements and Standard Components, which are described in Part A and Part B, Sections 80 and 90 of these Guidelines.

The Guideline is developed for use by:

- health service personnel involved in the planning and design of a Unit;
- architects, planners, engineers and others who have been engaged to plan and design the Unit;
- personnel from the relevant health authorities whose role it is to oversee and monitor projects.

A clearly defined Services Plan, Models of Care, outline of community requirements and Operational Policies must be developed and approved in accordance with appropriate delegations before embarking on the capital planning process. In NSW, refer to Area Healthcare Services Plans - NSW Health Guide for Development PD2005_602.

600803 280 .2.05 ROLE DELINEATION

A wide range of patient treatment, patient and staff / student educational and teaching activities may be undertaken. The capacity to undertake training, supervision, educational and group programs should be considered.

In those Australian states and territories where it is used, the NSW Guide to Role Delineation of Health Services defines 5 levels of service from 1 to 6 (excluding Level 4). Level 1 requires access to emergency oral health care only; Level 2 may be a fixed or mobile unit; Levels 3, 5 and 6 provide more specialised services including access to facilities for surgery under general anaesthesia.

Policy Framework

600804 280 .3.00 Healthy mouths healthy lives, Australia's National Oral Health Plan 2000-2013, Prepared by the National Advisory Committee on Oral Health, July 2004 (Sourced: www.health.sa.gov.au refer "Reports").

NSW Oral Health Strategy 2005-2010.

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NSW Health, Eligibility of Persons for Public Oral Health Care PD2005_171.

NSW Health, Infection Control Guidelines for Oral Health Care Settings, GL2005_037, January 2005.

NSW Health, Waste Management Guidelines for Health Care Facilities - August 1998, PD2005_132, 25 January 2005.

NSW Health, PD2005_339: Protecting People and Property, NSW Health policy and guidelines for security risk management in health facilities.
http://www.health.nsw.gov.au/audit/manuals/protecting_people_property.pdf

Area Healthcare Services Plans - NSW Health Guide for Development. PD2005_602, June 2005
http://www.health.nsw.gov.au/policies/pd/2005/pdf/PD2005_602.pdf

Description of the Unit

600805 280 .4.00

DEFINITION OF ORAL HEALTH PLANNING UNIT (HPU)

The prime function of the Oral Health Unit is to provide suitable accommodation to facilitate the delivery of oral health care whilst also providing facilities and conditions to meet the working needs of staff.

Oral Health Units range from single chair clinics to large teaching hospital units providing complex specialist care. They can be either stand-alone buildings or integrated with other healthcare or hospital facilities. Requirements for the Unit are determined by the range of services provided and the model of service delivery as described in the Service Plan and Role Delineation.

It is envisaged that most Units will provide predominantly outpatient services but there may be a requirement in hospital-based units for some inpatient access and dental surgeons may need access to operating or day procedure facilities for oral surgery that cannot be undertaken in the Unit, particularly children and people with special needs.

This HPU provides the information necessary to plan and design Oral Health Units of varying sizes and complexity.

It is envisaged that a 4 chair Unit would be the minimum size for a unit operating as an Oral Health Service "hub" with a 2 chair Unit being the minimum size for an Oral Health Service "spoke".

A Schedule of Accommodation is presented at the end of this Guideline. It is not intended to be prescriptive but rather provide the building blocks from which an Oral Health Unit suitable for its stated purpose and service plan may be developed.

600806 280 .4.05

SERVICES PROVIDED

In accordance with the agreed Service Plan, the Unit will / may provide the following services:

- dental therapy / hygiene services for children and adolescents;
- general and emergency services to all ages;
- denture or prosthesis manufacture and adjustment;
- specialist services - oral surgery, endodontics, orthodontics, periodontics;
- community education programmes;
- teaching and training of students and supervision of graduates;
- education of patients;
- call centre services.

Call centre staff require office accommodation within their district. This

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may/or may not be attached to an Oral Health Unit.

Consideration could be given to the installation of a consulting chair without usual surgery facilities to be utilised when a patient requires palliative care, home care instruction or monitoring after a procedure, minor denture adjustment, issue of denture repairs, consultations etc. This could also be a location for teaching children dental hygiene.

600807 280 .4.10 FACILITY DESIGN

Priority should be given to ensuring that the physical environment is welcoming for all users, including children, people of culturally and linguistically diverse backgrounds and others with special needs.

However welcoming the environment, there is always the possibility that some persons may be agitated or aggressive and potentially a risk to themselves or others, including staff. Therefore, the environment must also have an appropriate level of security for both visitors and staff.

"Built oral health facilities should support the effective and efficient provision of oral health services to eligible clients. In order to do this, the following outcomes should be achieved by facility designs:

- safe, hygienic buildings;
- capacity to achieve accreditation to an appropriate level;
- innovative, stimulating and responsive environment for patients and staff;
- flexibility to allow for future change;
- maximum energy efficiency;
- accessibility for people with disabilities;
- capacity to support the development and retention of high quality staff to meet the needs of patients".

Source: Oral Health Facility Design Guidelines, Queensland Health, 2004.

Also refer to the relevant sections of Part C Access, Mobility, OHS and Security and Part D Infection Prevention and Control of these Guidelines.

600808 280 .4.15 CALCULATION OF NUMBER OF CHAIRS REQUIRED

Calculations for chairs should be based on a multi-factorial approach including population eligible for care, demand and services capacity. Future needs and student and training requirements should be taken into account in the calculations.

The figures will need to be adjusted to suit the level of service provided and units with a role in student teaching will affect the length of sessions and in consequence, the number of chairs required. Planning should also consider or allow for a possible internship/junior dental officer/OTD under supervision in the future and regular operating sessions by dental surgeons.

The following formula may be used and adjusted to assess the number of chairs required.

Total days available (excluding public holidays & closures = 5 weeks) = 47 weeks x 5 days = 235 days x 8 hours/day = 1880 hours.

Non clinical time:

- Chairside cleaning allowance = 1 hour/day (1/2 hr between and after sessions = 235 hours;
- 80% occupancy assumed = 376 hours (allows for meetings, training, and allowance for managing the work patterns of part time staff etc).

Total non clinical hours = 611.

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Available hours pa = 1880 - 611 = 1269 hours pa (5.4 hours / day).

Based on 1/2 hour appointments, each dental chair has the capacity to support 11 patient appointments per day or 2585 patient appointments per year.

Therefore: 12,000 appointments per year require 4.6 chairs (rounded up to 5).

600809 280 .4.20 ELIGIBLE CLIENTS

Different jurisdictions will have varying emphases depending on funding and policies on aged care, chronic disease management etc and can influence eligibility but the range of eligible clients generally includes:

- adults on low incomes in receipt of concession cards / health care cards or similar;
- pre-school and school children and adolescents generally up to and including 18 years;
- socially disadvantaged clients who cannot access the private sector because of financial constraints;
- indigenous clients - Aborigines, Torres Strait Islanders;
- clients in remote and rural areas;
- patients with special needs ("special needs" refers to people who are mentally, physically or intellectually compromised to an extent where their dental treatment cannot be provided in the private sector or where the backup facilities of a hospital are required);
- patients with unstable medical conditions not suitable for private clinics.

In NSW, all people requesting oral health care must be assessed and registered through the Information System for Oral Health (ISOH).

600810 280 .4.25 CARE / TREATMENT OFFERED

Care and treatments most commonly offered include:

- oral examination and diagnosis including radiographic examinations;
- preventative care including fissure sealing and fluoride applications;
- dental hygiene;
- general dental care including restorative care at a non-specialist level e.g. cavity preparation and fillings;
- limited crown and bridge work and endodontics;
- sedation where indicated;
- extraction of teeth and oral surgery;
- fitting, manufacture and adjustment of dentures;
- treatment of periodontal disease;
- referral of patients as required.

In hospital-based units, services may be provided to patients requiring specialist treatment or advice beyond the scope of the general practice dentist.

Operational Models

600811 280 .5.00 HOURS OF OPERATION

The Unit will usually operate during business hours, Monday to Friday but may operate outside these hours.

There should be policies and procedures in place for management of emergencies after hours and this will have implications for access, security and safety of practice that need to be considered during the planning and design stages.

600812 280 .5.05 TYPE OF UNIT

The type of Oral Health Unit will be determined by the Service Plan and may be:

- community-based, stand-alone unit in a metropolitan or rural area;
- a component of a school, community health centre or other multi-purpose community-based centre;
- general hospital-based unit;
- teaching hospital unit;
- mobile unit.

600813 280 .5.10 COMMUNITY-BASED UNIT

Oral Health Units in rural and remote locations are generally quite small and may be serviced by a single dentist or on a visiting basis. It is common for these facilities to be located within Hospital, Multipurpose Services Units or community health service complexes.

600814 280 .5.15 HOSPITAL-BASED UNIT

The main role of hospital-based dental facilities is the provision of outpatient care; however services are also provided to inpatients who require urgent dental care or dental care as part of an inpatient admission.

The extent of services provided by dental surgeons in support of other clinical disciplines e.g. faciomaxillary surgery, will depend on the role and function of the health facility itself but it is likely that the majority of such services will be provided in the Operating Suite or Day Procedure Unit and will have minimal impact on the design of the Oral Health Unit itself. However, it will affect available hours of dental surgeons that need to be factored in to any assessment of the number of chairs required.

600815 280 .5.20 MOBILE UNITS

Mobile units may offer "spoke" services in a "hub and spoke" arrangement to remote areas whose population does not have access to built facilities.

"There are a number of trailer and self-propelled mobile dental unit options. Before embarking on the construction and use of mobile dental facilities the purpose of the unit must be clearly identified, including the population to be served, the type of service (examination only or full treatment), service sites to be used and workforce mix.

Single chair mobile units may be developed for either a comprehensive examination and preventive service or a full treatment service. Mobile units with more than one chair would generally be recommended for full treatment

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services in preference to an examination and preventative service.”

Source: Community Oral Health Service: Facility Guideline, Wellington, NZ: Ministry of Health.

Refer to Appendix for design details.

600816 280 .5.25 PRIVATE CONTRACT ARRANGEMENTS

“Consideration may be given to utilising private service providers in the area and taking advantage of Medicare arrangements. For example, the inclusion of an OPG is not supported in any but the large facilities. Private providers can be accessed in the case of full mouth x-rays being required.”

Source: Oral Health Facility Design Guidelines, Queensland Health, 2004.

Operational Policies

600817 280 .6.00 GENERAL

Operational Policies have a major impact on the design requirements and capital and recurrent costs of health facilities. Policies that are applicable to the whole of an Area Health Service / Region and to the Healthcare Facility generally must be established at the earliest stage possible. Refer to NSW Process of Facility Planning.

Refer to Part B Section 80 of these Guidelines for a list of general operational policies that may apply.

The following are examples of policies that may be specific to an Oral Health Unit.

600818 280 .6.05 DENTAL RECORDS

Current dental records including x-rays should be stored (fixed metal shelving or a compactus system) adjacent to Reception so as to allow administrative staff easy access. Archival space for non-current records may be off site but must be accessible within a reasonable time-frame.

Dental records must be retained for the minimum period required by local legislation. In NSW, retention/disposal of records should comply with the State Records Act 1998 and State Records Regulation 2005.

Electronic records are an increasingly used alternative and must be stored and backed up appropriately.

600819 280 .6.10 INSTRUMENT PROCESSING AND STERILIZATION - ON SITE

It is anticipated that the majority of instrument reprocessing and sterilization, will be performed in the Oral Health Unit itself by staff who have sterilizing training.

The most efficient and reliable method of sterilising is by steam under pressure (autoclaving) and is the preferred method of sterilising in dentistry. A dedicated area for the decontamination and sterilizing processes within the Unit is mandatory whereby contaminated instruments and equipment are cleaned, sterilised and stored that must comply with the following Australian/New Zealand Standards.

- AS/NZ 4187: Cleaning, disinfection and sterilising reusable medical and

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surgical instruments, and equipment and maintenance of associated environments in health care facilities.

- AS/NZ 4815: Office based health care facilities not involved in complex patient procedures and processes - Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of the associated environment.

The size of the space and the equipment selection will depend on the number of surgeries being serviced, workplace processes and staffing i.e. the number of staff requiring access to the sterilising area at any one time. Consultation with local infection control personnel and sterilisation staff is advisable.

Refer to Infection Control Guidelines for Oral Health Care Settings, GL2005_037 for a detailed description of the processes and Infection Control Policy PD2005_247.

Also refer to Non-Standard Components 280.21.05.

600820 280 .6.15 INSTRUMENT PROCESSING AND STERILIZATION - OFF SITE

Contaminated instruments and equipment may be sent to the Sterilizing Services Unit in the local hospital or regional centre for processing. This would, however,

- significantly increase the workload of the SSU;
- necessitate a significant increase in dental instruments;
- require support from transport staff conveying instruments between the two Units.

However, this option may reduce the operational and infrastructure outlay particularly at small facilities and increase the service providers' ability to apply monitor and improve quality standards. It is recommended that providers complete a cost benefit analysis of the available options in relation to their service plan.

If off site instrument reprocessing and sterilization is used the Unit will still require appropriate spaces for the receipt and storage of instruments and equipment, separation of waste and reusable items, and disposal and/or packing of contaminated goods.

600821 280 .6.20 MANUFACTURING OF DENTURES

Manufacturing of dentures may be performed in-house or outsourced and the need for inclusion of a dental laboratory in an Oral Health Unit will to some extent be dependant on the age of the main patient group and the services being provided.

A cost benefit analysis should be conducted including a feasibility analysis to assess the need for a dental laboratory that is capable of manufacturing dentures.

If an in-house laboratory is not to be provided, a minor prosthetic adjustment area may be required for denture fitting and adjustment.

600822 280 .6.25 MEDICAL EMERGENCIES AND PATIENT RECOVERY

Depending on the size of and services provided by the Unit, consideration should be given to discrete facilities for resuscitation, oxygen therapy and recovery for post-treatment observation of patients who have received

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sedation and the occasional patient feeling faint, nauseous or bleeding.

Requirements may include:

- centrally located, easily accessible first aid kit in or near the recovery area;
- a Laerdal mask available in each surgery.

600823 280 .6.30 PATIENT MANAGEMENT

Patients attending the Oral Health Unit will report to Reception where appointments will be made or confirmed, personal details taken and records retrieved or generated after which patients will be directed to the waiting area. Patients presenting by ambulance may be transferred to a wheel chair or trolley and, depending on condition, held in the Recovery area to await treatment.

Acoustic privacy and the confidentiality of patients attending the reception area should be a high priority.

Consideration must be given to providing adequate space and amenities for support persons (parents, carers, etc).

600824 280 .6.35 RADIOLOGY

Ideally there should be capacity for intra-oral radiology in all individual surgeries and a shared unit for the therapy chairs. Shared units need to consider privacy and radiation safety issues.

The intra-oral x-ray units are wall-mounted with remote exposure switches/panels outside the room.

Radiation shielding is addressed in Section 19.10 of this Guideline.

Facilities for processing of dental film should be readily available in the Unit. The use of digital imaging should be considered to obviate the need for dark room/daylight processing facilities and will require the appropriate cabling infrastructure and viewing monitors in the surgeries.

OPG and other extra-oral radiography facilities will only be established in large, hospital-based units and the option to outsource dental radiography from Radiology Departments should be considered.

600825 280 .6.40 STORAGE - GENERAL SUPPLIES

As few of the supplies are standard to a hospital's main supply inventory, most items will be ordered by and stored within the Unit.

In hospital-based Units, items that are available on the hospital's stores inventory may be drawn on an imprest system.

Larger units acting as a 'hub' for other smaller clinics in the area will require additional storage space, a packing area with bench space to prepare materials for redistribution and a workstation for maintaining records of goods sent/received.

Consideration may be given to a designated goods delivery entry with or without a loading dock but will depend on site constraints, cost, security etc.

600826 280 .6.45 SEDATION

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The range of general or specialist treatment services provided by the Oral Health Unit will dictate the type of sedation infrastructure required.

In most instances, no general anaesthesia will be administered in the Unit but oral, local, intramuscular, intravenous, nasal and inhalational (nitrous oxide) substances will/may be used. If the Unit is to provide sedation, there must be a dental operating chair which will allow the patient to be placed rapidly in the horizontal or head-down position.

Patients needing general anaesthesia (mainly children and adults with special needs) will be placed onto sessional lists in a Day Procedure Unit or Operating Suite depending on the anaesthetic policies of the Unit.

Refer: Australian and New Zealand College of Anaesthetists/Royal Australian College of Dental Surgeons "Guidelines on Conscious Sedation for Dental Procedures in Australia (PS21)."

600827 280 .6.50 STORAGE - STERILISED INSTRUMENTS AND EQUIPMENT

Sterilised items must be:

- stored and handled in a manner that maintains the integrity of the packaging material and prevents contamination of the contents;
- stored in a clean area such as a cupboard as opposed to open shelving;
- stored so that packaging is not crushed or bent or compressed or punctured or held together with elastic bands or paper clips.

The contents of any sterilised package should be considered contaminated if the packaging is either damaged or becomes wet.

Unsterile equipment should not be stored with sterilised equipment.

600828 280 .6.55 WASTE DISPOSAL - GENERAL

General and clinical waste will be managed in accordance with overall hospital/unit policy.

Disposal of used radiographic fixer and developer should be in accordance with the local policy (hospital or local government) waste management guidelines.

Refer to NSW Health Waste Management Guidelines for Health Care Facilities - August 1998, PD2005_132, January 2005.
http://www.health.nsw.gov.au/policies/PD/2005/pdf/PD2005_132.pdf

600829 280 .6.60 WASTE DISPOSAL - MERCURY / HEAVY METALS

Dental facilities generate a number of waste products that have the potential to be discharged to the waste-water system through dental suction systems. A number of heavy metals can be discharged including silver, cadmium, chromium, copper, mercury, nickel, lead and zinc. Of principle concern (at this stage) is mercury discharge as dental clinics are recognised as significant contributors to mercury contamination of the environment. Project staff should refer to their relevant environmental authority for guidelines on disposal of both liquid and solid mercury waste, back-flow prevention and waste-water disposal.

Waste amalgam must not be incinerated. For the handling and storage of mercury related dental waste, refer to the 1988 NHMRC's publication Recommendations on Dental Mercury Hygiene. It is recommended that mercury wastes be returned to metal or precious metal recyclers for reclamation. If necessary the Environment Protection Authority should be

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contacted for specific requirements for disposal of mercury.

Refer to: Materials Australia, vol.34, no.1, pp.14-15, January/February 2002.

600830 280 .6.65 STAFF STRUCTURE

The staff structure of the Unit will have an impact on the nature, size and location of offices, administrative and teaching spaces and staff amenities.

The staffing structure of the proposed Unit, including students and academic staff, should be developed in the early stages of planning.

Planning Models

600831 280 .7.00 LOCATION

An Oral Health Unit should be located in an area accessible to the community by both public and private transport.

Ideally a ground floor location for ease of access by high volume outpatients many of whom may be disabled to some extent.

Care must be taken with location of surgeries and x-ray units on ground floors to ensure no radiation hazard to passing pedestrians.

If positioned in a school ground, the Unit should be easily accessed, with minimal or no disruption to the school, by children, adolescents and members of the public who may attend the unit but not have a relationship with the school. Location of fixed clinics and pads for mobile units on a school boundary is therefore desirable.

600832 280 .7.05 CONFIGURATION

The Unit may have single chair surgeries or open plan surgeries or a mix, with the support areas located to ensure optimal work flows and efficient and safe working practices.

Open plan surgeries need to address:

- x-rays (a separate small x-ray room may be required);
- sedation gases;
- privacy and patient confidentiality.

The unit must be designed to prevent unauthorised access from the Reception / Waiting Area into the treatment areas.

Functional Areas

600833 280 .8.00 FUNCTIONAL ZONES

Functional zones will comprise:

- Entry / Reception / Waiting;
- Clinical Treatment Areas (Surgeries, Recovery);
- Clinical Support Areas;
- Staff Areas - offices and amenities.

600834 280 .8.05 SHARED AREAS

In small units only the dental surgery will be a dedicated space. Entry /

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Reception / Waiting, support areas and staff areas may be shared with adjoining units.

Access to these areas must be available at all times the service is operating. When facilities are located in a school, wider health facility or other multi purpose location (eg Community Centre) agreements will need to be reached between health services and school boards or other facility operators to ensure access to common areas when dental services are operational and to ensure that the necessary cleaning and waste management continue during, for example, school holidays.

600835 280 .8.10 ENTRY / WAITING

Design of the entry will depend on whether the unit is accessed from inside a building or directly from outside. In the latter instance an airlock will be required.

There should be a dedicated Waiting Area that allows, as a minimum, the same number of places as there are surgeries, plus a seat for a supporter (particularly for parents who are encouraged to be present when their child is treated). Space is allowed at a rate of 1.2m² per seat and 1.5m² for a wheelchair of which there must be at least one, and two in larger units. Space should also be considered for prams and patients with walking frames.

A Child Play Area may be located adjacent to the main Waiting. Children must be under the supervision of parents/carers not Unit staff.

Inpatients should be called for only when the dental surgery is about to be become vacant so that the patient can be trolleyed directly in via a separate entry.

600836 280 .8.15 RECEPTION

Reception will accommodate one or two staff depending on the size of the Unit. Direct access to patient records will be required and there will/may need to be facilities at the Reception for collecting and storing money. The counter should have one wheelchair accessible section.

Consideration should be given to the safety and security of reception staff. Duress alarm should be provided.

Acoustic privacy and the confidentiality of patients attending the reception area should be a high priority.

600837 280 .8.20 PATIENT AND VISITOR AMENITIES

Patients and their supporters, particularly those who may have traveled long distances in rural areas, should have access to, either in the Unit or in close proximity, a full range of amenities that should include:

- toilet - including access toilet;
- baby change;
- telephone;
- audiovisual entertainment;
- light refreshments and cold water.

A shower may be considered for hygiene purposes for patients with special needs.

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600838 280 .8.25 DENTAL SURGERY - SINGLE ROOM

Single room design incorporates all services and equipment required for the assessment and treatment of one patient and is appropriate when:

- only 1 or 2 chairs will be provided in a Unit;
- an existing space lends itself to this form of design;
- patient privacy is of paramount concern;
- stretcher or wheelchair access is required;
- patient hoist required;
- space for bed bound patient.

600839 280 .8.30 OPEN PLAN DESIGN

In an open plan surgery design, surgeries are usually arranged in pairs with shared handwashing, x-ray and storage facilities located between them and separated from each other with partial height partitions for privacy and infection control requirements e.g. aerosols. Design must also ensure privacy from the circulation corridor.

Advantages of an open plan design include:

- space efficiency;
- cost efficiencies through shared resources;
- a better environment for teaching and supervising dental students.

Disadvantages:

- privacy and confidentiality compromised (eg medical history);
- Environmental Protection Authority may not allow x-ray units in open plan cubicles;
- Inhalational sedation will be more difficult in open space and there may be problems if insufficient scavenging of gases;
- limited ability to attenuate noise of patient and environment.

600840 280 .8.35 DENTAL SURGERY - MULTIPLE ROOMS

A multichair surgery is recommended for proposed community clinics in urban areas. These facilities will usually include single room dental surgeries accommodating one operating chair and/or surgeries of open plan design accommodating 2 operating chairs. The final configuration and number of chairs will depend on the population served and the Unit functions e.g. Clinical Training.

Larger community based facilities Units offer the opportunity to:

- engage a dental team consisting of dentist, dental therapists, dental assistants and administration reception staff;
- improve access to services through increased open hours;
- offer training programs for health professionals and support personnel;
- provide more flexible models of care.

600841 280 .8.40 DENTAL SURGERY LAYOUT

Whether single room or open-plan, the typical dental surgery has the dental chair positioned close to the centre of the room or cubicle with the foot of the chair facing away from the entry. This orientation of the chair addresses both privacy, and modesty concerns for patients, ensures easy staff movement in and out of the room and ready means of staff egress if a patient becomes aggressive.

The dentist and dental assistant operate around the head of the chair with the dentist normally positioned on the patient's right. A dental assistant's workstation is located behind the head of the chair with allowable operating space and incorporates the storage of dental materials and equipment,

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disposable items and a work surface for retrieving and mixing dental materials.

In both single room and open-plan surgery design, the provision of the dental assistant's workstation and adequate shared storage units for equipment and disposable items is specifically designed for user accessibility, space efficiency, infection control and easy maintenance of a clean, clutter-free work environment.

Allowance should be made for changes in practices in relation to technology advancements e.g. space for IT equipment, digital radiography.

600842 280 .8.45 DENTAL HYGIENE FACILITIES FOR CHILDREN

The facilities necessary for teaching children how to properly brush their teeth are a sink or basin with a mirror above. Depending on likely numbers, this may simply be a mirror over a basin in a general surgery or a separate small area with a stainless steel "trough" with 2-3 taps and mirror over. If a basin or sink in a surgery, it will need to be in addition to the clinical handbasin used by staff.

The child is usually accompanied by a parent.

600843 280 .8.50 RECOVERY

The need for a recovery area will be determined by the size, function and the type of services provided by a unit

Where provided, ideally a discrete room but may be a curtained and recessed bay off a secure corridor for a trolley and wheelchair. A patient /staff assist call system should be available and access to oxygen, suction (piped or portable) and resuscitation equipment.

600844 280 .8.55 SUPPORT AREAS

The extent to which the following are included will depend on the size and location of the Unit. In small single surgery units serviced by a visiting dentist for example, the full range of facilities will not be appropriate and arrangements will need to be made for sterilizing and laboratory needs.

- Laboratory;
- X-ray processing (unless a digital system);
- Plant room;
- Instrument Processing (Refer Non-Standard Components for details);
- Linen Store;
- Resuscitation Trolley Bay;
- Stores - Supplies and Equipment;
- Equipment bays - hoists etc;
- Gas bottle storage;
- Dirty Utility / Disposal Room;
- Cleaner's Room.

600845 280 .8.60 X-RAY PROCESSING ROOM

Digital radiography will negate the need for processing, uses lower doses of radiation, results in less scatter radiation and has other advantages over film radiography but additional IT software and hardware will need to be considered and accommodated.

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However, if traditional film is the method in use, options for film processing are dark room or daylight processing. A dark room will be required if a processor without a daylight loader is not used while a processor with a daylight loader can be positioned in an assigned bench area of the Unit.

Water and waste supply, and storage for chemicals are required.

Adequate ventilation is also required to prevent the spread of fumes from chemicals into occupied spaces.

600846 280 .8.65 STAFF OFFICES AND AMENITIES

Offices and workstations will comply with local policy recommendations as to sizes and allocation. In NSW refer to: Office Accommodation Policy - Public Health Organisations and Ambulance Service. PD2005_576, April 2005.

Provision must be made for staff lockers in a secure environment. Depending on the type of unit and location, staff room and toilets may be shared with other units. Access to a staff shower is desirable.

If no dedicated staff room is provided, a small beverage bay separate from the clinical facilities may be considered or these facilities may be located within the facility e.g. a Health Centre or School.

A tutorial room should be provided in Units that support student teaching and staff in-service training.

Functional Relationships

600847 280 .9.00 EXTERNAL

If located on a hospital site, there should be easy access to:

- Medical Imaging services for OPG;
- Operating theatres;
- Sterile Supply Department if no in-unit service;
- Linen Service and Waste Disposal Units.

600848 280 .9.05 INTERNAL

Reception requires a clear view of entry and exit/egress points of the Unit and of the waiting area.

There must be easy but controlled access from the Waiting Area to the Patient Treatment Areas.

Staff areas, offices and amenities should be separate from patient and public access to provide privacy and quiet areas.

Accessibility

600849 280 .10.00 EXTERNAL

Consideration should be given to public transport availability.

Off street access for vehicles transporting patients should be provided.

All-weather vehicle drop-off points should be provided for easy access by patients who are elderly, frail, have limited mobility or who are wheelchair bound.

Ambulance access and trolley access to all large and hospital-attached units will be required.

If a stand-alone building on a hospital site, undercover link should be provided to the main hospital.

600850 280 .10.05 INTERNAL

Entry to the clinic must allow easy barrier free access for ambulant, wheelchair and trolley patients and must comply with AS 1428 - Design for Access and Mobility (set).

Separate entry for inpatients.

Bed / trolley access to at least one surgery if hospital-based.

Parking

600851 280 .11.00 Ready access to parking for patients and their supporters including drop-off parking for people with disabilities. The high volume of attendances must be addressed.

Staff parking should be provided under or within close range of the workplace. The area should be well lit and protected from the elements. In high risk areas the Car Park may need to be monitored by security personnel or cameras.

Consideration should be given to secure for bicycles.

Disaster Planning

600852 280 .12.00 Refer to Part B Clause 80.19 of these Guidelines for further information.

Infection Control

600853 280 .13.00 ENVIRONMENTAL CONTROL

The planning and construction of any facility must incorporate the principles of environmental infection prevention and control to minimise contamination from particulates (solids and aerosols) and micro-organisms.

The general layout of the dental surgery is based on a streamlined design applying infection control principles. Design must focus on minimising the number of surfaces likely to be exposed to aerosols (generated by the dental handpiece and air/water application) by concealing equipment (other than that associated with the dental chair) or locating certain items e.g. the x-ray viewer, and administration areas away from the zone of aerosol

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contamination.

The use of high-volume evacuation suction equipment and providing barriers over surfaces is also important to minimise aerosol effects.

Regular cleaning of the Unit is to be undertaken in order to minimise the number of microorganisms in the environment and keep all surfaces clean and tidy.

Procedures are to be implemented for the safe handling and appropriate disposal of contaminated materials and waste.

In NSW, refer to Infection Control Guidelines for Oral Health Care Settings. GL2005_037, January 2005 and Infection Control Policy PD2007_036.

Also refer to Part D of these Guidelines - Infection Prevention and Control.

600854 280 .13.05 PERSONAL HYGIENE AND PROTECTION

Hand washing facilities are essential in every dental surgery and must be specifically designated for hand washing. Hands should not be washed in a sink which is used for either instrument cleaning, or disposal of blood, body substances or chemicals. Emphasis should be given on the use of 'hands free' facilities where possible.

Appropriate personal protective equipment (such as gloves, protective eyewear, gowns and facemasks) are to be used to reduce the risk of exposure to aerosols, blood and body fluids. Access to dispensers and storage for personal protective equipment must be considered in each surgery to ensure their easy use.

Hands-free access to bins for paper, clinical waste and sharps.

Environmental Considerations

600855 280 .14.00 ACOUSTICS

Exclusion of disturbing or distracting noises from other patients or equipment during treatment where possible.

Isolation of noisy areas or equipment from patient treatment and waiting areas.

Acoustics covers are available for most compressors.

600856 280 .14.05 LIGHTING

Natural light is not essential in the surgeries; however light and views may do much to alleviate patient anxiety and staff morale.

Colour-corrected lighting will be required in surgeries and laboratories where shading / matching of teeth colour is undertaken.

Dental examination lights are usually mounted on the chair or dental unit.

600857 280 .14.10 PRIVACY

The planning and design of oral health units must ensure that every consumer has the right to have his or her privacy respected.

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The Unit should be designed to:

- ensure confidentiality of patient discussions and records;
- appropriately configure dental surgeries to optimise patient privacy.

600858 280 .14.15 INTERIOR DESIGN

Interior design includes furnishings, style, colour, and use of textures. Good interior design can assist in relaxing patients by providing a non-intimidating and child friendly atmosphere.

Some colours and patterns can be disturbing to some patients. Bold primary colours and green should be avoided in treatment areas.

Consideration may be given to providing visual interest points on the ceiling.

Cleaning, infection control, fire safety, and the perception of a professional environment must be considered while avoiding an institutional atmosphere.

Space Standards and Components

600859 280 .15.00 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all persons using the building.

As the requirements of Occupational Health and Safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in these Guidelines in addition to OHS related guidelines.

600860 280 .15.05 ERGONOMICS

Oral Health Units should be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff as well as the welfare of patients.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

600861 280 .15.10 ACCESS AND MOBILITY

Design must comply with AS 1428 - Design for Access and Mobility.

Refer to Part C Section 730 of these Guidelines for details.

600862 280 .15.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines - Section 710 - Space Standards and Dimensions.

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Doorways must be sufficiently wide and high to permit the manoeuvring of wheelchairs, trolleys and equipment without risk of damage or manual handling risks.

Safety and Security

600863 280 .16.00 SAFETY

The facility must provide a safe working environment which will not cause any risks to the health and safety of the occupants. In addition to those risks and hazards commonplace in health care environments, there are specific occupational health and safety issues associated with Oral Health Units that include:

- staff leaning over reclined patients to provide treatment;
- aerosol contamination;
- working with infectious materials;
- working with hazardous chemicals in laboratories;
- heat and noise associated with sterilising procedures and in laboratories;
- manual handling;
- potential for patient aggression and violence;
- radiological hazards.

It will be important to identify, assess and control risks or hazards that exist within the Unit to produce a safer and healthier workplace and Unit design will have to be such that it supports the management of those risks and hazards.

Requirements:

- Regular safety audits;
- Occupational Health and Safety (OHS) specialists to be consulted to ensure potential hazards are identified and appropriate procedures to control risks and resolve health and safety issues are implemented.

Source: Oral Health Facility Design Guidelines, Queensland Health, 2004.

Refer to Part C Section 790 of these Guidelines for further information and in NSW, reference should be made to Protecting People and Property NSW Health Policy and Guidelines for Security Risk Management in Health Facilities.

600864 280 .16.05 SECURITY

Some form of access deterrent or barrier is required between waiting area and clinical / administrative areas.

Controlled after-hours access will be necessary and should be possible independent of other facilities within which the Unit may be located (eg school, health centre).

Security of records and when required monies.

Security of reception.

Security of staff - duress alarm system at reception and personal duress alarms for other staff.

Security of patient and staff property.

Facilities must have clear entry and egress points; in general this will require a facility with 2 external doors.

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Finishes

600865 280 .17.00 GENERAL

Use of smooth, easily cleaned surfaces (not tiles). Avoid joined laminated and textured surfaces on bench tops and walls.

600866 280 .17.05 WALL PROTECTION

Refer to Part C Section 710 of these Guidelines.

600867 280 .17.10 FLOOR FINISHES

Refer to Part C Section 710 of these Guidelines.

600868 280 .17.15 CEILING FINISHES

Refer to Part C Section 710 of these Guidelines.

Fixtures, Fittings & Equipment

600869 280 .18.00 DEFINITION

Within the context of the Health Facility Guidelines and the Room Data and Room Layout Sheets in the associated Health Facility Briefing System (HFBS), Fixtures and Fittings can be described as follows:

Fixtures: Refers to fixed items that require service connection (eg electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc (but excluding services equipment such as theatre pendants).

Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Also refer to Part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

Building Service Requirements

600870 280 .19.00 GENERAL

All services should satisfy the Unit's specific service level and procedure requirements. Services should be designed and installed in a manner that will allow easy access for maintenance and cause only minimal disruption when maintenance is required.

600871 280 .19.05 INFORMATION TECHNOLOGY / COMMUNICATIONS

Planning of IT systems to support clinical and operational activities is an essential component of any facility design. Systems to consider include:

- patient management system;
- telecommunications;
- other technology e.g. digital radiography, telemedicine.

Unit layout must include appropriate data cabling and connection lines to

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support internal and external networks and a server room will/may be required.

Cabling for patient management systems and telecommunications should be available in all dental surgeries and administration and teaching areas.

In addition there will/may need to be access to:

- public phones / taxi phone;
- MATV in waiting rooms and possibly in surgeries;
- CCTV if indicated;
- public address system;
- background music;
- duress alarm system;
- nurse / emergency call system.

600872 280 .19.10 RADIATION SCREENING

All x-ray equipment and rooms where x-rays are taken must meet the radiation safety requirements of State and local authorities.

State guidelines will determine the use of lead aprons and where required should be provided for patient and operator. Lead apron hangers to be installed within the room.

NB: Weight of lead aprons needs special support.

NB: For paediatric work a thyroid shield is also necessary (may be incorporated into patient apron).

Requirements for shielding may differ for digital radiography with shorter exposures.

Radiation shielding must comply with: Code of Practice and Safety Guide, Radiation Protection in Dentistry, Radiation Protection Series No.10 (2005, Australian Government).

600873 280 .19.15 AIR-CONDITIONING, VENTILATION AND HEATING

Air-conditioning is required in all areas during standard operating hours. Capacity to override air-conditioning to provide emergency service in either one surgery or the total unit after hours is required.

All occupied areas should be heated with thermostatically controlled heaters. This may be part of an air-conditioning system. Portable heaters and unflued gas heaters should not be installed in patient areas.

If a full laboratory is included, special consideration should be given to the specialised equipment requiring removal of noxious fumes, dust, and heat. Many units will be provided with specialised proprietary equipment and benching requiring extraction and other services. High quality exhaust/extraction system is required for the burn-out oven.

Provision also needs to be made for exhaust from the steriliser in the Instrument Processing Room.

Film processing areas and sink units used in connection with the regular cleaning of x-ray processors should be provided with adequate exhaust ventilation to prevent the uncontrolled escape of chemical emissions i.e. capable of removing any vapour released from the process.

Refer to Part E of these Guidelines and in NSW to TS11 - Engineering Services and Sustainable Development Guidelines.

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600874 280 .19.20 WATER

Potable water filtered for particulate matter is required for dental units and metering of water to clinical area is required for waste management purposes.

All dental operating units have integral suction systems which remove contaminated water and body fluids from the operation site. This waste requires coarse filtering (usually integral to the unit) separation of heavy metals and then disposal.

600875 280 .19.25 MEDICAL GASES

All surgeries and designated recovery areas require medical oxygen and suction.

Services should ideally be piped but may be via portable cylinders in small units.

Depending on the operation policies with regard to level of sedation and care/treatments provided, medical air, nitrous oxide and scavenging may also be required.

600876 280 .19.30 DENTAL SUCTION

Everything from the patient's mouth is extracted via the dental suction system. This material is contaminated biologically and will contain mercury when amalgam fillings have been removed. The extracted solids are trapped, either within the chairside unit or in the Dental Plant Room. The suction containers from the chairside units must be emptied on a regular basis; Plant Room traps are emptied by maintenance staff / contractors, during routine servicing.

Dental suction systems must not be confused with medical suction systems.

600877 280 .19.35 PLANT ROOM AND SUPPLY LINES

A Plant Room of sufficient size is required to accommodate all the mechanical and electrical plant. Service supply lines (compressed air, vacuum, extraction systems etc) and plumbing lines should be run under a suspended floor slab to allow for easy service maintenance and future alteration, expansion or upgrade of equipment. For an on the ground concrete slab, services should be placed in a covered (removable) services trench.

Consideration may need to be given to a back up generator in some facilities.

Standard Components

600878 280 .20.00 Rooms/spaces are defined as “Standard” and “Non Standard” Components.

Standard Components (SC) refer to rooms/spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by “Y” in the SC column of the Schedule of Accommodation.

Refer to Part B Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets
www.healthfacilityguidelines.com.au

Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

600879 280 .21.00 Non-Standard Components are generally very unit-specific. Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

600880 280 .21.05 DENTAL SURGERY

DESCRIPTION AND FUNCTION

For the interview, examination and treatment of patients, some of whom will be accompanied by relatives/supporters/interpreters, and for the storage of equipment and materials associated with such treatment.

Up to 5 occupants.

LOCATION AND RELATIONSHIPS

Associated with Instrument Processing Room, X-ray Processing Room, Waiting Room, Recovery Room.

600881 280 .21.10 CONSIDERATIONS

Wheelchair access and space for patient transfer from wheelchair to dental chair.

In hospital-based units, in at least one surgery, space for a patient in bed.

Patient hoist (either portable or integrated in the surgery construction) may be required.

High level sound attenuation.

Medical gases (oxygen, suction, nitrous oxide and scavenging).

Dental services - filtered water, compressed air and suction (the latter not to be confused with medical air and suction) delivered via the fixed dental unit, wall-mounted unit or mobile cart High volume evacuation (HVE) & low volume evacuation (LVE) suction.

Storage for lead aprons, gowns and masks, protective eye wear as indicated.

Air handling systems designed to maintain a comfortable temperature. 100% exhaust ventilation, with suitably placed registers, will deal equally well with

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the problem of aerosol generation.

Floors and walls - non-slip, non-porous, welded joints, smooth and easily cleaned. Walls may require reinforcement for weight bearing equipment.

Low voltage and general power; RCD protected electrical fittings (minimum 8 outlets).

Lighting - natural plus high intensity colour corrected artificial lighting.

Fibreoptic data cabling infrastructure for phones, computers and digital imaging if provided.

Allowance should be made for changes in practices in relation to technology advancements e.g. space for IT equipment, digital radiography.

Fixtures and fittings will/may include:

- dental chair with removable arm rest;
- dental operating unit - may be mobile or fixed;
- wall-mounted intra-oral x-ray unit with controls outside the room;
- x-ray viewer (computer screen if digital);
- operator and assistant stools;
- dental cabinetry - fixed and/or mobile;
- support persons chair/s;
- computer terminal (for patient details);
- digital photography equipment;
- handbasin (elbow touch taps or non-touch);
- phone, intercom, duress call;
- non-touch bins for general, clinical waste and sharps;
- white board;
- clock;
- ceiling-mounted patient hoist (optional).

600882 280 .21.15 DENTAL LABORATORY

DESCRIPTION AND FUNCTION

An area for adjusting and polishing dentures and for the construction of prosthetic appliances and other items related to dental treatment (unless outsourced).

LOCATION AND RELATIONSHIPS

The Dental Laboratory should be located with ready access to the Dental Surgery Rooms but sufficiently removed to minimise transfer of dust, noise and fumes.

600883 280 .21.20 CONSIDERATIONS

Lighting - natural / fluorescent mix for colour matching.

Moisture-resistant joinery - all surfaces including drawers must be laminated or moulded plastic or stainless steel for ease of cleaning.

Storage area for models.

Inclusion of a plaster trap under the sink is advised if there is a high denture workload envisaged.

Non-slip vinyl flooring.

Mechanical debris/dust extraction (external exhausting) through hoods in polishing bays and at desk-tops is required.

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Natural gas connections & compressed air outlet/s.

Furniture, fittings and equipment may include:

- plaster bins;
- skip for waste plaster;
- ultrasonic cleaner;
- model trimmer;
- plaster vibrator;
- casting machine;
- polishing machine;
- dental lathe;
- vice;
- boil-out unit with exhaust system;
- Bunsen burners;
- vacuum former;
- processing tank;
- bench press.

600884 280 .21.25 MINI DENTAL LABORATORY

DESCRIPTION AND FUNCTION

An area for adjusting and polishing dental prostheses and making minor adjustments to 'set-ups'.

LOCATION AND RELATIONSHIPS

Adjacent to the dental operator used by the staff dental prosthetist.

CONSIDERATIONS

- lighting - natural / fluorescent mix;
- moisture-resistant joinery: all surfaces including drawers must be laminated or moulded plastic for ease of cleaning;
- non-slip vinyl flooring;
- storage;
- mechanical debris / dust extraction (external exhausting where possible) through hoods in polishing bays;
- natural gas connections & compressed air outlets.

Equipment includes:

- sink;
- stainless steel benches with splash back;
- laboratory handpiece (micromotor) / control box;
- bunsen burner;
- dental lathe and polisher.

600885 280 .21.30 INSTRUMENT PROCESSING / STERILIZING ROOM

DESCRIPTION AND FUNCTION

A designated room for the cleaning and sterilization of instruments and equipment. Size will depend on the number of surgeries and availability of staff. Consultation with local infection control personnel and sterilisation staff is advisable.

Design and layout must ensure a "dirty to clean" work flow. This may be achieved by having two adjoining spaces with a 'hatch' or walkway between or simply by careful arrangement of benches and equipment depending on the size of the room.

Refer to Infection Control Guidelines for Oral Health Care Settings (NSW

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Health Circular 2002/80) for a detailed description of the processes.

There must be "zones" for the following functions:

- receipt of contaminated instruments;
- cleaning (rinsing, ultrasonic);
- decontamination (washer/disinfector);
- packing and sealing;
- sterilizing (steam or Steris);
- cooling;
- clerical area for instrument tracking and quality assurance activities (sterilizer print outs, spore tests etc);
- storage. If sterile supplies are also stored in this area, storage must be enclosed and protected from environmental contamination (heat, splash contamination).

FUNCTION AND RELATIONSHIPS

Centralised to minimise distance from Dental Surgeries and Dental Laboratory.

600886 280 .21.35 CONSIDERATIONS

Non-slip flooring.

FF&E will/may include:

- handbasin (essential);
- stainless steel bench tops with two (2) inset sinks for cleaning and rinsing;
- power & air line oiling machine for hand pieces and motors;
- handpiece cleaner;
- heat sealer;
- ultrasonic cleaner;
- washer/disinfector;
- packing bench with shelves for storing packaging materials and a heat sealer;
- sterilizer (plumbed or portable/benchtop);
- cooling bench;
- storage for packing materials.

Equipment (sterilizers, disinfectors etc) must comply with relevant Australian/NZ Standards.

APPENDICES

Schedule of Accommodation

600887 280 .22.00 A Schedule of Accommodation follows:

600888 280 .22.05 Entry / Reception

ROOM/SPACE	Standard Component			Qty x Area m2	Qty x Area m2	Qty x Area m2	Remarks
				2 Chairs	4 Chairs	6+ Chairs	
ENTRY AIRLOCK				1 x 9	1 x 9	1 x 9	Optional depending on location
RECEPTION	yes			1 x 10	1 x 12	1 x 12	1 and 2 staff
STORE - FILES	yes			1 x 6	1 x 8	1 x 10	Compactus or fixed shelving

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STORE - PHOTOCOPIER / STATIONERY	yes			Share	1 x 8	1 x 8	
ADMINISTRATION OFFICE	yes			0	1 x 9	1 x 12	1 or 2 staff
WAITING	yes			1 x 10	1 x 16	1 x 20	Cold water dispenser
CHILD PLAY AREA				Incl. in Waiting	1 x 10	1 x 10	Optional
BAY - WHEELCHAIR PARK	yes			Share	1 x 2	1 x 2	1 -2 wheelchairs
TOILET - PUBLIC	yes			Share	1 x 3	2 x 3	1 x male, 1 x female
TOILET / BABY CHANGE - DISABLED	yes			1 x 5	1 x 5	1 x 5	

600889 280 .22.10 Treatment Areas

ROOM/SPACE	Standard Component			Qty x Area m2	Qty x Area m2	Qty x Area m2	Remarks
				2 Chairs	4 Chairs	6+ Chairs	
DENTAL SURGERY - SINGLE	yes			2 x 14	3 x 14	5 x 14	
DENTAL SURGERY - SINGLE				0	1 x 18	1 x 18	Bed access
DENTAL SURGERY - 2 CHAIRS				0	1 x 40	1 x 40	
CHILD EDUCATION AREA (OPTIONAL)				1 x 2	1 x 4	1 x 4	Sink & mirror x 1, 2 & 3. May be incorporated into an open plan surgery
PATIENT BAY - RECOVERY	yes			1 x 6	2 x 6	2 x 6	
BAY - HANDWASHING, TYPE B	yes			1 x 1	1 x 1	1 x 1	Collocate with Recovery
RESUSCITATION TROLLEY BAY	yes			Share	1 x 2	1 x 2	

600890 280 .22.15 Support Areas

ROOM/SPACE	Standard Component			Qty x Area spm	Qty x Area spm	Qty x Area spm	Remarks
				2 Chairs	4 Chairs	6+ Chairs	
X-RAY PROCESSING (DARK ROOM)	yes			1 x 6	1 x 6	1 x 6	Not required if digital system used
OPG ROOM				0	1 x 7	1 x 7	Optional
DENTAL LABORATORY				1 x 8	1 x 20	1 x 30	
INSTRUMENT PROCESSING				1 x 10	1 x 12	1 x 30	
STERILE STOCK STORE				1 x 4	1 x 6	1 x 8	May be incorporated into Instrument Processing
DIRTY UTILITY / DISPOSAL ROOM	yes			1 x 8 (unless	1 x 10	1 x 10	For fluids disposal, soiled linen holding etc
BAY - LINEN TROLLEY	yes			1 x 2	1 x 2	1 x 2	
STORE - GENERAL / REPACKING				1 x 9	1 x 12	1 x 14	
CLEANER'S ROOM	yes			Share	1 x 5	1 x 5	

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PLANT ROOM				1 x 9	1 x 12	1 x 16	After-hours access
GOODS RECEPTION / LOADING DOCK				0	1 x 15	1 x 15	Space for one truck

600891 280 .22.20 Staff Areas

ROOM/SPACE	Standard Component			Qty x Area sqm	Qty x Area sqm	Qty x Area sqm	Remarks
				2 Chairs	4 Chairs	6+ Chairs	
OFFICE - SENIOR DENTIST	yes			1 x 9	1 x 12	1 x 12	
WORKSTATION	yes			5.5	5.5	5.5	Number to suit staff establishment
MEETING / TUTORIAL ROOM	yes			0	1 x 15	1 x 20	
STAFF ROOM	yes			0	1 x 12	1 x 15	
BAY - BEVERAGE	yes			1 x 3	0	0	In Staff Room
STAFF PROPERTY BAY	yes			1 x 1	1 x 2	1 x 3	
SHOWER - STAFF	yes			0	1 x 2	1 x 2	Optional
TOILET - STAFF	yes			1 x 3	2 x 3	2 x 3	
DISCOUNTED CIRCULATION %				25	32	32-35	

Functional Relationships

600892 280 .23.00 A diagram of key functional relationships is attached.

Checklists

600893 280 .24.00 For planning checklists, refer to Parts A, B, C and D of these Guidelines.

References and Further Reading

600894 280 .25.00 AUSTRALIA AND NEW ZEALAND

"Healthy mouths healthy lives", Australia's National Oral Health Plan 2004-2013 prepared by the National Advisory Committee on Oral Health, July 2004.

<http://www.ada.org.au/media/documents/Information%20Resources/NACOH%20Oral%20Health%20Care.pdf>

Australian Research Centre for Population Oral Health, University of Adelaide.

Review of the Save our Kids Smiles (SOKS) Program, Volume 11: Technical Reports, NSW Health 2001. Section 2 - Child oral health services in Australia and overseas.

Infection Control Guidelines for Oral Health Care Settings, NSW Health, Circular 2002/80.

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Oral Health for Older People, A Practical Guide for Aged Care Services, Department of Human Services, Victoria, 2001.

Public Dental Clinic Technical Information Kit, Dental Health Services Victoria, May 2001.

Oral Health Facility Design Guidelines, Queensland Health, 2004.

Ministry of Health 2006. Community Oral Health Service: Facility Guideline. Wellington, NZ.

600895 280 .25.05 INTERNATIONAL

Guidelines for Infection Control in Dental Health Care Settings - 2003, Centre for Disease Control, 2003.

NHS Estates Schedules of Accommodation - HBN12S2 OPD, Sup 2: Oral Surgery, Orthodontics, Restorative Dentistry.

Mobile Units

600896 280 .26.00 MOBILE UNITS - DESIGN

The smaller models can be constructed on a four-wheel drive chassis where off-road travel may be necessary. Trailer models can range from the smaller, one-chair clinics, up to multi-chair clinics that can be used for exam and cleaning, as well as dental surgery.

Chassis: durable, watertight, reinforced floor. Insulation to provide best protection from outside temperatures.

Levelling jacks: one on each corner for stability when stationary.

Two doors: nearside front and rear.

Steps: fold-away; at least 4 slip-proof treads; lockable when in position; handrail.

Awnings: over doors.

Windows: tinted, security / insect screens, blind.

Services: compressor, evacuator motor, water inlet and pump to base of dental chair/s.

Mounting brackets for light, x-ray unit, dental unit.

600897 280 .26.05 SERVICES

Electrical Services: should comply with AS/NZS 3001 - Electrical installations - Relocatable premises (including caravans and tents) and their site installations and AS/NZS 3000, known as the Australia/New Zealand Wiring Rules.

Water Supply: dual system so that town water may be used when available plus 2 x 80 litre storage tanks beneath the vehicle floor but protected from road damage

Filtered supply to dental unit and direct to sinks.

Water Filter: Suitable for use in dental units. Collocate with water pump.

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Hot Water System - Minimum 25 litre capacity.

Water Drainage: to sewerage system or direct to outside in remote areas.

Water/waste disposal to comply with local authority and council requirements.

Vacuum Reticulation:

- compressed air - reticulation system to service the dental units;
- air conditioning: 1 per chair; roof-mounted; condensate must drain outside the vehicle.

ICT connections including phone and data lines.

600898 280 .26.10 FITTINGS, FIXTURES AND EQUIPMENT

Internal Finishes, Cabinetry and Bench tops must be easily cleaned.

Sinks: 2 clean, 1 dirty. Mixer taps with goose neck spout.

Rubbish Bins x 3 - stainless steel and pivot-mounted.

Refrigerators x 2 - 48 litre.

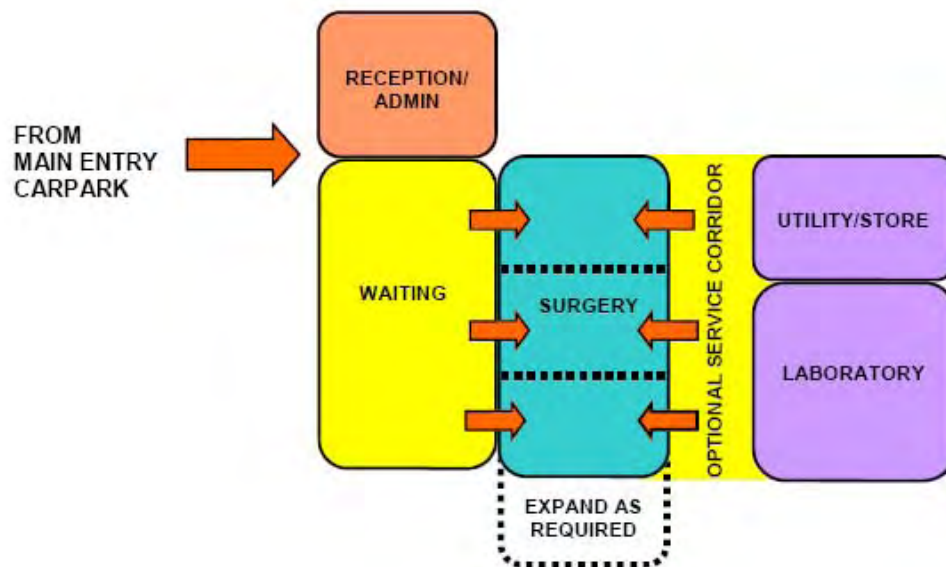
Equipment: Must be properly secured to be protected from road shock and vibration; water and air lines must not leak; wall-mounted x-rays and lights must not fall off in-transit; on-board power generators cannot make too much noise and / or vibration; and equipment must be properly placed to insure there is adequate space for dentists and technicians to operate.

Purchasing of dental equipment by manufacturer of vehicle or by the health client.

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FUNCTIONAL RELATIONSHIP DIAGRAM – ORAL HEALTH

The following diagram sets out the relationships between zones in an Oral Health Unit.



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INTRODUCTION

Preamble

502228	300 .1.00	The Emergency Department (ED) is the front door of the hospital and for many people forms their primary contact with the health system. The Emergency Department therefore provides an important interface between the community and the hospital.

General

501025	300 .2.00	The core role of the Emergency Department is to provide timely, accessible and appropriate health services to people with acute illness or injury. The Emergency Department needs to be able to deal with large numbers of patients presenting with a range of conditions with varying degrees of urgency.

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The Department also provides entry to patients with infectious diseases including SARS, etc. Design for Infection Prevention and Control is necessary, especially at the first point of contact i.e. Triage.

Provision of care in the Emergency department is provided on a priority basis with patients requiring more urgent care taking precedence over patients with less urgent clinical conditions.

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The Department also provides entry to patients with infectious diseases including SARS, etc. Design for Infection Prevention and Control is necessary, especially at the first point of contact i.e. Priority Assessment Area.

Provision of care in the Emergency department is provided on a priority basis with patients requiring more urgent care taking precedence over patients with less urgent clinical conditions.

Policy Framework

501027 300 .3.00 The level of service available at individual Eds across the state will vary according to the role delineation of the service and the broader services available at the Hospital. However, all EDs must be able to provide a minimum standard of care to patients presenting there, irrespective of the number and level of Inpatient Units in the Hospital.

Current NSW Health policy advocates the adoption of a network model of services, encompassing both rural and metropolitan services, to enable Area Health Services to meet community need and offer access to a full range of services.

During the planning process it is recommended that Project Planning Teams refer to the following relevant documents:

Emergency Department Services Plan, NSW Health, 2001;

Emergency Department Strategic Directions - Priorities and Planning Guidelines for the NSW Health System 1997 - 2000;

Emergency Department Access Block - Working Party Report, NSW Health, 1999.

Working Group for Mental Health Care in Emergency Departments - Final Report and Recommendations. NSW Health, 2003.

Description of the Unit

500316 300 .4.00 The function of the Emergency Department (ED) is to receive, assess, stabilise and manage patients who present with a wide variety of conditions of varying urgency and complexity. They may self-present or be referred.

The range may include cases from major trauma, surgical conditions, medical conditions such as strokes and heart attacks, gynaecological/obstetric problems, broken bones, skin wounds, communicable/non-communicable infections as well as mental health conditions.

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Most units will treat adults and children.

While the caseload may be predictable, changing levels of demand must be anticipated.

The ED also provides for the reception and management of disaster patients as part of the Unit's role within the Disaster Plan for each region.

503009 300 .5.00 The following standards are intended only as a guide. Any additional facilities need, should satisfy the local Operational Policy.

300872 300 .6.00 It is recommended that Hospitals that do not provide an Emergency Service display a prominent exterior sign at the Main Entrance stating this and giving the location of the nearest Hospital with an Emergency Service.

PLANNING

Operational Models

502031 300 .7.00 The following issues should be considered in developing the operational model for the Unit, as they will all impact on appropriate space provision.

501028 300 .8.00 NATURE OF THE SERVICE

A. ROLE DELINEATION OF THE HOSPITAL SERVICES INCLUDING ITS EMERGENCY SERVICE

Although the basic nature of the service may be the same, there are different requirements for major referral hospitals, district hospitals, major trauma centres, and paediatric specialist hospitals. Peer hospitals will generally have similar requirements, with variations for activity and other factors.

B. URBAN VS RURAL LOCATION

Whether the Hospital is located in an urban or rural location will have an influence on factors such as flexibility of the service, provision of retrieval services, security issues, sharing of staffing and alternative resources.

The demand for mental health services and the impact of acute mental health presentations to the ED may have significant implications for operational policies and ED design depending on factors such as availability of mental health clinical advice, availability of a medical practitioner, number of staff on duty, access to acute mental health beds, and availability of patient transport services.

C. ACCESS TO INPATIENT HOSPITAL BEDS AND TO ALTERNATIVE SERVICES

The degree of difficulty in admitting patients to the Inpatient Units, and the local philosophy for managing incoming patient load will affect the required holding capacity of the Unit. Where complex pre-discharge care is done within the ED, space and facilities will be required to suit the function.

D. PHILOSOPHY OF CARE OF THE EMERGENCY DEPARTMENT AND THE HOSPITAL

ED services vary in the way acute care is coordinated between the community, ED and Inpatient Services. While some hospitals may have various routes of entry for acute patients, others may channel all acute

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patients through the ED. There is also variation in the degree of assessment and treatment completed in the ED prior to transfer to an Inpatient Unit. Hospitals will also need to choose whether to have key diagnostic services (particularly Medical Imaging) adjacent, or whether to provide satellite services within the ED.

E. ACADEMIC AND TEACHING ROLES

This factor will influence the requirements for meeting rooms, office space and general administrative space.

F. STAFF STRUCTURE

This will have an impact on the nature, size and location of Staff Stations, as well as office, administrative space, staff facilities such as staff rooms and amenities including locker/change rooms, toilets and showers.

G. NATURE OF PATIENT CASEMIX, INCLUDING ACUITY AND COMPLEXITY

Features of patient casemix that affect design requirements include numbers, demographics and the nature of the presentations.

Patients with specific needs include:

- the elderly;
- children;
- people with chronic disabilities;
- patients in custody;
- patients with:
 - minor or major injury;
 - industrial illness and injury;
 - sport-related injury;
 - drug and alcohol-related presentations;
 - mental illness;
 - complications of pregnancy etc;
 - Chemical, Biological and Radiological (CBR) exposure;
 - infections or who are immunosuppressed.

501029 300 .9.00 STRUCTURE OF THE SERVICE

While ED care basically includes reception, assessment, stabilisation and treatment, there are various ways in which these components of the service can be provided for different groups of patients. Examples of different models that may influence facility design include:

A. FAST-TRACKING GROUPS OF PATIENTS OR TYPE OF PRESENTATION

Operational Policies may include early identification of specific patient groups to be assessed and treated via a separate track to other ED presentations. This may occur at the triage point, or immediately after triage but in a separate space. Examples of patient presentations include contagious diseases, minor injuries, mental health emergencies, ambulatory paediatrics, hip fractures etc. Assessment and treatment may be carried out by general ED staff, or by a specific team tasked (or called in) for this purpose.

B. GROUPING BY ACUITY

Some facilities will plan their workflow so that patients of similar acuity (urgency) or staff intensity are treated together. This may lead to facilities with separate areas for resuscitation, acute monitored beds, acute non-monitored beds and ambulatory treatment spaces. There may be separate entry-points (or triage points) for the different areas. Staff may be separately

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allocated to different areas for each shift, and may require separate Staff Stations and private workspace.

C. GROUPING BY FUNCTION

Patients may be managed in different areas according to the nature of service they require e.g. acute treatment, complex investigation, complex discharge planning. Patients may be triaged to the appropriate area from a central arrival point, or possibly from separate ambulance and ambulant entry points. Within each Functional Area, patients would be prioritised according to acuity. In this model, separate staffing for each area is required, which again would involve separate workspaces for staff.

D. OTHER SPECIAL FUNCTIONS

Short Stay Ward/Emergency Medicine Unit/ Observation Unit may be adjacent or incorporated into the ED footprint. If managed by ED staff, there may be sharing of additional administrative and staff facilities.

E. SUB-SPECIALTY UNITS

Units such as Toxicology and Hyperbaric Medicine will require specialised design features.

Operational Policies

503036 300 .10.00 GENERAL

Operational Policies have a major impact on facility requirements and the capital and recurrent costs of Health Care Facilities. These policies should be clearly articulated so that the facility design can reinforce the new practices.

Operational Policies will vary between Units depending on a wide range of factors. Users must define their own Operational Policies.

Refer to Part B of these Guidelines for further information regarding Operational Policies.

STAFFING LEVELS

Staffing levels will vary for each ED, depending on Operational Policies, services provided by the centre, availability of staff, case mix and activity levels.

STORAGE

The amount and type of storage space to be provided will vary depending on the size of each ED. Careful analysis of storage requirements and good management in organising the stores and supply systems are essential.

Planning Models

503011 300 .12.00 Architectural Planning of the Unit should reflect local service and operational models and OHS issues.

When designing for patients who may be behaviourally disturbed or cognitively impaired the implications for safety should be considered. This includes safety implications for staff, patients and visitors.

When designing departments that treat paediatrics as well as adults, suitable play and waiting areas must be provided. It is recommended that these areas be part of, but in a separate section of the main waiting room. They should be within sight of the Triage Nurse Staff Station. Paediatric treatment

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areas should also reflect paediatric needs.

Where fast tracking of patients is dictated by the model of care proposed, then the layout should ensure that a clear flow of traffic from triage to points of consultation and treatment will not interfere with the functioning of the remainder of the ED. These may be located in a discrete area close to the triage and/or waiting space, without interfering with the operation of the more high intensity /acuity areas of the Unit.

Similar planning measures could be applied to other specialist treatment zones or rooms that will allow for efficiencies in the use of the more expensive spaces within the Unit.

Where patients are grouped by acuity, consideration should be given to the staffing implications of the layout. It is possible, for example, to arrange different levels / types of treatment spaces around a single Staff Station, each retaining their own discrete area.

Consideration should also be given to the possibility of flexible spaces. During less busy periods, efficiencies may be gained by contracting to a smaller part of the whole Unit. With careful planning this should be managed without the need to change the work patterns of the Unit as a whole, or impinge on the proposed model of care.

Where patients are grouped by functional modalities, a similar approach can be used, to enable the layout of the Unit to reflect the proposed service. In this model, the central arrival and triage area should be located to ensure traffic flows to the different functions of the Unit are not confusing and that they are kept separate.

Careful planning of Staff Areas will ensure that resources are used efficiently.

A variety of successful models for the management of special functions such as Short Stay wards are currently in use. The location of such Units and their relationship to the ED needs to be reflected in their planning.

Functional Areas

501030 300 .13.00 The ED is comprised of the following Functional Areas:

Entrance / Reception / Triage - comprising the functions of:

- front of house;
- first point of arrival and assessment for patients;

Patient Care Areas - including:

- Assessment and Treatment Areas including the Patient Care Areas such as Resuscitation, Seclusion Room and Decontamination Facility;
- Short-Stay Ward/Emergency Medicine Unit/Observation Unit;
- Primary Care Area - for patients with low acuity conditions;
- Stepdown Area - for patients awaiting test results, considered safe, but requiring observation prior to admission or discharge.

Staff Areas - including Support Areas such as Clean and Dirty Utility Rooms Stores etc;

- staff amenities, administrative and teaching functions;
- Ambulance Service facilities.

General

503012 300 .14.00 In addition to standard treatment areas, some Units may require additional, specifically designed areas to fulfil special roles, such as:

- management of:
 - paediatric patients;

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- major trauma patients;
- behaviourally disturbed patients;
- patients following sexual assault;
- patients with gynaecological or obstetric conditions.
- undergraduate and postgraduate teaching;
- transport and retrieval services;
- telemedical services.

Functional Areas

501031 300 .15.00 KEY RELATIONSHIPS - INTERNAL

The Entrance/Reception Area is the focus of initial presentation and hospital administrative functions. The Ambulance Entry should be separate from the Public Entry. A triage nurse should be able to have good visual access to both public and ambulance entries. In a larger facility, two triage positions may be required.

The Reception Area will accommodate the following functions:

- reception of patients and visitors;
- registration interviews of patients;
- collation of medical records;
- printing of ID labels;
- receiving the public;
- handling general enquiries;
- processing loans of surgical aids;
- receiving money.

The Reception / Clerical Area should be designed with due consideration for the safety of staff. Staff in this area will need access to a duress alarm. The counter should provide seating and be partitioned for privacy for the interview function. Refer Part C of these Guidelines for further information regarding counter design.

The Reception / Triage and Staff Station should be located where staff can observe and control access to Treatment Areas, Pedestrian and Ambulance entrances, and Public Waiting Areas. There should be direct communication with the Reception / Triage Area and the Staff Station in the Acute Treatment / Observation Area.

The main aggregation of clinical staff will be at the Staff Station in the Acute Treatment / Resuscitation Area. Most of the other clinical areas should be grouped around this area, unless the service and planning model (as discussed above) dictates a more discrete location for some functions.

The support and staff areas should be accessible to the Clinical Areas but should not impair the clinical function of the Unit.

There must be close proximity between the Resuscitation / Acute Treatment Areas for non-ambulant patients, other Treatment Areas for non-ambulant patients and other Treatment Areas for ambulant patients, so that staff may be relocated at times of high workload.

503013 300 .16.00 TRAFFIC FLOWS

The ED is a busy area, with a wide variety of activities and people, where time delays may be life threatening. It is important that the design allows for rapid access between Functional Areas with a minimum of cross traffic.

Visitor and patient access to all areas should not traverse Clinical Areas. Patients who need to be transferred to other Units, such as Imaging or Inpatient Wards should not traverse other Clinical Areas. It is important that patients' visual, auditory and olfactory privacy is maintained whilst at the

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same time recognising that staff need to observe patients.

501032 300 .17.00 GENERAL LOCATION

Decisions regarding the Unit location have a major influence on the cost and operational efficiency of the ED staff.

The ED should be located for easy access, usually on the ground floor. It should be close to public transport, and adequately signposted.

The location should, as much as possible, maximise the choices of layout. In particular, the locations of access points must be carefully considered.

The location on the site should primarily be dictated by the key relationships set out below. Clear and separate traffic flows should be provided for Ambulance traffic and public traffic. These should not interfere with other traffic patterns on the site.

In some instances, the ED will be the only access to the rest of the hospital after hours. Consideration should be given to ensuring access to the hospital is available for public after hours.

501035 300 .18.00 CAR PARKING

Some car parking spaces should be close to the entrance of the ED, well lit and available exclusively for patients, their relatives and staff. Protected parking areas should be available very close to the ED for on-call staff.

Secure parking for afternoon and night shift staff is required. Refer Part C of these Guidelines.

Undercover car parking should be available for:

- an appropriate number of ambulances;
- taxis;
- private vehicles that drop off/pick up patients adjacent to the ambulance entrance;
- Police vehicles;
- Fire Brigade vehicles;
- Community Health vehicles.

501036 300 .19.00 SIGNAGE

The ED should be clearly identified from all approaches. Signposting that is illuminated is desirable to allow visibility at night.

Refer to Part C of these Guidelines.

Functional Relationships

501038 300 .20.00 KEY RELATIONSHIPS - EXTERNAL

The ED will require ready access to the following key functional areas:

501040 300 .21.00 MEDICAL IMAGING

Emergency is a heavy user of imaging services. Immediate access to imaging services is important for the convenience and safety of patients.

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Easy access to CT scanning, Ultrasound and Nuclear Medicine modalities will enhance the ED's effectiveness. A system of electronic display of images within the Unit is desirable.

Alternatively an imaging service can be included within the Unit. If this is the case the Medical Imaging Unit should have a general x-ray table, upright x-ray facilities and an additional overhead gantry in the Resuscitation Area is recommended. The presence/absence of a film processor is dependent upon close proximity to the main Medical Imaging Unit or the use of digital radiology.

501041 300 .22.00 OPERATING UNIT

Direct access to the Operating Unit is desirable to allow quick transfer of patients for emergency surgery. Ideally this should be via corridors that are not generally accessible by the public.

501042 300 .23.00 CARDIAC SERVICES INCLUDING CCU AND CARDIAC CATHETER LABS

Easy access to the CCU is desirable to allow prompt transfer of patients to specialist care in this Unit.

501043 300 .24.00 PATHOLOGY

Rapid access to Pathology services is highly desirable to minimise turnaround times for laboratory investigations. Mechanical or pneumatic tube transport systems for specimen and electronic reporting of results are recommended. Point of care access for electrolyte and blood gas analysis are highly desirable.

501044 300 .25.00 MEDICAL RECORDS

Access to medical records is required so that patients' previous medical histories are obtainable without delay. A system of mechanical or electronic medical record transfer is desirable to minimise delays and labour costs. Access to medical records must be available 24 hours per day or via a secure route.

501045 300 .26.00 INPATIENT ACCOMMODATION UNIT

Easy access to the Inpatient Unit is desirable to allow for transfer of patients who are admitted to overnight accommodation.

501047 300 .27.00 OUTPATIENTS AND AMBULATORY CARE UNIT

Small hospitals may choose to locate the Outpatients Department (OPD) adjacent to the ED so that reception and administrative functions can be shared. In larger hospitals there is unlikely to be a functional relationship with OPD. However, there would generally be advantages to close access to the Ambulatory Care Unit from ED, as some patients will be discharged via that service.

501046 300 .28.00 PHARMACY

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The ED should be located within close proximity of the Pharmacy Unit to enable patients with limited mobility to have prescriptions filled.

501048 300 .29.00 MORTUARY

Ready access to Mortuary is desirable to allow for easy transfer of deceased patients out of view of the general public and visitors.

501049 300 .30.00 SECURITY

Should a security office be included in a capital development, where possible this should be located close to the ED. In this situation, the ED should be designed so that the Security Services have clear visual access of the waiting spaces and public entry to the unit.

503014 300 .31.00 HELI-PAD

If a helipad is to be located on the site, a clear and defined path from the helipad to the ambulance entry of the ED should be provided.

503015 300 .32.00 INTENSIVE CARE

ED patients are often transferred to ICU so ready access is required.

DESIGN

Short-Stay Ward or Emergency Medical Unit (EMU)

503026 300 .11.00 This type of facility is increasingly being provided either within or adjacent to Eds for the prolonged observation and ongoing treatment of ED patients who are planned for subsequent discharge (directly from the ED). Patients may be kept in this Unit for complex diagnostic testing, for complex problem-solving or for medical stabilisation.

The length of stay in the Unit is generally between 4 and 24 hours, although local policy may require longer stays. Discharge may sometimes be via the Ambulatory Care service of the hospital, so physical proximity is desirable. The Unit may also be situated separately to the ED, although functionally linked.

According to local Operational Policy, dedicated beds for this purpose will be separately designated and staffed. The types of patients planned to be admitted to this Unit will determine the number and type of beds provided, and the design of associated monitoring and equipment. Staff Stations, work and storage and other support areas will need to be available - either shared or separately provided.

Corridors

503019 300 .33.00 Adequate corridors are essential to the effective functioning of the Unit. The careful planning of corridors of appropriate width allows swift patient and staff movement between key functions and is fundamental to a successful planning solution.

Corridor widths for different uses are more fully described in Part C.

Disaster Planning

501539 300 .34.00 The ED is the 'front line' facility in the case of a disaster. The local Disaster Plan should be considered in the design of the Unit. Requirements may differ between metropolitan and rural units. Flexible planning is required to accommodate the large workloads, critically ill and/or infectious patients, relatives, friends and hospital staff involved in managing a disaster situation. The flexibility to expand into adjoining areas such as Outpatients, or Main Entry should be considered.

Depending on its designated role the ED may also become a communication hub during formal disaster function. Consideration should be given to allocating a suitable space with adequate communications ports to be used as a disaster management base and to allow briefing of the press. Direct telephone lines bypassing the Hospital switchboard should be available for use in internal and external emergencies or when the hospital PABX is out of service.

A disaster may result in a high volume of ambulance traffic to the ED. In addition, the communications base may be utilised by the Police as a communications centre.

The ED plan should also accommodate a Disaster Equipment Store that is easily accessible and contains sufficient supplies to fully equip the disaster team for either on-site or off-site function.

Disaster planning is discussed in more detail in Part B Section 80 of these Guidelines.

Doors

501540 300 .35.00 Doors in this Unit need to allow for easy access for patient trolleys with several staff attending. This should also be durable and able to withstand repeated harsh treatment.

An airlock/lobby should be provided for external doors.

For more detail, refer Part C of these Guidelines.

Environmental Considerations

501580 300 .36.00 ACOUSTICS

Many functions undertaken within an ED require consideration of acoustic privacy including:

- discussions / interviews with clients;
- exclusion of disturbing or distracting noises during client consultations / activities including noise in other Treatment Areas;
- isolation of noisy areas such as public waiting;
- staff discussions regarding patient information.

Solutions to be considered include:

- selection of sound absorbing materials and finishes;
- use of sound isolating construction;
- planning by separating quiet areas from noisy areas;
- changes to operational management. Consider implications for safety when designing for patients who may be behaviourally disturbed or cognitively impaired, this includes safety implications for staff, patients and visitors.

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501582 300 .37.00 NATURAL LIGHT

Natural lighting contributes to a sense of wellbeing, assists orientation of building users and improves service outcomes. The use of natural light should be maximised throughout the Unit.

501584 300 .38.00 PRIVACY

Client privacy and confidentiality are important considerations to be addressed. The facility should be designed to:

- ensure confidentiality of client discussions and records;
- provide discrete Sub-Waiting Areas for clients wishing or needing to be separated;
- enable the reason for attendance to be kept confidential e.g. through use of generic Consultation Rooms. This is particularly important for services such as mental health, sexual health, drug and alcohol etc;
- appropriately locate windows and doors to ensure privacy of clients.

DÉCOR

Décor includes furnishings, style, colour, textures, ambience, perception and taste. Décor can assist in relaxing clients and preventing an institutional atmosphere. However, cleaning, infection control, fire safety, client service and the client's perception of a professional environment must always be considered.

Some colours and patterns can be disturbing to some clients. Bold primaries and green should be avoided in areas where clinical observation may occur such as Consultation / Treatment Areas.

501586 300 .39.00 DÉCOR

Décor includes furnishings, style, colour, textures, ambience, perception and taste. Décor can assist in relaxing clients and preventing an institutional atmosphere. However, cleaning, infection control, fire safety, client service and the client's perception of a professional environment must always be considered.

Some colours and patterns can be disturbing to some clients. Bold primaries and green should be avoided in areas where clinical observation may occur such as Consultation / Treatment Areas.

Finishes

503021 300 .40.00 FLOOR FINISHES

The floor finishes in all Patient Care Areas and corridors for Emergency should have the following characteristics:

- non-slip surface;
- impermeable to water and body fluids;
- durable;
- easy to clean;
- acoustic properties that reduce sound transmission;
- shock absorption to optimise staff comfort but facilitate movement of beds.

Generally Offices, Seminar Training Rooms, Meeting Rooms, and Clerical Areas should be carpeted.

More detail is provided in Part C of these Guidelines.

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501588 300 .41.00 CEILING FINISHES

Refer to Part C of these Guidelines.

501547 300 .42.00 WALL PROTECTION

Due to the large number of users and trolley movements in the ED particular care must be taken to provide appropriate wall protection.

The walls also need to be resistant to damage by aggressive persons who may kick, punch or throw items against the walls. This applies particularly in areas where behaviourally disturbed patients may be managed.

Refer to Part C of these Guidelines for further information.

Handwashing - Clinical

503022 300 .43.00 Handbasins for handwashing should be available within each Treatment Area and should be accessible without traversing any other Clinical Area.

Handbasins for handwashing should be readily available and conveniently located throughout the Unit.

More detail on handbasin provision is provided in Part D of these Guidelines, Room Data Sheets and Room Layout Sheets.

Infection Control

501566 300 .44.00 As the diagnosis or infectious status of patients may not be known on admission, standard precautions must be used at all times. The design and layout should allow for the movement of patients to an isolation room within the unit due to suspected or known infectious disease.

Where Class N isolation rooms are provided, these should be located to minimise passing traffic and so that any air expelled from the room does not impinge on other patients or staff.

Safety and Security

501546 300 .45.00 A list of Safety and Security Considerations for EDs is attached to this document.

Safety and security is covered in detail in Part C of these Guidelines.

GENERAL

The ED receives a large number of patients and their visitors, a number of whom may be distressed, intoxicated or involved in violence. The hospital has a duty of care to provide for the safety and security of employees, patients and visitors. Both policies and procedures should be in place to minimise injury, psychological trauma and damage or loss of property. The precise details of security features should be designed in conjunction with a security risk assessment for the specific site.

As the first point of address for visitors to the Unit, the Reception/Triage Area is a high risk area for violence. Careful thought should be given to the design of this area to minimise this risk.

Refer to Part C for further information.

Security

207107 300 .46.00 SECURITY PERSONNEL

Uniformed security personnel may be required at very short notice to assist with a safety or security issue. Their base should be positioned either within or immediately adjacent to the ED, with rapid communication links.

General Provisions for Children

503025 300 .47.00 Unless a specialised Paediatric Hospital exists in the immediate vicinity, children will comprise approximately 25% of attendances in most general EDs.

Special design considerations to cater for paediatric attendances include:

- protection of the children's clinical area from disturbing sounds or sights from other patients in the ED;
- the provision of sufficient visitor space and facilities for parents or carers and siblings;
- provision of a colourful and welcoming physical environment, with appropriate furniture and colour treatments;
- provision of a separate waiting space, protected from the sights and sounds of the general waiting area (but still observable by staff);
- close access to separate Procedure Areas for simple procedures which may be upsetting to other children;
- ideally, the availability of transit routes to radiology or wards that do not traverse other clinical areas;
- consideration of providing a separate Bathroom, within or adjacent to the Paediatric Clinical Area, with size-appropriate toilet and bathtub.

Building Service Requirements

503016 300 .48.00 CLOCKS

The accurate tracking of time within the ED is critical.

A wall clock should be visible in all Clinical Areas and Waiting Areas. Times displayed in all areas must be synchronised. Clocks in Resuscitation Areas require the facility to track elapsed time (one for each bed).

See Room Data Sheets and Room Layout Sheets for more detail.

501538 300 .49.00 COMMUNICATIONS

As a rapid patient turnover and multidisciplinary work environment, Eds are high-volume users of a wide range of telecommunications and information technology tools.

Communications functions include both auditory and visual, and include interactions both within and outside the ED. Communications functions relate to both patient care and to departmental administration.

Communications requirements and the associated technology are rapidly growing and developing. Planning should anticipate new and developing technologies and future functions, and make allowances for growth and development in this area. In particular, the provision of data connection points should be sufficient to allow unimpeded access and to anticipate future needs.

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Specific functions to be provided for may include:

- a dedicated direct phone line for referring medical practitioners;
- a dedicated cordless phone or phone jack for access to patients' bedsides;
- public telephones with acoustic hoods in the Waiting Area;
- a direct line to a taxi company.

Modalities to be provided for include:

- personal and departmental voice communication telephones;
- cordless phones or pagers;
- overhead PA systems and intercom;
- observation with CCTV;
- electronic data transfer;
- electronic and facsimile image transfer;
- physical transfer using pneumatic tubes and automated trolley systems;
- nurse call system;
- patient emergency system;
- location finding duress alarm systems.

503017 300 .50.00 An electronic Emergency Department Information System will be required to support clinical management, patient tracking and departmental administration. Sufficient terminals should be available to ensure that queuing does not occur, even at peak times. Generally, computers should be available for use at each bedside.

Workspace design should include sufficient bench-widths or suitable suspension devices for terminals, keyboards, drives and printers. Additional computer terminals, software and peripheral devices should be installed to enable other departmental functions.

503018 300 .51.00 In smaller Units, especially in more remote areas, telemedicine is becoming increasingly common and important for day-to-day operation.

Allowance should be made for connection of portable telemedicine equipment in all Treatment Areas.

503020 300 .52.00 ELECTRICAL SERVICES

Refer to TS11 and Room Data and Room Layout Sheets for details of electrical needs for this Unit.

500238 300 .53.00 DURESS ALARMS

Should be provided in accordance with NSW Health Policy - refer Part C of these Guidelines.

207035 300 .54.00 EMERGENCY CALL

All bed spaces and Clinical Areas, including toilets and bathrooms, should have access to an Emergency Call System so staff can summon urgent assistance. The Emergency Call System should alert to a central module situated adjacent to the Staff Station, as well as to the Staff and Tutorial rooms. The Nurse Call / Emergency call system is to comply with AS 3811.

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501541 300 .55.00 LIGHTING

The lighting design needs to provide for both comfort (patients and staff) and function, and should have inherent flexibility. There are different considerations for different types of Patient Care Areas and Staff Areas.

It should be possible to vary lighting conditions between individual beds and rooms.

Functional requirements for lighting of clinical treatment spaces include the ability to dim for comfort, the ability to focus strong light for bedside procedures, and there should be no colour distortion to ensure accurate assessment of skin tone.

If consistent with departmental function, overhead pendant lights should be centred appropriately over bed spaces in Treatment Areas.

501542 300 .56.00 Waiting Areas and Staff Amenities Areas should have exposure to daylight wherever possible to minimise patient and staff disorientation.

Lighting should conform to Australian Standards.

501543 300 .57.00 MEDICAL SERVICES

Medical gases should be provided in accordance with the Room Data Sheets and Room Layout Sheets.

501544 300 .58.00 MONITORING

As the acuity of patients in hospitals increases, the need for monitoring of patients increases accordingly.

Bedside electronic monitoring needs to provide for both local visual display and electronic data or information transfer. Where possible, the bedside monitoring system should be integrated with (or interface with) the electronic patient information system (or future capacity for this should be provided).

Central monitoring should be available within each unit.

The design and complexity of bedside clinical monitoring will depend on the function of each Clinical Area. Local function will determine the proportion of acute beds that have bedside monitoring at any one time. However, the design should facilitate future flexibility in location of bedside monitoring.

Considerations include flexibility for patient and bed movements and both visual and spatial accessibility. Cabling should be accessible, but should not physically obstruct staff access to the bedside.

207034 300 .59.00 NURSE CALL

Facilities must provide a call system that allows patients and staff to alert nurses and other health care staff in a discreet manner at all times.

Nurse call systems must be designed and installed to comply with AS3811 - Hard wired Patient Alarm Systems.

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COMPONENTS OF THE UNIT

Patient Treatment Areas

501573 300 .

MEETING ROOM

DESCRIPTION AND FUNCTION

To comply with Standard Components.

LOCATION AND RELATIONSHIPS

In a quiet part of the Unit which ensures privacy.

General

501570 300 .60.00

The components of an Emergency Unit will vary for each facility. Components and allocated spaces will depend on the outcome of a needs analysis and a Service Plan that is based on the location, size and the needs of the area in which the ED is to be sited.

501568 300 .61.00

This section must be read in conjunction with Part B Standard Components, Room Data Sheets and Room Layout Sheets. The following text describes only specific requirements not covered by these other documents.

Standard Components

501572 300 .62.00

Provide the Standard Components as identified in the Generic Schedule of Accommodation. Provision of Offices, Workstations and support areas will be dependant on the Operational Policy and service demand and may vary from the Schedule of Accommodation, however, room sizes should remain consistent. See also Planning Models and Functional Areas.

Non-Standard Components

501574 300 .63.00

Provide the Non Standard Components as described in this section, according to Operational Policy and service demand.

501563 300 .64.00

BAY - PHONE/VENDING MACHINES

DESCRIPTION AND FUNCTION

An area for provision of vending machines and public telephones for use by patients staff and visitors. Vending machines providing a wide range of snacks and drinks are now available and may contribute to reduced stress levels in the waiting area especially in larger facilities where long wait times may be expected.

Refer to Part C of these Guidelines for further information.

LOCATION AND RELATIONSHIPS

Immediately accessible from waiting area.

501565 300 .65.00

BAY - WHEELCHAIR/TROLLEY HOLD

DESCRIPTION AND FUNCTION

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A bay for holding arriving and departing patients who rely on a wheelchair or trolley for transport.

LOCATION AND RELATIONSHIPS

The Wheelchair Trolley Bay must be close to the Staff Station, Triage or Work Area to ensure staff oversee the Bay. Patient dignity and privacy must be maintained while not compromising patient safety.

501567 300 .66.00 COMMUNICATIONS BASE (ASNSW)

The Communications Base is occupied by ASNSW officers to communicate between major hospital centres and the ASNSW Operations Centre for co-ordination of Ambulance movements. The communications base is also a critical co-ordination centre in the event of a disaster.

The Communications Base is occupied by 2-3 people maximum and provides space for all relevant communications devices such as telephone, radio systems and data communications. It should also provide space for writeup and 'downtime'.

The room should be immediately adjacent to the Ambulance entry of the Emergency Department with direct line of sight to incoming ambulance vehicles and the parking bay.

501548 300 .67.00 ENTRY/AIRLOCK

DESCRIPTION AND FUNCTION

The Entry Airlock provides the main access point to the Unit. It will be used by a wide range of people including ambulant patients, relatives and friends. Users may be walking, in wheelchairs, on crutches or being carried by others. Patients will often arrive with a number of support persons. An Airlock minimises the effect of unfavourable weather on the interior environment of the Unit, and can be of assistance in managing security. The size of the airlock should allow for several people to enter before the second door opens.

LOCATION AND RELATIONSHIPS

The ED should be accessible by two separate entrances - one for ambulance patients and the other for ambulant patients.

It is recommended that each entrance area contains a separate airlock that can be sealed by remotely activating the security doors. Access to Treatment Areas should also be restricted by the use of security doors.

The Ambulance Entrance should be screened as much as possible for sight and sound from the ambulant patient entrance. Both entrances should direct patient flow towards the Reception/Triage Area.

The general entrance to the ED must be at ground floor level, well marked, illuminated, and covered. It should provide direct access from public roads for ambulance and vehicle traffic, with the entrance and driveway clearly marked. If a raised platform is used for ambulance discharge, provide a ramp for pedestrian and wheelchair access.

The entrance to the ED should be paved to allow discharge of patients from cars and ambulances. Temporary parking should be provided close to the entrance.

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501569 300 .68.00 AMBULANCE TRIAGE

DESCRIPTION AND FUNCTION

The Reception Triage Area is to receive and assess patients arriving in the Unit after basic clerical work has been completed. Patients will be interviewed and undergo clinical measurement before being allocated a triage category, which defines how quickly they must be treated.

LOCATION AND RELATIONSHIPS

The Reception / Triage Area should have clear a vision to the Waiting Room, the children's play area (if provided) and the Ambulance Entrance. The Reception / Triage Area may allow staff to perform observations and provide first aid in relative privacy.

501583 300 .69.00 DECONTAMINATION SHOWER

DESCRIPTION AND FUNCTION

A Decontamination Shower is provided to shower patients who arrive in the Unit contaminated with toxic and/or infectious substances. It must include a flexible water hose, floor drain and contaminated water trap.

Consideration should be given to inclusion of a Personal Protective Equipment Bay with the decontamination shower.

LOCATION AND RELATIONSHIPS

Must be directly accessible from the Ambulance Bay without entering any other part of the unit.

501684 300 .70.00 PATIENT BAYS - ACUTE TREATMENT

DESCRIPTION AND FUNCTION

Acute Treatment Areas are used for the management of patients with acute illnesses. Depending on the condition of each patient the bay may be monitored.

Acute Treatment Bays are provided for a variety of purposes including:

- paediatric use;
- for patients undergoing nebuliser therapy;
- for general purposes.

Equipping for each of these purposes will vary.

LOCATION AND RELATIONSHIPS

In a central location that is visible from the Staff Station.

All acute patient beds must be situated where they can be observed from the Staff Station. Access to the Clean and Dirty Utility Rooms, Procedure Room, Pharmacy Room, and Patient Shower and Toilet is necessary.

501658 300 .71.00 PATIENT BAY - NON ACUTE TREATMENT

DESCRIPTION AND FUNCTION

For observation and treatment of patients who need further assessment or

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observation (up to 24hrs) before being discharged or admitted.

LOCATION AND RELATIONSHIPS

In a central location that is visible from the Staff Station.

501585 300 .72.00 PATIENT BAY - RESUSCITATION

DESCRIPTION AND FUNCTION

The Resuscitation Room/Bay is used for the resuscitation and treatment of critically ill or injured patients.

LOCATION AND RELATIONSHIPS

The Resuscitation Room/Bay requires:

- immediate access from the Ambulance Entry;
- easy access from the Staff Station to allow effective communication and summoning of staff;
- separation from the Acute Treatment Areas to allow privacy for the patient and relatives, and uninterrupted work space and access for staff;
- easy access to Imaging, ICU and Operating Unit;
- easy access from the Ambulance Entrance but separate from patient circulation areas;
- easy access to the Acute Treatment/Observation Area from the Staff Station;
- space to ensure 360 degree access to all parts of the patient for uninterrupted procedures;
- circulation space to allow movement of staff and equipment around the work area;
- space for equipment, monitors, storage, wash up and disposal facilities;
- appropriate lighting;
- appropriate heating and isolation lock-down;
- equipment to hang IV fluids;
- maximum possible visual and auditory privacy for the occupants of the room, other patients and relatives;
- solid partitions between it and other areas (movable partitions e.g. curtains between bed spaces are recommended).

501591 300 .73.00 PATIENT BAY - TREATMENT/RESUSCITATION

DESCRIPTION AND FUNCTION

This space is used in smaller facilities and fulfils the role of both Treatment and Resuscitation Bays.

LOCATION AND RELATIONSHIPS

Similar to Resuscitation.

503035 300 .74.00 TREATMENT ROOM - SECURE ASSESSMENT

DESCRIPTION AND FUNCTION

An ED should have adequate facilities for the safe reception, assessment, stabilisation and initial treatment of patients presenting with acute mental health problems and behavioural disturbance. The main purpose of such an area is to provide a safe and appropriate space to interview and stabilise patients.

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Ease of access to toilet facilities should be considered.

501571 300 .75.00 TRIAGE CUBICLE

DESCRIPTION AND FUNCTION

A private cubicle where triage staff take a patient's history to allow allocation of a triage category.

LOCATION AND RELATIONSHIPS

Immediately adjacent and connected to Triage.

501618 300 .76.00 X-RAY ROOM

DESCRIPTION AND FUNCTION

A room to conduct radiological examinations of patients to assist in their diagnosis. This room is optional and would only be provided in higher level facilities. In lower level facilities this need would be met by a mobile X-ray machine.

LOCATION AND RELATIONSHIPS

Directly accessible from or immediately adjoining the Resuscitation Bays.

501620 300 .77.00 BAY - PATHOLOGY

DESCRIPTION AND FUNCTION

A designated area for performing laboratory investigations such as arterial blood gas analysis and microscopy.

LOCATION AND RELATIONSHIPS

Accessible from Resuscitation and Treatment Bays.

501708 300 .78.00 LIBRARY

DESCRIPTION AND FUNCTION

A quiet area containing appropriate written, audiovisual and electronic reference materials.

LOCATION AND RELATIONSHIPS

This is an additive space which should be combined with another area e.g. Meeting Room.

501714 300 .79.00 PLANTROOM

DESCRIPTION AND FUNCTION

Garage space for ambulance vehicles.

LOCATION AND RELATIONSHIPS

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TBA

501722 300 .80.00 STAFF OVERNIGHT ACCOMMODATION

DESCRIPTION AND FUNCTION

Motel style rooms with ensuite bathroom for overnight accommodation of staff.

LOCATION AND RELATIONSHIPS

In a quiet location with other Staff Areas near the perimeter of the Unit.

502342 300 .81.00 STORE - CRUTCH

DESCRIPTION AND FUNCTION

An area for the storage of crutches, splints and other aids to mobility.

LOCATION AND RELATIONSHIPS

Close to, and easily accessible from the Plaster Room.

501640 300 .82.00 STORE - DISASTER EQUIPMENT

DESCRIPTION AND FUNCTION

Store for equipment used in retrieval of patients, and for equipment that would be used in a CBR incident.

LOCATION AND RELATIONSHIPS

Close to Ambulance Bay and if appropriate, accessible to helipad.

501650 300 .83.00 STORE - DRUG

DESCRIPTION AND FUNCTION

A room for the storage of drugs and medications. Secure storage and facilities for dispensing of medications is required.

LOCATION AND RELATIONSHIPS

Central to the Unit - easily accessible from Staff Station and bed bays, with observation of entry from Staff Station for security purposes.

501716 300 .84.00 WASH BAY/SINK

DESCRIPTION AND FUNCTION

An area for staff to clean, replenish supplies and wash down ambulance vehicles.

LOCATION AND RELATIONSHIPS

Adjacent to Plant Room.

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APPENDICES

Schedule of Accommodation

501578 300 .0.00 Note 1: FPU - Functional Planning Unit, number depends on service plan and activity level.

Note 2: Staff Station should be located centrally within Treatment Area, preferably with direct oversight of Resuscitation Bays. Direct access required to treatment spaces. It may be raised for uninterrupted vision of the patients. It may be partially enclosed to ensure that confidential information can be conveyed without breach of privacy and to provide security to staff and confidential information.

501732 300 .85.00 A generic schedule of accommodation follows.

Note 1: FPU - Functional Planning Unit, number depends on service plan and activity level.

Note 2: Staff Station should be located centrally within Treatment Area, preferably with direct oversight of Resuscitation Bays. Direct access required to treatment spaces. It may be raised for uninterrupted vision of the patients. It may be partially enclosed to ensure that confidential information can be conveyed without breach of privacy and to provide security to staff and confidential information.

ROOM / SPACE	Standard Component	Level 1	Level 2	Level 3	Level 4	Level 5/6	Remarks
		Qtyxm2	Qtyxm2	Qtyxm2	Qtyxm2	Qtyxm2	* Optional
ENTRANCE / RECEPTION -							
ENTRY/AIRLOCK		Shared	Shared	Shared	1 x 10	1 x 10	
RECEPTION	yes	Shared	Shared	Shared	1x 20	1 x 20	Staff to be able to observe & control access Entries and Treatment Areas.
WAITING ROOM	yes	Shared	Shared	1 x 12	1 x 30	1 x 60	Open, observed from Triage & Reception; play area for children, access to outdoors pref
PLAY AREA	yes	Shared	Shared	1 x 3	1 x 10	1 x 10	Defined area adjoining waiting area, or adjacent to paediatric treatment areas.
PARENTING ROOM	yes	Shared	Shared	Shared	1 x 6	1 x 6	Accessible from waiting areas.
BAY - PHONE/VENDING MACHINES		Shared	Shared	1 x 2	1 x 5	1 x 5	Accessible from waiting areas.
BAY - WHEELCHAIR/TROLLEY HOLD		1 x 2	1 x 2	1 x 8	1 x 12	1 x 12	
COMMUNICATIONS BASE (ASNSW)						1 x 12	
AMBULANCE TRIAGE					1 x 12	1 x 12	
TRIAGE CUBICLE				9	9	9	FPU
MEETING ROOM - 12M2	yes				1 x 12	1 x 12	For staff to interview/meet with family & friends of patients.
MEETING ROOM - 9M2	yes	Shared	Shared	Shared	1 x 9	1 x 9	For staff to interview/meet with family & friends of patients.
TOILET - PUBLIC	yes	Shared	Shared	2 x 2	4 x 2	4 x 2	
TOILET - DISABLED	yes	1 x 5	1 x 5	1 x 5	1 x 5	1 x 5	May also include facilities for baby change.
DECONTAMINATION SHOWER		1 x 8	1 x 8	1 x 8	1 x 8	1 x 8	Check Local Authority req'ts for waste water detention requirements.

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DISCOUNTED CIRCULATION		30%	30%	30%	30%	30%	
TREATMENT AREA -							
PATIENT BAY - RESUSCITATION					25	25	FPU
PATIENT BAY - ACUTE TREATMENT					12	12	FPU
PATIENT BAY - NON ACUTE TREATMENT					10	10	FPU
PATIENT BAY - TREATMENT/RESUSCITATION		1 x 16	1 x 35	1 x 35			Single room sized for 2 trolleys for resusc & general treatment - level 2 & 3 only.
TREATMENT ROOM	yes				14	14	FPU. Multi functional - forensic/sexual assault, gynae, etc
TREATMENT ROOM - SECURE ASSESSMENT	similar				14	14	FPU. Use for Mental Health patients - secure containment/assessment. Also for gen use.
PATIENT BAY - ACUTE TREATMENT - PAEDIATRIC					10	10	FPU
PLAY AREA	yes	Shared	Shared	Shared	1 x 8	1 x 8	
TREATMENT ROOM - PAEDIATRIC	similar				1 x 14	1 x 14	Similar to other Treatment Areas. Encl bays preferred for privacy & safety of patients.
ANTEROOM	yes				1 x 6	1 x 6	Accessible/adjacent to Isolation Room.
1 BED ROOM - ISOLATION (CLASS N)	yes				15	15	FPU. Encl Treatment Bays with neg pres ventil'n for isolatable infections.
TOILET - PATIENT	yes				4	4	FPU
PROCEDURE ROOM	similar				1 x 20	1 x 20	Similar to other Treatment Bays, acoustic & visual privacy req'd.
PLASTER ROOM	yes				1 x 14	1 x 14	Splint & crutch store to be included in, or accessible to the plaster room.
STORE - CRUTCH					1 x 2	1 x 2	Close to Plaster Room
X-RAY ROOM					1 x 30*	1 x 30*	May not be req'd if ED near Imaging. Altern may be gantry over Resusc Bays in L5 & 6.
BAY - PATHOLOGY					1 x 1	2 x 1	
SHOWER - PATIENT	yes	1 x 4	1 x 4	1 x 4	1 x 4	1 x 4	Quieter part of unit, but accessible from treatment bays and rooms.
TOILET - PATIENT	yes	1 x 4	1 x 4	1 x 4	1 x 4	1 x 4	
BAY - HANDWASHING	yes	1 x 1	1 x 1	1 x 1	1	1	1 Handwash Bay per 4 Treatment Bays - refer Part D.
DISCOUNTED CIRCULATION		40%	40%	40%	40%	40%	
SUPPORT AREAS -							
STAFF STATION	yes	Shared	Shared	1 x 6	1 x 20	1 x 30	2sqm per staff; may store trolleys, resusc eqt, disposables, drugs, etc. Ref Note 2.
X-RAY VIEWING & REPORTING	yes				1 x 12	1 x 12	
CLEAN UTILITY	yes	Shared	Shared	1 x 4	1 x 12	1 x 12	
DIRTY UTILITY	yes	Shared	Shared	Shared	1 x 10	1 x 10	
STORE - GENERAL	yes	Shared	Shared	Shared	1 x 20	1 x 20	
STORE - EQUIPMENT	yes	Shared	Shared	Shared	1 x 20	1 x 20	
STORE - DISASTER EQUIPMENT					1 x 8	1 x 8	

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BAY - MOBILE EQUIPMENT	yes	Shared	Shared	1 x 4	1 x 4	2 x 4	
BAY - MOBILE EQUIPMENT (X-RAY)	yes		1 x 2	1 x 2	1 x 2	1 x 2	
BAY/ROOM - BEVERAGE	yes	Shared	Shared	Shared	1 x 8	1 x 8	
BAY - LINEN	yes	Shared	1 x 2	1 x 2	1 x 2	1 x 2	
STORE - DRUG		Shared	Shared	Shared	1 x 5	1 x 5	
DISPOSAL	yes	Shared	Shared	Shared	1 x 8	1 x 8	
CLEANER'S ROOM	yes	Shared	Shared	Shared	1 x 5	1 x 5	
BAY - RESUSCITATION TROLLEY	yes	Shared	1 x 2	1 x 2	1 x 2	1 x 2	Rapid emerg access reqd & from this area to patient areas; prefer adj to Staff Stn.
DISCOUNTED CIRCULATION		25%	25%	25%	25%	25%	
SHORT STAY WARD/ EMERGENCY MEDICINE UNIT							
PATIENT BAY - NON ACUTE TREATMENT					10	10	FPU
ANTEROOM	yes				1 x 6	1 x 6	Accessible/adjacent to Isolation Room.
1 BED ROOM - ISOLATION ROOM (CLASS N)	yes				1 x 15	1 x 15	
ENSUITE	yes				1 x 5	1 x 5	For Isolation Room
TOILET - PATIENT	yes				1 x 4	1 x 4	
SHOWER - PATIENT	yes				1 x 4	1 x 4	
STAFF STATION	yes				1 x 12	1 x 15	2sqm per staff; may store trolleys, resusc eqt, disposables, drugs, etc. Ref Note 2.
BAY - LINEN	yes				1 x 2	1 x 2	
BAY - HANDWASHING	yes				1 x 1	1 x 1	
DIRTY UTILITY - SMALL	yes					1 x 8	
DISCOUNTED CIRCULATION		30%	30%	30%	30%	30%	
PRIMARY CARE AREA -							
CONSULT ROOM	yes	1 x 12	1 x 12	1 x 12	12	12	FPU
CONSULT - SEXUAL ASSAULT	similar				1 x 12	1 x 12	Use for sexual assault consultations, may also be used for general purposes.
ENSUITE	yes	1 x 5	1 x 5	1 x 5	1 x 5	1 x 5	For one consult room or for consult room - sexual assault where provided.
CONSULT - ENT/ OPHTHALMOLOGY	similar				1 x 12	1 x 12	
CONSULT - DENTAL						1 x 12*	Determined on need/activity.
PATIENT BAY - ACUTE TREATMENT (NEBULISER)					1 x 4*	1 x 4*	Nebuliser chair area; inclusion determined on need/activity.
BAY - LINEN	yes			1 x 2	1 x 2	1 x 2	
BAY - HANDWASHING	yes				1 x 1	1 x 1	
STAFF STATION	yes				1 x 10	1 x 12	2sqm per staff; may store trolleys, resusc eqt, disposables, drugs, etc. Ref Note 2.

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DISCOUNTED CIRCULATION		20%	20%	20%	20%	20%	
STAFF AREAS -							
STAFF ROOM	yes	Shared	Shared	Shared	1 x 20	1 x 30	1.5m2 per staff member.
CHANGE - STAFF - FEMALE	yes	Shared	Shared	Shared	1 x 14	1 x 14	Incl toilets, shwrs, lockers. Calc for max staff per shift; overview access from Rec/Ent
CHANGE - STAFF - MALE	yes	Shared	Shared	Shared	1 x 12	1 x 12	Incl toilets, shwrs, lockers. Calc for max staff per shift; overview access from Rec/Ent
OFFICE - SINGLE PERSON 9M2	yes				2 x 9	4 x 9	NUM + Secretary, CNC, CNE, depending on level of service.
OFFICE - SINGLE PERSON 9M2	yes				1 x 9		Staff Specialist
OFFICE - SINGLE PERSON 12M2	yes				1 x 12	1 x 12	Director
OFFICE - 2 PERSON SHARED	yes				1 x 12		Registrars
OFFICE - 3 PERSON SHARED	yes					3 x 15	Staff specialist, Registrars, general use.
MEETING - MEDIUM/LARGE	yes	Shared	Shared	Shared	1 x 15	1 x 25	
MEETING - 12M2/MEDIUM	yes	Shared	Shared	Shared	1 x 12	1 x 15	For staff to interview/meet with family & friends of patients.
LIBRARY					1 x 3*	1 x 3*	Optional - add to another space.
STORE - PHOTOCOPY/STATIONERY	yes	Shared	Shared	Shared	1 x 8	1 x 8	
DISCOUNTED CIRCULATION		20%	20%	20%	20%	20%	
AMBULANCE SERVICE -							
RECEPTION	yes		1 x 5	1 x 5	1 x 5		
PLANTROOM			35	35	35		ASNSW Plantroom - 40m2 per bay.
WASH BAY/SINK			1 x 40	1 x 40	1 x 40		
OFFICE - SINGLE PERSON 9M2	yes		1 x 9	1 x 9	1 x 9		
OFFICE - SHARED	similar	1 x 12	1 x 15/20	1 x 15/20	1 x 15/20		2 - 4 people sharing
STAFF OVERNIGHT ACCOMMODATION			1 x 25	1 x 25	1 x 25		
STORE - GENERAL	yes		1 x 15	1 x 15	1 x 15		
STORE - DRUG			1 x 5	1 x 5	1 x 5		
STAFF ROOM	yes	Shared	Shared	Shared	Shared		
CHANGE - STAFF	yes	Shared	Shared	Shared	Shared		
DISCOUNTED CIRCULATION		15%	15%	15%	15%	15%	

Functional Relationships

501733 300 .86.00 A diagram showing key functional relationships is attached.

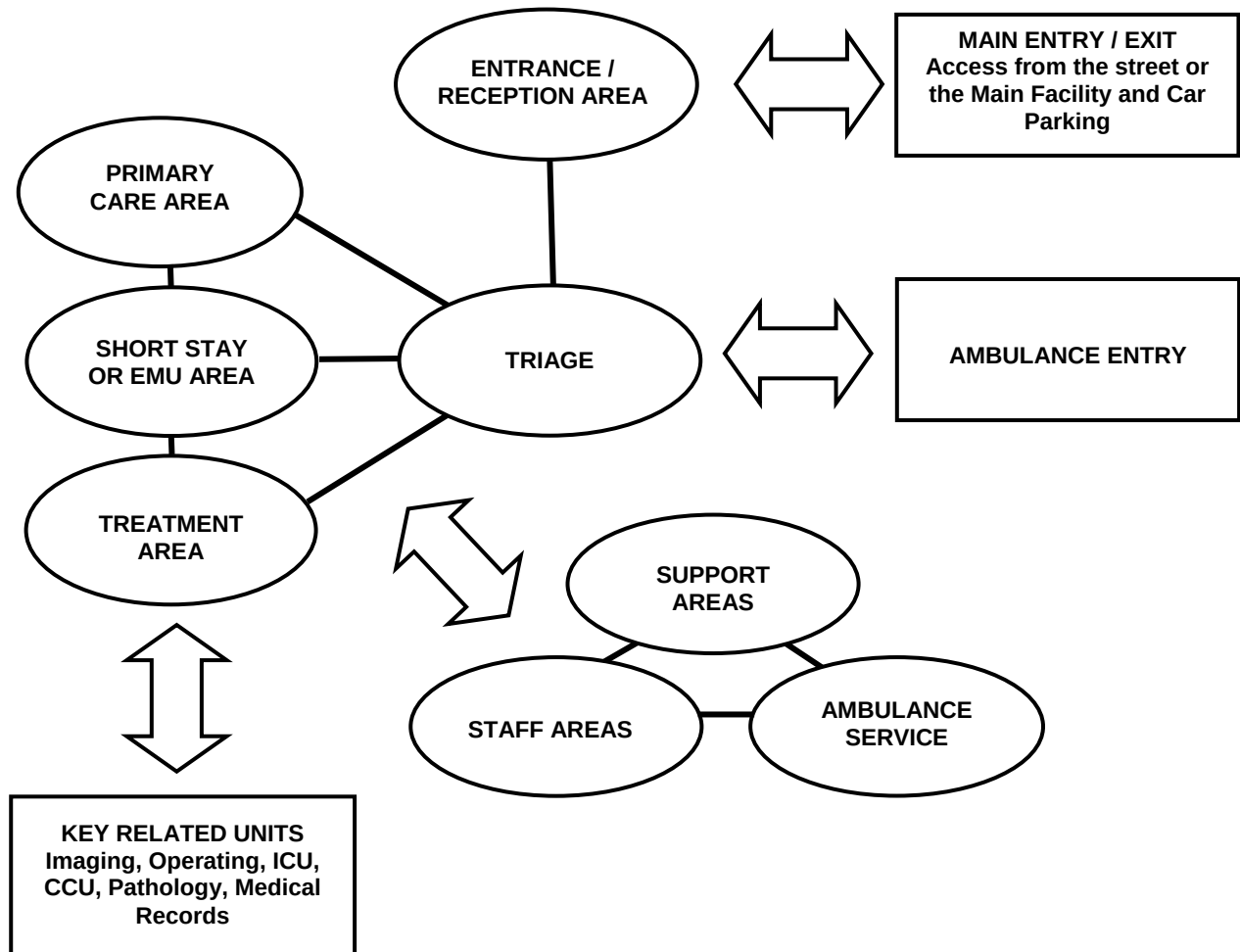
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Checklists

207104 300 .87.00 A checklist of issues to be addressed in the design of EDs is attached to this document. Refer also to Part C of these Guidelines.

FUNCTIONAL RELATIONSHIP DIAGRAM – EMERGENCY UNIT

The following diagram sets out the relationships between zones in an Emergency Department:



SECURITY ISSUES TO BE CONSIDERED IN EMERGENCY UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. 24 hours a day / 7 days per week access to this Department.	1. A secure environment separating Waiting from Clinical Areas. 2. Appropriately-sized Waiting Area including adequate vending machines, public telephones, toilet facilities including baby change facility, comfortable seating, etc. 3. Minimise entry and exit doors with close observation of these doors.
SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Conflict with patients and relatives	1. Install CCTV with video playback in security office where necessary, provide additional monitor in staff station. 2. Install CCTV on 'after hours' access points to allow clinical staff to monitor this area. 3. Provide video and/or intercom points to 'after hours' access points. 4. Provide staff with appropriate security barrier/screens including appropriate provisions for patient contact and document transfer. 5. Provide staff with access to both 'fixed' and 'mobile' duress systems. 6. Provide good visibility from staff areas into waiting areas. 7. ED Waiting Room should not have access to other areas of facility 'after-hours'. This should be controlled by security doors/barriers.
2. Access to Department	1. Control of patient/visitor access as above. 2. Provide alternate access/egress to Department for staff - not through Waiting area. 3. Manage Ambulance Entrance to prevent unauthorised access. 4. Access to treatment and staff areas possible only through key-card access system.
3. Patient Files	1. Personnel working on these files must return them to secure area after use or return to Medical Records Department. 2. The provision of internal lockable post boxes to facilitate secure storage. 3. If any electronic files are produced, locate in restricted area of hard drive.
4. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
5. Mental Health patients	1. Concealed medical services panel including electrical points behind the locked cabinet. 2. Alternate exit door for staff in case of emergency.
6. Presence of Police guns.	1. Provision of a gun safe in an appropriate location.
7. Drugs storage	1. Dangerous drug safe within the clean utility area.
8. Furniture in Waiting Area	1. Ensure seating, etc, is either permanently fixed or is of sufficient 'bulk' to prevent its use as a weapon, i.e. cannot be picked up and thrown. 2. Do not include furniture or fittings that may be utilised as weapons. 3. Provide bench seating selected so that the personal space of waiting people is not invaded.
9. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.

SECURITY CHECKLIST – EMERGENCY UNIT

FACILITY:		DEPARTMENT: EMERGENCY UNIT
RISK ISSUE		DESIGN RESPONSE
1.	Has a CCTV System been considered to monitor the waiting area and/or access to the public access points in the waiting area?	
2.	How is 'after hours' access provided for patients and how is this access point monitored?	
3.	Has a secure 'barrier' been installed between staff and the waiting area to: (a) monitor the waiting area; (b) provide staff contact with patients; (c) provide adequate visual and audible communication; and (d) allow for document and item transfer.	
4.	Do staff have access to both fixed and mobile duress systems?	
5.	Is access to patient records restricted to staff entitled to that access?	
6.	Is a system implemented to prevent theft of equipment, files, personal possessions, etc?	
7.	How does the ED address assessment / treatment of potential Mental Health patients in the ED?	
8.	Is a gun safe required and is it incorporated in the design?	
9.	Are drug safes installed in accordance with current regulations?	
10.	Is the waiting area furniture incapable of being utilised as a 'weapon'?	
11.	How is unauthorised access prevented from Ambulance entrance?	
12.	Is there a means of access/egress for staff other than through the Waiting Area?	
13.	How is after hours access provided for staff?	
14.	How is this area secured during and after hours, and is access prevented to other areas of the facility after hours?	
15.	Are there lockable storage areas available for specialised equipment?	
16.	Is lockable furniture provided for storage of staff personal effects?	
17.	Is appropriate bench seating provided for patients/visitors/relatives?	
18.	If a TV is provided in Waiting Area, is it securely fixed and out of reach of visitors, etc?	
DESIGN COMMENTARY/NOTES		DESIGN SIGN-OFF
		Name: Position: Signature: Date:
		Name: Position: Signature: Date:

INDEX

Description

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INTRODUCTION

Preamble

604401	340 .1.00	This Health Planning Unit (HPU) has been developed for use by project staff - architects, planners, engineers, project managers and other consultants, and for end users, to facilitate the process of planning and design.
604402	340 .1.05	It is a revision of the HPU developed for NSW Health in 2002 and issued for Australasian use in 2006. Its development has been informed by a national workshop and an extensive consultation process.

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Introduction

- 604403 340 .2.00 This HPU outlines the specific requirements for the planning and design of an Inpatient Unit.
- 604404 340 .2.05 It should be read in conjunction with AusHFG generic requirements including Standard Components described in:
- Part A - Introduction and Instructions for Use
 - Part B - Section 80 - General Requirements & Section 90 Standard Components, Room Data and Room Layout Sheets
 - Part C - Design for Access, Mobility, OHS and Security
 - Part D - Infection Prevention and Control and
 - Part E - Building Services and Environmental Design.

Policy Framework

604405 340 .3.00 GENERAL

Policies for the provision of healthcare services are formulated in accordance with the following principles:

- appropriate service models that ensure a comprehensive service network throughout state and regional health jurisdictions
- safe and effective care that minimises both staff and patient risks
- deployment of resources in a fair and cost effective manner to optimise health outcomes
- development and support for enhanced information systems to monitor, plan and evaluate healthcare services
- provision of a safe and efficient environment which minimises risk to all users of the facility.

604406 340 .3.05 DIVERSITY AND SPECIAL GROUPS

Policy frameworks recognise and commence with the diversity of our community and special groups within communities often require specific consideration to meet their needs and to enhance the effectiveness of any services provided.

These groups include:

- Aboriginal and Torres Strait Islanders in Australia, and Maori and Pacific Islanders in New Zealand
- people with physical and cognitive disabilities
- bariatric (obese and morbidly obese) patients
- people from cultural and linguistically diverse backgrounds
- people from rural and remote areas
- children and adolescents
- older persons and the frail aged
- dementia affected patients.

- 604407 340 .3.10 Overarching policies include the Commonwealth Disability Discrimination Act 1992 (Commonwealth of Australia 1992).

Description of the Unit

604408 340 .4.00 DESCRIPTION OF AN INPATIENT ACCOMMODATION UNIT

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The prime function of the Inpatient Unit is to provide suitable accommodation for the diagnosis, care and treatment of inpatients by multidisciplinary teams.

Whilst facilitating the delivery of services to patients, the Unit should also provide facilities and conditions to meet the needs of families and carers and the working needs of staff.

604409 340 .4.05 In larger healthcare facilities, medical and surgical sub specialities may be accommodated in dedicated units, e.g. cardiac services, neurology / neurosurgery, orthopaedics, etc.

In smaller facilities, the Unit may accommodate a mix of general medical and surgical, paediatric, palliative care and maternity patients. Bedrooms may need to be modified for cots, and specific requirements such as formula rooms may be necessary.

604410 340 .4.10 Specific HPUs in Part B of these Guidelines address the needs of paediatric, maternity, rehabilitation and mental health units.

The needs of highly specialised units such as burns, infectious diseases and spinal injuries units are not addressed in this HPU.

604411 340 .4.15 SHORT STAY UNITS

Inpatient Units may also be managed and operated as Short Stay Units - frequently operating in collaboration with the Emergency Unit - for patients requiring rapid assessment and with an anticipated length of stay of less than 48 hours. Examples include a Medical Assessment and Planning Unit (MAPU) and Surgical Acute Rapid Assessment Unit (SARA).

See below for a discussion of modified space requirements for such units.

604412 340 .4.20 THERAPEUTIC ENVIRONMENT

This HPU supports the provision of an optimally therapeutic environment for the assessment, care and treatment of patients.

Treatments and methods of care frequently change, as do the health needs of the populations served. It is critical that the physical environment is flexible and can adapt over time in response to changes in practice and treatment including models of health service delivery and nursing care.

A pleasant, functionally appropriate, high quality physical environment supports the delivery of patient care. This indicates the facility has been developed in accordance with the following principles:

- the patient is safe, valued and respected
- privacy and dignity for the patient, their carers and family is supported
- the appropriate level of care can be supported
- the physical environment can make a positive contribution to patient recovery, improved patient outcomes and decreasing lengths of stay.
- staff are valued and supported, provided with a safe, and rewarding working environment, within which their needs with regard to recruitment, retention, and work satisfaction are recognised.

604413 340 .4.25 POPULATION PROFILE

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The population of the Unit may vary according to the level of services or clinical capability of the facility and the catchment population it serves.

The population may comprise:

- patients
- staff
- visitors
- volunteers
- students.

Patients may range from young adults to the frail aged, with a variety of medical and surgical conditions and co-morbidities. They may come from a range of diverse ethnic and cultural backgrounds. Some patients may require access to interpreter services.

Visitors primarily consist of family, carers and friends.

There are three main groups of staff:

- unit-based staff (full time, part time and casual) who provide continuous care as part of a multidisciplinary team
- visiting professional staff who provide periodic or specialist care
- support services staff - housekeeping, etc.

Volunteers may provide a range of intermittent services according to operational policy.

Students may be visiting on ward rounds or based in a unit in a supernumerary short-term capacity.

The variety of patients, staff and visitors should be identified during the briefing stages, and ideally, the facility should be designed with the flexibility to meet current and future needs.

A consumer consultation process during project briefing may assist in ensuring the services provided meet realistic expectations of the population served.

604414 340 .4.30 UNIT DESIGN

Design of the Unit should:

- reflect the service needs of the patients to be accommodated in the Inpatient Unit
- maximise patient safety and reduce the risk of errors & accident
- optimise work flows for clinical & support staff
- cluster beds to facilitate staff efficiency, meal relief, back-up staff assistance on routine or emergency basis and optimise patient supervision particularly at night when staffing levels are lower.
- facilitate the delivery of care at the bedside or proximal to the bedside whenever possible
- enable flexibility in bed usage and monitoring of beds between adjoining units in times of fluctuating occupancy (refer Swing Beds)
- be aesthetically pleasing for patients and assist staff to perform the required activities in the most efficient and supportive environment
- maximise the use of natural light and views for patients and staff
- balance requirements for clinical need and capital and recurrent budget considerations and acknowledge community expectations in considering the mix and number of one and multi-bedrooms
- enable greater levels of observation in response to increased patient acuity, especially where patients are placed in single rooms distant from the Staff Station
- incorporate standardised unit and room design and layouts modified only

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where necessary on clinical grounds. This assists with rapid orientation of casual and visiting staff.

- provide informal spaces (corridors or alternative locations) to promote collegial communication and support and enable clinical teaching and informal case discussions to be conducted without disturbing traffic flows, causing undue noise or compromising patient privacy.
- minimise staff travel distances to obtain supplies and equipment.

604415 340 .4.35 MODIFICATIONS TO STANDARD DESIGN

Certain specialties may require modification to the standard design. The following are examples and are not necessarily exhaustive.

Depending on models of care and operational policies, some surgical services such as cardiac and neurosurgery may incorporate a high dependency cluster of beds into the general unit.

Most cardiac and some general medical units undertake telemetry monitoring of patients. This requires consideration of the space for accommodation of the monitoring equipment and antenna locations.

Respiratory Units - or rooms required for patients with respiratory infections - require negative pressure isolation rooms with anterooms.

Note: dedicated infectious diseases units have specific design requirements outside the scope of this HPU.

Orthopaedic Units require additional large equipment storage for a range of mobility aids and traction devices. The toilets and showers need to accommodate an increased proportion of wheelchair-bound patients including patients with extended leg plasters.

General inpatient rehabilitation may be conducted in the main Therapy Unit, satellite unit or in the Inpatient Unit itself. Space and facilities for unit-based therapy could include but are not confined to:

- 10m corridor length for walking assessments
- storage for equipment and mobility aids
- unit-based treatment space larger than the area around a patient's bed
- access to stairs and/or steps for assessment purposes
- access to write-up area and storage of resource material.

Specialist Haematology / Oncology Units undertaking allogenic bone marrow transplants require positive pressure isolation rooms and family spaces, and may also incorporate a radioactive isotope isolation room. Refer to HPU 500 - Nuclear Medicine Unit. A separate cluster or pod of rooms may be modified for this purpose.

Depending on the operational policies and models of care, some Inpatient Units may be designated short stay units (<48hours) and may be modified with respect to support facilities such as therapy, interview and family spaces due to the less complex nature of the patient journey. Such units may be called Medical Assessment and Planning Units (MAPU) or Surgical Acute Rapid Assessment Units (SARA).

604416 340 .4.40 DESIGNING FOR THE BARIATRIC (OBESE AND MORBIDLY OBESE) PATIENT

There is an increasing incidence of bariatric (obese and morbidly obese) people within the general population. Irrespective of the clinical reason for their admission, the design of the Unit should provide a physical environment for the optimal care of such patients, and include the consideration of staff safety. The number of rooms / spaces to be provided

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for accommodation of this patient group should be assessed in terms of the percentage of obese people in the particular population demographic and the clinical specialty of the Unit. As with the frail aged, design should support restoration or maintenance of independence.

The location of the Unit in relation to other departments frequently accessed by these patients may decrease requirements for transportation and the associated manual handling issues. Also consideration of how evacuations may be handled for such patients should be included in the design.

The impact of larger equipment such as beds, electric bed movers, chairs and wheelchairs, and the associated space requirements in the use of this equipment such as door widths, turning space in corridors, and the storage of equipment should be considered. Larger bedrooms and ensuite bathrooms may be required and corridors should also accommodate the manoeuvring of large items of equipment.

Manual handling issues associated with transfer and lifting of these patients should be addressed. Specific operational policies should indicate how the overweight and obese patient may be managed in the Unit e.g. mobile lifters or fixed ceiling hoists may be required.

Where hoists are used consider the type and specifications of the hoist system e.g. single track, room coverage, weight limits etc. The installation of ceiling hoists requires an evaluation of the ceiling weight-bearing capacity, the space required to manoeuvre the patient in the hoist and the distance the patient may travel e.g. from bed to chair.

Throughout the whole Unit, consider standardisation of the fittings and fixtures used for the care of all patients. This would support flexibility of patient movement and address the issues associated with accommodation of bariatric patients.

Individual jurisdictions should refer to their local manual handling policies for the management of bariatric patients.

604417 340 .4.45

DESIGNING FOR THE OLDER PATIENT AND FRAIL AGED IN THE ACUTE SETTING

It is anticipated there may be a higher proportion of patients in the future who may be older, frailer, with multiple co-morbidities. All Inpatient Unit design should cater for this demographic and design should support restoration or maintenance of independence in a safe environment.

Physical and cognitive limitations may underlie and possibly exacerbate the condition or conditions for which the patient has been admitted. Such conditions may include:

- dementia / confusional states
- cardiovascular deficiency giving rise to symptoms such as angina and postural deficits
- hearing impairment
- vision impairment
- mobility and gait problems e.g. Parkinson's disease
- general physical deterioration
- declining nutritional status
- fragile skin integrity.

604418 340 .4.50

Design factors which can assist include:

- a safe, less clinical, less threatening environment
- easy and visible access to toilets including directional night lighting and contrasting colour for toilet seats

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- maximum exposure to daylight
- glare minimisation
- adequate and appropriate artificial lighting - preferably non-directional or diffuse lighting. This is particularly important for patients requiring dimmable lighting.
- non-slip floor coverings to minimise falls
- minimisation of clutter
- minimisation of noise
- signage colour and contrast for wayfinding and orientation
- a layout such as continuous loop paths that permits patients to wander but provides the ability to control entries and exits, and to minimise the extent of unsupervised spaces.

604419 340 .4.55 DESIGNING FOR PATIENTS WITH PRE-EXISTING DISABILITY

'Disability itself is not an illness but may encompass people who have a disease or illness. A disability is an intellectual, psychiatric, sensory, physical or other impairment that results in a reduced capacity for communication, learning, mobility, decision-making or self-care'. (Commonwealth of Australia 1992).

Examples may include patients:

- who are independent wheelchair users
- with arthritis, particularly as it limits hand usage
- with cognitive impairment
- with vision impairment
- with gait and mobility problems
- with chronic pain.

604420 340 .4.60 Design solutions may include:

- wheelchair access bedrooms and ensuites to AS1428 (Std Aust 2003a)
- attention to weight of doors used by patients particularly ensuite doors
- slow release doors
- height and design of door handles, light switches and taps
- floor coverings, colours and patterns
- lighting including sensor lighting in ensuites
- signage
- designated rest areas along corridors
- provision of grab and hand rails.

604421 340 .4.65 ALLIED HEALTH SERVICES

Input by allied health staff may vary according to the condition and acuity of the patient. For example, physiotherapy support is required in most medical and surgical units, speech therapy in neurological and general medical units and services such as social work, dietetics and pharmacy in most units. Higher acuity patients generally require a greater input from allied health services earlier in their stay.

Allied health staff are integral members of multidisciplinary teams but depending on the service plan and the clinical specialty, the majority of allied health personnel are likely to be visiting rather than permanently located in the Unit. Their unit-based requirements may vary from unit to unit and by speciality. Generally, the initial consultation and therapy management plan is provided at the patient bedside.

Units with a high turnover of patients may require close access to space for discharge assessment e.g. walking and stairways. Units with a longer length of stay may require access to space for activities of daily living.

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Allied health staff require access to interview rooms, write up spaces, medical records and computerised systems. Accommodation for students may be required.

Discussion regarding provision of satellite therapy units on inpatient floors may be found in HPU 140 - Rehabilitation / Allied Health Unit.

PLANNING

Operational Models

604422 340 .5.00 HOURS OF OPERATION

The hours of operation of an Inpatient Unit are usually 24 hours per day, seven days per week. This may vary e.g. five day stay units and 23 hour units.

604423 340 .5.05 ORGANISATIONAL AND OPERATIONAL CHANGE

The organisation, delivery and practice of bedside care are continually changing. New treatment regimes and technologies have resulted in overall lengths of stay reduced to two to three days. However, with over 50% of all patients receiving same day care, overnight patients have an average length of stay of approximately five days and are more dependent on clinical services and staff, and undergo an increased number of interventions.

Organisational change has resulted in new structures and practices that promote increased use of multi-disciplinary teams, care groups and multi-skilling. This is changing the space and design requirements of Inpatient Units. The need for more communal space is being identified. This includes 'hot desks', team communication spaces and the design of units to facilitate supervision and easier communication.

The increased use of computerised systems, including point of care clinician systems, is facilitating greater sharing of information in a timelier manner between specialised units and clinical teams. This is also changing the design of Inpatient Units, as smaller work spaces evolve closer to the where patients are accommodated.

604424 340 .5.10 MODELS OF CARE

Models of care reflect the clinical service needs of a catchment population and define how a service may be delivered. Clinical service delivery models may apply to a health region, a healthcare facility or an individual unit and different models continue to be developed.

Models of care and flexibility for service delivery in the future should be defined in the process of Service Planning and the development of Operational Policies, and should be considered throughout the design process. Service plans are approved by the individual jurisdiction on a project-specific basis.

604425 340 .5.15

Service demand and models of care are critical in determining the nature and design of a facility. The demand and the model of care may inform the type of unit/s to be provided and the relationship of these units to each other e.g. features, types or service delivery matters to be determined may include:

- dedicated speciality versus mixed specialty units (this may depend on the

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- size and capability of the facility)
- short stay units (<48 hour)
- speciality clusters within a single unit
- facilities for the management of high dependency patients
- total bed numbers
- the mix of single and multi-bed rooms
- room clusters / pods and the sizes of these pods
- the need to provide decentralised facilities such as staff stations and dirty utility rooms
- management of infection
- provision of satellite facilities for pharmacy, radiology and therapies
- accommodation of both outpatient and inpatient services within the Unit
- nursing models of care - refer below.

The physical environment should support the implementation of a range of models of care.

604426 340 .5.20 NURSING MODELS OF CARE

Nursing models of care comprise:

- task allocation
- patient allocation, total patient care
- partners in care
- team nursing, mixed mode nursing
- primary nursing (rarely implemented).

The model of care may vary from unit to unit and may have an impact on unit design, particularly with regard to decentralised facilities such as staff bases.

More clinically complex patients require more staff on shifts and may benefit from smaller clusters of beds to assist in managing noise levels, supplies and equipment, and to facilitate communication and emergency support.

Staffing levels may vary from shift to shift, for both in and out of hours clinical service delivery and the need for flexibility within a clinical service.

604427 340 .5.25 LEVELS OF CARE

An Inpatient Unit may deliver the following levels of care:

- high dependency nursing care
- intermediate nursing care
- supported / self care.

The Unit should be flexible enough to accommodate differing patient mixes as well as different levels of care based on the predicted population to be accommodated in the Unit.

604428 340 .5.30 MANAGEMENT OF HIGH DEPENDENCY PATIENTS

Consider carefully the management of high dependency patients as part of the service planning process.

In smaller facilities, beds may be located in the Intensive Care Unit (ICU). In tertiary centres options include designated beds in ICU / High Dependency Unit (HDU) or designated beds in speciality units. However, with some possible exceptions such as cardiac and neurosurgery, multiple high dependency units outside the critical care environment should be carefully assessed due to potential inefficiencies in the management of resources

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(e.g. equipment and staff), the additional monitoring and maintenance of quality, and the variable occupancy rates inherent in a smaller number of units. Additional admission / discharge processes would be required for separate units (NSW Health 2001).

To encourage maximum utilisation of high dependency beds, functionality and continuum of care, it is recommended that HDUs should be placed administratively and operationally within the ICU.

Where agreed and provided, HDUs outside the critical care environment usually consist of one or more multi-bed rooms and may include some single bedrooms with their own staff base, resuscitation trolley, sterile supplies and medication storage so staff have everything they need readily accessible. The number of beds should be determined in accordance with the clinical services plan.

The specific aspects of a HDU as a component of an ICU may be found in HPU 360 - Intensive Care - General.

604429 340 .5.35 UNIT SIZE AND BED CONFIGURATION

The total number of beds may vary depending on the service needs of the individual healthcare facility. Total bed numbers in a facility ideally should be sufficient for the facility to operate at a predetermined occupancy level at peak times with strategies to minimise:

- the need to accommodate patients in units other than their 'home' unit as 'outliers'
- minimise bed access block from the Emergency Unit
- in the case of surgical patients, prevent case cancellation and/or bed quarantining.

Decisions regarding the size and composition of individual Inpatient Units may reflect appropriate break up of total bed numbers and should be made during the service planning process for each project.

The model of care, staffing strategies and operational policies may drive decisions in regard to the mix and organisation of beds within a unit.

Issues to be considered include:

- the role and capability of the healthcare facility
- patient casemix with regard to acuity, dependency and clinical complexity
- maximum flexibility for the accommodation of a range of different types of patients with regard to age and gender
- staffing profile (medical, nursing, allied health) and required staffing levels particularly during night shifts.

This Guideline does not recommend a preferred maximum number of beds in a unit or preferred cluster / pod sizes. Operationally efficient units may range from 24 to 36 beds and may be subdivided into modules or clusters for different clinical specialities or levels of acuity. The size of pods may vary depending on the clinical needs of the unit and organisation of multidisciplinary teams, and on whether the development is a refurbishment of an existing unit or a new facility.

604430 340 .5.40 BEDROOM MIX

The mix of bedroom types (single versus multi-bed) should be determined in the planning and briefing stages. Issues such as patient safety, infection control, patient privacy and dignity, plus staff comfort should be considered (Garling 2008). The impact on capital and recurrent costs should be identified and evaluated as per usual cost benefit processes.

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There is ongoing debate regarding the proportion of single to multi-bed rooms and many studies have been undertaken. There is a trend towards an increased proportion of single rooms which varies between Australasian jurisdictions and countries. Determination of the ideal mix is, however, outside the scope of this Guideline and may be decided by individual jurisdictions on a project by project basis.

When reference is made to the proportion of single bedrooms, the following definitions may apply. For example, in a 28 bed unit if there are eight single bedrooms, and the remaining 20 beds are configured as 5 x four bed rooms, then the proportion of single beds as a total of beds is 29%. However, the number of single bedrooms as a proportion of the total rooms is 57% (8 x single rooms and 5 x four bed rooms - a total of 13 rooms).

604431 340 .5.45 SWING BEDS

Inpatient Units are generally classified according to the clinical specialties treated. In a home unit, staff have the expert knowledge of the associated diseases and treatment modalities. When no beds are available in the home unit, patients have to be accommodated in another unit where staff may not have the necessary clinical expertise, and oversight by medical staff may be less than optimal.

For this reason, the concept of swing beds was devised so that such patients could be accommodated as close as possible to the home unit. Swing beds may comprise a single bed or a group of beds which may be quickly converted from one category of use to another, from one clinical specialty to another.

However, there may be workload allocation and physical design issues which may result in the use of 'swing beds' being unsafe and excessively demanding on the staff in the unit required to manage the patient. Facility design for swing beds may often require additional corridor doors, and provision for switching supervision and nurse call systems from one staff station to another. The technology to support swing beds requires user friendly functionality.

An eight bed pod configuration may facilitate the use of swing beds.

Operational Policies

604432 340 .6.00 GENERAL

The development of operational policies is integral to defining how the Unit may operate within a healthcare facility or health service. They impact on the capital and recurrent costs of a facility and may vary from unit to unit depending on a wide range of factors such as the clinical characteristics of the patients and the defined role of the Unit. The cost implications of proposed policies should be fully evaluated to ensure the most cost-effective and efficient design solution.

Operational policies should be developed for every unit as part of the project planning process. Refer to Part B Section 80 for further information.

The following are particularly relevant to inpatient accommodation (some points are addressed in more detail in the next section):

- admissions and discharge procedures - unit based or remote
- clinical information management - electronic or hard copy medical records
- image viewing (PACS) - location and type of viewing monitors
- medication management, including possible establishment of floor-based satellite pharmacies
- the manner in which food services, linen and supplies are ordered,

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- delivered and stored, and level of supplies
- storage for equipment and furniture
- waste management - particularly clinical waste and sharps.

604433 340 .6.05 MEDICATION MANAGEMENT

Pharmacy staff should be consulted in regard to medication and intravenous fluids storage requirements for each unit. Whether storage is within the Clean Utility Room or a separate room may depend on quantities to be stored as some specialties, such as Oncology, have greater storage needs.

The location and design of the medication room should minimise travel distances, noise, and disruption to staff undertaking medication-related activities in order to reduce error.

If additives are introduced to intravenous fluids in the Unit, additional space should be allowed for this activity, including ready access to fluids, drugs and consumables.

Options for dispensing within the Inpatient Unit include:

- lockable medication trolleys
- lockable bedside lockers
- Webster pack or other similar proprietary system
- automated dispensing systems.

If automated dispensing systems are to be installed, consider the dimensions of the units, and the provision of power and network connections.

Security and control of access to medication rooms should comply with local legislative / jurisdiction requirements.

604434 340 .6.10 STORAGE - EQUIPMENT

Equipment, particularly larger equipment that has to be floor parked, needs to be defined so appropriate storage space may be allocated according to the needs of the patients and staff.

Equipment should be organised so it is easily accessible by staff when required.

Items used frequently for an individual patient may be stored in the bedroom or ensuite e.g. a shower chair.

Items used regularly for a group of patients such as lifters, scales, mobile BP units may be stored locally in equipment bays.

Rarely used items may be stored in a central equipment store. This store may be shared between units. A long rectangular room allows optimum use of space.

Power outlets should be provided for recharging as necessary.

604435 340 .6.15 STORAGE - STERILE SUPPLIES AND CONSUMMABLES

Sterile supplies should be handled and stored in a manner that maintains the integrity of packs and prevents contamination from any source e.g. dust, vermin, sunlight, water, condensation, etc. Storage areas should be temperature and light-controlled and easily cleaned.

Supplies should be stored off the floor, with the lowest shelf at least 300mm

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above floor level so as to avoid mechanical damage during cleaning, and the top shelf no higher than 2100mm.

Source: HPU 190 - Sterile Supplies Unit

Refer to AS 4187: Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities (Stds Aust 2003).

604436 340 .6.20 WASTE MANAGEMENT

Management of clinical and related waste is a significant issue for the Inpatient Unit. Project staff should assess waste requirements early in the project. Define waste holding needs and make appropriate spatial allocation.

Operational policies for waste management and waste minimisation should be supported, particularly with regard to:

- provision and location of Dirty Utility Rooms and Disposal Rooms so staff do not have to traverse public and administration area whilst transporting items to and from these rooms
- provision and location of recycling bins
- location of sharps containers.

The management of clinical and related wastes should be in accordance with AS/NZS 3816 (Stds Aust 1998b) and is further addressed in Part D.

604437 340 .6.25 STAFFING

Staffing levels may vary for each unit, depending on the size of the unit, the operational policies, availability of staff and differing skill mix, levels of supervision required, clinical case mix, and dependency and unit activity levels.

The Unit should provide sufficient functional area to support the number of staff in the safe and efficient delivery of care.

The environment should be secure and facilitate effective emergency responses to acute situations on each shift. Designing the Unit on this basis supports efficient unit operation without imposing additional costs, whilst enabling compliance with security and OHS requirements.

Planning Models

604438 340 .7.00 LOCATION

Wherever possible, Inpatient Units should be in a quiet location with a pleasant outlook that should maximise the therapeutic benefits of views, rest and sleep.

The Unit should not be located near sources of noise or sights that may disturb its occupants. For example, where possible, avoid placing a unit near noisy traffic routes including emergency vehicles, mechanical plants and views such as mortuaries.

During planning, consider the proximity of 24 hour and 8 hour operating zones and locate units so staff are not working in isolation or need to traverse unoccupied areas at night.

Consider the requirements associated with moving patients between units to minimise transportation distances and to avoid movement through high traffic public areas.

604439 340 .7.05 UNIT CONFIGURATION

The planning of Inpatient Units has evolved significantly since the open plan model developed by Florence Nightingale in the 1860s. Numerous studies have been undertaken comparing space and operational efficiencies of alternative planning layouts. Contemporary planning layouts include single corridors, double corridors (race track), a combination of the two, L, T and Y shaped units, triangular units and cruciform units. However, no one particular layout has been found to be universally superior. In all cases, the final decision may be a response to the physical constraints of the site, local service needs and operational policies.

A number of Inpatient Units may be grouped together to form a larger management unit as this may permit greater flexibility of use.

At the other end of the scale, Inpatient Units may be subdivided into clusters of bedrooms with clinical care decentralised. See previous section on operational models.

The configuration of units should maximise lines of sight and opportunities for patient observation by staff, enable control of entries and exits and avoid potential entrapment points.

Functional Areas

604440 340 .8.00 FUNCTIONAL ZONES

Functional areas may be classified as follows (although such classification does not necessarily relate to location within the Unit):

- patient and family care areas - bedrooms, ensuites, bathrooms and lounges
- clinical support areas
- administrative areas
- staff areas
- shared staff areas
- teaching areas
- public / visitor areas.

Services provided, bed numbers and configuration and operational policies may vary the zoning required.

604441 340 .8.05 BEDROOMS

Bedrooms may be a mix of single rooms, two bed rooms and four bed rooms. Maximum bedroom capacity should be four patients. Two bed rooms are generally not recommended in acute medical / surgical units because of issues relating to movement of beds and potential onus of care on the patients themselves.

To encourage family engagement with care, bedrooms should provide seating for family members, and seating should not interfere with clinical work, and should provide secure storage for family and patient personal belongings.

604442 340 .8.10 SINGLE ROOMS

Single bedrooms are provided and used for the following conditions/ circumstances:

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- isolation of patients with infectious or potentially infectious conditions or who are immunocompromised
- patients with poor hygiene or incontinence who may contaminate the environment of others
- terminally ill and dying patients
- family-centred care
- noisy / disturbed patients
- social or cultural needs for privacy
- patients who need sleep as a priority to enhance recovery
- maximisation of revenue return to the hospital.

604443 340 .8.15 Decisions regarding the provision of single rooms may be influenced by the following considerations:

- patient mix including the importance of ensuring same gender accommodation wherever possible (NSW Health 2010)
- cultural expectations of the patient population and wider community
- patient preference - for either shared or single room accommodation
- staffing levels and availability
- privacy needs and expectations balanced by the need for observation of patients by staff
- healthcare acquired infection rates and associated need for isolation facilities
- reduction in patient transfer between beds
- greater flexibility of use and ability to run unit at higher occupancy rates
- possibility of improved therapeutic outcomes
- capital funding - single rooms impose additional capital costs in regard to increased floor area including circulation space, additional ensuite requirements and associated fittings, plus longer runs required for medical gases and power. In addition the need for greater floor area may impact on the land footprint required.
- possible impact on recurrent costs with regard to cleaning and maintenance.

The higher the proportion of single rooms, the greater may be the impact on staff observation and consequent walking distances. Depending on the configuration of beds and travel distances, it may become necessary to support decentralised staff stations and provide other services such as drug dispensing, delivery of supplies, storage and dirty utility rooms in a similar manner.

As a result, the need to balance the perceived benefits of a higher proportion of single rooms against the additional costs imposed may require consideration of the project budget and cost/benefit analysis of spending on competing priorities.

604444 340 .8.20 SINGLE BEDROOM ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- greater patient privacy generally and particularly in use of ensuites
- individual control over noise, light levels and temperature all of which facilitate better quality rest and sleep and reduce patient stress
- reduced risk of cross contamination between patients
- facilitates family / carer engagement with care
- improved communication between staff and families
- ability to provide treatment at the bedside reducing the need to transfer patients to other clinical spaces e.g. treatment rooms
- increased flexibility and space to care for higher acuity patients and accommodate the additional equipment required
- greater flexibility in bed management
- reduced patient transfers and room moves
- reduced treatment and medication errors

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- improved staff hand hygiene compliance
- no possibility of gender mix.

DISADVANTAGES

- no ability for well patients to socialise and support one another
- patients may feel isolated and insecure or unsafe
- staff may have decreased visibility of patients from the corridor. This may be significantly reduced with the use of internal glass walls containing internal venetian or roller blinds.
- patients may prefer to share a room with other patients for opportunities to socialise and support one another. This needs to be a mutual desire of all occupants often complicated by individual incompatibilities.
- a greater number of ensuites plus the overall greater floor area may increase cleaning and maintenance costs over time
- increased recurrent operating costs
- increase in cleaning resourcing
- increase in hydraulic maintenance.

Note that the impact of an increased number of single rooms on workforce and recurrent costs in the Australian context has not yet been assessed and further work in this area is required.

604445 340 .8.25 MULTI-BED ROOMS

Multi-bed rooms are generally assumed to contain two or four beds. There are advantages and disadvantages associated with provision of multi-bed rooms as follows:

ADVANTAGES:

- may be modified for higher dependency / high acuity patients and provide greater staff supervision of those patients
- patient socialisation with each other and families, particularly for longer stay patients
- greater feeling of security and interaction with staff
- reduced construction, cleaning and maintenance costs associated with reduced floor space and bathrooms
- possible reduced travel distances in some unit layouts.

DISADVANTAGES:

- noise (although ambient noise may mask confidential discussions)
- lack of privacy, particularly with regard to hygiene activities, use of bedpans, toilets, etc
- access to toilet may create awkwardness unless the entry door is discreet and not visible to the other occupants
- disturbed sleep
- infection prevention and control may be compromised, although patients with the same infection may be cohorted in the same room
- burden of care on the well patients, particularly in two bed rooms
- issues of incompatibility, particularly in two bed rooms
- need to move beds from room to room to maintain appropriate patient mix regarding acuity, gender, etc.

604446 340 .8.30 ENSUITES / BATHROOMS

All beds require direct access to an ensuite shower / toilet or separate shower and toilet compartment.

Larger super ensuites are provided for bariatric patients.

The use of space within the single room impacts on the size and location of

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the ensuite and thus the two rooms should be considered as a unit and not in isolation.

Access to the ensuite should minimise the number of directional turns a patient has to make to reach the toilet, which should be visible from the bed. There is some evidence that patient falls may be reduced by providing access to the toilet in a continuous path along the same wall on which the bed head is located. This enables constant contact with a wall or handrail on the path to the ensuite.

The requirements of AS1248 (Stds Aust 2003a) and the Disability Discrimination Act 1992 (Commonwealth of Australia 1992) apply to the provision of ensuites for patients who are normally independent wheelchair users.

The Building Code of Australia (BCA) requires one bath per floor to be provided in Class 9a buildings (ABCB 1990). A bathroom may be shared between units but access should be discreet and not via a public corridor.

604447 340 .8.35 PATIENT LOUNGES

The need for dedicated patient lounges should be reviewed for each project and may be omitted where appropriate due to the following considerations:

- increasing acuity of patients who may not be able or wish to use a lounge
- reduced lengths of stay
- increasing proportions of single rooms, usually with some sitting out space, with patient access to TV and other audiovisual systems
- individual meals served at the bedside
- ambulant patients may prefer to leave the Unit altogether and use the hospital coffee shop or grounds.

However, the room may be designated for a specific alternative purpose such as a dining room in longer stay units. A dedicated carer area may also be required.

An alternative to a dedicated patient lounge may be provision of a family / visitor room such as the Whanau room in New Zealand.

604448 340 .8.40 CLINICAL SUPPORT AREAS

Areas accessed by staff in the management of the patient include:

- reception
- staff station - central and decentralised / resource / handover room
- clinical support officers on each unit, NSW-specific requirement (Garling 2008)
- interview rooms
- clean utility and medication rooms
- dirty utility rooms
- disposal room (ideally located at the periphery of the Unit with direct external access by housekeeping staff)
- bays for linen, equipment, resuscitation and other trolleys
- storage - equipment and consumables - point-of-use and central bulk.

The functional areas should reflect the Unit configuration as determined by the planning team.

604449 340 .8.45 OFFICES AND WORKSTATIONS

Provide offices for the Unit Manager and, where indicated, senior nursing

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staff, such as clinical nurse consultants and educators. Provide workstations for medical and allied health staff whose permanent offices are generally not located within the envelope of the Inpatient Unit.

NSW Health provides clinical Support Officers to Nurse Unit Managers (NUMs) on each unit who require an identified work space with close access to the Unit NUM / Nurse Manager and space for storage for both files and reference material (Garling 2008).

604450 340 .8.50 RECEPTION AND STAFF BASES

Reception and staff bases should be organised around three zones:

Provide a Control Centre (Reception area) to control the movements of patients, staff and visitors entering and leaving the Unit and for receipt of mail, flowers, etc, delivered to the Unit. The Unit Ward Clerk or Receptionist is generally located in this area with ready access to photocopier, files etc.

A central resource room with access to patient records and image viewing may be required for use by all staff for shift handovers, review and documentation by the multidisciplinary teams (case conferences) and short informal clinical meetings between teams / staff.

Decentralised spaces to allow closer proximity of staff to the patients may be considered for immediate work associated with patient care - review of patient notes / files / tests (short work). This is facilitated by the use of electronic record systems and point of care management. Decentralised staff stations require close access to dirty and clean utility rooms.

Also required is storage for PPE that can be easily accessed by staff and positioned outside inpatient bed areas.

604451 340 .8.55 STAFF AMENITIES

At least two staff toilets should be immediately accessible within the envelope of the Unit.

Staff handbag-sized lockers should be available within the Unit for casual, part time and agency staff. Consideration may need to be given to the need for lockers for visiting staff and students in a central location.

Ready access is required to a shower and eye wash facility near the Unit for emergency spills such as cytotoxic spills. Access to full change facilities should be available somewhere in the healthcare facility.

A staff lounge should be readily accessible and may be shared between units for use by all staff and students on a ward floor but ideally, a small lounge or similar space should be available within each unit for staff to take short breaks and debrief in private amongst their peers. This room usually includes a small beverage-making facility.

604452 340 .8.60 SHARED AREAS

Areas shared with adjacent Inpatient Units may include:

- disposal room
- bathroom
- kitchen
- central equipment storage
- staff amenities
- meeting / education rooms.

604453 340 .8.65 TREATMENT / PROCEDURE ROOMS

Provision of treatment rooms may depend on the number of single bedrooms and if provided may be modified to suit a particular clinical specialty e.g. gynaecological, eye and ENT examinations, and patient training in self-care.

604454 340 .8.70 MEETING AND TEACHING AREAS

Meeting and tutorial rooms provide space for students and staff to undertake education and ongoing skills maintenance and development, should be used flexibly and sized to accommodate the maximum number of staff and students regularly utilising the space.

The number of spaces to be provided should reflect the frequency of use. Where possible, these spaces should be located to enhance use by different staff groups from both within and external to the Unit without compromising day to day operation of the Unit due to excessive through traffic.

In some instances consideration may need to be given to simulation teaching spaces within the Unit. This would be project specific and the need would be determined in the service planning stage of the project.

604455 340 .8.75 VISITOR / PUBLIC AREAS

Visitors should have ready access to:

- lounge or outside balcony space
- toilets including an accessible to AS 1428 toilet; (Std Aust 2003a)
- vending machines and or cold water dispenser
- telephones.

These facilities are best centrally located outside the perimeter of the Unit and may be shared by more than one unit. Where a Visitors' Lounge / Whanau Room is provided, it should be located and designed to accommodate child visitors without disruption to other patients, their families and visitors. The need to accommodate more than one family group should also be considered. If outside the Unit, an intercom or internal phone should be provided.

Functional Relationships

604456 340 .9.00 EXTERNAL

Inpatient accommodation is one of the core functions of every hospital and is supported by a wide range of clinical and non-clinical services. Good functional relationships enhance the delivery of those services.

Principal relationships with other units include:

- easy access from the Main Entrance particularly for visitors
- ready access to diagnostic facilities such as Medical Imaging, Nuclear Medicine, etc
- ready access from Emergency and to/from Critical Care Units
- ready access to Operating / Day Procedures Suites for surgical units
- ready but discreet access for delivery of food, linen, supplies and removal of waste
- ready access to staff amenities not provided locally.

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Units that the patients do not usually access such as clinical information, pharmacy and pathology may be located more remotely with appropriate system support e.g. vacuum document conveyor systems.

604457 340 .9.05 INTERNAL

The ability to achieve optimum relationships between component spaces depends on many factors including the nominated site, available space, shape of the space available and specific operational requirements.

Optimal internal relationships to be achieved include those between:

- patient occupied areas forming the core of the Unit
- staff station/s and associated areas that need direct access and observation of patient areas
- utility and storage areas that need to be readily accessible to both patient and staff work areas
- the Unit public areas located on the perimeter of the Unit
- the Unit shared areas that should be easily accessible from the units served.

DESIGN

Access

604458 340 .10.00 GENERAL

Refer to Part B Health Facility Briefing and Planning; and Part C Design for Access, Mobility, OHS and Security for general design requirements.

604459 340 .10.05 INTERNAL

There should be one only point of public entry ideally staffed by a ward clerk / receptionist during extended daytime hours to:

- prevent access by visitors the patient may not wish to see
- advise visitors if patients have been moved to another bed or are out of the Unit for any reason
- monitor visiting staff and direct them to the appropriate staff member or patient
- monitor patient movements in and out of the Unit.

604460 340 .10.10 Infants and children are not the only vulnerable members of a healthcare facility. Adult patients - particularly women - may be vulnerable as, may staff, particularly at night. It is recommended that Inpatient Units should be able to be locked down after hours with swipe card (or similar) for access by authorised personnel. If necessary, intercom or closed circuit television camera (CCTV) should be provided.

604461 340 .10.15 Ideally, there should be a separate and discreet entry or entries for staff, and goods and supplies operated by swipe card (or similar) by authorised personnel only. A separate entry for patients on beds or trolleys may also be considered.

604462 340 .10.20 EXTERNAL

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The number of night entrances should be kept to a minimum.

Ensure that staff and the public can access the Unit at entrances adjacent to car parks to limit transit time to the facility at night.

Consider the use of swipe card (or similar) at access points as this provides more secure and cost effective access control.

Parking

604463 340 .11.00 For staff parking, refer to Part C, Design for Access, Mobility, OHS and Security Section 790 for further information.

Disaster Planning

604464 340 .12.00 Each unit should have operational plans and policies detailing the response to a range of emergency situations both internal and external. Consider issues such as the placement of emergency alarms, the need for uninterrupted power supply (UPS) to essential clinical equipment and electronic sensor taps, services such as emergency lighting, telephones, duress alarm systems and computers and the emergency evacuation of patients, many of whom may require assistance.

In the design, consider the ability to effect complete lock-down. Also consider issues such as the placement of emergency alarms, the need for uninterrupted power supply (UPS) to essential clinical equipment and electronic sensor taps and services such as emergency lighting, telephones, duress alarm systems and computers.

Refer to Part B Section 80 and Part C for further information.

Infection Control

604465 340 .13.00 GENERAL

The following aspects contribute to effective infection prevention and control and are relevant within the context of the Inpatient Unit:

- hand hygiene facilities
- provision for the isolation of infectious patients
- linen handling
- separation of clean and dirty work flows
- storage
- waste management
- surface finishes.

Refer to Part D and to individual jurisdiction Infection Control Guidelines for further details.

604466 340 .13.05 HAND HYGIENE FACILITIES

Refer to Part D for further details regarding requirements for the provision of hand hygiene facilities (handbasins) and other hand gel / hand rub agents used in hand hygiene.

Refer to Part D for location and types of handbasins and to Standard Components for design details.

In order to promote flexibility of use and to reduce the incidence or the need for patient transfers, all single bedrooms should be able to accommodate patients requiring standard contact isolation - Class S / Type 4.

The provision of negative pressure isolation rooms (with or without anterooms) for management of respiratory infections, and positive pressure isolation rooms for patients receiving allogeneic bone marrow transplants may be determined by service planning analysis for the particular unit concerned.

Refer to Part D for further details.

Environmental Considerations

604468 340 .14.00 ENVIRONMENTALLY SUSTAINABLE DESIGN

Sustainability applies to many areas such as:

- air handling and ventilation
- thermal integrity e.g. insulation, etc
- water management
- choice of sustainable products e.g. low VOC floor finishes
- support of operational recycling policies.

Many of these issues may be addressed at overall facility level but may also have greater or lesser implications for this HPU.

604469 340 .14.05 ACOUSTICS

Noise is a constant source of complaint from patients and may compromise patient comfort and recovery. In particular, noise at night may have a negative impact on the ability of patients to sleep.

Confidentiality of patient information should also be protected.

Noise sources may arise both within and from outside the Unit and include:

- sanitary facilities
- equipment
- other patients
- staff activities e.g. conversations, talking on phone, rounds, meetings, cleaning
- areas of public movement, lift lobbies, etc
- traffic through the Unit including visitors, food, linen and other trolleys, or movement of patients into or out of the Unit
- helipad / helicopter noise.

Solutions to be considered include:

- location of the Unit
- use of sound absorbing materials and finishes
- sound isolating construction
- separation of quiet areas from noisy areas
- changed operational management.

Refer to Part C for further information.

604470 340 .14.10 NATURAL LIGHT

Natural light contributes to a sense of wellbeing for all building occupants

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including patients, staff and other users. A limited number of research studies suggest a link between greater levels of natural light and improved clinical outcomes.

Higher levels of natural light may help people better orient themselves in the building thus enhancing wayfinding. However, glare should be minimised.

Greater use of natural light may also reduce energy usage in terms of reducing the need for artificial lighting.

For these reasons, the use of natural light should be maximised throughout the Unit.

Provide natural light to all bedrooms in accordance with the BCA (ABCB 1990).

604471 340 .14.15 PRIVACY

A major conflict in the design of inpatient accommodation often arises due to the need to ensure that patients and staff can see each other, while also ensuring patient privacy.

Bedrooms and other areas occupied by patients should be designed and configured to give staff the greatest ability to observe patients, particularly unstable or vulnerable patients. Different styles of unit design offer varying degrees of visibility / observation.

604472 340 .14.20 The expected patient mix may be a prime factor in resolving the conflict between observation and privacy. For instance, the following types of patients have differing needs / desires:

- vulnerable elderly patients especially in single rooms who may feel more secure if they can observe staff or can be observed by staff or other patients
- clinically unstable or high dependency patients who may need almost constant observation
- clinically stable but vulnerable patients who may require fairly frequent observation
- supported / self-care patients who require passing observation only.

604473 340 .14.25 Factors for consideration include:

- use of windows in corridor walls and/or doors whilst assisting with observation, require suitable privacy to be maintained
- location of beds to maximise sight lines
- proportion of single bed rooms
- location of bed screens to ensure privacy of patients undergoing treatment
- location of sanitary facilities to provide privacy for patients while not limiting observation by staff
- dual control of privacy devices such as blinds or curtains - by patient, staff or both.

604474 340 .14.30 INTERIOR DECOR

Interior decor includes furnishings, style, colour, textures, ambience, perception and taste. This can help prevent an institutional atmosphere. However, cleaning, infection control, fire safety, patient care and the patients' perceptions of a professional environment should always be considered.

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Some colours, particularly the bold primaries and green should be avoided in areas where clinical observation occurs such as bedrooms and treatment areas. Such colours may prevent the accurate assessment of skin tones e.g. yellow / jaundice, blue / cyanosis, red / flushing.

604475 340 .14.35 SIGNAGE AND WAYFINDING

The orientation of people to and within healthcare facilities, and even safety and security issues, are greatly assisted or hampered by the quality and location of signage which may be directional, used as a means of identification and/or statutory.

604476 340 .14.40 Wayfinding, both signage and design features, needs to reflect the service role and profile of the healthcare facility and should be logical and supportive of the needs of the patients, visitors and staff of the facility.

All signage and wayfinding should be easily understood by staff and the general public, whether patients or visitors. Where necessary and appropriate, languages other than English and /or consistent use of pictograms / symbols should also be used.

604477 340 .14.45 Consideration needs to be given to the system used in the numbering of patient rooms. These rooms should be given non-permanent functional names for future flexibility. Signage should comply with guidelines to promote access for people with disabilities.

604478 340 .14.50 Any signposting, or other initiatives put in place, should be considered from the perspective of out-of-hours use. Certain access points may be locked out of office hours or after visiting hours. Directions indicated through signposting should, therefore, be evaluated in this context.

604479 340 .14.55 Refer to Part C Section 750 - Signage and TS- 2 - Wayfinding for Health Facilities (NSW Health 2009).

Space Standards and Components

604480 340 .15.00 HUMAN ENGINEERING

Human engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities.

Refer to Part C Section 790 - Safety and Security.

604481 340 .15.05 ERGONOMICS

Design and build the Unit to ensure that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

Refer to Part C Section 730 for further details.

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604482 340 .15.10 ROOM DIMENSIONS

Refer to Room Layout Sheets for room dimensions including critical dimensions and agreed methods of measurement. Overall standard bed dimensions (buffer to buffer) of 2250mm long x 1050mm wide are assumed. Beds for bariatric patients are larger.

Minor encroachments, including columns and hand basins (as required), which do not interfere with functions may be ignored when determining space requirements.

604483 340 .15.15 BED SPACING / CLEARANCES

Bed dimensions become a critical consideration in determining final room sizes. The dimensions noted in these Guidelines are a recommended bed space.

In two-bed rooms there should be a clearance of 1200mm available at the foot of each bed to allow easy movement of equipment and beds.

In multi-bed rooms, the minimum distance between bed centre lines should be 2400mm.

In smaller units that may accommodate infants and toddlers, bedrooms that contain cots may have reduced bed centres, but consideration should be given to the spatial needs of visiting relatives. To allow for more flexible use of the room the 2400mm centre line is still recommended.

604484 340 .15.20 SINGLE ROOM SIZE

The size of the single room should cater for the defined patient mix and levels of acuity. Rooms may range from 15 to 18m² and should accommodate the bed size, and any requirements for activities around it. This includes increasing technology, larger mobility devices and where defined an ability to accommodate family / carers (Family Centred Care).

604485 340 .15.25 ACCESS AND MOBILITY

Where necessary, comply with AS 1428 - Design for Access and Mobility (Stds Aust 2003a). This may apply to bathrooms, public access toilets and ensuites designed for independent wheelchair users.

Accommodate wheelchair-bound staff including nursing, clerical, support and management in accordance with AS 1428.

Refer to Part C Section 730 for further details.

604486 340 .15.30 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors. Refer to Part C Section 710 for further details.

Window sill heights should be low enough to permit a view to the outside by a patient lying in bed. This is usually 600mm above the finished floor level.

Ensure doorways are sufficiently wide and high to permit the manoeuvring of beds, wheelchairs, trolleys and equipment without risk of damage or manual handling injury, particularly in rooms designed for bariatric patients.

Safety and Security

604487 340 .16.00 SAFETY

The Unit should provide a safe and secure environment for patients, staff and visitors while retaining a non-threatening and supportive atmosphere conducive to recovery. Patients are often unaware of their capacities or incapacities. They may be weak, unsteady, affected by medication or confused. Whether involving patients or staff, most accidents occur in or near sanitary facilities or when getting out of bed.

Design and construction of the facility and selection of furniture, fittings and equipment should ensure that users are not exposed to avoidable risks of injury.

Facility planners and designers should enhance safety by means of the design, the methods of construction and the materials chosen, including the selection of fittings, fixtures and equipment.

604488 340 .16.05 SECURITY

Facility planners and designers should enhance security by incorporating the principles of territorial reinforcement, surveillance, space management and access control into design decisions.

In relation to inpatient accommodation the following specific security issues should be considered:

- the need for fixed and/or personal duress alarms
- access control particularly at night
- control and monitoring of visitors
- entrapment points for staff
- monitoring of patient movements into and out of the Unit, especially with regard to elderly patients admitted for other reasons but who may also be living with dementia or other forms of cognitive impairment
- the ability of the design to facilitate emergency responses to threat, such as bomb or personal threats.

604489 340 .16.10 RISK MANAGEMENT

The physical environment has a significant impact on the health and safety of end users. A risk management approach ensures risks are managed systematically utilising a process that supports the anticipation, identification and avoidance of risks that may have an impact on users and services.

Broad consultation with all stakeholders and other identified processes may be utilised to identify risks according to the availability of expertise to ensure security, health and safety risks are proactively managed. Individual jurisdictions should refer to their local legislation for further requirements for plant and buildings.

604490 340 .16.15 Occupational Health & Safety (OHS) legislation requires designers to identify, assess and control risks in order to provide an optimal ergonomic design and to do this in consultation with stakeholders.

Safety considerations need to address the health and safety of end users, including staff, maintenance personnel, patients and visitors.

By adopting a risk management approach, many safety and security related hazards can be eliminated or minimised at the planning stage before work even begins, reducing the likelihood of adverse incidents occurring.

Refer to:

- AS/NZS 4360:2004 Risk Management (Std Aust 2004)
- Part C Section 790 - Safety and Security Precautions
- Individual jurisdiction policies and OHS legislation
- NSW Health TS-11 Engineering Services & Sustainable Development Guidelines (NSW Health 2007)
- NSW Health TS-7 Floor Coverings in Healthcare Buildings (NSW Health & CHAA UNSW 2009).

Finishes

604491 340 .17.00 GENERAL

Finishes in this context refer to walls, floors, windows and ceilings.

Refer to Part C Section 710 for further details.

604492 340 .17.05 WALL FINISHES

Adequate wall protection should be provided to areas regularly subjected to damage. Particular attention should be given to areas where bed or trolley movement occurs, such as corridors, bed head walls, treatment areas, equipment and linen trolley bays.

604493 340 .17.10 FLOOR FINISHES

Floor finishes should be appropriate to the function of the space.

Consider acoustic performance, slip resistance, consequences of patient falls, infection control, movement of beds and trolleys, maintenance and cleaning protocols.

Selection of floor finishes should take into account manual handling issues, including the impact of the flooring on push/pull forces for wheeled equipment, and be adequate to avoid the potential for slips and trips caused by joints between flooring.

Refer to Part C Section 710 Space Standards and Dimension and to TS-7 Floor Coverings in Healthcare Buildings (NSW Health and CHAA, UNSW 2009).

604494 340 .17.15 CEILING FINISHES

Ceiling finishes should be selected with regard to appearance, cleaning, infection control, acoustics and access to services.

Refer to Part C Section 710 for further details.

Fixtures, Fittings & Equipment

604496 340 .18.05 CURTAINS / BLINDS

Each room should have partial blackout facilities (blinds or lined curtains) to allow patients to sleep more easily during the daytime, reduce glare and may be considered essential in units dealing with patients with sensitivity to light e.g. neurological units and eye disorders / surgery.

604495 340 .18.05 DEFINITIONS

The Room Data and Room Layout Sheets in the Australasian Health Facility Guidelines define Fixtures and Fittings as follows:

Fixtures: Items that require service connection (e.g. electrical, hydraulic, mechanical) and include but are not limited to handbasins, light fittings, medical service panels, etc, and excluding fixed items of serviced equipment.

Fittings: Items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards, etc.

Refer to Part C Section 710 and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Also refer to Part F, Section 680 - FF&E.

Building Service Requirements

604497 340 .19.00 GENERAL

In addition to topics addressed below refer to:

- Part E - Building Services and Environmental Design
- TS-11 - Engineering Services & Sustainable Development Guidelines, (NSW Health 2007).

604498 340 .19.05 AIR HANDLING SYSTEMS

Provision of natural ventilation to patient care areas should be approached with caution. The management of airflows and the creation of a stable environment are essential to the control of the spread of infection so, generally, air conditioning should be provided.

Refer Part D and HB260 - Engineering down the risk (Stds Aust 2003c).

604499 340 .19.10 ELECTRICAL SERVICES

It is essential that services, such as emergency lighting, telephones, duress alarm systems (including the central computer) and electronic locks, are connected to the emergency power supply.

604500 340 .19.15 INFORMATION TECHNOLOGY / COMMUNICATIONS

Address the following Information Technology / Communications issues and the associated infrastructure requirements to ensure long term flexibility:

- wireless technology
- radiofrequency identification (RFID) for access control, locks, etc
- duress alarm systems - fixed and personal as required
- nurse / emergency call systems
- voice / data (telephone and computers)
- videoconferencing capacity / telemedicine
- electronic medical records
- Clinical Point of Care
- Picture Archiving Communication System (PACS)
- Patient Administration Systems (PAS)

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- Radiology Information Systems (RIS)
- paging and personal telephones replacing some aspects of call systems
- patient multimedia devices including bedside monitors that function as televisions, computer screens for internet access, etc
- bar coding for supplies and x-rays / records
- patient information screen integrated with menu ordering, nurse call and other modalities
- server and communications rooms
- E-learning & simulation
- E-medication management and e-storage systems (e.g. automated dispensing systems).

604501 340 .19.20 NURSE CALL SYSTEM

Healthcare facilities should provide a call system that allows patients and staff to alert other staff in a discreet manner at all times. These systems should be compatible throughout the facility.

Nurse call systems should be designed and installed to comply with AS 3811 - Hard wired Patient Alarm Systems (Stds Aust 1998a).

The nurse call system should:

- allow change of the call notification between end users and the system
- operate within acceptable noise levels
- provide sufficient capacity in terms of the anticipated level of use.

604502 340 .19.25 DURESS ALARMS

Duress alarms - personal or fixed - should be provided in accordance with jurisdiction health policies.

Refer to Part C for further information.

604503 340 .19.30 HYDRAULIC SERVICES

Provide warm water systems as required.

604504 340 .19.35 MEDICAL GASES

Provide oxygen, suction and medical air to each bed as required.

Consideration may be given to recessed or covered service panels enclosing oxygen, suction, and air outlets to minimise the risk of injury to or damage by patients with dementia.

Refer to Standard Components for patient bedrooms.

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COMPONENTS OF THE UNIT

Standard Components

- 604505 340 .20.00 Standard Components (SC) refer to rooms / spaces for which room data sheets, room layout sheets (drawings) and textual descriptions have been developed and are available in a separate section of these Guidelines. Their availability is indicated by Y in the SC column of the Schedule of Accommodation.

Standard components are provided to assist with the development of a project. Their use is not mandatory and if used they can be edited to be project specific.

Refer to Part B Section 90 and the Room Data and Room Layout Sheets.

Non-Standard Components

- 604506 340 .20.05 Non-Standard Components are generally unit-specific, and provided in accordance with specific operational policies and service demand.

- 604507 340 .20.05 There are no Non-Standard Components in this Unit.

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APPENDICES

Schedule of Accommodation

604508 340 .22.00 Patient Areas

Note 1: Designed to AS 1428; Caters for independent wheelchair patients and replaces standard ensuite.

ROOM/SPACE	Standard Component					Qty x m2	REMARKS
1 BED ROOM - STANDARD	Y					15	Number depends on service demand. May be used as Class S/Type 4 Isolation Rooms.
1 BED ROOM - ISOLATION	Y					15	Class N or P as required by service demand. Class N may require anterooms.
ANTE ROOM	Y					6	As indicated for Class N Isolation Rooms if provided.
1 BED ROOM - 16.5M2	Modified					16.5	Optional: May not apply to all jurisdictions. Number depends on service demand.
ENSUITE - STANDARD	Y					5	1 per standard single bedroom
ENSUITE - ACCESS	Y					5	Note 1.
1 BED ROOM - SPECIAL	Y					18	Number depends on service demand
ENSUITE - SUPER	Y					6	Locate with 1 Bedroom - Special. This larger ensuite size is required for the bariatric patient.
2 BED ROOM	Y					25	Provide only if required by service demand
4 BED ROOM	Y					42	Number depends on service demand
SHOWER - PATIENT	Y					4	1 per 4 Bed Room
TOILET - PATIENT	Y					4	1 per 4 Bed Rooms - 'full assist'

604509 340 .22.05 Staff Areas

Note 1: Access to patient areas may depend on equipment stored, frequency of use and number of bays. May be shared with another unit and size reassessed.

Note 2: May be required in specialist units, or shared by 2 units. Depends on operational policy and number of single rooms.

Note 3: Use by allied health / medical staff. Space may be allocated as write up bays dependent on unit configuration and unit.

Note 4: Use by CNC, Clinical Nurse Educator, depending on service demand & operational policy.

ROOM/SPACE	Standard Component					Qty x m2	REMARKS
BAY / ROOM - BEVERAGE	Y					1 x 4	Open bay. Increase area to 5m2 if enclosed room.
BAY - MEAL TROLLEY	Y					4	Depends on catering policies. Size may vary depending on size of meal trolley.
BAY - FLOWERS - OPEN	Y					1 x 2	Optional
BAY - HANDWASH (TYPE B)	Y					1	Unit entrance and corridor recesses, as required.
BAY - HANDWASHING / PPE	Y					1.5	Shared between 1-Bed-Rooms. Refer Part D - Infection Prevention and Control.

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BAY - LINEN	Y					2	Qty & location to be determined for each facility. At least 1 bay per 15 beds.
BAY - MOBILE EQUIPMENT	Y					4	Number depends on equipment to be stored and frequency of use. Ready access to bedrooms.
BAY - RESUSCITATION TROLLEY	Y					1 x 2	
CLEANER'S ROOM	Y					1 x 5	Include separate cupboard for dry goods
CLEAN UTILITY ROOM	Y					1 x 14	For 2 door access, includes medication
STORE - DRUGS	Y					1 x 5	Medication Room (if not included in Clean Utility Room)
DIRTY UTILITY ROOM	Y					12	More than one may be required to minimise travel distances dep on bed configuration (pods)
DISPOSAL ROOM	Y					1 x 8	May be shared between units
MEETING ROOM - 9M2	Y					9	Interview function, small meetings
OFFICE - SINGLE PERSON 9M2	Y					1 x 9	NUM office
OFFICE - CLINICAL / HANDOVER	Y					1 x 15	Locate near staff station
STAFF STATION (MAIN)	Y					1 x 14	Size, location determine for each facility
STAFF STATION - 5M2	Y					5	Optional decentralised bays. Location and number dependent on unit configuration.
OFFICE WORKSTATION	Y					5.5	For ward clerk unless accommodated at Staff Station
STORE - PHOTOCOPY / STATIONARY	Y					1 x 8	Collocate with Ward Clerk
PROPERTY BAY - STAFF	Y					1 x 2	Number of lockers depends on staff complement per shift
STORE - EQUIPMENT	Y					1 x 20	See Note 1
STORE - GENERAL	Y					1 x 9	Size in accordance with service demand & operational policies
TREATMENT ROOM	Y					1 x 14	See Note 2
OFFICE - SHARED 3 PERSON	Y					15	See Note 3
OFFICE - SHARED 2 PERSON	Y					12	See Note 4
STAFF ROOM	Y					12	Unit-specific space. Staff resources, beverage bay.
TOILET - STAFF	Y					2 x 3	

604510 340 .22.10 Shared Areas

Note 1: Optional. Dependent on service demand, proportion of single rooms and unit requirements. Could be a Whanau room (New Zealand).

ROOM/SPACE	Standard Component					Qty x m2	REMARKS
BATHROOM	Y					1 x 15	Provide one per floor, or as required by service demand.
MEETING - MEDIUM	Y					15	Tutorial. Size depends on room usage requirements.
PATIENT LOUNGE / FAMILY ROOM	Y					1 x 20	Note 1
LAUNDRY - PATIENT	Y					0	Only provided in units such as Mental Health & Maternity.

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TOILET - PUBLIC	Y					2 x 3	May be shared by 2 units
TOILET - ACCESS (PUBLIC)	Y					1 x 5	May be shared by 2 units
SHOWER STAFF	Y					1 x 2	Centrally located and shared
SUB TOTAL						n/a	Includes all optional spaces and shared spaces
CIRCULATION - 32%							Circulation depends on number of single rooms and unit configuration.
TOTAL						n/a	

Functional Relationships

- 604511 340 .23.00 See diagrams attached for the functional relationships between zones in an Inpatient Unit.

Checklists

- 604512 340 .24.00 Refer to the Planning Checklists at the ends of Parts A, B, C, and D.

Further Reading

- 604513 340 .25.00 SERVICE PLANNING AND OTHER POLICIES

NSW Health 2005, Policy Directive 2005_602: Area Healthcare Service Plans - NSW Health Guide for Development, NSW Health.

NSW Health 2001, Intensive Care Service Plan - Adult Services, New South Wales Department of Health, Sydney, NSW.

NSW Health 2010, PD2010_005: Same Gender Accommodation, NSW Health.

Queensland Health 2005a, Clinical Services Capability Framework - Version 2.0 Queensland Health.

WA Health 2005, WA Health Clinical Services Framework 2005 - 2015, WA Health.

SA Health 2007, Hospital Model of Care Planning Principles: Working Document, SA Health.

- 604515 340 .25.05 DESIGN GUIDELINES

DHS Victoria 2004, Design Guidelines for Hospitals and Day Procedure Centres, DHS Victoria.

NSW Health 2007, TS-11 - Engineering Services & Sustainable Development Guidelines, NSW Health.

NSW Health & CHAA UNSW 2009, TS-7 Floor Coverings in Healthcare Buildings, V1.1, NSW Health.

WA Health 1998, Private Hospital Guidelines: Guidelines for the Construction, Establishment and Maintenance of Private Hospital and Day Procedure Facilities, 3rd edn, WA Health.

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604516 340 .25.10 BARIATRIC PATIENTS

NSW Health 2005a, Guideline 2005_070: Occupational Health & Safety Issues Associated with Management Bariatric (Severely Obese) Patients, NSW Health.

Queensland Health Large Patient Management Plan and Equipment Database, July.

604517 340 .25.15 ELDERLY PATIENTS

NSW Health 2005b, PD2005_353: Fall Injury Among Older People - Management Policy to Reduce in NSW Health, NSW Health.

InformeDesign, 'Elder-Friendly Design Interventions: Acute Care Hospitals Can Learn from Long-Term Care Residences', InformeDesign Newsletter, vol. 2, no. 7.

ACSQHC 2005, Preventing falls and harm from falls in older people: Best practice guidelines for Australian hospitals and residential aged care facilities, Australian Council for Safety and Quality in Health Care.

604518 340 .25.20 DISABILITY

NSW Health 2008, PD2008_010: Disability - People with a Disability: Responding to Needs During Hospitalisation, NSW Health.

Commonwealth of Australia 1992, Disability Discrimination Act 1992, Office of Legislative Drafting and Publishing, Canberra.

604519 340 .25.25 INFECTION CONTROL

The full list of jurisdictional Infection Control Policies and Guidelines may be found in Part D - Infection Prevention and Control.

604520 340 .25.30 OFFICE POLICIES

Department for Administrative and Information Services 2008, Office Accommodation Guidelines, Government of South Australia.

Department of Treasury and Finance 2007, Victorian Government Office Accommodation Guidelines, State Government of Victoria.

NSW Health 2005b, PD 2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service, NSW Health.

Queensland Health 2008, Queensland Health Work Place and Office Accommodation Policy and Guidelines, Queensland Health.

604521 340 .25.35 SAFETY AND SECURITY

Australasian Health Facility Guidelines: Part C - Access, Mobility OHS and Security, Section 790 Safety and Security Precautions.

NSW Health 2005d, Policy Directive 2005_339: Protecting People & Property: NSW Health Policy/Guidelines for Security Risk Management in Health Facilities, NSW Health.

Part B - Health Facility Briefing and Planning

Queensland Police 2007, Crime Prevention Through Environmental Design (CPTED) Guidelines for Queensland, Queensland Police Service.

604522 340 .25.40 WASTE MANAGEMENT

NSW Health 2005c, Policy Directive 2005_132: Waste Management Guidelines for Health Care Facilities, NSW Health.

Queensland Health 2005b, Waste Management Strategic Plan 2005-2010, Queensland Health.

604523 340 .25.45 WORKPLACE HEALTH AND SAFETY

Australasian Health Facility Guidelines: Part C - Access, Mobility OHS and Security, Section 790 Safety and Security Precautions.

NSW Health 2005e, Policy Directive 2005_409: Workplace Health and Safety: Policy and Better Practice Guide, NSW Health.

State Government of Queensland 2008, Workplace Health and Safety Regulation 2008, Office of the Queensland Parliamentary Counsel.

State Government of Queensland 2009, Workplace Health and Safety Act 1995, Office of the Queensland Parliamentary Counsel.

WorkSafe Victoria 2007, Designing Workplaces for Safer Handling of People, WorkSafe Victoria.

604524 340 .25.50 SIGNAGE AND WAYFINDING

Australasian Health Facility Guidelines: Part C - Access, Mobility OHS and Security, Section 750 - Signage.

NSW Health 2009, TS-2 - Wayfinding for Health Facilities, NSW Health.

604525 340 .25.55 STANDARDS

ABCB 1990, Building Code of Australia., Australian Building Codes Board, Australian Institute of Building.

Std Aust 1998a, AS 3811: Hard-wired patient alarm systems, SAI Global.

Std Aust 1998b, AS 3816: Management of Clinical and Related Wastes, SAI Global.

Std Aust 2003, AS 4187: Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities, SAI Global.

Std Aust 2003a, AS 1428.1-4: Design for Access and Mobility, SAI Global.

Std Aust 2003b, AS 4187: Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities, SAI Global.

Std Aust 2003c, Handbook 260: Hospital acquired infections - Engineering down the risk., SAI Global.

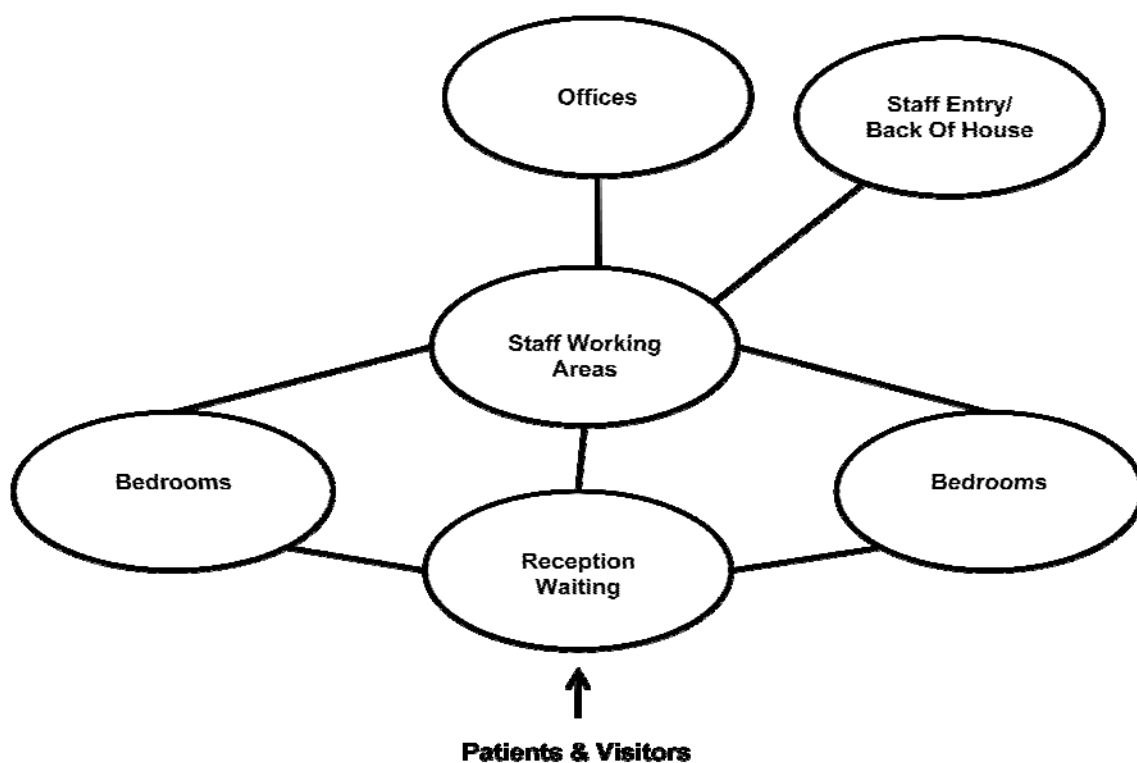
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- 604526 340 .26.00 ABCB 1990, Building Code of Australia., Australian Building Codes Board, Australian Institute of Building.
- Commonwealth of Australia 1992, Disability Discrimination Act 1992, Office of Legislative Drafting and Publishing, Canberra.
- Garling, P, SC, 2008, Final Report of the Special Commission of Enquiry: Acute Care in NSW Public Hospitals, 2008, State of NSW.
- NSW Health 2009, TS-2 - Wayfinding for Health Facilities, NSW Health.
- NSW Health 2007, TS-11 - Engineering Services & Sustainable Development Guidelines, NSW Health.
- NSW Health & CHAA UNSW 2009, TS-7 Floor Coverings in Healthcare Buildings, V1.1, NSW Health.
- Stds Aust 1998a, AS 3811: Hard-wired patient alarm systems, SAI Global.
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- Stds Aust 2003, AS 4187: Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities, SAI Global.
- Stds Aust 2003a, AS 1428.1-4: Design for Access and Mobility, SAI Global.
- Stds Aust 2003c, Handbook 260: Hospital acquired infections - Engineering down the risk, SAI Global.
- Stds Aust 2004, AS 4360, Risk Management, SAI Global.

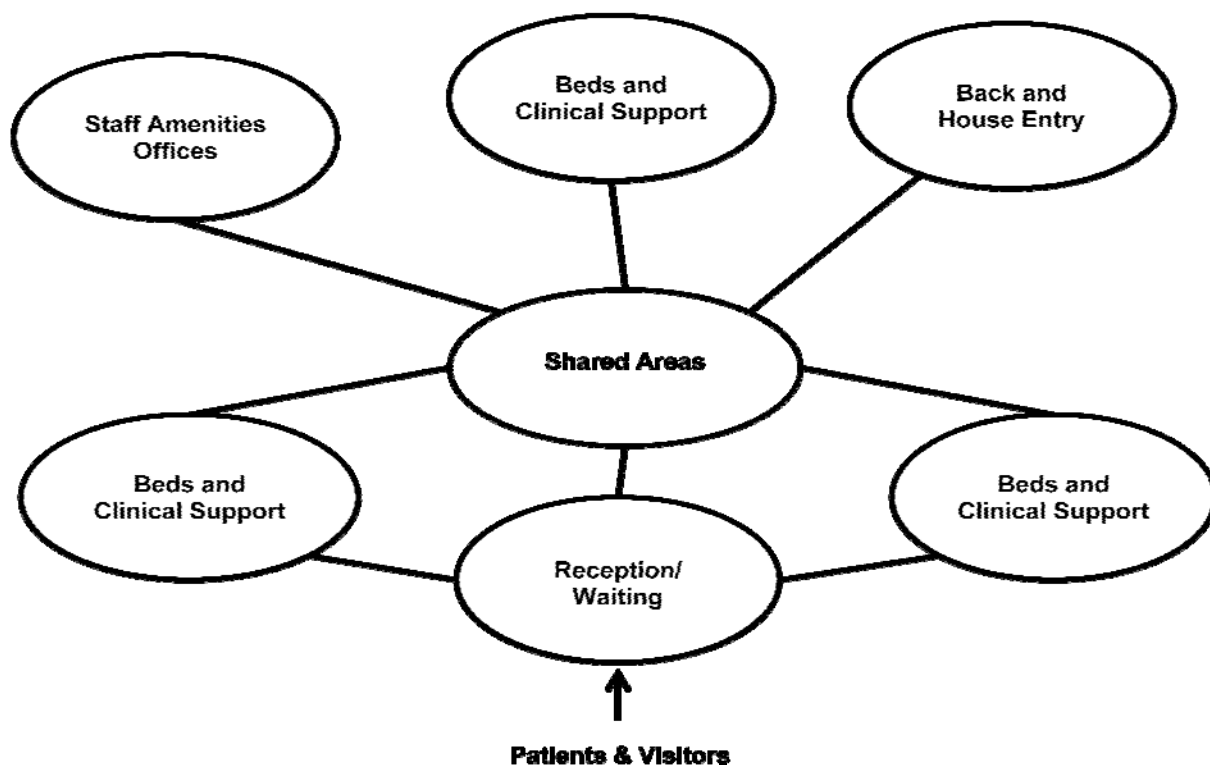
FUNCTIONAL RELATIONSHIPS

The following diagrams set out the functional relationships between zones in an Inpatient Unit.

CENTRALISED CLINICAL SUPPORT



DECENTRALISED CLINICAL SUPPORT



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INTRODUCTION

Preamble

600400	350 .1.00	Because the local hospital may be the only or major provider of health and aged care services in more remote areas, some smaller rural hospitals now operate as multi-purpose services to provide coordinated and cost-effective delivery of health and aged care services. Multi-purpose services bring together a range of different services to best meet the needs of their local community, including hospital care, residential aged care, primary and community health care and family support.

Staff are multiskilled, particularly nursing staff who, unlike their increasingly specialised urban counterparts, must be able to provide hospital care, emergency care and treatment, community health care, and support for elderly residents during the course of a normal working day.

Facilities for residential aged care fall under the aegis of the Commonwealth Department of Health and Ageing. Project staff should familiarise themselves with the Commonwealth Guidelines - Ageing in Place, 2002. <http://www.health.gov.au/internet/wcms/publishing.nsf/Content/ageing-publicat-ageplace.htm>

Introduction

600402 350 .2.00

This Hospital Planning Unit (HPU) for a Multipurpose Service (MPS) recognises the diversity of rural and remote communities and the need to adapt and integrate a range of acute, aged and primary health care services to meet each community's needs.

Partnering of health service providers with other Government and non-Government agencies is supported in order to reinforce each unit's viability and sustainability by more efficient use of available resources. Such partnerships will affect the type and configuration of space that is required by each facility.

The following is an extract from NSW Health Policy Directive PD2005_124 - Multipurpose Services (Guidelines for NSW):

"The Multi Purpose Service model of service delivery is a Commonwealth/State initiative aimed at providing viable health and aged care services to rural and remote communities by integrating acute, high and low aged care services under one management structure.

The MPS model involves the pooling of State and Commonwealth program funds for health and aged care service delivery to allow a more flexible, coordinated and cost effective framework for delivery of an appropriate mix of services to meet community needs."

MPS are managed and operated by the Area Health Service in which they are located. Each Area Health Service is to establish an MPS Committee for each MPS site in accordance with the Health Service MPS By-Laws, to provide advice and make recommendations to the Area Health Service in relation to the operation and management of the MPS.

600403 350 .2.05 ROLE DELINEATION

Project staff should refer to the "Rural Companion Guide to the Role Delineation of Health Services" (NSW Health, Statewide Services Development Branch, First Edition 2004) that was developed to "assist Rural Area Health Services in the provision of services by encouraging the building of partnerships between facilities and promoting intra and inter Area networking."

In situations where overall service level of the proposed acute health care component of the development falls into Level 3 and above, project staff should use individual Health Planning Units but may use this Guideline to develop any Aged Care Facilities that may be collocated.

600404 350 .2.10 SERVICE PLANNING

Before embarking on the capital planning process, a Service Plan must be prepared and must define - as a minimum - the following:

- The philosophy and mission statement on which the services will be based consistent with NSW Health policies;
- Geography and climate including bushfire, flood and other potential risks;
- Socio-demographic profile of the population to be served;

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- Health and illness parameters of the population to be served including mental health and drug and alcohol-related issues;
- Current services and activity parameters (where available) and future health outcomes to be achieved;
- Models of care and services to be provided including partnership agreements with other agencies (eg DOCS and HACC);
- Staffing levels - full-time, part-time and sessional - current and proposed;
- Bed numbers and bed mix.

It is also important to recognise the time lag between commencement of planning and completion of a project and the need to consider projected future needs over the life of the building so as to reduce the need for expensive additions and changes in the future.

The NSW Process of Facility Planning (POFP) defines this stage of the process in detail and may be found at <http://www.health.nsw.gov.au/assets/process.html>

Policy Framework

600405 350 .3.00 NSW Rural Health Plan, September 2002.

Rural Companion Guide to the Role Delineation of Health Services, 1st Edition 2004. (Available from Statewide Services Development Branch, NSW Health).

NSW Multipurpose Service Operational Guidelines (for completion 2007) Inter-Government & Funding Strategies Branch, NSW Health.

Healthy Horizons: A Framework for Improving the Health of Rural, Regional and Remote Australians 1999-2003. NSW Report July 2001 Multi Purpose Services (Guidelines for NSW), PD2005_124, NSW Health.

The Multipurpose Service (MPS) Model, Commonwealth Department of Health & Ageing, 2002.
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/ruralhealth-services-mps.htm>

Integrated Primary and Community Health Policy 2007 - 2012, PD2006_106, NSW Health.

Aged Care - Working with People with Challenging Behaviours in Residential Aged Care Facilities, GL2006_014, September 2006, NSW Health.
http://www.health.nsw.gov.au/policies/gl/2006/pdf/GL2006_014.pdf

600406 350 .3.05 AGEING IN PLACE

Ageing in place is an initiative of the Commonwealth Department of Health and Ageing for providers of residential aged care. In essence it is a policy framework and philosophy that came into being with the introduction of the Aged Care Act 1997 that placed nursing home and hostel care under the same funding umbrella. The following is sourced from the report:

“Ageing in place relates to the provision of responsive and flexible care in line with each individual’s changing care needs in a familiar and appropriate environment.

There is no single ‘right’ way to deliver an ageing in place approach to care. Even amongst those that have adopted ageing in place, homes differ in their capacity to offer it in various circumstances. Some providers are able to allow a resident to remain in his or her own room or unit until they die, with all necessary services brought to the person. Others are able to provide for less than full ageing in place. A service may not be able to appropriately care for a resident in certain circumstances - such as when challenging behaviours associated with dementia that cannot be accommodated in the

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home develop, or if hospitalisation is required.”

It makes economic sense to consider future developments and requirements. Many providers are now planning into the design of new homes for the changes that can be foreseen. Electric scooters, for example, are increasingly popular as are computers, personal phones and other electronic equipment.

Some proprietors are also including new adaptable spaces, including facilities like a theatrette where wide-screen television can be projected.

Adaptations for those with sensory impairment, such as captioned film and television for the hearing impaired, and large-print media for those with vision problems, are also increasingly prevalent.

Hairdressing rooms are a traditional part of some former hostels and this concept is being extended to include services such as a bar, games rooms, card room, craft room, chapel and other services.

Description of the Unit

600407 350 .4.00

DEFINITION OF HEALTH PLANNING UNIT (HPU)

MPS facilities will vary depending on the range of services to be provided, community and cultural characteristics, client profile and size of the proposed facility.

Facilities may include the following:

- Entry / Reception / Patient and Visitor Amenities;
- Emergency treatment and clinical support areas;
- Diagnostic facilities - imaging, pathology collection and storage;
- Acute / special care beds;
- Residential care beds;
- Dementia care beds;
- Clinical support facilities;
- Primary care / community health facilities including consult rooms, offices, workstations;
- General Practice facilities;
- Day care facilities (eg Oncology, Renal Dialysis);
- Ambulance station or bay;
- Runway / helipad;
- General support facilities - Morgue, Kitchen, Laundry etc;
- Staff amenities and overnight motel-style accommodation.

The Schedule of Accommodation is presented in ‘building blocks’ or clusters that can be selected and combined to form a specific accommodation schedule that meets the functional requirements of the service plan.

600408 350 .4.05

PRIMARY AND COMMUNITY HEALTH SERVICES

In addition to emergency and bed-based services, the following primary care and other community support services to be accommodated may include:

- Associated health and social agencies from state or commonwealth eg
 - Home and Community Care (HACC - Commonwealth)
 - Department of Community Services (DOCS - NSW)
 - Aged Care Assessment Teams (ACAT - Commonwealth)
 - Family and Community Services (FaCS - Commonwealth);
- Drug and alcohol services and programmes;
- Mental health services and programmes;
- Health education and promotion;
- Meals on Wheels Association;
- General Practitioner and visiting medical specialist services;
- Pharmacy services;
- Dental and podiatry services;

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- Special services for Aboriginal communities;
- Transport services (community bus);
- Telemedicine in particular telepsychiatry;
- Women's and Men's health services;
- Early childhood services;
- Rehabilitation / Allied Health Services;
- Aged Care Day Services;
- Carer support groups.

Consideration may also be given to providing accommodation for agencies not usually associated with health e.g. senior citizens' association who may value access to meeting venues.

Project staff should familiarise themselves with NSW Health Policy Directive PD2006_106 - Integrated Primary and Community Health Policy 2007 - 2012.

600409 350 .4.10 DAY PROCEDURES

Some centres may require day places for procedures such as haemodialysis, chemotherapy etc. If this is agreed in the Service Plan, the number of treatment bays will need to be assessed. The unit should be located in / near the Acute Bed Area for access to necessary clinical support facilities (utility rooms etc). This allows for appropriate nursing supervision and some increased overnight capacity should the need arise.

If planning for dialysis, project teams should refer to the Health Planning Unit - 620 - Renal Dialysis Unit in Part B of these Guidelines for details.

600410 350 .4.15 EXISTING STAND-ALONE RESIDENTIAL FACILITIES

Exploration of operational policies and relationships e.g. Memorandum of Understanding - MOU, between any free standing hostel and the acute and primary care areas will guide the development of connecting corridors to provide after hours secure access between facilities. This access could also facilitate visits between residents in both facilities.

600411 350 .4.20 CLIENT CHARACTERISTICS

Depending on the Service Plan for and Role Delineation of the proposed project, clients will/may include:

- Patients of all ages and conditions attending primary care clinics, for education sessions and requiring ongoing rehabilitation including women attending for antenatal care and classes and postnatal follow-up;
- Aged persons of varying levels of dependency;
- Patients with dementia;
- Patients requiring respite care;
- Patients requiring palliative care;
- Emergency presentations of varying acuity and fluctuating numbers;
- Short term acute patients of all ages for treatment, observation and recovery;
- Patient with mental health disorders and drug and alcohol related problems;
- Women attending for antenatal care/classes;
- Patients receiving dialysis, chemotherapy and other treatments on a day only basis;
- Patients requiring decontamination (eg farm chemicals).

Operational Models

600412 350 .5.00 HOURS OF OPERATION

It is important to define the hours of operation of all zones of the MPS as they impact on access, security and engineering services (eg air-conditioning).

The hours of operation of the Emergency Unit will need to be established and if not 24 hours / day, arrangements put in place for handling after hours emergencies.

Residential and acute inpatient facilities will operate 24 hours / day, 7 days / week. For security reasons and access to support facilities, it is important that all 24/7 facilities are collocated and not separated by primary care facilities i.e. the residential areas should be contiguous with acute treatment areas.

Community services will usually be restricted to business hours with some evening and Saturday usage. Ideally this zone should be able to be "locked off" when not in use. However, consideration may need to be given to local community and medical staff who may wish to access the area after hours for paperwork etc to ensure they have appropriate access and duty staff are advised of their presence.

600413 350 .5.05 LOCAL COMMUNITY AMENITIES / SERVICES

Planners will need to ascertain the range of services and amenities available within the local township as they will impact on facilities to be provided in the MPS. For example:

- Pharmacy;
- Medical Centre / GP Surgery;
- Dental Surgery;
- Podiatrist;
- Physiotherapist;
- Hairdresser, Dry Cleaner, Launderette and other retail services;
- Funeral Parlour.

Most importantly, it is desirable that the following emergency services are available at reasonable notice:

- Police and State Emergency Services;
- Rural Fire Service and/or Fire Brigade.

as regardless of how efficient the facility's security and monitoring systems are, they will not be sufficient to control an internal situation (whether intrusion, violence, fire or other emergency) without back-up thus leaving staff, residents and the physical facilities very vulnerable. Many or most MPS will probably not have access to security services.

It is also essential that arrangements with the relevant Area Health Service be in place for provision of:

- Supplies and Consumables;
- Linen Services;
- Food Services;
- Waste Disposal Services;
- Oxygen and other medical gas deliveries that may be required;
- Other.

600415 350 .5.10 ACUTE AND SPECIAL CARE ACCOMMODATION

Some acute / special care beds will be required for:

- Patients requiring observation for medical, or minor post-surgical conditions

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following procedures in the unit itself, or as transfers back from other treatment centres;

- unexpected obstetric cases;
- rooming-in, postnatal and neonatal care;
- short-term care-by-parent if acute management of children is part of the role delineation of the MPS;
- palliative care.

600416 350 .5.15 RESIDENTIAL CARE ACCOMMODATION

Aged care accommodation will generally be provided as single bed rooms with individual en suites. However, many agencies responsible for providing such accommodation are now advocating some shared rooms to meet specific cultural and social needs of residents including couples. Adjoining rooms with connecting door may also provide some flexibility of use.

For a whole service, there is to be an average of no more than 1.5 residents per room (in new buildings) and no room may accommodate more than 2 residents. (Department of Health and Ageing, Aged Care Certification Guidelines).

A seamless model of care is desirable that can enable accommodation to adapt to meet the changes in levels of care that may be required by residents over time (ie ageing in place).

All bedrooms should be 18m² to accommodate residents' personal belongings and equipment.

Some en suites may be larger to comply with the disabled access standard AS1428. The BCA requires 1 in 20 residential aged care rooms to comply with AS1428 for a Class 9c building.

600417 350 .5.20 AMBULANCE SERVICES AND FACILITIES

The Ambulance Service is an important and integral service provider in rural areas. Increasingly partnering initiatives are being implemented between Ambulance Services and MPS to improve the care delivered to communities.

Members of the NSW Ambulance Service should therefore be involved in all stages of the capital planning process to provide input into operational policies and the amount of space required to deliver their components of the service.

Consideration should be given to optimum sharing of facilities, particularly staff accommodation.

600418 350 .5.25 OUTDOOR AREAS

Level, attractive, secure and easily accessible outdoor areas are required for all residents. A minimum of about 100m² in garden surroundings is recommended.

Outdoor furniture and features should be provided to enable a range of activities including sitting, strolling around garden beds, gardening, tables to undertake recreational activities out of doors and sheltered, shaded areas for sun, wind and rain protection. A small lockable garden shed should be provided. Easy access to a toilet for people with disabilities is highly

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desirable.

Fencing should be selected so that residents' view of surrounding activities is not obscured and where appropriate, the outdoor spaces for residents should focus on the activity of the neighbourhood.

Special attention will need to be paid to any dedicated area for patients with dementia. Wandering paths should be provided and tree / shrub plantings should not impede lines of sight and patient observation.

An insect-screened, secure, weather-protected verandah linking indoor living areas and outdoor areas provides an alternative sitting space for residents who prefer to sit outdoors, but are still in close proximity to staff assistance.

Operational Policies

600419 350 .6.00 GENERAL

Operational Policies have a major impact on the design and the capital and recurrent costs of health facilities. Policies will vary from Unit to Unit depending on a wide range of factors but the cost implications of proposed policies must be fully evaluated to ensure the most cost-effective and efficient design solutions are developed.

The development of Operational Policies is crucial to defining how the unit will operate within the Health Service as well as in relation to adjoining Health Services from which patients may be referred. Users must define their own policies - refer to Part B Section 80 of these Guidelines for further information. The following are policies specific to this Unit.

600420 350 .6.05 ELECTIVE PROCEDURES

Provision of routine obstetric services and the performance of elective surgical procedures are not usual occurrences in an MPS. If these procedures are to be undertaken, approval should be obtained during development of the Service Plan and additional rooms/spaces allocated to enable these procedures to be performed. Requirements are not addressed in this Guideline.

600421 350 .6.10 FOOD SERVICES

The type of food service (cook fresh, cook chill, cook freeze) will need to be established so that appropriate kitchen and/or storage facilities can be provided, particularly if meals are delivered from an outlying production kitchen only 5 days / week.

A Main Kitchen will be required if the Unit provides a Meals-on-Wheels service.

Regardless of type and extent of food service system, there will need to be cooking facilities (oven, cooktop, microwave) and storage to cater for individual needs, functions and in case deliveries are disrupted e.g. flood.

A kitchenette will be required collocated with the residential Dining Area for residents and a Beverage Bay will be required in the Acute and Primary Care areas.

600422 350 .6.15 LINEN / LAUNDRY SERVICES

Depending on its location, clean linen, other than residents' personal

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clothing, may be delivered to the facility from an external laundry and stored in trolley bays/cupboards. Depending on frequency of delivery, a small holding store may be required for weekend and emergency supplies.

Operational policies should be developed concerning the laundering of residents' clothes recognising that many residents will be unable to do their own laundry. Families may take laundry home or a local Laundromat maybe used. Where neither option is available, all laundering and ironing will need to be done on site.

A domestic laundry presents several operational issues with regard to infection prevention and control, and safety with regard to hot water and appliances such as irons. When used by residents rather than family members, supervision will be required and access controlled. The laundry size and layout should be consistent with guidelines and compatible with ACHS and aged care accreditation standards.

There should be access to an outdoor drying area (lines or hoist).

Consideration should be given to providing a dedicated washing machine for cleaning items such as mop heads and if provided is better located in the Cleaner's Store.

AS/NZS 4146 - Laundry practice - Specifies general laundry practice requirements and recommendations for commercial, industrial, hospital, institutional, on-premise and coin-operated laundries as well as minimum performance requirements which should be attained in order to provide an acceptable level of service.

600423 350 .6.20 MAINTENANCE

Depending on the Service Plan and Operational Policy, a workshop may be included for use by:

- MPS staff employed to provide a range of maintenance tasks;
- External agencies contracted to provide maintenance services;
- Area Health Service staff who provide maintenance services.

If a maintenance contract is in place or proposed that minimises or does not necessitate onsite facilities, this area can be modified or deleted.

Whether visiting or on site, maintenance staff will need access to office / desk space with data cabling, telephone and space for storage of maintenance records, service manuals etc in a dry, well-ventilated and dust-free environment.

Consideration also needs to be given to security and ventilation given the need to use and store items such as flammable liquids, expensive tools, and possibly other valuable items such as mowers / ride-on mowers. Exposure to dusts and fumes must be considered and provided for.

600543 350 .6.25 MANAGEMENT OF BARIATRIC PATIENTS

Management of severely obese (bariatric) patients is becoming of increasing OHS concern across all areas of a health care facility including the MPS with regard to:

- manual handling and associated equipment - hoists etc;
- body storage;
- transfer and transport.

Refer to NSW Health Guideline GL2005_070 - Occupational Health & Safety Issues Associated with Management of Bariatric (Severely Obese) Patients, September 2005. Section 11.2 - When the Patient Dies.

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600424 350 .6.30 MANAGEMENT OF CHILDREN

Whilst children may be seen on an outpatient basis for early childhood clinics etc, there are strict guidelines regarding the admission of children to Multipurpose Services and any admission of child and or parent could only occur if it is within the role delineation of the facility.

However, notwithstanding admission policies, it is always possible that children will present to the Emergency Unit for treatment and may need to be admitted for short periods. There should be policies and procedures in place for such an eventuality with regard to security, and ability to manage a child in a discreet environment.

600425 350 .6.35 MANAGEMENT OF DEATHS

Consideration should be given to any cultural expectations and requirements associated with death and last rites in the community served by the MPS. In particular, the needs and management of the Aboriginal population who may attend a dying member of their community in large numbers must be considered.

Unless a coroner's case, ideally the deceased patient should be transferred directly from their bed to the local funeral contractor's premises but a room that can be used for viewing and temporary holding prior to transfer should be provided. The Viewing Room should be located in a discrete part of the facility with easy access for family / visitors but not in a location that requires grieving persons to walk past service areas to view their deceased relative.

Where there is no local funeral contractor, a morgue should be provided capable of holding two bodies prior to transfer to the designated funeral parlour or to another hospital should post mortem be required.

It is not intended that a funeral director use hospital facilities to prepare a body for interment. However, in remote rural areas where there is no local funeral director, the occasional use of hospital facilities may be approved where it would save the funeral director from a lengthy trip (exceeding 2 hours where the body could deteriorate due to increased temperatures). In such a case the hospital facilities must comply with the requirements of Schedule 2 of the Local Government (General) Regulation 2005 and the Public Health (Disposal of Bodies) Regulation 2000.

Body holding facilities may be a cool room (temperature 0-5°C) or a refrigerated cabinet. The cool room or cabinet may be screened off with curtaining to provide a reasonable environment for viewing a body. The Cool Room must be sized and laid out to allow for safe manual handling including space to use and manoeuvre trolleys.

Transfer of deceased persons from any part of the MSP to the morgue or local undertaker's premises should be able to be achieved in a discrete manner to minimise the concern of other residents.

Subject to approval by the Director-General or delegate, "a body can be retained for a short term (hours to 2 days) in unrefrigerated premises ... if ambient conditions will not lead to deterioration of the body."

Source: Bodies - Retention for Longer than Permitted in Public Health (Disposal of Bodies) Regulation 2002, NSW Health, GL2006_006, 15-May-2006.

600426 350 .6.40 MANAGEMENT OF MEDICAL EMERGENCIES

Facilities should be available for initial treatment, stabilisation and

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observation of acutely ill patients prior to referral and transfer to a centre with a higher level of service. These patients may be residents, emergency / acute patients or from the local community.

Policies and protocols should be established for resuscitation of acute patients, aged residents and visitors, and management of accidents.

600427 350 .6.45 MANAGEMENT OF VIOLENCE AND BEHAVIOURAL DISORDERS

There will need to be policies and procedures in place for managing incidents of violence and patients with challenging behaviour.

Facility design needs to facilitate management of incidents by good perimeter and zone control, design that does not leave staff working alone in isolation, duress alarms, perimeter alarms, CCTV, signage, and good lines of sight.

A quiet/low stimulation room in the residential aged care section is recommended.

600428 350 .6.50 MATERNITY SERVICES

Antenatal care and postnatal follow-up of mother and baby may be part of Primary Care services and facilities may be required for antenatal classes. The MPS will also need to have the ability to deliver a baby in an emergency and for rooming-in afterwards.

600429 350 .6.55 MEDICAL IMAGING

Some MPS sites do not provide medical imaging due to very low demand or lack of appropriate staff. Medical imaging will be provided as appropriate according to the defined role delineation for the service (refer to the service plan).

Medical imaging will usually be via mobile units (general x-ray and ultrasound). It may be operated by trained personal and remote practitioners, often a Registered Nurse, who has completed the Remote Operators Certificate.

The provision of a separate X-Ray Room of 12m² is recommended and can store the mobile equipment when not in use.

The X-Ray Room should be located within easy access for:

- movement of mobile machines to the Emergency Unit and Acute Areas;
- access for clients referred from the Primary / Community Health area.

The need for shielding of imaging room and/or treatment room should be addressed early in the design by consulting a shielding adviser or the equipment supplier. This will enable the full cost implications of the design of this space to be realised early in the design process.

600430 350 .6.60 MEDICAL IMAGING - FILM PROCESSING

The most efficient system of imaging would be a digital mobile system whereby films can be transferred directly to the nominated centre / radiologist for viewing, manipulation and reporting. Computed Radiology still requires plates to be physically transported to the nominated centre for viewing and reporting (with associated transport costs) unless a Remote Operator is able to undertake these functions in which case a reporting

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station and reader will be required. In either instance a computer for patient information will be required.

However, a traditional dark room or daylight processing facility may be the selected option but given that the units by default will be underutilised, chemicals will have to be replaced before their use-by date, which is costly.

600431 350 .6.65 MEDICAL RECORDS

Sufficient secure storage space for medical record files should be allowed so that facilities can comply with Department policy on the storage and retention of patient records and x-rays. However, staff should be encouraged to cull records so that only those legally required to be held are stored in the main MPS.

Depending on the layout, separate spaces for active and non-active records may be considered to ensure active records are close to staff and administration areas.

Medical records storage areas must be secure, not accessible to the public and located so that staff can access the area after hours without risk.

There will need to be space in the aged care residential area for patient care plans and documentation.

Project staff should refer to NSW Health PD2005_254 - Physical Storage of NSW Department of Health Records (Policy and Guidelines for the), Jan-2005 for details refer to "The 7 Principles of Storage" and to the BCA with regard to fire rating.

600432 350 .6.70 PATIENT-HELD / PERSONAL CARE RECORDS

Given the distances patients may have to travel to receive care across a number of sites, consideration should be given to the concept of patient-held files or patient care records in order to ensure continuity of treatment and avoid unnecessary repetition of tests etc.

The following is an extract from Breastcare Victoria publication - Personal Care Record - Evaluation Report:
<http://www.health.vic.gov.au/breastcare/pubs/resources.htm>

"The personal care record is an organised recording booklet that is kept by consumers. The aim of the personal care record is to enable consumers to be more involved in the information recording process during their care.... The record also includes general information relating to the treatment ... as well as specific information that is relevant to their individual care. The personal care record has been developed as a direct result of consumer requests."

However, this approach is not a replacement for traditional medical records but as an added tool for patients and does not replace legal requirements for the site to keep appropriate medical records.

600433 350 .6.75 PATHOLOGY

In the MPS it is expected that:

- routine urine testing will be done in the Dirty Utility Room;
- haemoglobin and blood sugar testing will occur in the Treatment or Consult / Exam Room;
- specimens collected from clients and held prior to being sent to another centre for testing will be stored under refrigeration as necessary;

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- a centrifuge may be required for the separation of samples prior to transfer.

All blood products must be stored in accordance with the Australian Red Cross Blood Transfusion Service requirements. Separate storage will be required for cross-matched and non-cross-matched blood. Refer to AS 3864 (1997) Medical refrigeration equipment - For the storage of blood and blood products.

Refrigerators and freezers must be connected to the emergency power supply and require continuous temperature monitoring devices - usually set above the equipment - and alarms. Alarms will be activated in the case of a power failure or when the temperature falls outside the specified range for the particular product and must ring into a 24 hour / 7 day per week staffed area.

600434 350 .6.80 PHARMACEUTICAL SERVICES

A larger than usual and a wider range of pharmaceuticals (such as vaccines and snake antivenene) will need to be held to cover all eventualities and may be stored in the Clean Utility Room or separate Pharmacy Store. The room will require a refrigerator.

Controlled temperature and humidity is required for drug storage; internal temperatures should not rise above 25°C.

With regard to the administration and storage of vaccines (with particular reference to storage temperatures, light control and refrigeration), project and hospital staff should refer to the following:

Immunisation Services - Authority for Registered Nurses, PD2006_057, July 2006.

The Australian Immunisation Handbook, 8th Edition, Section 1.10 Transport, Storage and Handling of Vaccines, National Health & Medical Research Council (NHMRC), 2003.

If the MPS provides a chemotherapy service, consideration will need to be given to supply and storage of medication and disposal of cytotoxic waste. It is assumed that drugs will be obtained in pre-prepared doses only and no drug preparation will occur on site. Refer to "Handling Cytotoxic Drugs and Related Waste", Workcover, December 2006 (Draft).
http://www.workcover.nsw.gov.au/NR/rdonlyres/E1760144-5676-4E40-A8EE-F75088EA3798/0/handling_cytotoxic_drugs_public_comment_template_5050.pdf

Pharmacy services and dispensing must comply with the Therapeutic Goods Act and the accompanying Regulations.

Many MPSs may also provide a range of pharmacy services to communities where there may not be a pharmacy in town or close by. In such cases a separate Pharmacy Store should be provided with a counter to a public corridor for the issue of prescription medications to clients. Storage will need to be carefully assessed as will security issues with particular regard to theft, money handling etc. The room should be constructed in accordance with: Protecting People and Property - NSW Health Policy and Guidelines for Security Risk Management in Health Facilities, Chapter 18, Security in Pharmacies June 2005.

If Methadone dispensing is one of the services provided, a discrete area will be required. Refer to NSW Health Policy Directive PD2006_052 - Dosing Facilities in Public Hospitals for Patients on Opioid Treatments, July 2006.

It is usual for a Pharmacist to visit the site on regular but infrequent times to audit the drug control practices and to review the Pharmacopoeia. At other times the Health Service Manager, registered nurses or General Practitioner

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are charged with the administration of the Acts and Statutory requirements relating to drug administration.

Also refer to “Guidelines for medication management in residential aged care facilities”, Australian Pharmaceutical Advisory Council, November 2000 3rd Edition.

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/nmp-pdf-resguide-cnt.htm>

600544 350 .6.82 AUTOMATED DISPENSING MACHINES

Sound evidence now exists as to the effectiveness of needle/syringe programs via automated dispensing machines to assist in control of blood borne diseases in illicit drug users, especially users who share injecting equipment and contaminated injecting environments, placing them at high risk of infection by the hepatitis C virus.

If the MPS is authorised (refer below) to install automatic vending machines, they may be placed in a discreet location outside the building near the Emergency Entry. They are locked and unlocked by staff during nominated hours. A sharps waste disposal unit should be located adjacent.

Refer to PD2006_037 Needle and Syringe Program Policy and Guidelines for NSW, June 2006.

“Approval of NSP outlets... Prior to any centre or agency operating a NSP or installing an automatic dispensing machine, approval is required from an authorised officer of NSW Health. Where the approval is for an agency that is part of the NSW public health system, the Chief Executive of the relevant Area Health Service has been delegated authority to approve Needle and Syringe Programs and authorise staff.”

600435 350 .6.85 THERAPY / REHABILITATION

As part of the service profile, it may be appropriate to consider facilities for ongoing rehabilitation (physiotherapy, occupational therapy etc) to obviate the need for long and costly journeys to and from the referring centre. This will also allow the carers to better participate in ongoing care and is particularly suitable for children post-surgery. Secure storage for equipment must be provided for therapy equipment when not in use.

Such a space may accommodate a range of additional services / functions such as:

- mental health and drug and alcohol programmes;
- antenatal classes;
- carer support groups.

600436 350 .6.90 STERILIZING SERVICES

Sterilized instruments and sterile supplies will need to be available. It is assumed that there will be no full sterilizing on site and arrangements will need to be made - via the Area Health Service - for sterilized items to be delivered and returned on a predetermined frequency from the nominated Healthcare Facility. However, a small benchtop sterilizer (autoclave) may be required for emergencies and located in a dedicated “clean-up” area.

Refer to: AS 2182- Sterilizers-Steam-Benchtop.

Used items should be stored in the Dirty Utility Room to await collection.

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600437 350 .6.91 STORAGE - EQUIPMENT

Equipment used in the acute areas such as patient lifters, ECG machine, resuscitation trolley etc are best stored in or near point of use in linear bays.

In the residential area there will need to be central storage for walking aids, commodes, shower chairs, slings and bed accessories.

Increasingly residents have their own equipment such as electric wheelchairs and scooters that ideally should be parked and recharged in their own rooms and will affect the size of those rooms.

600438 350 .6.92 STORAGE - GENERAL BULK

The development of operational policies to ensure the efficient ordering and holding of a reasonable amount and range of goods to keep the MPS operational should accompany the planning and design of this space.

It is recognised that the remoteness of some MPS facilities may necessitate the holding of larger than usual stock levels. However, managers must ensure that the quantity of stock held is adequate rather than excessive. Factors that influence the levels of stock held include:

- remoteness;
- frequency of deliveries;
- differing suppliers;
- delivery quantities and packaging of stock;
- shelf life of products;
- opportunities for bulk purchase discounts;
- minimum order requirements;
- Area Health Service / Regional stores management policy.

The bulk store should have access to a loading and unloading area for the full range of trucks that deliver to the MPS. This range may include fixed and mobile tray trucks that unload from the rear or the side. The Store must be secured against unauthorised access and ideally CCTV-monitored particularly as supplies may be delivered outside of business hours. The loading dock itself needs to be secured to prevent falls e.g. railing with a lockable gate.

600439 350 .6.93 STORAGE - RESOURCE MATERIAL

Primary and Community Health staff use a wide range of equipment and paper handouts in providing their service which are not suitable for deep storage rooms.

Large lockable storage cupboards either in rooms or along corridors - suitably labelled and locked - are proposed to accommodate this equipment and literature and to remove the need for large, inefficient storerooms.

600440 350 .6.94 STORAGE - STERILE SUPPLIES

Sterilised items must be

- stored and handled in a manner that maintains the integrity of the packaging material and prevents contamination of the contents. (sunlight, dust, vermin, insects, moisture etc);
- stored in a clean area such as a cupboard, as opposed to open shelving unless in a dedicated sterile stock store;
- stored so that packaging is not crushed or bent or compressed or punctured or held together with elastic bands or paper clips.

Supplies should be stored off the floor, with the lowest shelf at least 300 mm

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above floor level so as to avoid mechanical damage during cleaning, and storage systems - whether fixed or compactus-style - must comply with OHS requirements.

Temperatures should not exceed 27°C and good ventilation is essential.

Unsterile items should not be stored with sterile items.

Refer to NSW Health Policy PD2007_036 - Infection Control Policy and AS/NZS 4187:2003 - Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities.

600441 350 .6.95 WASTE MANAGEMENT

Climatic conditions in rural areas must be taken into account together with the frequency of waste collection. Clinical and perishable waste (ie wet waste from a kitchen) will need to be stored undercover in a cool, secured space if the climate is hot and waste pick-up is infrequent to control flies, vermin and odour. Sharps bins will need to be in a secured area.

An external bay is required to hold the following items:

- general bagged waste in a dumper bin;
- separate receptacles for glass, paper and plastics if recycling is practiced;
- separate secure area for holding contaminated waste. This area should be able to be secured.

Note: Operational Policies associated with the management of all waste should be developed prior to the planning and design for Waste Holding Areas. These policies should abide by the Local Council and NSW Health Department requirements for the management of waste. Refer to PD132_2006 - Waste Management Guidelines, NSW Health.

For cytotoxic waste management, refer to Section 350.6.75 - Pharmaceutical Services.

600442 350 .6.96 STAFFING POLICIES

The following aspects of staffing will need to be determined:

- overall management of the facility and organisational and funding structures. Refer to "NSW Multipurpose Service Operational Guidelines", Inter-Government & Financial Services Branch, NSW Health;
- integration and coordination of all service providers including clinic management and allocation of session times;
- maximum staff numbers by day and night so that architects and planners can determine sanitary provisions, parking provisions and offices/workstations;
- staffing levels consistent with security needs to ensure staff do not work in isolation. Refer to NSW Health Guideline - Protecting People and Property, Section 17, Security in Rural and Remote Health Services.

600443 350 .6.97 STAFF ESTABLISHMENT

In addition to the Health Service Manager and the nursing staff, the staff establishment may include, on a full time, part time or sessional basis, the following:

- primary and community health staff;
- Aboriginal health workers;
- personal care and residential care assistants;
- community volunteers;
- medical staff;

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- allied health professionals;
- inter-agency staff;
- clerical and administrative staff;
- catering staff;
- domestic staff;
- security, maintenance and ground staff;
- other agencies' staff.

It is assumed that such agencies would have access to shared areas such as staff amenities as well as the consult/interview rooms so that these do not need to be duplicated.

600444 350 .6.98 OFFICES

Dedicated offices should be provided for the Health Service Manager and Nurse Unit Manager. Shared offices or open plan workstations should be provided for all other permanent staff. Staff providing services on a part-time or sessional basis should be provided with a "hot" office - ideally with benches along two sides to optimise the use of space rather than L-shaped workstations.

If other agencies intend to occupy space in the facility their needs will need to be assessed and extra space allocated as required.

Refer to PD2005_576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Planning Models

600445 350 .7.00 LOCATION

The following is an extract from NSW Health Policy Directive - PD2005_124 Multi Purpose Services (Guidelines for NSW).

"Broad criteria for selection of potential sites" are as follows:

- (a) lack of local high and low aged care facilities within the community
- (b) low occupancy rate of the acute facility;
- (c) an acute hospital facility with a significant occupancy by nursing home type patients;
- (d) difficulties of delivering discrete/cost effective services to the community due to viability concerns, infrastructure or other identified reasons;
- (e) ageing community profile.

600446 350 .7.05 BUILDING SOLUTION

A single storey building is the preferred option and obviates the need for lifts and fire stairs, and associated issues of fire egress. However if a 2 storey building is unavoidable, the Emergency/ Acute Areas and Residential Areas must be located at ground level and every attempt should be made to avoid patients having to access upper floors.

Every attempt should be made to ensure orientation provides optimum protection from extreme weather conditions (heat, cold, wind, storm).

The design of the building should utilize energy efficient design principles, including design for natural lighting, natural ventilation, shade and passive heating and cooling where possible.

Design of the residential aged care component should be domestic in scale and appearance but should not compromise the ability of staff to undertake clinical activities - patient handling, hygiene etc, particularly in bedrooms and

en suites.

600545 350 .7.10 BUSHFIRE PROTECTION

Project teams must address compliance with legislative requirements for bushfire protection and the need to determine whether these laws apply for each MPS proposal and site. References include:

- Rural Fires Act 1997;
 - Environmental Planning and Assessment Act 1979 (as amended);
 - Planning for Bushfire Protection 2006.
- www.rfs.nsw.gov.au.

600447 350 .7.15 DESIGNING FOR SECURITY

Given the often very low staffing levels, the vulnerability of the residents and patients and the possible lack of support infrastructure, it is essential that issues relating to security are addressed at every stage of the project to ensure that security is inbuilt, integrated and cohesive and not just random systems imposed on a finished building.

Further details are provided in Section 350.16.05 of this Guideline.

600448 350 .7.20 CONFIGURATION

An MPS facility is a complicated configuration of clinical and domestic spatial relationships and the usual range of flow, functional relationship and interdepartmental relationship diagrams do little to define the key links within the facility or within the different zones. For this guideline the functional diagrams illustrated are the "Functional Relationship Diagram" and the "Residential Care Functional Relationship Diagram" at the end of this Guideline.

Travel distances should be kept to a minimum. The use of a "T" shape design facilitates shorter travel distances as long as all 3 "arms" can be observed.

The arrangement of circulation corridors should facilitate staff observation of patients and work flows. Avoid long corridors with no resting spaces, and dead ends that cannot be observed.

Importantly, design and layout must enable safe staffing of the MPS at night and at any time when staffing levels are low and ensure staff are not working in isolation from their colleagues.

600449 350 .7.25 ADDITIONAL AREAS

Covered public set down/pick up area.

Covered ambulance bay.

Secure courtyards and wandering paths.

Covered outdoor areas.

Secure outdoor child play area.

Consideration may need to be given to a helipad and/or air ambulance runway.

Functional Areas

600450 350 .8.00

ZONES

The MPS will comprise a number of interlinking zones and the composition of each zone will vary for each MPS depending on the service profile but may include:

- Entry / Reception / Waiting
- Primary Health Care Facilities
- Emergency Unit and Ambulance Bay
- Acute Beds and Day Procedure Area
- Shared Clinical Support Facilities
- Residential Care including a dedicated zone for dementia care
- General Support Facilities - Kitchen, Laundry, Mortuary, Stores etc
- Staff Amenities
- Optional areas such as:
 - overnight rooms for visiting staff who may not be able to undertake the journey in a day;
 - short term motel-style accommodation to assist in the attraction and retention of staff.

600451 350 .8.05

ENTRY / RECEPTION / STAFF STATION

In small facilities with limited staff numbers especially after hours, integration of the staff station and the reception area should be considered but only if it allows for observation of acute and residential areas.

In larger Units, the Reception and Staff Station will be separate areas with the latter located to oversight the Emergency / Acute Area.

The Reception should be located at the centre of all activity overlooking the main entry and waiting with direct access to the Primary/ Community Health area.

The zone should also include the office for the Health Manager in a discrete location.

600452 350 .8.10

CLIENT AMENITIES

It should be remembered that in rural and remote areas people might travel long distances to visit a health professional and/or to receive treatment. Facilities for visiting the toilet, washing, breast feeding in private and obtaining refreshments should be available in primary care areas.

Waiting areas should provide opportunities for education such as videos, information pamphlets, noticeboards etc. Access to phones will be required.

600453 350 .8.15

FACILITIES FOR CHILDREN

In addition to change and feeding amenities, a designated child play area is recommended for children and siblings attending clinics, the Emergency Unit and other therapies. Care must be taken to ensure that children cannot inadvertently get out through automatically opening doors, particularly exit doors.

An outdoor play area may be included but consideration must be given to security, sun shading, protection from flies and safety of any play equipment

provided.

600454 350 .8.20 PRIMARY AND COMMUNITY CARE AREA

The Primary and Community Care Area will comprise:

- Waiting area;
- Consult / Examination Rooms;
- Consult / Interview Rooms;
- Dedicated GP Clinic;
- Workstations for visiting staff;
- Activity / Therapy Area if required (accessible to residents);
- Multipurpose Meeting Rooms;
- Patient and staff amenities;
- Clinical support facilities (utilities, storage etc).

The number of multifunctional consult/interview and examination rooms will depend on the range and frequency of services identified in the Service Plan and should be shared by all service providers to increase their utilisation.

Large lockable storage cupboards in the Consult / Exam Rooms can allow intermittent users to hold specific equipment and supplies so that the room can be used at other times rather than being designated for one specific function. Alternatively, cupboards may be recessed off a corridor.

All rooms should have an acceptable level of sound attenuation to ensure client privacy.

An en suite may be provided between two consult/interview rooms so that the rooms are suitable for counselling and treating sexual assault victims, conducting antenatal clinics and other services requiring discrete access to a toilet and/or shower.

In the interests of infection control, and to ensure staff do not have to travel long distances with soiled materials across public areas, a Sub-Dirty Utility Room must be provided.

600455 350 .8.25 ACTIVITY AREA

If an occupational therapist, child psychologist, podiatrist and/or physiotherapist provide services to the facility an activity area will be required. It may also be used for antenatal classes and community health education groups particularly after hours.

This multi-functional area should be designed to enable all providers to utilise the area on days required with adequate lockable storage to hold a wide range of equipment.

After hours access must be controlled.

600456 350 .8.30 AMBULANCE BAY

A covered Ambulance Bay should provide direct access into the Emergency Unit. The entry must be controlled and monitored and should not be used as a general point of access for those attending the Emergency Unit.

This area should comply with the design requirements of the NSW Ambulance Service. Design specifications are available from the Ambulance Service for:

- canopy height;
- width of driveway;
- preferred access design;

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- lighting;
- signage.

A wash-down area with hose and drainage for ambulance vehicles and other health service vehicles may be required but located away from the actual Ambulance Bay. There should be compliance with EPA requirements around disposal of oil, grease and other pollutants.

600457 350 .8.35 EMERGENCY UNIT

The area will comprise an appropriate combination of:

- triage/exam room (handbasin essential);
- sub-waiting;
- resuscitation room;
- treatment bay/s;
- minor procedures room;
- consult/exam/interview room/s;
- patient toilets.

Some of these functions can be combined as long as there is a private space available for triage and/or consultations / procedures. The Consult / Exam / Interview Room should have a second exit for staff safety and may need to be designed for management of violent or aggressive clients. It must be configured so that staff can sit closest to a door and access to an escape route cannot be cut off.

The Resuscitation Room provides for stabilisation and observation of acutely ill patients prior to referral and transfer to a centre with a higher level of service or into an acute bed in the MPS. This room should be equipped for resuscitation, cardiac monitoring, delivery of a baby and a range of procedures that can safely be undertaken in the facility. It should be easily observable by staff and privacy is essential.

The number of Treatment Bays and Consult / Exam Rooms will be determined by the Service Plan.

A separate quiet area will be required if videoconferencing is utilised to link with other centres with a lockable cupboard for equipment on a mobile trolley.

The area requires ready access to x-ray facilities and to clean and dirty utility rooms.

There should be a room that can be used for triage to ensure privacy and ensure triage does not occur in public view. A small sub-waiting area should be provided for waiting patients and families.

It is assumed that the Resuscitation Trolley will be parked in or near this area for quick retrieval. It should be remembered that attendance at resuscitations might also be required in the residential section and outside in the grounds or surrounding areas.

A decontamination facility with holding tank and pump-out capacity connected to the emergency power supply is to be provided adjacent to the Emergency Unit in case of contamination particularly by chemicals in agricultural areas.

Consideration should be given to providing a decontamination shower. The area should be designed to prevent unauthorised access to residential and other areas and must have two points of access/egress to avoid entrapment, particularly after hours.

600458 350 .8.40 ACUTE AND DAY PROCEDURE AREAS

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Will comprise bedroom/s with en suite shower/toilet, handwash and PPE bays.

If dialysis, chemotherapy etc are planned, additional bed bays and patient amenities will be required.

600459 350 .8.45 SHARED EMERGENCY / ACUTE / DAY PROCEDURE AREAS

May comprise:

- Medical Imaging Room and Processing Area;
- Pathology Room;
- Clean Utility Room;
- Pharmacy Store (unless incorporated into Clean Utility Room);
- Dirty Utility Room;
- Bathroom;
- Linen Trolley Bay.

600460 350 .8.50 RESIDENTIAL CARE

It is an accepted requirement that this cluster be planned and designed to resemble a large home rather than a traditional hospital cluster. The MPS will accommodate a wide range of aged persons who may require nursing home, hostel, respite or dementia care accommodation. This cluster should be planned and designed to adapt to any and all of these various needs. A range of spaces has been proposed which can be configured to emphasise the domestic character of this cluster.

Facilities comprise:

- Bedrooms and en suites;
- Lounge / Activity Room/s;
- Dining / Activity Room;
- Kitchenette so that residents can make their own refreshments;
- Quiet Sitting Rooms;
- Sitting Alcoves;
- Domestic Laundry;
- Bathroom.

Provision of clinical support facilities such as Dirty Utility Room, Staff Base / Clean Utility Room will/may depend on the readiness of access to these facilities in the acute area but it is vital that - in the case of the dirty utility room - staff do not have to travel long distances or travel through patient-occupied activity areas in order to reach a pan room.

Special consideration must be given to preserving the independence of those residents who may wish to leave the MPS but a separate entrance is not recommended and staff must be aware of who is in or out of the facility at all times. At the other end of the spectrum are persons with dementia and confusion who will need to be provided with a secure, supportive and safe environment both inside and in the outdoor areas.

600461 350 .8.55 RESIDENTIAL CARE - DESIGN PRINCIPLES

The following is an edited reproduction of the "Draft Design Principles for the Residential Aged Care Component of NSW Multipurpose Services", NSW Department of Health, August 1999, as presented in DS35.

A home-like, comfortable environment is to be facilitated through:

- layout e.g. avoidance of long corridors with no resting spaces, labyrinth design and dead ends;
- careful selection of building materials, finishes, colours and furnishings;
- maximisation of natural light but avoidance of glare;

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- acoustic management to minimise noise;
- layout of furniture so that it promotes interaction and independence.

There must be opportunity for patients to keep / display personal mementos, items of furniture and mobility equipment such as wheel chairs, walking frames and scooters. Rooms size must reflect this requirement so that personal items do not compromise staff safety (eg space to use patient hoists and other patient care equipment).

Design that promotes socialisation and assists residents to retain control of their own lives through the inclusion of:

- a range of special activity spaces ... such as small intimate ... sitting and dining spaces, secure outdoor courtyards, quiet room, tea/coffee making facilities and the provision of a small kitchen where residents can prepare a meal if desired;
- safe wandering areas and path-finding clues to assist residents with orientation;
- designs that promote freedom of movement inside and outside with few obvious barriers to residents. There should be an unobtrusive concern for safety.

Design is to be flexible and adaptable to change so that it is responsive to the needs of the residents, staff and visitors and changes in demand. When possible, the facilities will accommodate multiple use activities.

The provision of a home-like environment must not compromise safety and security of staff or patients i.e. it must not compromise clinical management issues such as manual handling, patient mobility, the ability to manage behavioural issues and security.

Space is to be used so as to assist staff in meeting each individual's special care needs and maximise the efficiency of care. Workflow travel distances are to be minimised.

Safety provisions should be discrete where possible.

600462 350 .8.60

FACILITIES FOR PATIENTS WITH DEMENTIA

Persons with dementia have been disadvantaged in the past due to the lack of suitable facilities to provide them with the level of care and supervision that is required unless they gained admission to specialized units often remote from family and friends.

In order to allow the person with dementia to remain close to family support, consideration must be given to designing the Unit to deliver such care. Current research demonstrates that the symptoms of dementia and confusion are reduced when people and surroundings remain constant. To this end it is recommended that the following points be considered when including the care of people with dementia in the range of services to be provided in an MPS Facility:

- zoning of spaces in the facility so that persons with dementia do not unduly disturb those residents who are astute, lucid and independent. This may be achieved by dividing the Residential Care Cluster into a separate bedroom zone with its own dining, kitchen and lounge spaces;
- provision of secure internal areas to keep confused residents safe;
- well-maintained secure outdoor areas with paving and shading for non-purposeful walking for confused patients who may like to spend extended periods of time out of doors;
- design features to stimulate sensory recognition such as distinct colours for key areas, lighting key points and simplifying pathfinding. These features can greatly assist persons with confusion and dementia to maintain their orientation;
- design to minimise glare (uneven natural lighting, inappropriate light fitting, reflections etc);

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- clear symbolic signage;
- appropriate floor coverings and related features;
- discrete barriers to minimise frustration;
- disguised staff-only doors;
- safety provisions should be discrete where possible.

Planning and design must identify safe evacuation points in case of fire.

Refer to "Adapting the Ward for People with Dementia, R Fleming, I Forbes, K Bennett, NSW Health 2003.

Also to: Dementia Care and the Built Environment, Position Paper 3, June 2004 Alzheimer's Australia.

600463 350 .8.65 PATIENT AMENITIES

Each functional area should have patient toilets including outpatient and day-stay areas. Where chemotherapy is provided, dedicated patient toilet/s are required a) because of potential high volume intravenous fluid administration and b) to prevent contamination by excreted hazardous pharmaceuticals. In addition to en suites, residents should also have access to toilets near recreational areas.

En suite bathrooms in residential areas should be designed to allow the entry and use of mobility and manual handling equipment; to provide turning space for equipment and allow for assistance from either side when the patient is on the toilet. They must also be designed so that there is a space that remains dry during showering for patient's clothing and towels.

Staff must be able to unlock doors from outside in an emergency situation. Door closers are not to be fitted as they create a hazard for users and staff.

It is recommended that a bathroom be provided in both the acute treatment and residential zones for:

- persons presenting to the Emergency Unit who require bathing before or after being treated;
- children who require bathing;
- bathing residents who are unsuitable or unable to be showered;
- residents who require bathing as a treatment e.g. skin conditions, burns.

Baths should be height-adjustable with space to use a patient hoist. Alternatively the space may be designed for use of a shower trolley. Consideration could also be given to the use of a portable bath in which case the fixed bath may be deleted.

600464 350 .8.70 SITTING ALCOVES / QUIET SITTING ROOMS

Small home-like spaces are proposed for the use of residents for the following functions:

- watching the comings and goings of the facility;
- reading newspapers or books in a quiet area;
- craft activities such as embroidery;
- playing cards or board games with friends or family;
- discrete conversation areas;
- time out spaces for quiet contemplation;
- enjoy views of outdoors and garden areas;
- celebrations of residents' birthdays, Christmas etc.

600465 350 .8.75 GENERAL SUPPORT FACILITIES

These areas will/may comprise:

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- Kitchen;
- Storage;
- Waste Holding;
- Laundry;
- Morgue / Holding Area.

600466 350 .8.80 CONFERENCE / MEETING / GROUP ROOMS

At least one multifunctional area of 50m² should be provided for all or some of the following activities. Size and need for additional rooms will be determined by the size of the MPS, level of activity and staffing:

- client/patient training and group meetings;
- staff training, education and meetings;
- community training, education and meetings;
- videoconferencing and teleconferencing for education and/or information;
- exchange;
- use by the clergy for ceremonial and counselling purposes (consideration may be given to providing a dedicated sacred space for such purposes that could also be used for viewing of deceased persons);
- access to Internet information and training;
- additional physical therapies treatment area. If used for therapy activities, careful consideration should be given to storage needs (mats etc).

600467 350 .8.85 OPTIONAL AREAS

Optional areas may include:

- Hairdresser;
- Pathology Room;
- Pharmacy;
- Sacred Space.

Functional Relationships

600468 350 .9.00 EXTERNAL

External relationships will exist with the following health organisations and related agencies:

- Area Health Service responsible for the MPS;
- Other hospitals via telemedicine links;
- Local community facilities e.g. Pharmacy, GP Surgeries, private Dental Surgeries, Podiatrist, Physiotherapist;
- Other agencies such as police, rescue services, air ambulance.

600469 350 .9.05 INTERNAL

The functional relationships of the various zones are important to ensure that the integrity of the respective primary, acute and residential areas are preserved.

Patients and residents being transported around the facility should not have to be transported through public or administrative spaces or past service areas such as kitchens and laundries (this includes bodies). Clinical (particularly acute and emergency areas) and residential aged care spaces must be able to access a dirty utility room without walking through public spaces, administrative areas, patient dining and lounge rooms and the like.

For food hygiene and some cultural reasons, the Kitchen should not be located near the Morgue.

Refer to the Functional Relationship diagram at the end of this Guideline.

DESIGN

Accessibility

600470 350 .10.00 EXTERNAL

In most MPS facilities the only points of entry to the facility after hours should be via either the Main Entry or the Emergency Entry.

A discrete entry to the Morgue if provided will be required.

Access from the Loading Dock.

600471 350 .10.05 INTERNAL

Links between the various zones should be discrete and inhibit inappropriate and/or unauthorised access by residents and the public including the need to secure some areas after hours.

Parking

600472 350 .11.00 There should be convenient visitor and staff parking. The usual negotiations with the Local Council should be undertaken to determine what is required and with the community to determine what is expected.

Night staff must be able to park close to the facility and staff entrances in a clearly visible area with good lighting and CCTV. This will require identification of staff / after-hours entrances in conjunction with making a decision on car park location.

A service vehicle compound may be considered.

For further details refer to Part C, Clause 790 of these Guidelines.

Disaster Planning

600473 350 .12.00 Some services may participate in the Area-wide Disaster Retrieval Plan. In this case a Disaster Equipment Cupboard will be required to hold all necessary equipment, clothing and manuals. This cupboard is ideally located in the Entry Airlock and adjacent to the Emergency Unit. This location permits direct access for loading into either Ambulances or other authorised vehicles for transportation to the disaster retrieval site. There should be sufficient space in front of the cupboard to enable the large equipment to be loaded and unloaded with ease.

In the case of fire, whether building or bush fire, there needs to be a water supply for fire fighting, and associated pumps particularly in areas with no reticulated water supply or inadequate pressure and flow as may be the case in many rural areas. Water tanks where installed need to be connected to the emergency power supply and secured against damage / vandalism / theft etc.

Also refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

600474 350 .13.00 The infectious status of many patients admitted to or attending the MPS may be unknown. All body fluids should be treated as potentially infectious and

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adequate precautions should be taken particularly with small children and the elderly who often have reduced capacity to resist infectious diseases such as gastroenteritis and respiratory diseases.

A single room should be available for standard isolation purposes e.g. MRSA, respiratory and gastrointestinal infections in the Acute Treatment Area.

A policy on the location of handbasins other than those in en suites should be developed prior to the commencement of the design process. They should be located in all clinical areas including Emergency Unit, acute care, examination / assessment rooms, triage room, consultation rooms, GP clinic, day stay and outpatient areas. Handbasins have been omitted from the Residential Care bedrooms to promote a domestic environment but clinical handbasins should be located in alcoves along the corridor.

Refer to NSW Health Infection Control Policy - PD2007_036 and to Part D of these Guidelines - Infection Prevention and Control.

Environmental Considerations

600475 350 .14.00 ACOUSTICS

Noise is a constant source of complaint from residents/patients and may even be detrimental to their condition; noise at night is of particular concern. Designers should consider potential noise sources both within the facility, such as equipment, plumbing, TVs, disturbed or noisy residents/patients etc, and outside of the unit, such as helicopters, traffic etc. Design and finishes should assist in minimising noise transmission.

600476 350 .14.05 LIGHTING

Lighting in aged care facilities requires careful consideration and the following principles should be followed when designing the lighting system for any MPS facility.

Natural lighting is known to contribute to a sense of well being and assist resident/patient orientation. A design objective should be to maximise the use of daylight throughout the facility including use of skylights while minimising glare and shadowing and avoidance of excessive illuminance variation.

Light fittings in residential areas should be domestic in style and positioned to eliminate the possibility of shining in the eyes of residents while still being suitable for tasks such as reading and handicrafts. The use of surface-mounted fluorescent fittings should be avoided; the ambience resulting from this type of lighting is not conducive to a domestic setting. Wall lights, recessed downlights and wall-mounted uplighting create a more pleasant atmosphere and de-institutionalise the facility. Large switches should be included in all light switches to facilitate use by residents with arthritis.

Lighting in corridors must be domestic in nature and of appropriate lux to minimise glare and avoid excessive illuminance variations while providing sufficient light for residents and staff to safely undertake their required activities.

Night lighting at 400 mm from the floor should be included in acute and residential areas to ensure appropriate night vision especially for residents walking to and from the toilet. A small night light in patient toilets may assist wayfinding but sensor lights should be avoided as they can startle.

Lighting connected to a photoelectric cell at all external doors and lighting in car parks and courtyards will assist in maintaining security after dark. Lighting must be sufficient for facial recognition where CCTV cameras are

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installed. Lighting controls must be inside the facility in a secure location.

Rebound lighting from passing traffic and adjacent premises must be taken into account to avoid disturbance to residents. Equally, external lighting must be appropriately positioned and shielded to avoid disturbing neighbours whilst still providing an effective level of lighting for staff and public safety.

Lighting in acute clinical areas will comply with normal hospital standards.

600477 350 .14.10 PRIVACY AND OBSERVATION

One of the major conflicts in residential and inpatient accommodation design is to allow both residents/patients and staff to be able to see each other while also ensuring resident/patient privacy. The different styles of design offer varying degrees of visibility/observation. Observation and visibility also have security implications e.g. access control.

The expected client mix of a residential unit will be the prime factor in resolving any observation versus privacy needs. The following types of residents/patients have differing needs / desires for observation or privacy:

- patients with dementia / confusion;
- high dependency residents who need almost constant observation;
- intermediate care residents who require fairly frequent observation;
- minimal / self care residents who require passing observation.

Factors, which can help alleviate this conflict, include:

- location of the bed within the bed room so that the patient is not in full line of sight from the door;
- provision and location of bed screens so that a patient undergoing treatment is protected from view;
- location of patient toilets and showers so that privacy and safety are maintained for patients while not preventing observation by staff.

It is proposed that the following parameters be used when developing the design of the various clusters:

- spaces allocated for acute care, children and observation should be adjacent or close to the Staff Station for continual observation. It is assumed that acutely ill adults and children will be held in the Emergency Unit under continual observation while a transfer is organised to a higher centre;
- residential spaces should maximise privacy while allowing for regular contact as required as well as immediate contact via a nurse call system.

The design should take into consideration the ability of the proposed number of staff to manage the residential and acute areas after hours.

600478 350 .14.15 DÉCOR

Décor is colour, furnishings, style, textures, ambience, perception and taste and can be very personal and subjective. Special consideration should be given to the cultural needs of specific groups in Australia's multicultural population.

Aboriginal communities have special requirements not only with regard to décor but also with regard to the design and configuration of health facilities. Information from such groups should be sought through all stages of the planning process.

In addition, the age / generation of the residents must be considered as "modern" colours and designs may not appeal to older people.

Consider the following:

- some colours, particularly the bold primaries and green should be avoided, particularly in areas where clinical observation occurs;

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- extremes of colour and patterns such as bold checks/stripes should not be used;
- there should be clearly discernable difference between wall and floor finishes;
- persons with dementia can be assisted with pathfinding and orientation by using signal colours to identify key areas e.g. a purple door can denote a bedroom while a yellow door can denote a bathroom or toilet.

Space Standards and Components

600480 350 .15.00 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, furniture, fittings and equipment (FF&E) and work environment to the physical and cognitive capabilities of all persons using the building.

As the requirements of Occupational Health and Safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in Part C of these Guidelines in addition to OHS related guidelines.

600479 350 .15.05 ERGONOMICS

MPS should be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff as well as the welfare of patients.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

600482 350 .15.10 ACCESS AND MOBILITY

Where necessary, design must comply with AS 1428 - Design for Access and Mobility.

Refer to Part C Section 730 of these Guidelines for details.

600546 350 .15.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are also addressed in detail in Part C of these Guidelines - Section 710 - Space Standards and Dimensions.

600483 350 .15.20 DOORS

Perimeter doors should allow good visibility of persons at the door, resist break in and should be alarmed to notify staff of absconding patients, doors left open that may pose a security risk, and potential break-ins.

Activity room doors should allow easy access to garden areas.

Bedroom doors, particularly adjoining doors, should be painted in different

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colours or with some other means of identification for residents.

Doors to staff-only areas or rooms that staff do not wish patients to enter should blend into the surrounding area.

Doors should be able to withstand any damage caused by constant traffic including wheelchairs and resident/patient trolleys/beds.

The needs of residents/patients, visitors and staff with disabilities need to be considered with provision of hold-open or delayed closing devices.

Observation panels may be needed to ensure that potential hazards can be seen e.g. to prevent injuries from opening doors. Observation panels in perimeter or internal doors intended for resident use need to be designed so that people of different heights who are either standing or sitting (in a wheelchair) can see through them.

Also refer Part C of these Guidelines for information.

600484 350 .15.25 WINDOWS

The design and number of windows should maximise natural light in the facility.

Other considerations:

- the height of the windowsills should enable patients in their beds to see outside from their beds recognising that most beds will be set low to the ground to facilitate patient mobility;
- all windows should be able to be opened to allow residents access to fresh air during temperate periods. This is of particular relevance for older residents who express a preference for natural ventilation. However, the extent of the opening should be restricted;
- selecting window opening mechanisms that prevent persons from climbing in and out of windows. This is of particular relevance in areas accommodating persons with dementia, children, patients with mental health conditions;
- glare and excessive heat gain or loss needs to be controlled;
- outside lighting provides an outlook at night;
- care should be taken that patient areas are not overlooked so as not to compromise the patient's sense of security and privacy;
- safety glass should be installed in areas where it may be damaged by furniture and people during everyday activities and in areas where there is a risk of violence e.g. Emergency Unit and Dementia Care.

600485 350 .15.30 WINDOW TREATMENTS

Windows may require either or both external and internal treatments.

Options to be considered should include sunshading, blinds and curtains. These may be for resident/patient comfort, light control, privacy, to produce a home-like atmosphere and/or for energy conservation. Fabrics / materials must meet fire safety requirements.

Pull-down cords should be avoided as a potential safety risk to children, confused and mental health patients.

Insect and security screens must be provided where windows are able to be opened. They must be accessible to staff from inside the room.

600481 350 .15.35 SIGNAGE

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Clear signage, appropriately sized and placed is an important consideration particularly for the elderly. It should be sufficiently explicit to enable residents/patients to look after themselves and where appropriate to have freedom of movement about the facility. However, it should not detract from the desired non-institutional character of the environment.

Other cues to assist pathfinding could include consideration of distinctive door colours, cutting designs into vinyl and carpet, different wall colours to denote changes in zones, distinctive lighting patterns and allocating a certain motif, design feature or fabric to each cluster to provide a specific atmosphere that promotes recognition. This is particularly important for persons who are easily disorientated such as persons with dementia.

Wall-mounted signage should provide contrasting backgrounds to the adjacent wall colour. Ceiling-mounted suspended signage may be used but whichever is selected, it must be clearly visible to people in wheelchairs.

General use of symbolic signs is recommended.

Signs in MPSs should be larger (by 50%) than those specified in TS 2: Signposting for Health Care Facilities.

Safety and Security

600547 350 .16.00 GENERAL

Safety and security involves people and policies as well as physical aspects but the latter must be built in as part of overall design and not superimposed on a completed building and surrounding outdoor areas. A safety audit via a risk analysis of potential hazards should be undertaken during the design process.

Part C, Design for Access, Mobility, OHS and Security, Section 790 - Safety and Security Precautions.

600486 350 .16.05 SAFETY

Careful consideration needs to be given to the impact of finishes, surfaces and fittings on safety. Every aspect of the facility design must be assessed for the potential for accidents or hazards to residents/patients, visitors and staff.

Sanitary facilities are where a significant number of accidents or mishaps occur, to residents /patients, visitors and staff. Residents/patients are often unaware of their capacities or incapacities. They may be weak, unsteady, affected by medication or confused.

In particular, consider:

- choice of floor covering;
- slippery or wet floors;
- protrusions or sharp edges;
- stability and height of equipment or fittings including chairs;
- direction of door openings (outwards);
- warm water supply to obviate scalding risks;
- equipment to ensure safe manual handling particularly bariatric patients;
- positioning of the toilet to allow assistance from both sides and to facilitate the rescue of a collapsed or injured patient.

Also refer to the Commonwealth Department of Health and Ageing's "The Guide: Implementing Occupational Health and Safety in Residential Aged Care"

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/ageing-manuals-ohs-ohsindex.htm-copy2>

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Refer to: Manual Handling Incidents - NSW Public Health Services - Policy/Best Practice Guidelines Prevention. PD2005_224, 27-Jan-2005.

Access to boiling water can be provided using design solutions that reduce the hazards associated with access to boiling water.

600487 350 .16.10 SECURITY

Security issues are of increasing importance due to the prevalence of violence and theft in the health facility environment and, particularly in the MPS, the low staffing levels. Design should address:

- personal security of residents such as tracking devices;
- personal security of other patients, visitors and staff against violence, intrusion;
- protocols for management / containment of people with behavioural disturbance;
- assets of residents/ patients and staff;
- containment of residents with dementia;
- security of premises, equipment and supplies;
- drug security;
- access and egress control to prevent unauthorised access and to facilitate management of security incidents;
- night staffing conditions and how staff arrive and depart at night;
- all entry / exit points including delivery areas should have a CCTV system linked to central monitor/s;
- alarm reed switches to all external doors including fire doors combined with intercom and security camera monitoring of the main entry are essential;
- perimeter lighting, fences and signage;
- consider electronic lock-down of perimeter doors so that staff do not have to do a manual check;
- open undercroft areas to be secured against any unauthorised access;
- line of sight - staff ability to sight each other and to sight patients (staff not working alone in isolation);
- internal security incidents including access control between different spaces (eg between GP clinic and acute care areas) and ability to contain incidents;
- external security incidents;
- duress alarms, perimeter alarms, CCTV and burglar alarms.

Duress alarms and patient tracking systems should extend to outdoor areas including courtyards and car parks. Opportunities to integrate duress alarms, perimeter alarms, patient call systems and telephone systems may improve security, efficiency, and provide cost benefits and should be considered.

Refer to:

- Protecting People and Property - NSW Health Policy and Guidelines for Security Risk Management in Health Facilities, December 2003;
- AS 4485 Security for health care facilities;
- AS 4485.1 - General requirements AS 4485.2 Procedures guide.

AS 4485 provides guidance for the development and implementation of the policy, principles and procedures necessary to establish and maintain an effective security service for health care facilities.

Project staff should seek advice from experts in the field including the Area manager for security.

Finishes

600488 350 .17.00 SURFACE FINISHES

All surfaces should be durable and easily cleaned without being institutional in appearance.

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Painted surfaces should be washable.

600489 350 .17.05 WALL PROTECTION

Wall protection will be required wherever there is potential for damage from trolleys etc. Timber grab and crash rails should be considered as an alternative to the moulded polyvinyl products as they are cheaper, easier to clean and refurbish and maintain a quality appearance for a longer period.

Refer to Part C of these Guidelines.

600490 350 .17.10 FLOOR FINISHES

A major proportion of cleaning time can be attributed to care of floor surfaces and the recurrent cost implications of this should be considered when selecting floor finishes.

Floor coverings must fulfil the following functions:

- be noise-absorbent; enhance acoustic properties;
- not retain odours from spills;
- be easily cleaned and maintained;
- enable residents with walking aids to move with ease;
- enable patients with shuffling gaits (many dementia patients) to walk with ease;
- allow for easy movement of trolleys and mobile equipment;
- comfortable and cushioned underfoot (particularly for staff walking long distances during a course of duty);
- meet fire rating indices.

600491 350 .17.15 It has always been assumed that carpet is more “domestic” in nature than other materials of resilient finish such as linoleum, vinyl and rubber but there are many products on the market that provide just as effective an ambience.

If selected, carpet must not hinder the movement of mobile equipment (push / pull / steering forces) and is not suitable in areas where body substance spills are likely. Incontinence, infection control and potential residual odour issue need to be considered.

Where carpet is the preferred floor covering option, slabs (or other substrates) under carpet should be sealed and carpet-shampooing equipment should be considered an essential item in the Furniture, Fitting & Equipment budget as staining is a continuous problem.

Changing the colour of floor coverings to denote changes in function should also be considered to enhance resident orientation. This is of particular importance for persons with dementia.

To comply with OHS requirements, flooring in wet areas should be safety (non-slip). In showers with running water and barefoot use, enhanced safety flooring with a profiled surface should be used. The slip resistance properties of flooring should comply with the relevant Australian Standards. Any vinyl seams in wet areas must be welded and vinyl should extend high enough up walls to prevent water entering behind the vinyl and causing infection control risks.

For additional information on materials, construction and standards, refer to ‘Wall and Floor Finishes for Wet Areas’, Technical Report, 2007, CHAA.

Also refer to Part C of these Guidelines.

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600492 350 .17.20 CEILING FINISHES

Selection of ceiling finishes should satisfy design, acoustics, durability and security requirements and meet the criteria for satisfactory fire index ratings required by the BCA in accordance with AS 1530.

Options include set plasterboard or ceiling tiles.

Access hatches will be provided and should be located in corridors to reduce disruption to patients and residents during maintenance.

Refer to Part C, Section 710.55 of these Guidelines for further details.

Fixtures, Fittings & Equipment

600493 350 .18.00 Within the context of the Health Facility Guidelines and the Room Data and Room Layout Sheets in the associated Health Facility Briefing System (HFBS), Fixtures and Fittings can be described as follows:

Fixtures: Refers to fixed items that require service connection (eg electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc. Not to be confused with "Serviced Equipment" such as theatre pendants etc.

Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Also refer to Part C, Section 710 of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

600494 350 .18.05 PATIENT TOILETS

In the residential facilities, all toilets should be designed for full assistance and wherever possible positioned in the centre of the wall against which they are mounted to allow sufficient space either side for staff to assist residents (fully assisted toilet) with drop-down grab rails on either side. However, care with installation of drop-down rails is essential as they can be difficult to maintain and may present safety issues with the potential for patients to injure themselves when they fail.

The height of the toilet may need to be approximately 60mm higher than standard height to facilitate easier access by residents. This increase in height can be achieved by using a standard bowl with an elevated seat, if required.

Toilet paper holders should be appropriately mounted for easy access.

Grab rails should be located near and parallel to the doorways of en suites as this is the first point of contact for residents as they enter.

600495 350 .18.10 TAPWARE

Taps in resident bathrooms must be suitable for residents with arthritis / restricted movement.

600496 350 .18.15 BOILING WATER UNITS

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Boiling water units provided in resident/patient areas for making beverages are to be placed inside a lockable cupboard to prevent scalding of persons who do not have complete physical and sensory capacity.

Building Service Requirements

600497 350 .19.00 COMMUNICATION SYSTEMS

Communication systems may include:

- staff call, emergency (cardiac arrest) call;
- personal duress system and security assistance;
- alarm systems where necessary (eg dangerous drug cupboard opening);
- resident/patients monitoring;
- telephone services for staff, residents/patients and visitors. The extent of provision, location, type (ie fixed or portable) and options for charging phone calls will need to be addressed in Operational Policies. If phone cards are to be purchased the holding of cash and security must be addressed;
- posting and receiving of mail;
- computer and internet access for staff and residents;
- teleconferencing or telemedicine facilities that are used for staff education;
- management and client services.

Any communications systems dependent on power supply including nurse call, telephone, duress and other alarms must be connected to the emergency power supply.

Telecommunications cupboards (TCs) or rooms must be planned in the early stages of a building design for the accommodation of distributor equipment and a range of communications equipment including central intercom equipment, nurse call, MATV, engineering data and other digit systems that may use the network. Although not usually included in a schedule of accommodation, a TC has been included in this instance to ensure the space is allocated and another functional space does not have to be sacrificed later.

It is essential that the communications cupboard is located inside the building for security reasons and to facilitate staff access if needed as outside locations may be subject to vandalism, flood etc. The cupboard should be locked so that tampering by unauthorised persons cannot occur.

600498 350 .19.05 TELEHEALTH

"Telehealth is the transmission of images, voice and data between two or more health units via telecommunications channels, to provide clinical advice, consultation, education and training services.

Telemedicine connects patients, carers and health care providers thereby improving access to quality health care, particularly in rural and remote parts of NSW and covers a range of modalities" (NSW Health TeleHealth Initiative).

Videoconferencing - using a video link to conference with person/s in another location.

Teleconferencing - using a telephone to communicate with persons in more than one other location from any phone with the capacity for 'hands free operation.

Telemedicine - using an ISDN line to transfer data from one point to another. This data could be x-ray images, pathology slide images or electrocardiographic images.

Telepsychiatry - using an ISDN line for consultation purposes.

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These technologies offer vast opportunities for MPSs to access training, education, clinical expertise and contact with peer groups that have previously been denied to rural service providers and patients on such a regular basis.

It is recommended that a policy be developed early in the planning stages to define the range of videoconferencing, telemedicine and teleconferencing services that will be required in the facility to support the range of services to be provided.

The requirements for a teleconferencing room are provided in the Appendices.

600499 350 .19.10 WARM WATER SUPPLY

In health care facilities the supply of temperature controlled warm water is required to help minimise the risk of accidental scalding of patients during ablutionary or bathing procedures. Such outlets are not intended to provide visitors or staff with a degree of protection greater than that normally available in their homes and at large.

Warm water should be provided for patient baths, patient showers and patient handbasins, and for staff handbasins in any areas through which a patient might pass.

Also Refer to Part E of these Guidelines.

600500 350 .19.15 MEDICAL AND OTHER GASES

Medical gases comprising oxygen and suction should be provided to all areas (acute and residential bedrooms, treatment areas etc) and should be piped from a bank of reticulated cylinders and compressor located in a service area secured from unauthorised access. The compressor must be connected to the emergency power supply. Provision of an all portable cylinder system is not recommended as it reduces staff response time in emergencies, increases manual handling risks for staff and increases trip hazards for staff, patients and visitors. However portable cylinders of both gases and portable suction should be available as backup in case of systems failure.

In order to maintain the domestic nature of the residential bedrooms, gases may be concealed at the bedhead.

The decision to similarly pipe medical air to the resuscitation and acute treatment areas will depend on potential usage or portable cylinders may be used.

LPG tanks will be required in areas with no town gas. These also must be secured from unauthorised access.

600501 350 .19.20 VENTILATION / AIR CONDITIONING

All areas should be air-conditioned.

Evaporative type systems do not cope adequately in temperatures above 40°C and the use of bore water in many areas causes considerable corrosion to the plant.

Where possible design features should maximise the use of natural cooling and heating.

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A mixture of ducted systems to the general areas and split units to residential areas that can be individually controlled should be considered. Air conditioning to general areas such as Primary Health may be ducted providing that the plant is appropriately sized to minimise operating and maintenance costs.

Individual air-conditioning units must be secured and not accessible to the general public.

600502 350 .19.25 POWER SUPPLY

Emergency generators with sufficient capacity to service essential power requirements are mandatory. Given that many MPSs are located in remote areas prone to failures in the electrical grid system, this type of equipment is essential to the safe operation of the facility.

The following are examples of services to be connected to the emergency power supply:

- lighting;
- water pumps;
- telephone;
- duress and other alarms;
- nurse call system;
- bed side power points and essential medical equipment.

The system must be secure and cut in automatically. The secondary switch must be inside the building so that staff do not have to go outside to switch the power on.

600503 350 .19.30 STRUCTURAL SYSTEMS AND LININGS

The construction of MPS facilities in multiple sites in remote and rural areas has demonstrated the need to be particularly vigilant in the selection of structural systems when buildings are being planned and designed. The following guidance is provided from experience gained on recent MPS capital projects and does not obviate the need to comply with the other design requirements such as noise control and impact damage minimization included in this guideline:

Flooring. Reactive soil conditions in many areas negate the specification of a rigid slab system. A lightweight adjustable steel structure with appropriate flooring systems is recommended for consideration as the preferred alternative.

Walling. The selection of an appropriate system will depend on local conditions and suppliers. The preference is for steel or timber wall framing utilising plasterboard linings in dry areas and fibrous cement linings in wet areas.

Wet Areas. All en suites, bathrooms and wet areas should be fitted with a waterproof membrane to create a primary impervious barrier.

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COMPONENTS OF THE UNIT

General

600504 350 .20.00 Rooms/spaces are defined as “Standard” and “Non Standard” Components. Standard Components (SC) refer to rooms/spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed and may be found in the Guidelines. Their availability is indicated by “Y” in the SC column of the Schedule of Accommodation.

Refer to Part B, Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets.
www.healthfacilityguidelines.com.au

Non-Standard Components are generally very unit-specific and are described below.

Non-Standard Components

600505 350 .21.00 RESIDENTIAL BEDROOM

DESCRIPTION AND FUNCTION

Personal living / sleeping space for residents of all levels of care. Some double rooms or connected rooms may be provided for use by couples.

The Commonwealth Department of Health and Ageing's Aged Care Certification Guidelines - Fact Sheet 3 states: “No mandatory minimum requirement will apply for resident sleeping space but accreditation will have regard to space issues relating to access, mobility and occupational safety. Consideration will be given, for example, to the adequacy of space for the movement of beds, large wheeled reclining lounges, flotation chairs and mobile baths/shower trolleys through doorways and corridors.”

This Guideline recommends that the minimum usable floor area excluding any area taken up by internal door opening should be 18m² to allow space for some personal possessions. Consideration must be given to the space needed for a resident's to park and charge their own wheelchair or “gopher”.

Ideally the rooms should have views. Direct access from bedrooms to outdoor areas, whilst desirable for residents, raises security issues with regard to possible unauthorised access out of sight of staff and should be avoided.

600506 350 .21.05 LOCATION AND FUNCTIONAL RELATIONSHIPS

Ideally, all bedrooms should be easily observable from the Staff Station.

Direct access to the en suite from inside the room with, ideally, direct view of the toilet from the bed to aid night time access. A night light in the en suite will also assist in way finding.

600507 350 .21.10 CONSIDERATIONS

Long-term residents should be encouraged to use suitable personal items of furniture to make them feel at home and to have ownership over the space including all or some of the following features can create the desired environment:

- domestic fittings such as a wall unit to hold personal belongings and a television;
- wardrobe with drawers and hanging space and mirror;
- personal items of furniture such as a bedside table and armchair;

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- use of domestic lighting for general and reading purposes (large light switches);
- drapes and soft furnishings consistent with fire safety requirements;
- low window sill heights (no higher than 600mm affl) to permit views to outdoor areas from bed and chair. A wide internal window sill may be used for ornaments, pot plants and photographs within sight and reach of resident.

Possible inclusion of overhead fans to allow some individual control of heating / cooling but they pose cleaning problems and can contribute to cross-infection due to dust spread.

600508 350 .22.00 PHARMACY STORE

DESCRIPTION AND FUNCTION

Assumes a separate room to act as the resource for the local area with regard to pharmaceuticals and prescriptions.

LOCATION AND FUNCTIONAL RELATIONSHIPS

Ready access from the Primary Care Clinics.

Where the design permits, adjacent to the Clean Utility Room.

Must be easily observed by staff.

CONSIDERATIONS

The Pharmacy store should:

- contain shelving for the holding of drugs and pharmaceutical preparations in an orderly and safe manner;
- contain a refrigerator for certain drugs, vaccines, antivenenes and preparations as required;
- contain the lockable drug safes for schedule 4 and schedule 8 drugs. These safes must be secured to the wall in accordance with the Poisons Act. If no Pharmacy store is provided these safes will be located in the Clean Utility Room;
- provide a bench for the checking of drugs and the signing of drug registers;
- provide a secure environment for the holding, preparation, dispensing and checking of drugs and preparations;
- have a dispensing counter if used for public dispensing.

Must comply with the Pharmacy Regulations.

600511 350 .23.00 PATHOLOGY ROOM

DESCRIPTION AND FUNCTION

A small room for storage of pathology supplies, samples awaiting collection and blood products.

LOCATION AND FUNCTIONAL RELATIONSHIPS

Central to Emergency and Acute Treatment Areas.

CONSIDERATIONS

A centrifuge for separation of samples and a separate blood fridge for those centres obliged to hold blood supplies. The fridge must be connected to the emergency power supply and alarmed.

Bench, storage cupboards and sink will be required.

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600512 350 .24.00 RESUSCITATION ROOM

DESCRIPTION AND FUNCTION

This area in the MPS should include all the space and equipment required to provide:

- emergency resuscitation;
- stabilisation and maintenance of a patient prior to transfer to a higher centre;
- delivery of a baby;
- 40m² excluding access corridor = 2 treatment bays.

Dressings, minor procedures such as suturing, administration of injections, removal of foreign bodies, application of plasters etc may be carried out in a treatment bay.

600513 350 .24.05 LOCATION AND FUNCTIONAL RELATIONSHIPS

Ready access from the ambulance bay via corridor.

Direct access to medical imaging where provided.

Oversighted by Staff Station.

Must have two entry / exit points.

600514 350 .24.10 CONSIDERATIONS

Some or all of the following will be required:

- Resuscitation trolley;
- Standard treatment trolley;
- Dressing trolley;
- Plaster trolley;
- ECG machine;
- Infusion pumps;
- Cardiac monitor;
- Specimen testing equipment such e.g. Haemoglobinometer, Glucometer;
- Procedures light (mobile or fixed).

600515 350 .25.00 ACTIVITY / THERAPY AREA

DESCRIPTION AND FUNCTION

This space will be required for MPSs that provide a dedicated physiotherapy and/or occupational therapy service.

For facilities that provide an intermittent service other spaces, such as the conference/meeting rooms, consult and interview rooms may be adequate.

When a decision is made that this space is required, consultation should occur with the allied health professionals who will use this space as to the range of fixtures, fittings and equipment required.

600516 350 .25.05 LOCATION AND FUNCTIONAL RELATIONSHIPS

- ready access from main entry and clinic areas;
- ready access to a toilet for people with disabilities;
- ready access to cold water and other refreshments if patients are in the unit

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for any extended time. (Water bubblers pose infection risks and should not be installed);
- access to a rest area between treatments.

600517 350 .25.10 CONSIDERATIONS

The following points should be addressed:

- storage cupboards large enough to hold equipment not in use;
- temperature control.

600518 350 .26.00 MORGUE

DESIGN AND FUNCTION

Where provided, the following components will be required:

HOLDING ROOM

Entry and exit lobby with a wall-mounted writing shelf for entering registration details, a handbasin and storage.

The room may be a cool room (temperature 0-5°C) or a refrigerated cabinet. The cool room or cabinet may be screened off with curtaining to provide a reasonable environment for viewing a body.

The critical dimensions of the room must facilitate entry and removal of the body tray on a mobile trolley and placement and removal of the body from the cabinet.

WAITING AND VIEWING ROOM

Can be designed as a single space with a screen.

600519 350 .26.05 LOCATION AND FUNCTIONAL RELATIONSHIPS

The suite should not be located in view of any public areas and should allow for easy access for vehicles collecting deceased persons.

600520 350 .26.10 CONSIDERATIONS

Domestic light in the Viewing Room is preferable to fluorescent lighting that will accentuate the pallor of a deceased person.

APPENDICES

Schedule of Accommodation

600521 350 .27.00 A Schedule of Accommodation follows:

600522 350 .27.05 Entry / Reception Zone

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
ENTRY LOBBY / AIRLOCK						1 x 10	

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WAITING / FOYER	yes					1 x 12	Sized to suit depending on whether also used for Primary Care Zone
CHILD PLAY AREA	yes					1 x 10	
BAY – TELEPHONE	yes					1 x 1	1 only phone
BAY – VENDING	yes					1 x 3	2 machines
TOILET / BABY CHANGE – ACCESS	yes					1 x 5	
TOILET – PUBLIC	yes					1 x 3	
RECEPTION	yes					1 x 9	1 staff
OFFICE – GENERAL	yes					1 x 12	Optional depending on staffing
STORE – PHOTOCOPY/STATIONERY	yes					1 x 8	
STORE – FILES – PRIMARY & ARCHIVE	yes					2 x 10	Archive files may be located elsewhere
OFFICE – HEALTH SERVICE MANAGER	yes					1 x 12	

600523 350 .27.10 Primary Care Zone

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
WAITING	yes						Sized to suit at 1.2 per chair, 1.5 per wheelchair
CONSULT / EXAM ROOM	yes					12	Number will depend on Service Plan
CONSULT / EXAM ROOM	yes					14	Additional area for paediatrics, maternity etc. Number will depend on Service Plan
EN SUITE SHOWER/WC	yes					1 x 5	Between 2 Consult Rooms
STAFF BASE / CLEAN UTILITY						1 x 12	
SUB-DIRTY UTILITY / DISPOSAL ROOM	yes					1 x 10	
MEETING / INTERVIEW ROOM	yes					12	Number will depend on Service Plan
GROUP / MEETING ROOM - LARGE	yes					1 x 30	Set up as teleconference room
MEETING ROOM / VISITOR LOUNGE						1 x 14	
ACTIVITY / TREATMENT ROOM						1 x 50	
BEVERAGE BAY	yes					1 x 3	
TOILET - PATIENT	yes					1 x 4	
TOILET - ACCESS	yes					1 x 5	Access from Activity Room unless able to access WC in Entry
OFFICE - WORKSTATIONS - PERMANENT	yes					5.5	Number as per Staff Establishment
OFFICE - WRITE-UP	yes					4.5	For casual / visiting staff; number as per staff establishment
STAFF TOILET	yes					2 x 3	
STAFF PROPERTY BAY	yes					1 x 2	

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STORE - GENERAL	yes					1 x 9	Or cupboards

600524 350 .27.15 Emergency & Imaging Zone

ROOM/SPACE	Standard Component					Area sqm	Remarks
AMBULANCE BAY (ASSUMING NO STATION)							Size will depend on number of vehicles
AMBULANCE ENTRY / AIRLOCK						1 x 12	Include Disaster Store
RESUSCITATION / TREATMENT / HOLDING						1 x 40	1-3 patients - includes workstation
INTERVIEW / ASSESSMENT						1 x 12	May be used as seclusion room
EXAM / TRIAGE						1 x 12	
PROCEDURE / PLASTER ROOM	yes					1 x 14	Optional
PATIENT TOILET - ACCESS	yes					1 x 5	
OFFICE - WRITE-UP	yes					1 x 9	
X-RAY ROOM (MOBILE UNIT)						1 x 14	
DARK ROOM	yes					1 x 6	Or PACS viewing / reporting
BAY - MOBILE EQUIPMENT BAY	yes					1 x 4	
BAY - RESUSCITATION TROLLEY	yes					1 x 2	May be located in Resuscitation Room itself

600525 350 .27.20 Acute Care Area x 4 Beds

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
1 BED ROOM - SPECIAL	yes					1 x 18	Palliative Care, Rooming-In
EN SUITE SHOWER / TOILET - SPECIAL	yes					1 x 6	
SINGLE BEDROOM - STANDARD	yes					1 x 15	Or 3 at 15m2. May be used for standard isolation
2 BED ROOM	yes					1 x 25	Or 2 single rooms
EN SUITE SHOWER / TOILET	yes					2 x 5	3 if 3 single rooms
BAY - PPE	yes					1 x 2	Collocate with Handbasin
BAY - HANDWASH	yes					1 x 1	Outside single bedroom
BAY - MOBILE EQUIPMENT	yes					1 x 4	

600526 350 .27.25 Shared Treatment / Acute Areas

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
STAFF STATION						1 x 12	Unless combined with Reception

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STAFF TOILET	yes					1 x 3	For night staff etc if access to Staff areas remote
STAFF PROPERTY BAY	yes					1 x 2	
OFFICE - NUM	yes					1 x 9	
CLEAN UTILITY						1 x 12	May be combined with Pharmacy Room
PHARMACY ROOM						1 x 10	Will depend on Pharmacy Policy
DIRTY UTILITY / DISPOSAL ROOM	yes					1 x 12	
CLEAN-UP / STERILIZING						1 x 9	Optional
EQUIPMENT STORE						1 x 16	Medical equipment
BAY - LINEN / BLANKET / FLUID WARMING						1 x 3	
PATHOLOGY ROOM						1 x 6	
BATHROOM	yes					1 x 15	

600527 350 .27.30 Residential Area x 12 Beds

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
1 BED ROOM - SPECIAL						1 x 22	Palliative Care including beverage & sitting area
EN SUITE - SUPER	yes					1 x 6	
1 BED ROOM - RESIDENTIAL CARE						9 x 18	
2 BED ROOM (OPTIONAL)						1 x 28	
EN SUITE - STANDARD	yes					10 x 5	
HANDWASH BAY - TYPE B	yes					4 x 1	Recessed alcoves in corridor
LOUNGE - PATIENT						1 x 36	3m2 per resident; may be sub-divided
DINING - PATIENT						1 x 24	2m2 per resident
KITCHENETTE						1 x 12	1m2 per resident; could be incorporated into Dining Room
QUIET ROOM						1 x 12	
SITTING ALCOVE						2 x 4	
TOILET - ACCESS	yes					1 x 5	Accessible from recreation areas and outdoor areas.
STORE - PATIENT PROPERTY	yes					1 x 8	
STORE - GENERAL						1 x 12	Based on 1m2 per bed
STORE - EQUIPMENT	yes					1 x 24	Wheelchairs, bed accessories etc
DIRTY UTILITY / DISPOSAL ROOM	yes					1 x 12	
STAFF BASE / CLEAN UTILITY						1 x 12	

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LAUNDRY - DOMESTIC						1 x 16	
BAY - LINEN	yes					1 x 2	
BAY - MOBILE EQUIPMENT (PATIENT LIFTERS)	yes					2 x 3	
DISCOUNTED CIRCULATION						32%	

600528 350 .27.35 Support Areas & Morgue

ROOM/SPACE	Standard component					Qty x Area sqm	Remarks
CLEANER'S ROOM / STORE						1 x 12	Includes washing machine
KITCHEN						1 x 40	Depending on Operational Policy
STORE - BULK						1 x 30	
STORE - DIRTY LINEN						1 x 6	
STORE - CLEAN LINEN						1 x 6	Optional
STORE - FLAMMABLES						1 x 4	
STORE - MEDICAL GASES						1 x 12	Access from at least 3 sides
WASTE HOLDING - GENERAL & RECYCLE						1 x 10	
WASTE HOLDING - CONTAMINATED & PERISHABLE						1 x 12	
TOILET - PUBLIC	yes					1 x 3	Optional - for staff in the area and visitors to Morgue
MORGUE - COOL ROOM / HOLDING ROOM						1 x 18	
MORGUE VIEWING / WAITING						1 x 14	
COMMUNICATIONS CUPBOARD						1 x 9	

600529 350 .27.40 Staff Areas

ROOM/SPACE	Standard component					Qty x Area sqm	Remarks
STAFF ROOM	yes					1 x 15	Including Beverage Area
KITCHENETTE						1 x 8	
MEETING ROOM	yes					1 x 14	
PROPERTY BAY	yes					1 x 2	
SHOWER - STAFF	yes					1 x 2	
TOILET - STAFF	yes					2 x 3	

600530 350 .27.45 Optional Areas

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks

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WORKSHOP						1	
FURNITURE STORE						1	
GARDEN SHED						1	
OUTSIDE TOILET						1	
DISCOUNTED CIRCULATION						20%	

Functional Relationships

600531 350 .28.00 A diagram of key functional relationships is attached.

Checklists

600532 350 .29.00 For planning checklists, refer to parts A, B, C and D of the Guidelines.

Security checklists for the various components of the MPS may be found in NSW Health Policy Directive PD2005_293, January 2005. "Safety and Security Release of the Health Facility Guideline - Working Draft".

Also refer to Part C of these Guidelines for general requirements.

References and Further Reading

600533 350 .30.00 Design Guidelines for Queensland Residential Aged Care Facilities, Queensland Health, 1999.
<http://www.foodsafetymatters.gov.au/cwamb/agedguide/default.asp>

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Small, specialised long stay units for the dementing: their role and effectiveness. Richard Fleming, John Bowles. First presented at the Alzheimers Disease International Conference in Edinburgh, 1994.

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Integrated Rural Health Services - Generic Brief, Victorian Government Department of Human Services, June 2000.

Integrated Health Care Centres, Health Facility Guidelines HPU 350, Victorian Government Department of Human Services, November 2004.

Aged Care - Working with People with Challenging Behaviours in Residential Aged Care Facilities, GL2006_014, Sep-2006.

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Development of a Health Facility for Remote Communities within Australia, Allim, G et al, Ergonomics Australia, Vol 21, Number 3, September/October 2006.

A Report on Recommended Developments to Improve Rural Health, West, B et al, Ergonomics Australia, Vol. 21, No. 3, September/October 2006.

Home and Community Care Programme Overview

600534 350 .31.00 The Home and Community Care (HACC) Program is a central element of the Australian Government's aged care policy, providing community care services to frail aged and younger people with disabilities, and their carers.

The aims of the HACC Program are:

- to provide a comprehensive, coordinated and integrated range of basic maintenance and support services for frail aged people, people with a disability and their carers;
- to support these people to be more independent at home and in the community, thereby enhancing their quality of life and/or preventing their inappropriate admission to long term residential care.

600535 350 .31.05 The types of services funded through the HACC Program include, but are not limited to:

- nursing care;
- allied health care;
- meals and other food services;
- domestic assistance;
- personal care;
- home modification and maintenance;
- transport;
- respite care;
- counselling, support, information and advocacy;
- assessment.

Some services charge a small fee that varies from State to State, depending on your ability to pay and the number of services you use.

600536 350 .31.10 HACC is a joint Australian, State and Territory cost-shared Program with the Australian Government providing 60% of funds and the States and Territories providing 40%. Compared to last year the Australian Government's contribution has increased by \$65.9 million (an 8.3% increase) to \$857.8 million. With all States and Territories matching contributions, there will be a total of \$1.409 billion provided nationally for the HACC Program in 2005-06.

TeleHealth Room

600537 350 .32.00 TELEHEALTH / VIDEOCONFERENCE ROOM

The following is extracted from DS35 - Rural Health Service Building Guideline

ROOM SIZE

The size of the room is dependent on the envisaged usage of the telehealth videoconferencing equipment. One important factor to consider is whether the telehealth equipment will be used for training and education services in which case the room needs to be large enough to seat a specified number of staff.

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As an absolute minimum:

The equipment is approximately 1.2 metres long and 1.1 metres wide.

- the closest person should sit no closer than 1.5 metres away from the equipment;

- the room should be large enough to accommodate at least 5 people if used for clinical purposes only (more if training and education services are provided);

- if it is a multi-purpose room, then an appropriate means to secure the equipment should be found.

600538 350 .32.05 SECURITY AND PRIVACY

The room should be secure from possible theft and therefore locks on doors and windows are essential.

Privacy and confidentiality for patients is vital therefore windows should have drapes and the room should be adequately sound proofed.

The room should have sufficient signage, on the door and in the room to indicate the facility name and location e.g. Bega Community Health Centre, Bega, NSW.

A store cabinet for patient files and manuals should be available in the consultation room.

600539 350 .32.10 LIGHTING

Sufficient lighting is very important. Always use 'daylight' fluorescent tubes e.g. Phillips colour 84 'daylight' tubes.

Equipment should not be facing any windows. Natural light should be gauged so as not to cast shadows etc.

600540 350 .32.15 AUDIO

To minimise echo, hard surfaces should be covered i.e. carpet, drapes and other sound absorbing materials if necessary.

Be mindful of neighbouring services e.g. it would not be appropriate to have the consultation room next to a tearoom or near a public reception area.

600541 350 .32.20 COLOUR

The recommended colour scheme for the walls is light blue and should always be solid (ie no patterns). White should not be used.

Colour scheme for furniture etc should not be too busy.

600542 350 .32.25 COMMUNICATION REQUIREMENTS

At least two spare powerpoints, beyond all other requirements, should be installed.

The installation of 3 x Telstra Onramp 2 services is required to operate videoconferencing technology to meet the technical and clinical requirements of the Telehealth Initiative.

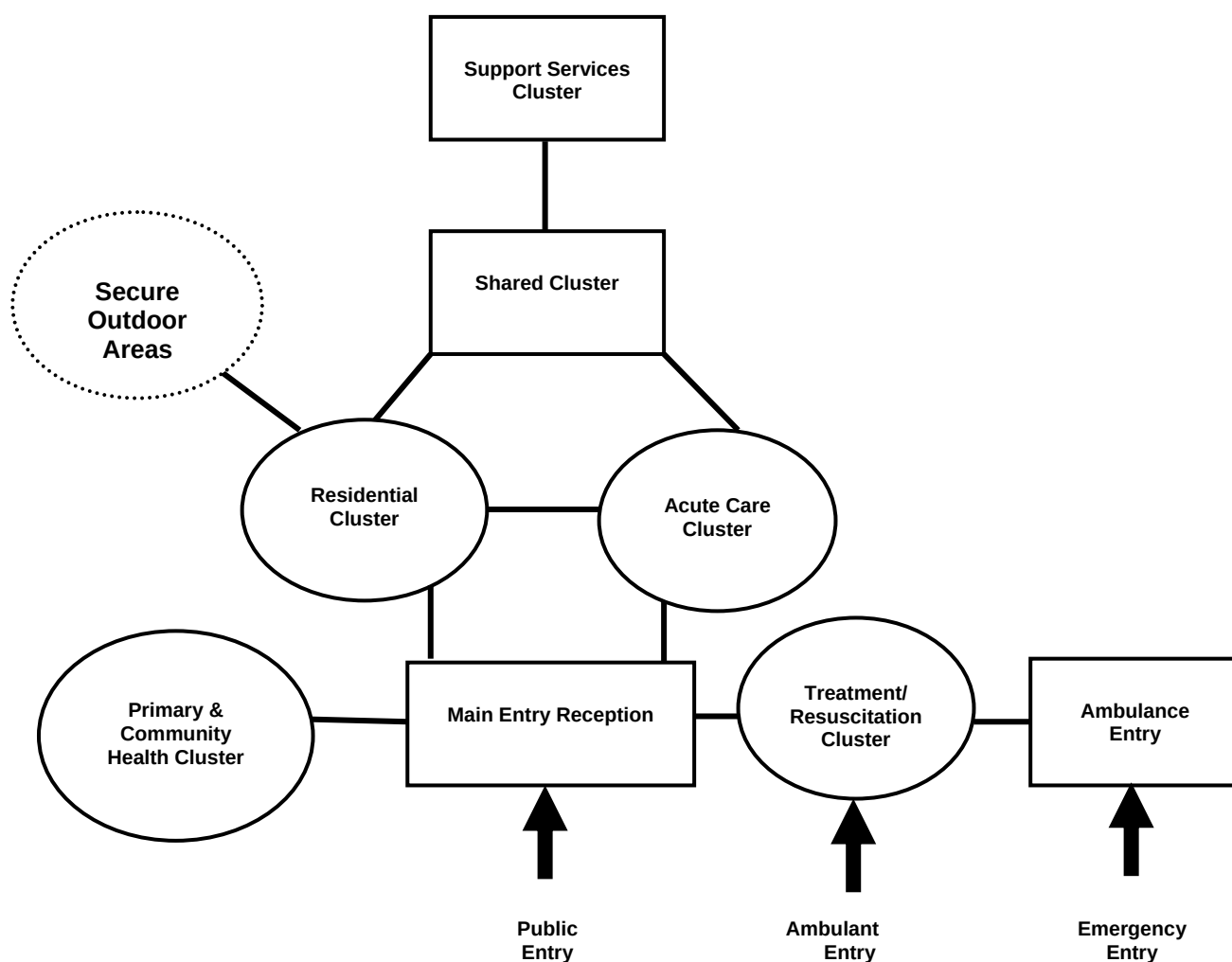
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A telephone is mandatory to the consultation room and facsimile facilities should be close at hand.

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FUNCTIONAL RELATIONSHIP DIAGRAM –MULTIPURPOSE SERVICE UNIT

The following diagram sets out the relationships between zones in a Multipurpose Service Unit:



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INTRODUCTION

Preamble

501348	360 .1.00	Intensive Care Units provide critical care to patients with life threatening illness or injury. They provide a concentration of clinical expertise, technological and therapeutic resources which are coordinated to care for the critically ill patient.

The clinical infrastructure and staff profiles reflect the complex nature of the monitoring and therapeutic interventions undertaken to provide the necessary physiological and psychosocial support required.

General

300742	360 .2.00	The nature and extent of Intensive Care type facilities may vary greatly from hospital to hospital, and will depend upon the Operational Policies for each facility. In many instances, no Intensive Care facility will be provided at all.

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300743 360 .3.00 In small hospitals, more Intensive Care may be provided in the form of Intensive Nursing Care or High-Dependency Nursing Care beds, within or attached to General Inpatient Units. In these cases, few of the requirements for an Intensive Care Unit will be applicable. The exact level of provision will be established by the Operational Policy.

300823 360 .4.00 Because of their unique requirements, no attempt is made here to suggest standards for all varieties of Specialty Units that may be found in the larger medical facilities. As far as applicable, these standards should be used. Adaptations, adjustments, and additions should be made as needed for the functional needs of staff and patients with special consideration for access and inclusion of necessary auxiliary services.

Policy Framework

501350 360 .5.00 The Intensive Care Unit is an integral component of the hospital and, in a broader sense, the critical care system. Demand for Intensive Care Services continues to rise, in part due to increased complexity of treatment. It is anticipated that this trend will continue.

The level of Intensive Care Service provided will vary across sites according to the role delineation of the service and the broader services available at the hospital.

During the planning process it is recommended that planning teams review the following documents:

Intensive Care Service Plan, NSW Health, 2001.

Intensive Care Strategic Directions - A Framework for the NSW Health System, NSW Health, 1999.

NSW Metropolitan Critical Care Plan, NSW Health, 1996.

NSW Rural Critical Care Plan, NSW Health, 1998.

Better Practice Guidelines for Bed Management, NSW Health, 1998.

Levels of Service / Role Delineation

501349 360 .6.00 LEVELS OF SERVICE/ROLE DELINEATION

There are two key descriptions of role delineation and level of service for Intensive Care Units (ICU). The relationship between the two descriptions is shown in the table below.

The accommodation requirements of the ICU will vary according to its prescribed level of service. The level of service will be determined according to the 'Minimum Standards for Intensive Care Units' (1) and the 'NSW Health Guide to the Role Delineation of Health Services' (2).

There is alignment between the role descriptions contained in these two Guidelines, and it is recommended they be referred to during the planning process for more detailed information.

Minimum Standards (FICANZCA):	NSW Health Role Delineation:
Level 1	Level 4
Level 2	Level 5
Level 3	Level 6

The NSW Health Role Delineations for Intensive Care for Level 2 and 3

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Units correspond most closely to requirements of a high dependency service.

A specialist Paediatric Intensive Care Unit equates to a Level 6 (Level 3 FICANZA) intensive care in terms of planning requirements.

(1) Minimum Standards for Intensive Care Units, Joint Faculty of Intensive Care Medicine, Australian and New Zealand College of Anaesthetists and Royal Australasian College of Physicians, June 2003.

(2) Guide to the Role Delineation of Health Services, Third Edition, NSW Health Department, 2002.

PLANNING

Operational Models

501351 360 .7.00 APPLICABLE MODELS

There are four broad models of intensive care applicable within Australia:

501352 360 .8.00 1. COMBINED CRITICAL CARE

The first model is of a combined critical care area encompassing High Dependency Unit, Intensive Care and Coronary Care, usually in a rural or regional hospital where flexibility of bed utilisation is important. This will allow short and medium term intensive care patients to be managed appropriately when required, and at other times, the Unit may be used for the more common cardiology or high dependency patients.

These Units have lower medical and nursing demands, and will usually be staffed on a nurse/patient ratio of significantly less than 'one to one'. These Units may or may not have a dedicated specialist in Intensive Care, but should have an appropriately qualified director who is responsible for ensuring quality assurance, mortality audit and appropriate standards and guidelines for the management of patients.

501353 360 .9.00 2. COMBINED GENERAL INTENSIVE CARE

Larger hospitals and some tertiary hospitals may find it appropriate to combine all patient subgroups within a dedicated Intensive Care Area with the Unit accepting patients with any Intensive Care problem including post-op trauma, neurosurgery, thoracic or cardiothoracic surgery and general medical patients. These Units will usually have a combination of intensive care and high dependency beds, and again, flexibility of medical and nursing workforce is a major consideration in the configuration.

This model offers the advantage that in hospitals where the sub-specialty case load is limited, staff are exposed to a general range of intensive care problems rather than being sent to wards at times when there is no sub-specialty work. Cross fertilisation of education and protocols allows more efficient running when case loads are low within Sub-Specialty Units.

The disadvantage of this model is that many sub-specialty nursing and medical skills may be diluted, and potentially there may be access problems for Sub-Specialty Units when the general intensive care patient load is high.

501354 360 .10.00 3. HOT FLOOR

The 'Hot Floor' model of Intensive Care collocates Sub-Specialty Intensive Care Units, usually encompassing cardiothoracic, trauma, neurosurgical and

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general intensive cares, with or without a co-located high dependency unit. Other Sub-Specialty Units such as non-invasive ventilation, burns, spinal, and hyperbaric oxygen therapy may be considered as adjuncts to a Hot Floor.

A more comprehensive Hot Floor model could include collocation of ICU with Theatres, Emergency, CCU and parts or all of Medical Imaging.

The Hot Floor model has the principal advantage of collocating services, avoiding duplication and with a single management structure, allows a more efficient medical and nursing overview. The Hot Floor model envisages one set of medical and nursing policies and procedures within one broad cost centre with common goods and services, porter services, orderly services, etc. Most equipment would be standardised across the Hot Floor avoiding duplicated education and minimising service costs.

The Hot Floor model has the advantage that practitioners, particularly nursing, may sub-specialise, allowing development of important sub-specialty nursing skills such as neurosurgical nursing. Rotation through the units allows all staff to experience different aspects of patient care and facilitates the spread of common techniques such as CVVHD, novel monitoring, ICP monitoring, EEG monitoring, etc.

Because Sub-Specialty Areas within the Hot Floor still receive the bulk of their patients from various medical specialties, patients of sub-specialties rarely have their access to ICU beds blocked by other groups. This allows Specialist Units such as Neurosurgery to optimise patient throughput by effectively partially quarantining beds.

The principal disadvantages of a Hot Floor involves two issues. Firstly, the issue of managing a large cohort of nurses and doctors, and secondly the disadvantage of co-locating units if infection control were to become a major problem. This has been highlighted by the SARS outbreak in Asia in 2003. Clearly, there needs to be careful consideration when developing a Hot Floor of how to sub-segregate Units.

501355 360 .11.00 4. SEPARATE INTENSIVE CARE UNITS

The fourth model encompasses a range of differentiated Intensive Care Units within an institution such as a separate General Intensive Care, a separate High Dependency Unit, a separate Cardiothoracic Intensive Care, a separate Neurosurgical Intensive Care, a separate Burns Intensive Care, a separate Trauma Intensive Care etc.

This model has the advantage of allowing different groups to control portions of the Intensive Care resources of a Hospital. For the Sub-Specialist Units within other units of the institution this can avoid the problems associated with bed blockages.

The model encourages the development of sub-specialty medical and nursing skills, however it has the disadvantages of duplicating management, policies and procedures. The problems of physical isolation can, at times, make it difficult to staff the Unit.

Sub-Specialty Units have the additional disadvantage that often new and innovative techniques are difficult to institute within the Sub-Specialty Intensive Care because of infrequent use.

It needs to be noted that as patient acuity increases, most Sub-Specialty Units are seeing more and more multi-system organ failure patients and general intensive care skills need to be enhanced within Sub-Specialty Units.

501356 360 .12.00 GENERAL COMMENTS ON MODELS

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In any of these models of ICU serious consideration should be given to developing extra bed capacity for a colocated High Dependency Unit, whether that Unit be spread within the ICU or be a separate Unit. By identically equipping HDU beds the future demands of Intensive Care can better be guaranteed, and potentially the high dependency parts of an ICU can be used to decant patients should there be an internal disaster or infection control issues.

It is clear that as the size of hospitals contracts and the general severity of illness of inpatients increases, many general nursing wards will also be looking after higher dependency patients with monitoring and more invasive modes of therapy, which will require higher nursing and medical skill mix and numbers. These patients will continue to be nursed in standard 15m² 1 Bed Rooms or 18m² 1 Bed Room - Specials as provided for a general ward.

Planning Models

501358 360 .13.00 Two of the key factors that must be considered in the design of an Intensive Care Unit are the ability of staff to observe patients and the proximity of staff to patients. Decentralised Staff Stations/Observation Desks may sometimes be provided, often at a ratio of one per two beds.

The Unit should comprise a centrally located staff base, with adequate space for monitoring and resuscitation equipment, surrounded by patient care bed spaces, which enables staff to maintain visual contact with patients at all times.

A Unit should comprise a maximum cluster of 10 -12 beds with capacity for Isolation Rooms.

Generally a second staff station will be required for more than 12 beds.

Beyond these, clinical zone support facilities such as clean and dirty utilities, equipment and general storage should be in close proximity.

Zones for staff facilities and support areas for relatives should be on the periphery of the Unit.

For the psychological well being of patients and staff, natural light is highly desirable and patient privacy is essential.

Functional Areas

501360 360 .14.00 PATIENT AREAS:

CLINICAL ZONE

This is the main hub of the Unit with all other zones radiating from it.

The Patient Care Zone contains patient bed spaces located in direct visual contact with the Staff Station. The Staff Station should contain space for charting and central monitoring, resuscitation equipment, storage of regularly used medication and viewing facilities.

Each patient bed space should contain individual medical services including bedside monitoring, call systems and handwashing facilities.

A number of the spaces should be adaptable to the nursing of infectious and immunocompromised patients.

STAFF AREAS:

STAFF AREA

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A Staff Area should be located within close proximity to the Clinical Area, but with total privacy to Patient and Public Areas. Adequate Office Space, Staff Amenities and Tutorial and Reception Facilities should be provided, with the possibility of a space that could be provided or converted to provide overnight staff accommodation when necessary.

CLINICAL SUPPORT

The Clinical Support Area is dependent on the defined level of the ICU and its role within the Health Care Facility.

This area may contain Clean Utilities, X-Ray and Pathology Facilities. Where a vacuum tube system is to be used to transport pathology, pharmacy or documents, it should be located in this Area.

NON CLINICAL SUPPORT

While this Area contains the Dirty Utility and the majority of Storage Areas, it is common for some Mobile Equipment Bays to be located within the Clinical Area for easy access to frequently used equipment.

ENTRANCE RECEPTION:

This Public Area should be at the front of the Facility, with privacy from all Patient Areas. It should provide support facilities for families such as Beverage Areas, Waiting Lounges, Grieving Rooms and Interview Rooms. It is suggested that access and exit of patients from the Unit, be separate from these publicly accessible areas.

Functional Relationships

920166 360 .15.00 EXTERNAL

The ICU should be a separate Unit within the hospital with easy access to the Emergency Unit, Operating Unit and Medical Imaging.

300748 360 .16.00 LOCATION

The location should be arranged to eliminate the need for through traffic.

204071 360 .17.00 ANCILLARY SERVICES

Laboratory, Radiology, Respiratory Therapy, and Pharmacy Services should be available. These services may be provided from the central departments or from satellite facilities as required by the functional program.

920170 360 .18.00 INTERNAL

PATIENT VISIBILITY

Staff should be able to see patients at all times, either directly or by indirect means such as video monitoring.

This approach permits the monitoring of patient status under both routine and emergency circumstances. Direct line of sight between the patient and the central Staff Station is preferable.

In ICUs with a modular design, patients should be visible from the respective Nursing Sub-Station. Sliding glass doors and partitions facilitate this

arrangement and increase access to the room in emergency situations.

920171 360 .19.00 LIGHT AND WINDOWS

The environment provided should minimise stress to patients and staff. Therefore, natural light and views should be available from the Unit.

Windows are an important aspect of sensory orientation, and as many rooms as possible should have windows to reinforce day/night orientation.

Drapes or shades of fireproof fabric can make attractive window coverings and absorb sound. Window treatments should be durable and easy to clean. If drapes or shades are not a viable option, consider the use of tinted glass, reflective glass, exterior overhangs or louvres to control the level of lighting.

If windows cannot be provided in each room, an alternate option is to allow a remote view of an outside window or skylight.

202030 360 .20.00 BEDSIDE MONITORING

Bedside monitoring equipment should be located in a position that makes it easy for staff to access and view the equipment, but does not interfere with their ability to see or physically access the patient.

The bedside nurse and/or monitor technician must be able to observe the monitored status of each patient at a glance. This goal can be achieved either by a Central Monitoring Station, or by bedside monitors that permit the observation of more than one patient simultaneously.

Neither of these methods are intended to replace bedside observation. Weight-bearing surfaces that support the monitoring equipment should be sturdy enough to withstand high levels of strain over time.

It should be assumed that monitoring equipment will increase in volume over time. Therefore, space and electrical facilities should be designed accordingly.

920190 360 .37.00 STAFF WORK AREAS

The staff working area must include:

- adequate space for staff to work in comfort while maintaining visual contact with the patient;
- adequate space for patient monitoring, resuscitation equipment and medication storage areas (including a refrigerator);
- space for a mobile X-Ray machine;
- X-Ray viewing facilities enabling simultaneous viewing of multiple X-Rays with space for X-Ray storage;
- adequate room for telephones and other communication systems, computers and data collection;
- storage of stationery;
- adequate space for a receptionist and/ or ward clerk.

Disaster Management

501361 360 .21.00 Planning for all Units should consider each Unit's role in the local Disaster Management Plan.

As a key Unit, the ICU is likely to be important in any Disaster Management Plan.

Disaster planning is discussed in more detail in Part B of the Guidelines.

Environmental Considerations

920173 360 .22.00 ACOUSTICS

Signals from patient call systems, alarms from monitoring equipment, and telephones add to the sensory overload in Critical Care Units. Without reducing their importance or sense of urgency, such signals should be modulated to a level that will alert staff members, yet be rendered less intrusive.

For these reasons:

- floor coverings that absorb sound should be used while keeping infection control, maintenance and equipment movement needs under consideration;
- walls and ceilings should be constructed of materials with high sound absorption capabilities;
- ceiling soffits and baffles help reduce echoed sounds;
- doorways should be offset, rather than being placed in symmetrically opposed positions, to reduce sound transmission;
- counters, partitions, and glass doors are also effective in reducing noise levels.

920182 360 .23.00 LIGHTING

Appropriate lighting, both general and task, is to be provided throughout the Intensive Care Unit. Refer to the TS11 for specific requirements.

Space Standards and Components

920179 360 .24.00 INTERIOR DESIGN

Colour can be used to prevent an institutional atmosphere. Cleaning, infection control and the patients' perception of a caring environment should always be considered, but the main functional requirement is for staff to be able to observe the colour of the patients' skin.

Care must be taken to ensure light reflected onto the patient does not impair the ability of staff to judge the condition of patients. Extremes of colour should be avoided, especially yellow/orange tones.

Environmental Considerations

501598 360 .25.00 NATURAL LIGHT

The use of natural light should be encouraged throughout the unit as this contributes to both staff and patient morale, and is considered likely to improve patient outcomes in an ICU.

In particular, where possible, bed room areas should have access to natural

light and outlook.

Infection Control

- 920178 360 .26.00 Clinical Hand-Washing Facilities should be provided convenient to the Staff Station and patient bed areas. The ratio of provision should be one Clinical Hand-Washing Facility for every two patient beds in open-plan areas and one in each Patient Bedroom or cubicle.

Refer Part D of these Guidelines.

- 501597 360 .27.00 Whether the diagnosis or infectious status of patients is known or unknown, standard precautions should be used for all patients at all times.

Refer Part D of these Guidelines.

Space Standards and Components

- 501362 360 .28.00 BEDS AND COMPLEMENT

Beds in an Intensive Care Unit may be arranged in clusters of up to 12 beds. Each cluster or group of beds should have access to the minimum support facilities including:

- Staff Station (generally 1 per 12 beds or part thereof);
- Clean Utility;
- Dirty Utility;
- Store Room/s;
- Patient Ensuites;
- Patient Bathroom;
- Linen Storage;
- PPE Bays / Storage;
- Disposal Room;
- Pathology Area;
- Offices;
- Support facilities that may be shared between clusters of beds.

- 300761 360 .29.00 BED SCREENS

Each patient bed space should have provision for visual privacy from casual observation by other patients and visitors. Bed screens are recommended for open-plan ICU spaces. Blinds or curtains are recommended for cubicle areas or dedicated Patient Bedrooms.

- 300756 360 .30.00 BED SPACING/CLEARANCES

Where an open-plan arrangement is provided, bed spaces should be arranged so that there is a clearance of at least 1200 mm from the side of the bed to the nearest fixed obstruction (including bed screens) or wall.

- 300757 360 .31.00 To facilitate resuscitation procedures without restricting movement of staff, beds, and equipment, the available minimum clear distance between the head of the bed and any fixed obstruction or wall and between the foot of the bed and the bed screen should be 900 mm.

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300758 360 .32.00 When an open plan arrangement is provided, a circulation space or aisle of 2200 mm minimum clear width should be provided beyond dedicated cubicle space.

300759 360 .33.00 Separate cubicles and Single Patient Bedrooms including Isolation Rooms, should have minimum dimensions of 3900 mm in either direction.

300760 360 .34.00 All entry points, doors or openings, should be a minimum of 1200 mm wide, unobstructed. Larger openings may be required for special equipment, as determined by the Operational Policy.

Building Service Requirements

202019 360 .35.00 CORRIDORS

Beds and trolleys within ICU are large and carry valuable and sensitive equipment, and patients who are severely ill.

The size of the basic ICU bed is often enlarged by the addition of monitors, drips and several staff, making movements more difficult than in other areas of the Hospital.

It is important that adequate circulation space is provided for the safe and efficient movement of these trolleys and beds.

Part C of these Guidelines provides information on the required corridor widths etc for Health Care Facilities.

300755 360 .36.00 OBSERVATION WINDOWS

To assist staff observation of patients in cubicles or Single Patient Rooms, observation windows, conveniently placed to ensure unobstructed vision from the Staff Station, are recommended.

Finishes

501364 360 .38.00 GENERAL

Refer Parts C and D of these Guidelines.

Consideration should be given to the impact of finishes, surfaces and fittings etc on patients and staff;

Slippery floors, protrusions or sharp edges, stability and height of equipment or fittings are all potential hazards and thus should be considered in the design of the facility.

500230 360 .39.00 CLEANING

- all surfaces should be hard wearing and easily cleaned;
- all patient surfaces should be washable;
- cleaning policies and infection control policies of the Facility should be considered when choosing suitable surfaces;
- layouts, fittings, furnishings, floor coverings and detailing will have a significant impact upon the ease of cleaning and the maintenance of the

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Unit. The design and detailing of the Unit, including height of ledges, nooks, provision of coved skirtings, should facilitate cleaning.

500231 360 .40.00 FLOOR FINISHES

In most Patient Care Areas sheet vinyl is the most appropriate floor finish because of ease of cleaning. In some areas carpet reduces noises from trolleys and traffic, but it increases cleaning time and cost.

Wherever there is a change in floor covering e.g. vinyl to carpet, there should not be a change in floor level.

500232 360 .41.00 WALL PROTECTION

Wall protection will be required wherever there is potential damage from beds, trolley etc and for hygienic reasons around hand washing facilities.

Fittings & Fixtures

500234 360 .42.00 WORK SURFACES AND BENCHES

All work surfaces and benches should be smooth and impervious, refer to Part C for further information.

Safety and Security

501363 360 .43.00 A list of Safety and Security issues to be considered in the design of the Unit is attached to this document. Refer also to Part C of these Guidelines for general OHS requirements.

Building Service Requirements

502030 360 .44.00 GENERAL

ICU is a highly serviced area, relying on a number of mechanical and electrical systems for its effective operation.

TS11 provides detailed information on building services for Health Care Facilities.

203008 360 .45.00 AIRCONDITIONING

The Unit should have appropriate airconditioning that allows control of temperature, humidity and air change.

920174 360 .46.00 CLOCKS

The accurate tracking of time within the Intensive Care Unit is critical.

A wall clock should be visible in all Clinical Areas and Waiting Areas. Times displayed in all areas must be synchronised. Clocks in resuscitation areas require the facility to track elapsed time (one for each bed).

See Room Data Sheets and Room Layout Sheets for more detail.

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920175 360 .47.00 COMMUNICATIONS

All ICUs should have an intercommunication system that provides voice linkage between the Staff Station, Patient Modules, Staff-Overnight Stay Rooms, Conference Rooms and Staff Lounge. Supply Areas and the Visitors' Lounge / Waiting Room may also be included in the system. When appropriate, linkage to key departments such as Blood Bank, Pharmacy and Clinical Laboratories should be included.

Some types of communication, such as personnel tracking and non-emergency calls, may best be accomplished using visual displays, such as numeric or colour-coded lights, which eliminate unnecessary noise.

In addition to a standard telephone service for each ICU, which should provide hospital-wide and external communications capabilities, there should be a mechanism for emergency internal and external communications when normal systems fail.

500246 360 .48.00 DURESS ALARMS

Should be provided in accordance with NSW Health Policy. Refer Part C of these Guidelines.

500250 360 .49.00 EMERGENCY CALL

All Bed Spaces and Clinical Areas, including Toilets and Bathrooms, should have access to an Emergency Call System so staff can summon urgent assistance. The Emergency Call System should alert to a central module situated adjacent to the Staff Station, as well as to the Staff and Tutorial Rooms. The Nurse Call / Emergency Call System to comply with AS 3811.

920183 360 .50.00 MONITORING

Each Unit should contain an approved patient monitoring system, with visual display for each patient at a central monitoring point, generally the Staff Station. Monitors with high/low alarm and the capability to provide hard copies of displays are recommended.

More information is provided in the Room Data Sheets and Room Layout Sheets.

500241 360 .51.00 NURSE CALL

Facilities must provide a Call System that allows patients and staff to alert nurses and other health care staff in a discreet manner at all times.

Nurse Call Systems must be designed and installed to comply with AS 3811 - Hard wired Patient Alarm Systems.

DURESS ALARMS

Should be provided in accordance with NSW Health Policy. Refer Part C of these Guidelines.

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COMPONENTS OF THE UNIT

General

- 500254 360 .52.00 This section must be read in conjunction with Part B Standard Components, Room Data Sheets and Room Layout Sheets. The following text describes only specific requirements not covered by these other documents.

Standard Components

- 500257 360 .53.00 Provide the Standard Components as identified in the Generic Schedule of Accommodation. Provision of Offices, Workstations and support areas will be dependant on the Operational Policy and service demand and may vary from the Schedule of Accommodation, however, room sizes should remain consistent. See also Planning Models and Functional Areas.

Non-Standard Components

- 500259 360 .54.00 Provide the Non Standard Components as described in this section, according to Operational Policy and service demand.

Patient Areas

- 501372 360 .56.00 PATIENT BAY - CRITICAL - ENCLOSED

DESCRIPTION AND FUNCTION

An enclosed room with similar functions and needs to the Patient Bay Critical (above). The room is enclosed to provide privacy and separation for the patient. This room is effectively an Isolation Room Class S. Refer Part D of these Guidelines.

LOCATION AND RELATIONSHIPS

Within a group of not more than 12 within easy observation of the Staff Station.

- 502010 360 .57.00 PATIENT BAY - CRITICAL - ENCLOSED - ISOLATION CLASS N

DESCRIPTION AND FUNCTION

A 1 Bed Isolation Room will provide accommodation for patients requiring isolation, such as infectious, toxic or immunocompromised patients. In some instances, the room may also be used for disturbed patients.

Refer Part D Infection Control.

LOCATION AND RELATIONSHIPS

Isolation Rooms should be clustered and located away from the Unit entrance.

Staff Areas

- 501376 360 .58.00 BAY - BLANKET WARMING

DESCRIPTION AND FUNCTION

A Bay to accommodate a machine for the storage and warming of blankets.

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LOCATION AND RELATIONSHIPS

The Blanket Warming Bay should be located close to the bed bays but not impeding clear access to patients and equipment.

501388 360 .59.00 EQUIPMENT CLEANUP / SUB PATHOLOGY

DESCRIPTION AND FUNCTION

All ICUs must have available 24-hr Clinical Laboratory Services. When this service cannot be provided by the Central Hospital Laboratory, a satellite laboratory within, or immediately adjacent to, the ICU must serve this function. Satellite facilities must be able to provide minimum chemistry and haematology testing, including arterial blood gas analysis.

LOCATION AND RELATIONSHIPS

Accessible from all areas of the Unit.

501406 360 .60.00 OVERNIGHT ROOM

DESCRIPTION AND FUNCTION

An Overnight Room if provided for on-call staff to sleep when they are unable to leave the Unit due to the need to care for a patient.

LOCATION AND RELATIONSHIPS

The Overnight Room should be located in a quieter part of the Unit away from noise and activity.

501389 360 .61.00 RESPIRATORY/BIOMEDICAL WORKROOM

DESCRIPTION AND FUNCTION

A Respiratory/Biomedical Workroom is an area for the repair maintenance and calibration of both respiratory and Biomedical equipment, and as a work base for anaesthetic and biomedical technicians when visiting the Unit. This area will typically be occupied intermittently by 1 or 2 persons.

LOCATION AND RELATIONSHIPS

A Respiratory/Biomedical Workroom should be accessible from all areas of the Unit.

501382 360 .62.00 STORE - DRUG

DESCRIPTION AND FUNCTION

A Drug Store is a room for storage of drugs and medications. Secure storage and facilities for dispensing of medications is required.

LOCATION AND RELATIONSHIPS

A Drug Store should be located central to the Unit - easily accessible from Staff Station and Bed Bays, with observation of entry from Staff Station for security purposes.

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501386 360 .63.00 STORE - RESPIRATORY

DESCRIPTION AND FUNCTION

For storage of respiratory equipment used in the ventilation of patients.

LOCATION AND RELATIONSHIPS

This Store should be located centrally within the Unit.

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APPENDICES

Schedule of Accommodation

501418 360 .64.00 A Generic Schedule of Accommodation for Units at Levels 3, 4, 5, and 6 follows.

The Schedule of Accommodation lists generic spaces that form an Inpatient Unit. Quantities and sizes of some spaces will need to be determined in response to the service needs of each unit on a case by case basis.

ROOM / SPACE	Standard Component		Level 2/3	Level 4	Level 5	Level 6	REMARKS
			Qty x m2	Qty x m2	Qty x m2	Qty x m2	* Optional Provision; FPU - Functional Planning Unit - qty determined by service needs.
ENTRANCE / RECEPTION AREA -							
MEETING ROOM - 12M2	yes			1 x 12			
MEETING ROOM - MEDIUM	yes				1 x 15	1 x 15	
TOILET - PUBLIC	yes		Shared	1 x 3	1 x 3	1 x 3	
WAITING	yes		1 x 15	1 x 15	1 x 15	1 x 15	Calculated at 1.2m2 per able-bodied person, 1.5m2 per wheelchair occupant.
DISCOUNTED CIRCULATION			25%	25%	25%	25%	
PATIENT AREAS -							
ANTEROOM	yes		4	4	4	4	FPU - use for 1 Bed Rooms - Isolation Class N (neg pressure ventilation)
BATHROOM	yes		1 x 15*	1 x 15*	1 x 15*	1 x 15*	Inclusion depends on operational policy of unit.
BAY - LINEN	yes		1 x 2	1 x 2	2 x 2	2 x 2	
BAY - RESUSCITATION TROLLEY	yes		1 x 2	1 x 2	2 x 2	2 x 2	
BAY / ROOM - BEVERAGE	yes		1 x 4	1 x 4	1 x 5	1 x 5	5m2 allows for enclosed room.
ENSUITE	yes		6	6	6	6	FPU; sizes for 'full assistance', ie 2 staff plus medical equipment.
PATIENT BAY - CRITICAL	yes		20	20	24	24	FPU; group of not more than 12, within easy observation of Staff Station.
PATIENT BAY - CRITICAL HIGH DEPENDENCY	yes		20	20	20	20	FPU; group of not more than 12, within easy observation of Staff Station.
PATIENT BAY - CRITICAL ENCLOSED (CLASS S ISOL)	similar		20	20	25	25	FPU; group of not more than 12, within easy observation of Staff Station. Class S Isolation.
PATIENT BAY - CRITICAL ENCLOSED (CLASS N ISOL)	similar		20	20	25	25	FPU; clustered, located away from Unit entrance.
DISCOUNTED CIRCULATION			40%	40%	40%	40%	
STAFF AREAS -							
BAY - BLANKET WARMING					1 x 1*	1 x 1*	Inclusion depends on operational policy of unit.
BAY - HANDWASHING	yes		1	1	1	1	FPU; Refer Part D for numbers & location.
BAY - MOBILE EQUIPMENT	yes		1 x 4	2 x 4	3 x 4	3 x 4	Locate in quiet low traffic areas.
BAY - PPE	yes		1	1	1	1	FPU; Refer Part D for numbers & location.
BAY/ROOM - BEVERAGE	yes				1 x 4	1 x 4	

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CLEANER'S ROOM	yes		1 x 5	1 x 5	2 x 5	2 x 5	
CLEAN UTILITY	yes		1 x 12	1 x 12	2 x 12	2 x 12	
DIRTY UTILITY	yes		1 x 10	1 x 10	1 x 10	1 x 10	
DISPOSAL	yes		1 x 8	1 x 8	1 x 8	2 x 8	Inclusion depends on bed numbers & waste management policies.
EQUIPMENT CLEANUP / SUB PATHOLOGY	yes		1 x 8	1 x 8	1 x 18	1 x 18	
MEETING - LARGE	yes		Shared	Shared	1 x 20	1 x 20	Education/Resource - may include Library, 24 hr access req'd; perimeter of unit.
MEETING - MEDIUM/LARGE	yes		Shared	1 x 15	1 x 30	1 x 35	Seminar/Training - alternative location for Library; 24 hr access req'd; perimeter of unit.
OFFICE - CLINICAL/HANDOVER	yes				1 x 12*	1 x 12*	Inclusion depends on operational policy of unit. Close to Staff Station.
OFFICE - SINGLE PERSON 9M2	yes				1 x 9	1 x 9	Senior Nurse Manager
OFFICE - SINGLE PERSON 9M2	yes		1 x 9	1 x 9	1 x 9	1 x 9	NUM
OFFICE - SINGLE PERSON 9M2	yes		1 x 9	1 x 9			Staff Specialist
OFFICE - 2 PERSON SHARED	yes				1 x 12	1 x 12	Staff Specialists - 2 x workstations, may be open plan or in encl office.
OFFICE - SINGLE PERSON 12M2	yes				1 x 12	1 x 12	Medical Director
OFFICE - WORKSTATION	yes		5.5	5.5	5.5	5.5	Registrars - workstation/s, open plan or in encl office. No. determined by staffing.
OFFICE - WORKSTATION	yes			5.5	5.5	5.5	CNC/Educator- workstation/s, open plan or in shared office. No. determined by staffing.
OFFICE - WORKSTATION	yes					5.5	Research - workstation/s, open plan or in shared office. No. determined by staffing.
OFFICE - WORKSTATION	yes			5.5	5.5	5.5	Secretarial - workstation/s, open plan or in shared office. No. determined by staffing.
OFFICE - WORKSTATION	yes		5.5	5.5	5.5	5.5	General - workstation/s, open plan or in shared office. No. determined by staffing.
OVERNIGHT ROOM						1 x 12	Registrar, needs access to bathroom facilities eg Staff Change.
RESPIRATORY/ BIOMEDICAL WORKROOM					1 x 20*	1 x 20*	Inclusion depends on operational policies of unit.
SHOWER - STAFF	yes		Shared	Shared	1 x 2	1 x 2	
STAFF ROOM	yes		1 x 12	1 x 15	1 x 35	1 x 35	
STAFF STATION	yes		1 x 12	1 x 18	1 x 25	2 x 25	
CHANGE - STAFF - FEMALE	yes		Shared	1 x 8	1 x 20	1 x 30	Includes toilets, showers, lockers; size depends on staffing per shift.
CHANGE - STAFF - MALE	yes		Shared	1 x 8	1 x 20	1 x 25	Includes toilets, showers, lockers; size depends on staffing per shift.
STORE - DRUG			1 x 10*	1 x 10*	1 x 10*	1 x 10*	Inclusion depends on operational policy of unit.
STORE - EQUIPMENT	yes		1 x 15	1 x 15	1 x 20	1 x 20	
STORE - FILE	yes					1 x 10	
STORE - GENERAL	yes		1 x 20	1 x 20	1 x 25	1 x 25	
STORE - PHOTOCOPY/ STATIONERY	yes		1 x 5	1 x 5	1 x 10	1 x 12	
STORE - RESPIRATORY	yes					1 x 20*	Inclusion depends on operational policy of unit.

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STORE - STERILE STOCK	yes			1 x 15	1 x 30	2 x 30	
X-RAY VIEWING & REPORTING	yes				1 x 12*	1 x 12*	Inclusion depends on operational policy of unit.
DISCOUNTED CIRCULATION			25%	25%	25%	25%	

Functional Relationships

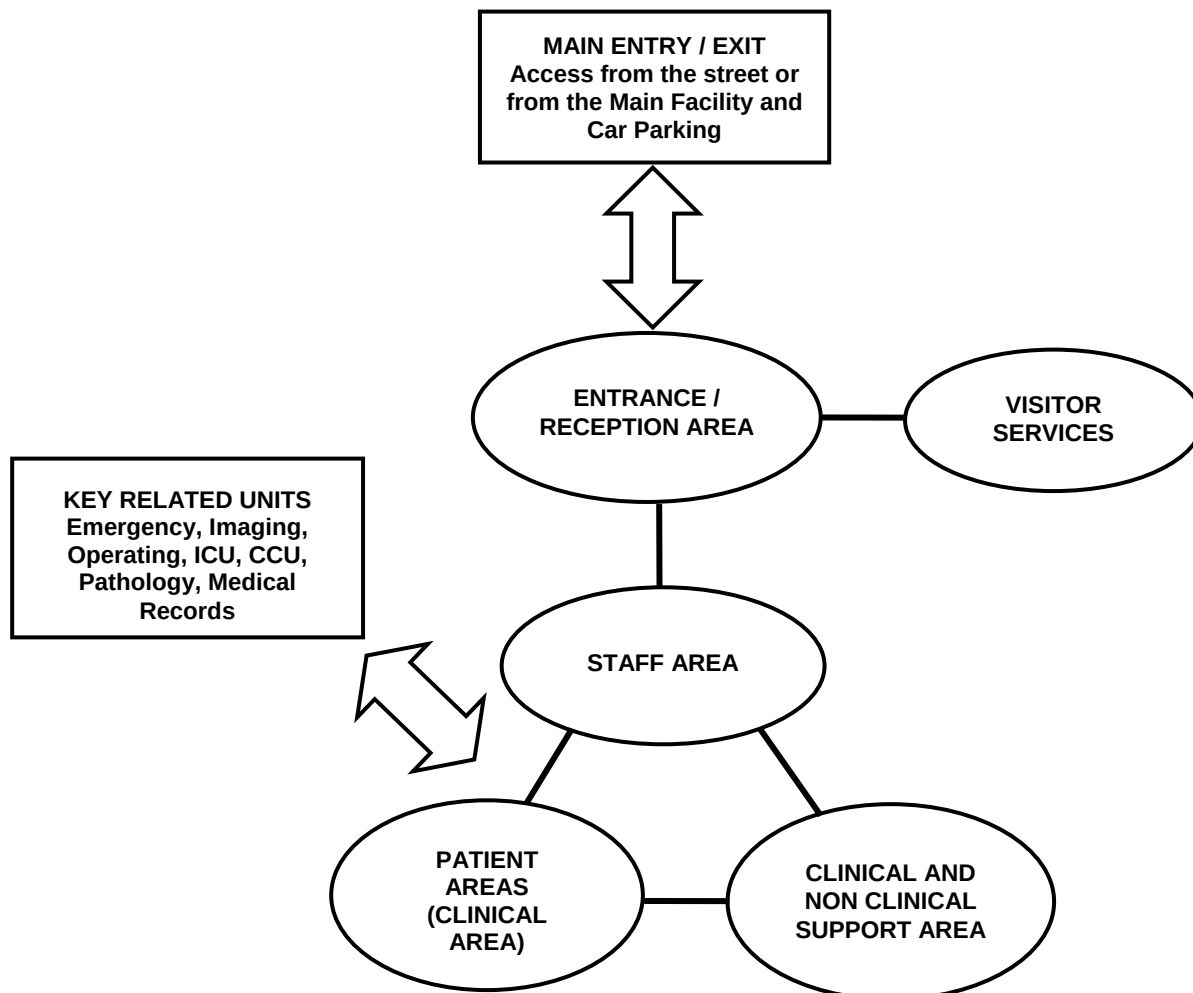
501419 360 .65.00 A diagram showing key functional relationships is attached.

Checklists

502225 360 .66.00 A security checklist is appended to this document. Refer also to Part C of these Guidelines for general requirements.

FUNCTIONAL RELATIONSHIP DIAGRAM - INTENSIVE CARE UNIT

The following diagram sets out the relationships between zones in an Intensive Care Unit:



SECURITY ISSUES TO BE CONSIDERED FOR INTENSIVE CARE UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Ward area to house intensive care and coronary care patients.	1. Minimise entry and exit doors. 2. Security of entry via intercom and remote release button. 3. Staff entry via keypad or swipe card, this being a separate entry from visitors / relatives.

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Relatives / Visitors	1. Good visibility from Staff Station to Ward. 2. Manage relatives/visitors admittance in the area by restricting visiting hours and/or number of visitors.
2. Patient files	1. Personnel working on these files must return them to a secure area after use or return to Medical Records Department 2. If any electronic files are produced, save in restricted area of hard drive.
3. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
4. Drugs storage	1. Dangerous drug safe within the Clean Utility Area.
5. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Provision of an adequate waiting area for relatives/visitors that may be in the area 'out of hours'. This area to be able to be secured and monitored by staff.
6. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.

SECURITY CHECKLIST - ICU / CCU / HDU

RISK ISSUE	DESIGN RESPONSE
1. Has a CCTV System been considered to monitor the Waiting Area and/or access to the public access points in the Waiting Area ?	
2. How is 'after hours' access provided for patients and how is this access point monitored ?	
3. Has a secure 'barrier' been installed between staff and the waiting area to: (a) monitor the Waiting Area; and (b) provide staff contact with patients.	
4. Do staff have access to both fixed and mobile duress systems ?	
5. Is access to patient records restricted to staff entitled to that access ?	
6. Is a system implemented to prevent theft of equipment, files, personal possessions, etc ?	
7. Are drug safes installed in accordance with current regulations ?	
8. Is the Waiting Area furniture incapable of being utilised as a 'weapon'?	
9. How is after hours access provided for staff?	
10. How is this area secured during and after hours?	
11. Are there lockable storage areas available for specialised equipment?	
12. Is lockable furniture provided for storage of staff personal effects?	
DESIGN COMMENTARY/NOTES	DESIGN SIGN-OFF
	Name:
	Position:
	Signature:
	Date:
	Name:
	Position:
	Signature:
	Date:
	Name:
Position:	
Signature:	
Date:	

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390 INTENSIVE CARE - NEONATAL / SPECIAL CARE NURSERY

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503160 390 .0.10

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Preamble

503161 390 .1.00

This Guideline reflects the increasing emphasis and evidence in the field of perinatal medicine on the importance of the physical environment on newborn development in the short and long term with particular and especial reference to

- light - both natural and artificial - in terms of protecting vulnerable undeveloped retina, visual pathways and establishment of normal circadian rhythms
- temperature and humidity control
- the negative impact of excessive noise on hearing and brain development and means to control that noise and
- infection control.

Equally as important is increasing recognition of the importance of direct family involvement in care, but more importantly, in the decision-making process with regard to that care. There is evidence to suggest that parenting education and participation in care may reduce lengths of stay, readmission rates and improve long term outcomes.

This Guideline also examine initiatives such as transitional care (or care-by-parent), home care and support, and lactation support as part of the Baby Friendly Hospital Initiative - "an effort by UNICEF and the World Health Organization to ensure that all maternities, whether free standing or in a hospital, become centers of breastfeeding support". www.unicef.org

The needs of staff are also of great importance and the Guideline recognises that environment can have a major impact on staff satisfaction, recruitment and retention in what is a highly specialised and potentially very stressful field with high risk of "burnout". There is evidence to show that reduction of stress improves quality of care and staff health and well-being.

It also recognises that education and staff training are integral elements of tertiary neonatology and facilities for these activities are addressed.

A wide range of guidelines and literature from around the world have been consulted and all the recent literature is emphasizing the same priorities - units must be baby-centred, family-centred and staff-oriented.

Introduction

503162 390 .2.00

GENERAL

The Guide to the Role Delineation of Health Services (NSW Health, Third Edition 2002) defines 6 levels of Neonatal Services. However, for the purpose of developing a facility for newborns, 3 levels of newborn care are generally applied.

Level 1 refers to healthy newborns without complications of 37 weeks gestation or greater and birth weight 2,500 grams or greater. Facilities for this category of baby are excluded from this Guideline but details may be found in the Maternity Unit Guideline. Every unit providing maternity (birthing) services will require, as a minimum, facilities for resuscitation and stabilisation prior to transfer to a higher level Neonatal Unit with which it will normally have formal networks even though the majority of babies will room in with their mothers.

The Special Care Nursery for Level 2-only newborns are described in the Guideline for Maternity Facilities (HPU 510) where the Nursery may be colocated with maternity beds and birthing rooms to form an integrated Unit. Nevertheless, the design principles outlined in these Guidelines apply equally to these Nurseries.

This Guideline specifically addresses facility requirements for Neonatal Intensive Care and Special Care Nurseries where they form a discrete Unit

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as part of a Women's Hospital / Centre or a Children's Hospital.

503163 390 .3.00 DEFINITION OF LEVELS OF CARE 2 AND 3

Level 1 - Refer previous section.

The following descriptions may be used as a general guide but are not necessarily all-inclusive and may need to be modified / adapted to local conditions.

Level 2 - Special Care Nursery - 3 levels:

High dependency care includes:

- Acute care short of life support
- Immediate step-down care from Level 3

Low dependency care includes:

- A range of mild to moderately ill babies and
- Convalescent babies.

Long term care includes:

- Babies with ongoing conditions not yet suitable for home care; includes oxygen-dependent babies and some with neurological and surgical conditions.

Level 3: Neonatal Intensive Care

Applies to babies requiring continuous life support and comprehensive care for complex and critical illness and prematurity. Level 3 may be further subdivided into 3 levels differentiated by the capability to provide advanced medical and surgical care.

Level 3A

Babies with birth weight of more than 1000 g and gestational age of more than 28 weeks. Continuous life support can be provided but is limited to conventional mechanical ventilation.

Level 3B

Babies with extremely low birth weight (1000 g or less) and 28 or less weeks' gestation requiring advanced respiratory support such as high-frequency ventilation and inhaled nitric oxide.

Requires on-site access to a full range of paediatric medical subspecialties and medical imaging on an urgent basis including CT, MRI and echocardiography.

Paediatric surgical specialists and anesthetists either on site or at a closely related institution to perform major surgery.

Level 3C units have the capabilities of a level 3B unit and are only located in Children's Hospitals that can provide extracorporeal membrane oxygenation (ECMO) and surgical repair of serious congenital cardiac malformations requiring cardiopulmonary bypass.

Source: American Academy of Pediatrics, Levels of Neonatal Care, Committee on Fetus and Newborn, Pediatrics, 2004; 114;1341-1347.

Policy Framework

503164 390 .4.00 Models of Maternity Service Provision across NSW - Progressing Implementation of the NSW Framework for Maternity Services, NSW Health, April 2003.

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Description of the Unit

503165 390 .5.00

DEFINITION OF HEALTH PLANNING UNIT (HPU)

A Neonatal Intensive Care Unit (Level 3) is a discrete and environmentally-controlled unit designed, equipped and staffed to care for premature and medically unstable or critically ill newborns who require constant nursing care and supervision, complicated surgical procedures, continuous respiratory support or other intensive interventions.

The Special Care Nursery caters for newborns requiring less care and supervision -although not necessarily excluding respiratory support - but who are not sufficiently stable to be discharged, and it may serve as a step-down from intensive care.

Spatial requirements for each of these categories varies but there must be the flexibility to minimise unnecessary moving of infants from bay to bay.

503166 390 .6.00

GENERAL DESIGN

Design and layout must be "baby-centred", "family-centred" and must provide appropriate facilities for staff comfort, efficiency and "time-out" when needed.

"The design should allow for flexibility and creativity to achieve the stated objectives."

Recommended Standards for Newborn ICU Design

Report of the Fifth Consensus Conference on Newborn ICU Design

January 2002, Clearwater Beach, Florida

503167 390 .7.00

BABY-CENTRED

Unit design must create an environment that:

- provides facilities to enable best clinical practice from full life support to convalescent care
- allows optimal infant development via attention to noise reduction, light and temperature controls
- allows easy family access 24 hours/day
- minimises risk of adverse occurrences, especially infection
- provides flexibility for future changes in practice and technology.

503168 390 .8.00

FAMILY-CENTERED

Unit design must recognize the pivotal role of the parents and other family members as part of the baby's care team. The environment must:

- create a welcoming entry
- provide adequate space and facilities for families at the cotside
- provide live-in parent accommodation within the Unit
- allow for privacy and encourage physical contact, attachment and breastfeeding / expression of breast milk
- provide quiet facilities for counselling, grieving and care planning
- provide "retreat" facilities
- facilitate communication with staff.-

503169 390 .9.00

STAFF-ORIENTATED

Unit design must provide optimal working conditions and facilities for staff that provides / allows for:

- a pleasant and supportive working environment
- flexibility in staff allocation and ease of staff movement

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- good access to and observation of patients. Observation may be direct and via remote monitoring
- implementation of good infection control and occupational health & safety practices
- appropriate information technology and communication systems
- staff lounge and adequate staff amenities
- continuing education and training facilities
- facilities for clinical research
- necessary office and administration space.

503170 390 .10.00 COT NUMBERS AND MIX

The number of cots and mix of levels will be determined by the Service Plan. Not all units will operate Level 3 cots (although all will need facilities for resuscitation, stabilisation and transfer) but most units with Level 3 cots will also have Level 2 cots, and occasionally accommodation for normal Level 1 babies.

"The number of cots in the SCN is determined by the spectrum of patients managed and the admission and discharge policies of the unit. In particular, the ability to transfer babies to other hospitals with SCNs or to Hospital-in-the-Home (HITH) or other home-supervised care will influence the number of cots required. In general, two to four SCN cots are required for each NICU cot". (ANZNU Design Group - Draft Guidelines May 2004)

Cot numbers should aim for an average occupancy rate of 75% to allow for emergencies e.g. unexpected multiple births, retrievals. (UK Neonatal Staffing Study Group. 2002.)

For the purpose of this Guideline, the Schedule of Accommodation details 50 cots - 20 Level 3 including 4 isolation rooms and 30 Level 2 - but this is indicative only in order to develop a logical list of the rooms /spaces required to support a given number of cots. Planners must adjust the cot numbers and support spaces in the Schedule of Accommodation to suit individual circumstances.

503171 390 .11.00 FUTURE DEVELOPMENTS

- Increasing technological support / equipment
- Increasingly sophisticated information systems
- Increasing rate of pre-term delivery (in part at least because of older maternal age)
- Increased survival rates of all gestational ages
- Increase in multiple births
- Earlier discharge with community support
- Transitional Care (refer Section 15.00)
- "Kangaroo Care": (A method of skin-to-skin contact to promote parent/infant bonding especially for stable premature babies). www.austprem.org.au/journey/nicu/kangaroo_care
- Increasing use of nitric oxide in the treatment of very premature infants
- Improvements in neurodevelopmental care - management of noise and light
- Long term follow-up
- Increased requirement for staff study/in-service
- Nurse practitioners
- Increased requirements for senior medical to sleep in unit for quality of care and medico-legal reasons
- Increasing trend towards single rooms
- More demand for families to live in.

Operational Models

503172 390 .12.00 HOURS OF OPERATION

The unit will operate 24 hours per day, 7 days per week. Parents will have round-the-clock access to the Unit.

Emergency admissions will be from the Delivery Suite, Operating Suite or external retrieval so 24 hour readiness for admissions is essential

503173 390 .13.00 SINGLE ROOMS

There is an increasing amount of data advocating increasing spatial separation of neonates including single rooms (for Level 3 neonates only), the advantages of which may be described as follows:

- Increased privacy - acoustic and visual
- Possibility of continuum of care from admission to transition / discharge
- Greater flexibility for parental involvement
- Better infection control
- Individual environmental control of noise, light, temperature
- Minimisation of the need for overnight parent accommodation that - in most instances - rarely meets demand.

Provision of dividing doors between rooms may facilitate management of multiple births and ease of parental access.

If single rooms are the chosen option, continuous high quality electronic monitoring of all clinical parameters to a central console and/or a master/slave system will be required plus sophisticated staff call systems and access to patient information from remote locations. These technologies are available.

Disadvantages

- Increased capital cost - additional square metres, handbasins, doors, glazing
- Diminished physical observation requiring sophisticated electronic monitoring systems and the cost of those systems
- Implications for staffing and impact on recurrent costs
- May impose staffing difficulties when staff leave for breaks
- Limits opportunities for parents to socialise with other parents and obtain peer support thus creating a degree of isolation. If this option is selected, it is important that communal family rooms are provided and centrally located to the cots - not in a remote location - so that parents can get some rest and socialisation without being too far from their babies.

503174 390 .14.00 MODELS OF CARE

Assuming open cot bays, traditionally infants have been separated according to level of acuity i.e Level 3 intensive care and Level 2 special care. This model does however require some cot movement between nurseries - step-down to Level 2 from Level 3 or upwards if condition deteriorates and this may have a negative impact on families who have developed close relationships with the parents of other babies and staff.

One alternative model is a flexible room arrangement that locates infants according to their gestation development and allows the infant to remain in the same cot space - or at least cot bay - for the duration of length of stay. This minimises infant movement, facilitates cohort management and staff support and continuity of care. If this model is chosen, it will have considerable impact on design issues such as provision of medical gases, pendants etc. and all bays in a given nursery may not be identical. However, in large neonatal units the "flexible room arrangement" that would minimise

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infant movement would require virtually all cot spaces to be able to take Level 3 babies that in the current climate is not supportable by space nor cost of fittings.

At least 2 levels of care, and possibly more need to flow through the unit. The movement of babies between levels in fact is rarely a negative impact, and indeed most families appreciate the positive aspect of progressing through levels of care; this is often seen as a "graduation". Separating levels of care also allows distribution of staff according to skillmix.

503175 390 .15.00 TRANSITIONAL CARE UNIT (TCU)

As distinct from Parent - Infant Rooms.

Edited extract from "Designing a Neonatal Unit", British Association of Perinatal Medicine, May 2004.

In the context of neonatal services, "Transitional Care" may have two connotations:

1. The group of babies almost ready for discharge who can be cared for almost exclusively by their parents with assistance and support from unit staff. (Important to remember that these babies are still "inpatients" but not the mother even if occupying a bed). (This category of babies are addressed under "Parent - Infant Accommodation in Section 390.34.00)
2. Those infants with a spectrum of conditions that previously required admission to the SCN and may now be managed at the mothers' bedsides. Examples include phototherapy, prophylactic IV antibiotics, hypoglycaemia when it is believed there is no underlying serious pathology, mild respiratory disease not requiring oxygen supplementation and babies of 34 and 35 weeks gestation who are establishing breastfeeding. In this instance, both mother and baby may be considered as inpatients.

Practices vary widely, and thus the number of such beds required is difficult to estimate. The Transitional Care Unit may be seen either as an extension of the neonatal unit or may be more cost-effective managed via a better resourced postnatal unit. However, the babies will require neonatal nursing supervision.

Facilities at the baby cot area include:

- four GPOs;
 - one oxygen, one suction and ideally one medical air outlet
- (Edited from ANZNN Draft Guidelines).

Operational Policies

503176 390 .16.00 GENERAL

Examples of general hospital policies relevant to most units such as linen supply, waste management etc can be found in Part A of these Guidelines.

503177 390 .17.00 FAMILY INVOLVEMENT

Parents will be encouraged to participate not only in the physical care of their babies but be intimately involved and a partner in the decision-making process regarding care - but only to the extent that they feel comfortable doing so.

They should be able and encouraged to spend as much time as they wish at the cotside.

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There also needs to be an area within the Unit where parents may go to relax away from the “intensity” of the cotside.

503178 390 .18.00 FAMILY PROPERTY

Need for lockers and hanging space. For the immediate family, lockable cupboard/s at cotside. For other visitors (overcoats etc) Locker Bay near Entry or in/near Family Lounge. Note that keys get lost so some alternative means of securing items should be considered.

503179 390 .19.00 RESUSCITATION

Facilities for neonatal resuscitation should be carefully thought out for each zone of the Nursery.

Resuscitation of infants in humidicribs may be carried out in situ. However, it may not be appropriate in a multi-cot Level 2 nursery with babies in bassinets, therefore each nursery should have ready access to resuscitation facilities, either fixed within a dedicated resuscitation room/bay or via a mobile resuscitaire. Fixed facilities should include an open radiant-heated cot with appropriate facilities including oxygen, medical air and suction, power outlets, laryngoscopes, equipment for assisted ventilation and a secure store of drugs. Location of a “fixed” bay must be carefully considered.

503180 390 .20.00 NEONATAL FOLLOW-UP

Regular follow-up services may be provided for certain categories of neonates up to 8 years of age to assess neurodevelopment.

Depending on the operational policy of the hospital, how clinic sessions are organised and actual attendance numbers, there may be psychosocial advantages for families and staff to attend follow-up clinics close to the Unit in appropriately equipped rooms (an examination surface, good procedure lighting and everything required for weighing, phlebotomy and transcutaneous bilirubinometry) rather than booking rooms in an Outpatients Clinic. However this may depend on the need for access to support services such as Audiology, Physiotherapy and Developmental Psychology assessments (the latter requiring access to observation room with one-way mirror) and the age of the child at the time.

However, a Consult / Exam Room located close to the NICU entrance but well away from sight or sound of the nurseries may be useful for ad hoc attendances.

503181 390 .21.00 NEONATAL PROCEDURES AND SURGERY

Children's Hospitals will usually perform neonatal surgery in the Operating Suite. However, some perinatal hospitals may need to perform surgery in the Unit as very unstable infants requiring surgical procedures (PDA ligation (patent ductus arteriosus - birth defect of the heart) / urgent laparotomy) and infants on oscillatory ventilation are not able to be moved safely.

A Procedure Room will be provided for this purpose with relevant lighting, medical gases, power supply. Inhalational anaesthetic agents are not used therefore gas scavenging is not required. The requirements for this room are described in Section 390.80.00 under Non-Standard Components.

In smaller units, an Isolation Room may be equipped for this purpose.

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503182 390 .22.00 DOMICILARY / HOME CARE SERVICES

An office base for staff and storage facilities will be required if home care services are provided. These facilities may be located on the perimeter of the Unit with access to an Interview Room and easy egress.

503183 390 .23.00 EQUIPMENT CLEANING

Project staff will need to ascertain whether reusable items such as respiratory tubing, teats and bottles, will be processed in the Unit or sent to the Sterile Supply Unit. An Equipment Cleaning Room is described in Section 380.82.00 under Non-Standard Components.

503184 390 .24.00 STAFF ESTABLISHMENT

The staff establishment will/may include:

- medical staff (Clinical Director, fellows, consultants, registrars and junior medical staff)
- nursing staff (NUM, clinical nurse specialists, lactation consultant, home care nurses)
- educators
- clerical/administrative staff (ward clerk, secretary, data collectors)
- ancillary staff (aide, patient assistant)
- Allied Health staff (social workers, speech pathologist, pharmacist, physiotherapist & occupational therapist).

Provision of offices or workstations will depend on the establishment and the need to be located in/near the unit and will comply with DoH Policy Directive PD2005_576 Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Staff attending on a sessional or irregular basis who are based elsewhere in the Hospital - Allied Health staff in particular - will need access to shared workstations.

503185 390 .25.00 STAFF:PATIENT RATIOS

The design, layout and configuration of the Unit should take into account the nurse to patient ratios that can be expected. These ratios will be determined by senior medical and nursing staff according to the infants' conditions and needs and the access to monitoring systems.

The increasing use of continuous positive airways pressure ventilation (CPAP) should not be viewed as a less intensive form of intensive care, but as a different kind of intensive care that can be just as demanding of nursing expertise.

Planning Models

503186 390 .26.00 LOCATION

Planners should try to provide a location and/or orientation that avoids direct sun into the Nurseries to minimise the need for critical sun protection; a southern aspect is preferred.

If in a Children's Hospital and depending on the size of the respective units, a location adjacent to the Paediatric Intensive Care may be desirable with ready access to the Operating Suite.

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If in a Women's Hospital/Centre, the Unit should be located on the same floor as or no more than one floor away from the Birthing Unit and Caesarean section operating rooms.

Care must be taken to avoid placing the actual nurseries adjacent to noise sources such as plant rooms, lifts and public lobbies.

Functional Areas

503187 390 .27.00 FUNCTIONAL ZONES

- Entry / Reception / Public Areas
- Family Areas
- Patient Areas
- Clinical Support Areas
- Staff Areas

503188 390 .28.00 ENTRY / RECEPTION / PUBLIC AREAS

The Reception will serve as the main organisation and communications "hub" for the Unit. It must be located to oversight the entry and therefore able to restrict and control traffic into the Nurseries. Space will be need for delivery and holding of mail, gifts and flowers. It must create a welcoming and positive first impression.

There should be a clear and logical flow from the "hub" to clinical, support and family areas.

The area may include waiting, visitor toilets, child play area, interview rooms, consult/exam rooms if provided, manager's office, write-up rooms for attending staff (Allied Health etc) and photocopy/stationery store.

A handbasin may be located at the entry to the Nurseries and a locker bay for visitors for items such as overcoats, umbrellas etc that are best not taken into the nurseries.

Public toilets, phones and vending machines have been itemised in the Schedule of Accommodation but if available in a nearby central lobby, they can be excluded from the Unit Schedule.

503189 390 .29.00 COT BAY SIZES

With regard to the sizes of cot bays, guidelines from the UK, Canada, New Zealand, USA and Australia have been reviewed and the following represents the general consensus of opinion and recent projects.

All the following areas exclude centre aisles between facing cots, handbasins and any additional storage or workstation included in a room.

- Level 3: 14m² (This will accommodate pendants.)
- Level 2 High Dependency 12m²
- Level 2 Low Dependency 10m²
- Level 2 Long Term Care 12m²

Each bay should have a distinct "baby" zone and "parent" zone. Centre aisles between facing cots must be a minimum width of 2.4m in NICU and at least 2m in SCN.

503190 390 .30.00 CONFIGURATION OF COTS

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Two, maximum 4 cots per bay for Level 3.

4-6 cots per bay in the Special Care Nursery (Level 2); some will be high dependency, some low dependency and a few will be allocated to longterm care.

The Unit must be zoned for maximum flexibility whilst minimising cot movement e.g. zone between low level 3 and high dependency level 2.

Project staff should consider supplying High Dependency Level 2 cots with the same number of electrical and gas outlets as Level 3 cots so that they can act as Level 3 cots in the event of a need to close parts of the NICU area (e.g. infection, other need for evacuation, unit refurbishment) or because of acute excess Level 3 workload. .

503191 390 .31.00 COT BAY REQUIREMENTS

Storage: Will be required for:

- disposable consumables - syringes, tubes, needles etc.
- infection control items - gloves, hand-rubs
- linen - small items
- baby cleaning items, nappies etc.

Storage of disposables, linen, etc. may be via fixed shelving or by a mobile trolley for each bay (as is the usual system in adult Intensive Care Units). This system allows easy cleaning and restocking and minimises dust collection and poor stock rotation and should be considered. Sharps disposal bins may also be mounted on the trolley. If shelving is used, allow 0.67 cubic meters for intensive care and 0.45 cubic meters for special care.

Disposal: Each Nursery (or single room where provided) needs access to a dirty linen skip and bins for general and clinical waste.

Staff Work Area: The staff work area around the cot must meet local occupational health & safety standards. There must be adequate areas for charting - written and/or electronic.

Parent Facilities: There must be space for both parents to be at the cotside, with at least one "easy" chair for a parent to participate in "kangaroo" care.

There should be a designated lockable storage space for parents' belongings, and a display area for toys and mementos. A personal bulletin board is desirable.

503192 390 .32.00 ISOLATION ROOM

A least one isolation room is required in each NICU as part of the total complement of cots. A reasonable estimate is one isolation room per 10 NICU cots although Neonatal Units that have a high number of admissions from outside hospitals such as Units in paediatric hospitals may require more rooms. Isolation rooms should have the ability to provide support to the most complex patients that the NICU would care for

At least one room must be Class N - negative pressure ventilation with adjoining anteroom. (Refer to Section D - 820-24 of the Guidelines for further information).

An lobby outside the suite of rooms should be provided for storage of supplies and a small staff workbase and handwashing and gowning facilities must be available so that staff and visitors cannot access the standard isolation rooms without first undertaking appropriate infection control precautions.

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Removal of soiled materials must avoid contact with and contamination of other areas of the nursery.

All room exit doors require self-closing devices.

Rooms may be used as standard rooms when not occupied by an infectious infant.

The isolation room/s should be away from the entrance to the Level 3 Nursery

Dimension:

1 Level 3 cot - minimum 16m²

2 Level 3 cots - minimum 28m²,

1 Level 3 and 1 Level 2 cots - minimum 20m².

Walls, windows, ceilings and floors must be sealed to avoid infiltration of air from the outside and other air spaces.

If observation windows are provide, they should be double glazed with integral Venetian blinds for privacy operable from inside the room.

All surfaces should be composed of materials that facilitate cleaning. Sound absorbing surfaces in floors and ceilings must be maximised.

A remote monitoring system to the main Staff Station or personalised staff alarm system will be required.

An emergency communication system must be provided.

503193 390 .33.00 FAMILY AREAS

Should include:

- dedicated and appropriately designed cotside space;
- Family Lounge/Dining including a Beverage Bay;
- Child Play - may be part of the Family Lounge or a separate room adjacent to the Family Lounge;
- Accessible Toilet for people with disabilities with baby change table;
- Education/Resource Room;
- Office or facility for a parent support group (multipurpose room);
- Lactation Support - Refer Section 36.00;
- Domestic laundry or access to same elsewhere in the Hospital for parents. Machines may be incorporated into the Equipment Cleaning Room if accessed by staff only.

503194 390 .34.00 PARENT - INFANT ACCOMMODATION

Purpose: Live-in rooms on the unit are required for multiple purposes:

- care-by-parent prior to discharge (transitional care)
- facilitation/establishment of breastfeeding even though not yet ready for discharge
- accommodation for parents whose baby is extremely ill as respite from the cotside
- parents of dying babies
- temporary acute stay accommodation following admission for parents who live a long distance away prior to establishing other arrangements

The babies in these rooms will still be classified as inpatients, therefore the rooms must be within the secure area of the unit and adjacent to the other clinical areas.

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The rooms may also be used for quiet interviews and educational purposes including discharge planning and parentcraft.

Number of Rooms: A reasonable minimum is one parent room per 10 beds (combined NICU and SCN). However, this number will depend on the unit's practice pattern, the size of the region served and other available options.

Fittings and Furnishings:

- Twin beds convertible to a double/ queen bed plus space for baby cot/s (including twins/ triplets)
- Direct access to basin, toilet and shower facilities that may be shared between rooms
- The infant cot area requires access to four GPOs, one oxygen, one medical air and one suction outlet.
- Telephone and emergency call facilities are required.
- Television (may be used for recreational and educational purposes)
- Internet data outlet
- Other furnishings should create a homely, private environment.

It may be appropriate to designate one room specifically for hospice care of dying babies with appropriate décor and art work and including facilities for bathing and laying out the baby and for light refreshments.

503195 390 .35.00 INTERVIEW / COUNSELLING / MULTIPURPOSE ROOMS

Rooms are required for counselling of distressed parents or planning ongoing care away from the demands of the Unit and free from interruption. These rooms should be multipurpose and may also be used for staff appraisal or policy discussions.

The rooms should be intimate in nature; the need for a telephone should be assessed and there should be no television. Careful thought should be given to décor and comfortable furnishings and soundproofing from adjacent areas is essential to ensure privacy.

A large unit will need at least two of these rooms - at least one per 20 cots.

503196 390 .36.00 LACTATION SUPPORT

In order to achieve Baby Friendly Hospital Initiative (BFHI) status, the following will be required:

- Workstation for Lactation Consultant
- Milk expressing area
- A comfortable room for breastfeeding if the mother prefers to do so away from the cotside. If sized for 3 or 4 mothers, it can serve as an area where mothers can get to know each other in an intimate setting. If the latter two areas are combined, the area used for expressing may need to be screened.
- Storage for breast pumps etc
- Access to an assist toilet

503197 390 .37.00 PATHOLOGY

Point-of-care testing is essential..

A bay or room for a blood gas analyser will be required that may be the location for a pneumatic tube transfer station if installed. Include a handbasin, storage and a computer.

503198 390 .38.00 IMAGING PROCEDURES, PROCESSING AND VIEWING

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Mobile x-ray and ultrasound machines may be housed in the unit in their own bay or a dedicated imaging room. The space will also be used to store lead aprons and accessories. Processing needs should be discussed with Medical Imaging staff regarding development of straight films and possible provision of an in-unit laser printer for ultrasound films.

Standard power outlets will be required for recharge.

In new units, digital imaging and PACS is assumed and viewing may occur at the cotside, Staff Station, Viewing Area and other areas as nominated

503251 390 .38.05 MILK PREPARATION AND STORAGE

The Formula (or Milk) Room will need space and equipment (washer/disinfector) facilities for cleaning and sterilizing bottles and teats unless the sterilization function is handled in the CSSD.

Refrigerators and freezers will be required for storage of expressed breast milk. Consideration may need to be given to security of equipment and controlled access to the area as theft of expressed breast milk is increasing where access is unrestricted.

503199 390 .39.00 EQUIPMENT STORAGE

It is assumed that the Unit will clean and store its own equipment that will include:

- Ventilators, CPAP devices
- Incubators and bassinets
- Radiant heaters
- Phototherapy units
- Syringe pumps
- Pulse oximeters
- Cardiorespiratory monitors.

Storage may be divided into open plan equipment bay/s located central to the nurseries for equipment that needs to be readily and frequently accessed and an Equipment Store on the periphery of the Unit - with possible dual access from the main hospital corridor for delivery etc. All areas must be designed to provide both floor parking space and off-floor shelving with adequate power outlets for recharging battery-operated equipment.

Careful attention must be given to ventilation and temperature control where multiple items of heat-generating equipment are being charged particularly in an enclosed room.

Recommended Standards for Newborn ICU Design, Report of the Fifth Consensus Conference on Newborn ICU Design, January 2002, Clearwater Beach, Florida recommends a minimum allowance of 2.8m² for each intensive care cot and 1.7 for each special care cot. However, this may be unsustainable in spatial and cost terms and will need to be reviewed on a hospital-by-hospital basis according to the equipment to be stored.

Depending on operational policies, optional inclusions within the Store may be:

- Workstation for the nominated Equipment Nurse for inventory and ordering and
- Workbench for a biomedical technician to undertake testing and minor repairs serviced with medical gases, power and voice/ data outlets.

503200 390 .40.00 SUPPLIES STORAGE

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Bulk consumables and sterile supplies will be stored in the Clean Utility Room and a lightweight compactus may be considered (nappies, formula, linen, masks & gowns etc).

0.22 m3 for each cot for disposables such as syringes, needles, IV sets etc. (Reference - Recommended Standards for Newborn ICU Design, Report of the Fifth Consensus Conference on Newborn ICU Design, January 2002, Clearwater Beach, Florida)

503201 390 .41.00 PHARMACEUTICAL STORAGE

Medications and IV fluids may be stored in the Clean Utility or in a dedicated Medication Room. A refrigerator with temperature monitoring and alarm will be required and some units may require a separate refrigerator for vaccines.

It is assumed that parenteral nutrition will be prepared in the main Pharmacy but there will need to be adequate storage space in the Unit.

503202 390 .42.00 MEDICAL GASES STORAGE

Storage will be required for nitric oxide cylinders and emergency supplies of oxygen and medical air, and transport cylinders (for evacuation).

503203 390 .43.00 INFANT RETRIEVAL

Intra-Hospital Transfers: Provision must be made for storage and recharging of equipment for intra-hospital transfers from delivery suites and between Neonatal Units e.g. to a Children's Hospital for surgery.

External Neonatal Retrieval Service: For those units where an external retrieval service is an integral component of the NICU, spatial and design requirements will depend on the following factors:

- the size of the team and its relationship to NICU staff - i.e. whether there is a separate team dedicated to transport
- the role of the team with regard to education.
- the need for administrative (including a computer for data entry) and education space
- the amount and type of equipment - including clothing
- the extent of the communication system
- the ownership of dedicated vehicles
- access to the emergency vehicle bay

503204 390 .44.00 STAFF OFFICES

The offices for the Nurse Manager and home care nurse/s may be located in the "Hub" of the Unit as may workstations for staff who attend irregularly.

The remainder of offices should be located in a staff-only zone clearly separated from family areas with, if possible its own key-controlled access separate from the main entry. The offices must be supported by facilities for photocopying, stationery storage and paper shredding and recycling.

503205 390 .45.00 STAFF EDUCATION AREAS

- PACS viewing/discussion area for 3 to 4 staff

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- Seminar Room for up to 30 staff depending on the size of the Unit. Access should avoid travel through clinical areas particularly if shared by non-unit staff on a booked basis
- A multifunctional skills lab can be invaluable for learning and practising simulated procedures. If provided, it should be equipped with a resuscitaire, incubator, ventilator, mannequin, a storage surface, and several chairs & medical gases. It may be separated from the Seminar Room by an operable wall.
- Library / Resource Room

503206 390 .46.00 ON-CALL ROOMS

There is an increasing trend for senior members of the medical staff to be on the unit at all times, therefore provision must be made for on-call rooms. The rooms must include a handbasin and have access to shower & toilet.

503207 390 .47.00 STAFF CHANGE ROOMS

Separate male and female locker rooms will be required providing quarter or half lockers and hanging space. Total locker numbers and ratio of male to female staff will need to be ascertained.

Assuming no permanent allocation, it is suggested that lockers be provided on the basis of 1 per cot (assuming a 1:2 nurse:patient ratio) plus up to 10 supernumerary staff. However if the operational policy allows for dedicated lockers, this number will need to be increased according to the staff establishment.

Unisex shower in the unit or ready access to a shower within the hospital.

503252 390 .47.05 STAFF LOUNGE

A dedicated staff room is essential for de-stressing and meal breaks. It should contain a beverage/dining area and a quiet sitting space. Size must reflect the number of staff using the room at any one time.

Natural lighting is essential and there is evidence to show that night staff require bright artificial light in order to maintain alertness when returning to dimly lit clinical areas. (Circadian rhythm effect).

Functional Relationships

503208 390 .48.00 EXTERNAL

Birth Unit (not applicable to units in Children's Hospitals) and Operating Unit with parent access to Recovery. There should be one floor only of separation with a key-controlled lift if horizontal adjacency cannot be achieved

Postnatal Inpatient Beds (less critical as mothers often discharged much earlier and will then spend their time in the NICU).

Helipad

Emergency Department Ambulance Bay

MRI Unit

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Outpatient facilities in Paediatric Unit if clinics not conducted in Unit

Social work for child protection issues / clinics

Relationship with the local Children's Hospital

DESIGN

Access

503209 390 .49.00 EXTERNAL

- Drop off and parking for parents
- Access to long-term parking (regional families)
- Access for wheelchairs, prams and strollers
- Easy transfer of babies to the Operating Suite
- After hours - but separate - access for parents / staff
- Bed/trolley access for mothers from postnatal wards
- Keyed lift to Helipad or equivalent
- Ambulance
- Outside area readily accessible from the Unit to give families relief from the clinical environment

Accessibility

503210 390 .50.00 INTERNAL

Must allow access and ease of movement for an x-ray or ultrasound unit, a mother in a bed or on a trolley.

Minimise exits - public, staff, goods entry & waste removal.

It is worthwhile calculating the widest and longest object that may travel along the corridors. This may be a mother in a bed who is visiting her baby or a retrieval incubator plus staff. This can ensure that the journey can be safely accomplished in the shortest and most direct route and can facilitate decisions as to which way corridor doors should open, and whether they open automatically or by push-button or electronic access. Such travel patterns may inform the eventual design of the Unit and its connections with the rest of the hospital including evacuation plans.

Parking

503211 390 .51.00 For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

503212 390 .52.00 Evacuation plans must be in place.

Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

503213 390 .53.00 General

The importance of good infection control practices in the newborn environment cannot be overstressed.

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Clinical handbasins will be provided at a ratio of 1:2 in intensive care and 1:4 special care cots and staff must not have to travel more than 6m from cot to basin.

Isolation rooms will be provided for babies with known infections and for babies transferred in until their infectious status is known. Facility for at least one Class N Isolation Room with Ante Room should be available.

Refer to Part D of these Guidelines for further information.

503253 390 .53.05 CLINICAL HANDBASINS

Clinical handbasins should be provided at a ratio of 1:2 in intensive care and 1:4 in the special care nursery and staff must not have to travel more than 6m from cot to basin. At least one basin must be available for children and people in wheelchairs.

The space occupied by the basins is additional to the size of the cot bay.

Design requirements:

- hands-free operation is preferred;
- water flow must not fall directly into the drain outlet;
- sized to avoid splashing and splash-back from the drain;
- no pooling allowed at the bottom of the basin;
- pictorial hand-washing instructions at every sink.

Environmental Considerations

503214 390 .54.00 ACOUSTICS

"Numerous studies identify noise as a primary stressor for infants, patients and staff of health care facilities, with infants particularly disoriented by noise because their hearing is still immature, ... Noise can prevent an infant from reaping the developmental benefits of sleep, but noise can be reduced through acoustic and configuration modifications to the facility and modifications in staff behaviour through educational programs. However, some forms of noise, such as music, have been shown to be effective in reducing stress in infants by reducing cortisone levels in the brain that are associated with stress" Mardelle Shepley, Neonatal Intensive Care Unit Designs are critical to infant health, June, 2005.

Ambient (i.e. background) noise levels should not exceed an hourly Leq 40-45 dB(A) (AS/NZS 2107:2000 - Acoustics-... - Intensive Care)

Noise control measures may include:

- Acoustic ceiling tiles with a noise reduction co-efficient of at least 0.9. (May depend on local infection control policies)
 - Double glazing
 - Flooring with sound-absorbing qualities
 - Duct baffles
 - Walls of sound absorbing materials
 - Special acoustic insulation for noise-producing equipment at the cot side.
- Noise output should be a criterion when selecting equipment

503215 390 .55.00 LIGHTING IN CLINICAL AREAS

All clinical areas should have controlled natural lighting for the development of circadian rhythms in the infants and to enhance staff performance and wellbeing.

Direct overhead ambient lighting in the infant care space must be avoided as

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well as direct lighting outside the area that may be in the infant's line of sight to minimise danger or damage to the developing retina, visual pathways and developing brain.

Lights should be angled or designed to reduce reflection off the incubator canopy.

"Light levels should be no brighter than needed to complete a task, and individualized lighting should be available at each baby station,... Individualized lighting ... is the best compromise to meet the needs of the infant and the staff because lighting needed by infants may not be comfortable to staff. Reduced lighting also has been shown to significantly reduce conversation levels among staff, the primary contributor to noise in an intensive care unit.

Mardelle Shepley, professor of architecture at Texas A&M, "Neonatal intensive care unit designs are critical to infant health" Jun 17, 2005, 03:32

Thus the infant care space should have three separate light sources and controls:

- General room ambient lighting - controlled by dimmer.
- Individual work space lighting - not direct on infant with controls to allow immediate darkening of any cot position to permit transillumination. (The passing of a light through the walls of a body part or organ to facilitate medical inspection).
- Observation/procedure light for every infant space.

Lighting must be colour-corrected to natural lighting. Refer to AS1680 Part 5.

Ambient lighting levels in cot bays should be adjustable, through a range of at least 100 to 600 lux as measured at each bedside. Refer to AS1680 Part 2: Recommendations for specific tasks and interiors

503216 390 .56.00 PROCEDURE LIGHTS

Each NICU cot must have a local light for emergency use, observation and procedures. This light should be appropriate in intensity and area of focus and may be adjustable.

High Dependency Level 2 cots require 1 procedure light per cot
Low Dependency Level 2 cots require access to 1 mobile procedure light per work area

Lights must be shaded to minimise shadow and glare to adjoining cots.

503217 390 .57.00 TEMPERATURE CONTROL

The UK report suggests that "babies' cots should be placed so that at all times they are at least 610mm from external windows. [This may be difficult to achieve in all instances]. There should be double-glazing to minimise radiant heat loss, and some shading to prevent rooms from overheating. The latter can be achieved by reflective [or tinted] glass, [integral] Venetian blinds ... internal washable blinds."

UK Report - The NICU "should be air-conditioned throughout and should have the following standards (as specified by the Fifth Consensus Conference in NICU Design:)

- Air temperature of 22-26°C (72-78°F)
- Relative humidity of 30-60%
- A minimum of six air-changes per hour
- Minimising of draughts on or near infant beds
- Filtration of ventilation air at least 90% efficient."

Individual thermostats.

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Air-conditioning / ventilation outlets located with care to avoid draughts over a cot.

503218 390 .58.00 PRIVACY

Essential - both visual and speech.

503219 390 .59.00 INTERIOR DESIGN

"Color selection relative to infants is largely inconsequential, (she says) because of their lack of visual perception, but with regard to adults, studies have indicated persons in high anxiety situations prefer pastels rather than saturated colors. Common sense, (she says), dictates that color schemes should be subdued so they don't interfere with accurate reading of the infants' skin color.

Space Standards and Components

503220 390 .60.00 ERGONOMICS

Refer Part C of these Guidelines for information.

503221 390 .61.00 HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

503222 390 .62.00 ACCESS AND MOBILITY

For retrieval teams - in and out.

Single point of public entry.

Separate entry for staff ideal but not essential.

Refer Part C of these Guidelines for information.

503223 390 .63.00 DOORS AND CORRIDORS

Refer Part C of these Guidelines for information.

503224 390 .64.00 WINDOWS

Location and design of windows in the Nurseries requires careful planning to provide maximum sun protection. Able to be shuttered; consider the need for double glazing.

Shading devices must be neutral in colour or opaque to minimise colour distortion from transmitted light.

Windows from nurseries into corridors may interfere with family privacy so should be carefully considered. If provided, they should be double glazed with integral Venetian blinds controlled from within the cot bay/nursery.

Safety and Security

503225 390 .65.00 SAFETY

There must be adequate space around the cot to enable staff to work safely - particularly in an emergency and for easy access for equipment such as x-ray and ultrasound units and a mother's bed.

Also refer to Section C 709 for further information.

503226 390 .66.00 SECURITY

The security system should protect the physical safety of infants, families and staff in the Unit and in particular should minimise any risk of infant abduction.

Single controlled entry for the public and visitors.

Consider closed circuit television with phone or intercom for after-hours access.

Separate staff entry and entry for goods and waste removal - if provided - must be by smart card access or similar.

Emergency exits to be alarmed.

Baby security tag system.

Ready access to duress alarms for staff.

Finishes

503227 390 .67.00 WALL PROTECTION

Refer to Part C of these Guidelines

503228 390 .68.00 FLOOR FINISHES

Floor finishes should have the following features:

- Sound absorbing
- Comfort for staff
- Visually attractive
- Minimising resistance to movement of heavy equipment
- Easily cleaned and maintained
- Durable
- Minimise growth of micro-organisms

Carpet should be considered for non-clinical areas.

Also refer to Part C of these Guidelines

503229 390 .69.00 CEILING FINISHES

Sound-absorbing; acoustic tiles/finishes with NRC (noise reduction coefficient) of at least 0.9 is required in all clinical areas and main support areas, with the possible exception of isolation rooms, which nevertheless require maximum sound-reduction strategies.

Also refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

- 503230 390 .70.00 Cot bays must be designed to allow all monitoring equipment to be readily visible and within safe reach of staff. This may require special mounting devices for monitors (articulated arms), rails or shelving at appropriate height and position. The height of monitors and other equipment should be adjustable.

Also refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

- 503231 390 .71.00 INFORMATION TECHNOLOGY AND MANAGEMENT SYSTEMS

Systems generally must be compatible with overall hospital systems

There will be facilities for x-ray viewing and a local Neonatal Information System will operate at each cot bay.

An electronic medical record can be expected within the life span of the Unit. Design should anticipate this eventuality so that introduction does not cause major disruption to the environment or functioning of the Unit.

Communications: There must be systems for optimal fail-safe communications between staff, and for parents to communicate by telephone with cotside staff. This will include an emergency call system and nurse assist system.

Information Technology: Fibre optic cabling is required at each cotside for information systems, monitoring and PACS.

Communication Rooms: In order to support the technology, it is vital that Communications Rooms are sized for flexible server space and a large enough central backbone.

- 503232 390 .72.00 TELEPHONES

Hospital telephones in Nurseries should have a light call indicator and low ringing tones to minimise noise. Cordless phones are preferred.

Use of mobile phones at the cotside should similarly be either prohibited or ringing tones turned off.

A telephone outlet should be provided to each NICU cot bay although actual telephones may be restricted to one per 2 Level 3 cots and 1 per four Level 2 cots.

- 503233 390 .73.00 CLOCKS

A clock must be clearly visible from each cot space; this may be via read-out on the cardiac monitor. The Reception, Staff Station, Treatment Room and all nurseries where provided must have a synchronised clock system.

- 503234 390 .74.00 ARRANGEMENTS FOR MEDICAL SERVICES

A decision will need to be made - sooner rather than later - regarding facilities for provision of medical services and which system is to be installed

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in the various levels of nursery. Options include:

- Pendant
 - Beam system
 - Horizontal wall ducts with cabinetry or
 - Vertical columns/ducts
- and comparative costs will influence the decision.

Ceiling-suspended pendants with single or double articulated arm provide flexibility but occupy more space around the cot, may interrupt natural light and can appear intimidating.

The gantry system is a beam suspended from the ceiling and allows various items of equipment to be attached and moved to suit particular patient circumstances.

Services may be supplied from horizontal or vertical wall-mounted panels/ducts that may be incorporated into cabinetry. It is possible to combine these panels / ducts with rails for mounting monitors etc. This option is more cosmetically pleasing, less intrusive into the cot space, less intimidating, preserves all available natural light and is less expensive. It may however be harder to clean and is less flexible.

Regardless of which option or mix of options is selected, the arrangement of outlets must be identical at each cot so that staff can be familiar with their work zone wherever they are. If a Skills Lab is provided, outlets should be similarly arranged.

Medical Services Requirements Per Cot :

LEVEL 3

- power outlets (GPOs)-20 minimum of which at least 1/3 to be on emergency supply;
- Oxygen-3 minimum;
- Medical Air-3 minimum;
- Suction-3 (4 if required for nitric oxide scavenging).

LEVEL 2 HIGH DEPENDENCY

- as per Level 3 so they can act as NICU cots when necessary.

LEVEL 2 LOW DEPENDENCY

May vary between areas (as per Room Data Sheet)

- power outlets (GPOs)-8;
- Oxygen-2;
- Medical Air-2;
- Suction-2.

LEVEL 2 LONG TERM CARE

- power outlets (GPOs)-6;
- Oxygen-2;
- Medical Air-1;
- Suction-1.

503235 390 .75.00 ELECTRICAL SERVICES (ANZNU Guidelines)

All electrical systems will be cardiac protected.

Uninterruptible power supply (UPS) must be available to provide continuous emergency power to NICU [Level 3] equipment. The equipment connected to UPS will be determined by a number of factors including:

- the vital nature of the equipment e.g. ventilators;
- the need for continuous power e.g. monitor data continuity;
- the existence of in-built batteries e.g. IV pumps;
- high current drain making items such as incubators unsuitable for UPS.

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503236 390 .76.00 USE OF NITRIC OXIDE

Nitric oxide (a vasodilator) is being increasingly used in the treatment of very premature infants. It is usually provided by portable cylinder as required. It may be reticulated from a local manifold but unless reticulated to all Level 3 cots for maximum flexibility, this would be a very costly exercise as stainless steel pipes and fittings are required to ensure corrosion does not occur. And additional scavenging outlets will be required at each cot. It is not recommended

Cylinders may be stored in a well-ventilated Gases Store or in the Equipment Room.

COMPONENTS OF THE UNIT

General

503237 390 .77.00 The Neonatal Intensive Care and Special Care Nursery Unit will consist of a combination of Standard Components and Non-Standard Components.

Standard Components

503238 390 .78.00 Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data and Room Layout Sheets.

Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

503239 390 .79.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

503240 390 .80.00 PROCEDURE ROOM

DESCRIPTION AND FUNCTION

A room equipped for:

- laser therapy for retinopathy of prematurity
- ligation of patent ductus arteriosus (PDA) or
- drainage of the peritoneum following bowel perforation

The treatment room may also double as a consult/exam room.

The room should be a minimum of 14m², 20m² preferred.

LOCATION AND RELATIONSHIPS

Central location close to but away from the main Nurseries.

CONSIDERATIONS

Laser screening and in-use warning lights.

Radiant heater.

Pendant or ducts as for a Level cot bay.

Gases as per Level 3 cot bay.

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503241 390 .81.00 CONSULT / ASSESSMENT ROOM

DESCRIPTION AND FUNCTION

The room may be used for:

- assessment and work-up of infants referred from community for review for admission;
- Follow-Up Clinics;
- Alternative Interview Room.

May be occupied by clinicians and family for up to 4 hours.

LOCATION AND RELATIONSHIPS

Locate in the "Hub" of the Unit to prevent unnecessary traffic through clinical areas.

CONSIDERATIONS

- heat table;
- scales;
- exam light;
- comfortable chairs;
- desk.

503242 390 .82.00 EQUIPMENT CLEANING ROOM

DESCRIPTION AND FUNCTION

Room where equipment is disassembled, cleaned and sterilised / disinfected - including ventilators, respiratory tubing etc. (Teats and bottles may be processed in the Milk Room).

LOCATION

At the perimeter of the Nurseries near the Equipment Store.

CONSIDERATIONS

Oxygen, suction and medical air outlets
"Wet" bench and sink/s
Respiratory tubing disinfectant
"Dry" bench for reassembly
Handbasin.

May also contain washing machine and dryer for baby clothing.

Design and layout must allow natural progression from dirty to clean with dual access if this can be achieved.

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APPENDICES

Schedule of Accommodation

503243 390 .83.00 A Generic Schedule of Accommodation for a Intensive Care-Neonatal /Special Care Nursery Unit at Level 2 and 3 follows. For Level 2 only, Refer HPU 510 - Maternity Unit.

ENTRY/RECEPTION/HUB

Note : Assumes public toilets available nearby, otherwise include.

ROOM/SPACE	Standard Component				Levels 2 & 3	Remarks
ENTRY/RECEPTION/HUB					Qty x m2	For Level 2 only, Refer HPU 510 - Maternity Unit
WAITING	yes				1 x 20	Designed to enable separation of family groups. May include phones and vending
BAY - VENDING					1 x 3	2 machines
BAY - PHONE X 2					1 x 2	1 phone - disabled access
BAY - WATER DISPENSER					1 x 1	
TOILET - DISABLED / BABY CHANGE	yes				1 x 5	
BAY - HANDWASH TYPE C	yes				1 x 2	Refer Standard Components for description of "Type C"
BAY - LOCKERS					1 x 1 (o)	For visitors' use
RECEPTION	yes				1 x 12	For 1-2 staff
STORE - PHOTOCOPY / STATIONERY	yes				1 x 8	
OFFICE - NURSE UNIT MANAGER	yes				1 x 9	
OFFICE - HOME CARE NURSES					1 x 16 (o)	Assumes 2 staff plus 4 sqm storage
OFFICE - DUTY MEDICAL	yes				1 x 12	2 staff. If 3 staff - 15 sqm
WRITE-UP ROOM	yes				1 x 13	"Hot" desks. 4-6 workstations @ 2.2 per station
CONSULT / ASSESSMENT ROOM	yes				1 x 12	No. to be determined.
COUNSELLING/MULTIPURPOSE ROOM	yes				2 x 12	

503244 390 .84.00 PATIENT AREAS
Note : Proposed 50 Cots in Patient Areas-Cot numbers and mix of levels are representative only for purposes of generating a schedule.

PATIENT AREAS						
COT BAY - LEVEL 3	yes				16x 14	Area excludes basins, additional trolleys and equipment & circulation between facing cots
BAY - HANDWASHING TYPE A	yes				8 x 1	1 per 2 cots; part of Nursery. Refer to Standard Components for description of "Type A"
BAY - PERSONAL PROTECTIVE EQUIPMENT (PPE)	yes				8 x 1	Collocate with handbasins
COT BAY - LEVEL 2 HIGH DEPENDENCY/LONGTERM CARE	yes				16 x 12	Excludes basins & circulation
COT BAY - LEVEL 2 LOW DEPENDENCY	yes				14 x 10	Excludes basins & circulation

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BAY - HANDWASHING TYPE A	yes				8 x 1		1 per 4 cots minimum; part of Nursery
BAY - PERSONAL PROTECTIVE EQUIPMENT (PPE)	yes				8 x 1		Collocate with handbasins
BATHING/EXAM AREA					1 x 12		For Level 2 Nursery
ISOLATION ROOM - CLASS N	yes				2 x 16		
ANTE ROOM	yes				2 x 6		As required for Class N Isolation Rooms
ISOLATION ROOM - STANDARD					2 x 16		
ISOLATION ROOM LOBBY	yes				1 x 8		Outside the isolation rooms for linen, small staff base, supplies, etc
NEONATAL BAY - GENERAL CARE	yes				4 x 6 (o)		Optional - For "unqualified" babies who are unable to be nursed at the mother's bedside
BAY - LINEN / BLANKET WARMER	yes				3		Number will depend on layout and access
BAY RESUSCITATION TROLLEY	yes				2		Number will depend on layout and access
TREATMENT ROOM					1 x 20		
PARENT-INFANT ROOM					4 x 14		Refer Section 390.34.00
PARENT SHOWER / TOILET	yes				2 x 5		

503245 390 .85.00 CLINICAL SUPPORT AREAS

CLINICAL SUPPORT AREAS							
STAFF STATION					1 x 20		
OFFICE - CLINICAL/HANDOVER	yes				1 x 12		
CLEAN UTILITY/MEDICATIONS	yes				1 x 12		0.22 m2 per cot for sterile supplies.
BAY - PATHOLOGY					1 x 4		Bench 1200x800; analyser, ice machine, handbasin. Incl. pneumatic transport station if
MILK STORAGE ROOM					1 x 14		Refrigerators and freezers
LINEN CUPBOARD					1 x 1 (o)		For small items that are not processed by the Linen Service - baby clothes etc
IMAGING ROOM					1 x 6		X-ray / ultrasound. Refer 390.38.00
EQUIPMENT CLEAN-UP / SET-UP					1 x 16		For cleaning cots, incubators, dismantling & cleaning respiratory equipment.
STORE - CONSUMMABLES / STERILE PACKS					1 x 12		Based on 0.22 sqm per cot. Assumes compactus
STORE - EQUIPMENT					1 x 96		Based on 2 sqm per cot. Include space for biomedical assessment & repair
DISPOSAL ROOM					1 x 10		
CLEANER'S ROOM	yes				1 x 5		
BIOMEDICAL WORKSHOP					(o)		Optional depending on location relative to ICU, OR
STORE - INTRA-HOSPITAL TRANSPORT EQUIPMENT					1 x 8		
STORE - RETRIEVAL EQUIPMENT					(o)		Space requirements will depend on the role of the retrieval service. Refer 390.43.00.

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503246 390 .86.00 FAMILY SUPPORT AREAS
Note : For immediate family only.

FAMILY SUPPORT AREAS							
FEEDING / EXPRESSING ROOM					1 x 12		For expressing milk.& breast feeding. 3-4 mothers
PARENT LOUNGE / DINING / BEVERAGE					1 x 20		Up to 12 people.
CHILD PLAY AREA	yes				1 x 10		For siblings. 2.5 sqm per child
PARENT RESOURCE AREA					1 x 9		Quiet room for use of laptop, literature & other resources.
TOILET - PARENT, DISABLED	yes				1 x 5		With baby change table
TOILET - PARENT	yes				1 x 3		
LAUNDRY: DOMESTIC					1 x 6 (o)		Baby and parent clothing. Incorporate linen cupboard for small items
DISCOUNTED CIRCULATION %					40%		

503247 390 .87.00 STAFF OFFICES & AMENITIES
Note : Requirements will be determined by the Staff Establishment and will include office space for research staff as appropriate.

STAFF OFFICES & AMENITIES							
OFFICE - CLINICAL DIRECTOR	yes				1 x 12		
OFFICE - CONSULTANTS	yes				9		Determined by staff establishment
OFFICE: LACTATION NURSE					1 x 12		Includes storage
OFFICE - SOCIAL WORKER	yes				1 x 12		2 staff
OFFICE - WORKSTATIONS - MEDICAL	yes				5.5		
OFFICE - WORKSTATIONS - NURSING	yes				5.5		
STORE - PHOTOCOPY/STATIONERY	yes				1 x 8		
SEMINAR ROOM	yes				1 x 30		Up tp 20 staff
SKILLS LABORATORY					1 x 20		Adjacent to Tutorial Room. Operable wall optional. Provide medical gases.
LIBRARY / REFERENCE ROOM					1 x 9		
PACS VIEWING/CASE CONFERENCE					1 x 9		For 3 -4 staff
STAFF ROOM	yes				1 x 40		
CHANGE ROOM / TOILETS - FEMALE					1 x 18		60 quarter lockers, hanging space, 2 toilets
CHANGE ROOM / TOILETS - MALE					1 x 6		10 quarter lockers, 1 toilet
SHOWER - STAFF (UNISEX)	yes				1 x 3		

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OVERNIGHT ROOM	yes				2 x 10		
DISCOUNTED CIRCULATION %					32%		

Functional Relationships

503248 390 .88.00 A diagram of key functional relationships is attached.

Checklists

503249 390 .89.00 Refer also to Part C of these Guidelines for Security general requirements. For Planning Checklists refer to Part A,B,C&D of these Guidelines.

References and Further Reading

503250 390 .90.00 Design Guidelines for Neonatal Units for Australia and New Zealand. First Draft - 17th May 2004, Dr. Neil Roy, Divisional Director (Medical) - Neonatal Services, Royal Women's Hospital, Melbourne and Dr. Carl Kuschel, Director of Neonatal Unit, National Women's Hospital, Auckland, New Zealand for the Australia & New Zealand Neonatal Network.

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Mardelle Shipley. Neonatal intensive care unit designs are critical to infant health", Jun 17, 2005, 03:32. Sourced AEST 10/08/2005

"A Single-Room NICU-The Next Generation Evolution in the Design of Neonatal Intensive Care Unit, American Institute of Architects. AEST 10/08/2005

United Nations Convention on the Rights of the Child, Article 24.

American Academy of Pediatrics, Levels of Neonatal Care, Committee on Fetus and Newborn, Pediatrics, 2004; 114;1341-1347.

Neonatal Intensive Care Unit - Design Brief, Child Health, July 2002, Capital and Coast District Health Board, Wellington Hospital, New Zealand.

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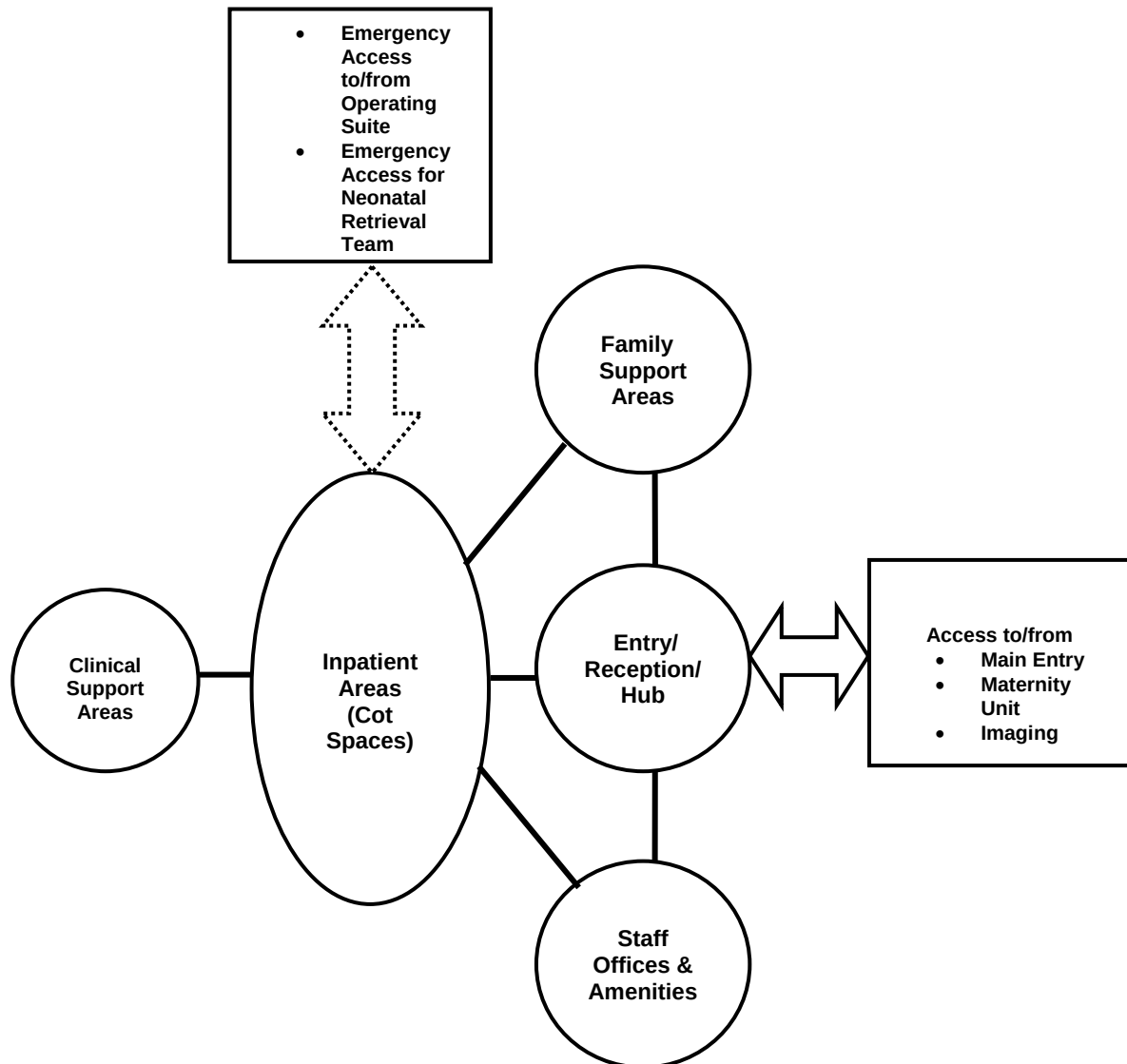
Part B - Health Facility Briefing and Planning

Model of Care for Newborn Services Special Care Unit, Middlemore Hospital, New Zealand, Final Draft, June 2004.

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FUNCTIONAL RELATIONSHIP DIAGRAM –INTENSIVE CARE – NEONATAL/ SPECIAL CARE NURSERY

The following diagram sets out the relationships between zones in a Neonatal / Special Care Nursery



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602180 430 .0.10

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Preamble

602181 430 .1.00 This Guideline addresses a group of functions which are broadly described as "Front of House". The following components are covered within this Health Planning Unit:

- Main Entry
- Public Amenities
- Spiritual Care Unit.

The nature and size of the Front of House facilities to be provided will vary according to the size and service profile of the proposed facility.

It is important to consider the principles of way finding early in the design process for the front entry of the hospital. This will include issues of site layout and design, access routes from car parks and transport hubs, internal and building signage, and knowledge of the facility user group to determine special needs. In addition, decisions around scope of services, hours of opening and security need to be considered early in the design phase, to make reasonable provisions for both the main entry and after hours entry.

As a general principle, the Front of House facilities will be located in an easily accessible location for patients, visitors and staff.

The principles of Crime Prevention Through Environmental Design are relevant to the design of Front of House facilities.

Policy Framework

602182 430 .2.00 Legislation in your State/Territory, as well as Federal legislation will need to be consulted regarding:

- Anti-discrimination
- Occupational Health and Safety
- Disability Services

In addition, Environmentally Sustainable Development principles and relevant State/Territory policies should be adhered to.

An important reference document for planning Front of House facilities is: Standards Australia, Australian Standard 1428: Design for access and mobility.

Description of the Unit

602183 430 .3.00 DEFINITION OF HEALTH PLANNING UNIT (HPU)

The Front of House Planning Unit incorporates functions and amenities that support patients and visitors in the administrative, practical and spiritual aspects of their interaction with the health facility.

The Front of House functions fall into three groupings: Main Entry, Public Amenities and Spiritual Care Unit.

602184 430 .3.05 MAIN ENTRY

The Main Entry will provide the following functions:

- External drop off and collection area protected from weather
- Entry / foyer to the health facility
- Patient and visitor reception and enquiries

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- General patient and visitor waiting
- Way finding information / signage
- Wheelchair and trolley holding area.

The Main Entry may also accommodate the following functions:

- Admissions Unit, including Cashier / Accounts (see Admissions Unit HPU)
- Nursing Duty Manager's Office
- Staff sign-on bureau
- Site specific health education / promotion unit
- Mail room
- Patient transport
- Display space to advise the community on public health initiatives, quality improvements, facility redevelopment projects, historical and heritage displays etc.
- Office for a Patient Advocate / Customer Liaison Unit.
- Office for indigenous or multi-cultural persons support service.
- Volunteers and auxiliaries space eg for charity sales, meeting room / amenities, volunteer coordinator.
- Dedicated staff toilets, depending on the number of staff working in the area and the proximity to other staff toilets.
- Fire indicator panels and fire service provisions
- Security office/station to provide visible reassurance and act as deterrent. Main office generally located in close proximity to the Emergency Department or other 24 hour zone.
- The Switch room, however generally this will be located in the Emergency Department or other 24 hour zone.

The provision of an airlock to the entrance lobby is preferred but optional, the need for which will be dependent on local conditions.

The Admissions Unit may be located as part of or in close proximity to the Main Entry, depending on the model adopted by the facility.

602185 430 .3.10 PUBLIC AMENITIES

The range of public amenities to be provided for the convenience of visitors, staff and patients will vary depending on the size and nature of the facility. They will be situated in convenient, easily accessible public locations, as part of or in close proximity to the Main Entry.

The Building Code of Australia outlines the requirements for building amenities and should be consulted when designing the Front of House. The following amenities are required as a minimum:

- Public male and female toilets, including a unisex disabled access toilet
- Baby change room and baby feeding area
- Public telephones / possible taxi phone.

Note: A minimum of one cold water drinking unit per floor is required. Cold water drinking units may be replaced by a drink vending machine, a Kiosk or Coffee Shop.

Optional public amenities may include:

- Kiosk / Coffee Shop
- Retail Pharmacy
- Florist
- Gift shop / Newsagent
- Volunteers Shop
- Automatic Teller Machine. Note that ATMs create significant security risks which may be best avoided by omitting them from the facility.
- Vending machines
- Provision of cold water drinking fountain (preferably not the water bottle type due to manual handling risks).

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- Hairdresser
- Post Box
- Police shopfront
- Community notice board.

602186 430 .3.15 SPIRITUAL CARE UNIT

The Spiritual Care Unit will be a multi-faith facility that supports the activities of accredited religious and spiritual care workers.

The Spiritual Care Unit should include as a minimum:

- a multipurpose room
- Spiritual Care / Chaplaincy Office

Other functions may be provided according to the size of the health facility and the nature of the catchment population:

- A counselling room
- Ablution area suitable for religious washing
- Beverage making facility.

Faith specific prayer rooms may be appropriate in facilities that have large numbers of people in the catchment population affiliated with a particular faith community.

Refer to Part B - General Requirements Section 80.14.34 - Sacred Spaces and Religious Observance.

PLANNING

Operational Models

602187 430 .4.00 MAIN ENTRY OPENING HOURS

The opening hours for the Main Entry will vary, according to the service profile of the facility, risk assessment outcomes, the facility's visiting hours and community and user group needs.

Typically the Main Entry of an inpatient facility will be open from 6am to 9pm, seven days per week, although there may be services which provide extended access to the main entry due to community needs. Outside of opening hours, staff, patients and visitors will be advised of alternative means of access to the facility. When the Front of House is closed, provision of key services will need to be available at an alternative location such as the After Hours entrance e.g. way finding information, public toilets, public telephones.

The Main Entry opening times for ambulatory care or day surgery facilities will vary according to local scheduling practices.

Both the Main Entry and After Hours Entry will need to be designed mindful of the opening hour arrangements.

602188 430 .4.05 ENTRY - OUT OF HOURS

The facility's service profile will indicate services that will be required at the after hours entry. It is particularly important that this entry is well signed from the Main Entry. It may be necessary to reproduce some functions.

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602189 430 .4.10 CO-LOCATION OF RECEPTION AND ADMISSIONS FUNCTIONS

In large facilities, a stand alone Reception / Enquiries counter may be staffed by a clerk who will field enquiries, provide way finding information, and perform general administrative and support duties.

An alternative model is for patient / visitor reception functions to be co-located with the Admissions Unit (see Admissions Unit Health Planning Unit). This model is especially likely in smaller facilities where separation of these functions is unwarranted from a staffing perspective.

602190 430 .4.15 SECURITY

The Security Service is responsible for the security of patients, visitors, staff and property in the buildings, car parks and grounds of the facility.

Where the facility does not have a designated Security Service, the responsibility for the provision of security should be designated to a specific person or position.

Each facility should have a Security Risk Assessment and a Risk Mitigation Plan, against which operational security is developed to meet the specific needs of the facility.

In facilities which have a Security Service, it is generally located near the Emergency Department which is a 24 hour zone, rather than the Main Entry which is not a 24 hour zone. Therefore, technology installed in the Main Entry will ensure that facility security is monitored and maintained.

Operational security measures in the Main Entry will be developed through a risk assessment approach and may include:

- Reception / Enquiries staff will have a fixed duress alarm and direct communication with security personnel.
- Standard procedures for contacting the police in the case of an incident.
- Overt surveillance systems (CCTV) will overlook the main entrance, waiting areas, reception, lobby, cashier's desk, ATM (if included) and other sites as indicated by the risk assessment. This will include appropriate security and CCTV signage. CCTV should be colour, digital recording and requires good lighting levels.
- General monitoring via CCTV of the movement of patients, visitors and staff in the Main Entry and the facility generally. A CCTV monitor may be located in the reception.
- Security staff will make regular patrols of the Main Entry.
- Proximity access / identity cards to staff areas that adjoin the Main Entry.
- No after hours access e.g. Through counter roller doors, swipe cards, lockable areas.
- Effective radio communications
- Security protocols
- After hours staff entry e.g. Swipe card access
- Where relevant, procedures and routes for cash deliveries and removal. This might include a secure area external to the building from which cash transfers can occur.

602191 430 .4.20 AVAILABILITY OF PUBLIC AMENITIES

Public toilets, baby change, public telephones and cool water drinking units (or kiosk or vending machine facilities) will be available at all times. If public amenities are out of service eg for cleaning, maintenance etc, an appropriate alternative should be available to the public.

In larger facilities, public amenities will be located in more places than just the Main Entry.

602192 430 .4.25 RETAIL OPPORTUNITIES

Retail opportunities within healthcare facilities are for the direct use and benefit of the health facility and its regular users.

Retail outlets will negotiate lease arrangements according to relevant jurisdictional policy.

Consideration may be given to provision of fit out guidelines to ensure retail facilities comply with security, access and other health service needs. Services such as ATMs and Post Boxes may impose additional requirements on the facility for access to transport and security. Consideration needs to be given to secure cash transport routes for all retail functions, particularly ATMs, as well as the facility cashier.

The operating hours of retail functions will be dependent on the size and nature of the facility, visiting hours, and commercial considerations. Opening hours in a large facility may observe extended business hours e.g. 6.30am to 8pm seven days per week. In a smaller facility retail outlets may observe shortened business hours e.g. 8am to 4pm, with varied arrangements on Sundays.

602193 430 .4.30 SPIRITUAL CARE UNIT HOURS OF OPERATION

The Spiritual Care Unit will generally operate during business hours; however this will depend on the method by which the Unit is resourced (see operational policies). Spiritual care workers will attend the health facility after hours for emergencies, to visit with specific patients, families or staff.

Formal prayer and worship gatherings are likely to be concentrated on Friday, Saturday and Sunday, with more informal gatherings on weekdays.

The spiritual care multipurpose room may be available to visitors, patients and staff for extended business hours. This will generally be consistent with the operating hours of the Main Entry.

602194 430 .4.35 PATIENT TRANSPORT

Arrangements for inter-facility patient transport may be the responsibility of Reception / Enquiries staff; however this will be dependent on the model adopted by the facility.

602195 430 .4.40 NURSING DUTY MANAGER AND STAFF SIGN-IN

The Nursing Duty Manager may be located in the Main Entry zone, or alternatively in close proximity to 24 hour inpatient areas. The decision to locate this office in the Main Entry will be influenced by the physical size of the facility, proximity to after-hours areas, and the ability to locate the office within a 24 hour zone.

A staff sign-in area may be located in the Main Entry. A discrete counter, not accessible by the general public, would be required for this function. An alternative is that staff sign-in occurs within each specific unit.

Both of these functions must be located in 24 hour zones which do not result in staff working in isolation.

Operational Policies

602196 430 .5.00

SECURITY

Each facility will have operational security policies and procedures based on the facility's Security Risk Assessment, against which the need for security measures in the Main Entry will be assessed. Security measures may vary from site to site.

Depending on the specific needs of the facility, the following policies may be in place:

- Staff at the reception / inquiries counter will have direct communication with the security service or person responsible for the provision of security. Reception staff will have a duress alarm, either affixed to each workstation or a personal duress alarm.
- Reception staff may have the ability to lock down the Main Entry in the event of a major incident and they may also have the capability of triggering entrapment barriers to prevent penetration into the facility. Alternatively this capability may be the responsibility of security personnel.
- Reception staff may be able to view CCTV footage of the main reception and waiting areas, however this is dependent on the risk assessment outcomes and the security model adopted by the facility.
- To reduce recurrent resources required to maintain security, automatic electronic locking / unlocking of the Main Entry doors is strongly recommended with manual override provided.

602197 430 .5.05

EMERGENCY TRAINING

Reception staff will receive comprehensive training in emergency management as it specifically relates to Front of House (e.g. violent behaviour in foyer, hold up of retail area etc) as well as the implications of disasters elsewhere in the facility for Front of House functions (e.g. evacuation of hospital, direction of emergency services etc).

602198 430 .5.10

RECEPTION / ENQUIRIES COUNTER

Hours of attendance at the reception / enquiries counter will vary between facilities. It is desirable for the reception / enquiries counter to be staffed whenever the Main Entry is open to assist patients and their visitors and promote security.

This area must be lockable.

Lost property may be managed within the Reception / Enquiries Counter; however functional storage requirements are described in the Admissions Unit - Cashiers Function.

602199 430 .5.15

WHEEL CHAIR / TROLLEY HOLDING

A small number of wheel chairs may be kept at the Main Entry in readiness for patients requiring wheel chair support. Wards persons will generally be responsible for ensuring an appropriate number of wheelchairs are available in the Main Entry and are stored in an orderly and secure manner.

602200 430 .5.20

SPIRITUAL CARE UNIT RESOURCING

Spiritual Care or Chaplaincy workers are employed by their own church / faith community. Where possible, their work is subsidised by the health facility. Workers must be accredited by the facility to work as part of the

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Spiritual Care Team.

Spiritual care workers may be: full time, part time, sessional chaplains, lay chaplains, visiting clergy / spiritual care workers and trained volunteers.

602201 430 .5.25 STAFF PROFILE

The size of a unit will be determined by the service plan and clinical needs. It is not the intention of this Guideline to advise on staffing levels. However a unit should be of a size and layout that ensures the safety, security and emergency needs of staff on duty are addressed.

Planning Models

602202 430 .6.00 SIZE - FUTURE GROWTH

The size of the Main Entry needs to be large enough to accommodate key functions, relevant to the expected throughput and service profile of the planned facility.

In sizing the Main Entry, consideration should be given to the anticipated rate of the facility's service expansion and activity growth, so that the Main Entry has a reasonable built in redundancy to accommodate anticipated growth. Alternatively, opportunities for expansion of the Main Entry will be identified. This is an important consideration given the key functional relationships that must be retained between the Main Entry and other parts of the facility. Expansion of the main entry will have implications for security and monitoring e.g. additional cabling/data requirements.

602203 430 .6.05 LOCATION

The Main Entry to the facility will be readily identifiable from the street and car parking areas. This will be achieved through signage, and clear vehicular and pedestrian access ways to the front door.

602204 430 .6.10 BUILDING DESIGN

The architecture of the building should highlight the front entry to people approaching the building, for example a canopy at the Main Entry. It should be well lit and clearly sign posted.

Most of the public amenities (e.g. toilets, retail, kiosk etc) occupy small areas compared with the size of an average hospital. These amenities can therefore be designed as part of a class 9a classification building, unless the area is of a large size that renders the class 9a classification prohibited by the BCA.

The Australian Safety and Compensation Council's Guidance on the Principles of Safe Design for Work provides information for designers and architects on how to eliminate hazards during the design stage of a building project.

602205 430 .6.15 CONFIGURATION

The configuration of units or areas must avoid potential entrapment points and maximise lines of sight and opportunities for observation of visitors by staff.

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ATMs and cashiers should not be visible from outside the facility and should not be accessible via a vehicle to avoid the risk of ram raids.

Retail outlets should not be in an isolated location to minimise the risk of crime.

Functional Areas

602206 430 .7.00 Functional areas in the Front of House Unit are:

- Entry, Reception and Waiting
- Public Amenities
- Retail
- Spiritual Care.

The layout of waiting areas, including arrangement of chairs and other amenities, should give consideration to the principles of "crime prevention through environmental design". For example, furnishings and fittings are not able to be used as weapons; provision of play space for children; provision of television or other entertainment. Vending machines require consideration of policies regarding health food choices and need to be secured to the wall. Some facilities may also require outdoor waiting areas according to preferences and cultural needs identified from user group discussions.

Dependent on the model being used, Patient Advocate, Aboriginal Liaison, Security and Administrative functions (Admissions, Cashier) may also be included in the Front of House.

Functional Relationships

602207 430 .8.00 EXTERNAL

The Main Entry will have excellent linkages to public car parks and public transport precincts.

602208 430 .8.05 INTERNAL

As Main Entry, Spiritual Care Unit and Retail facilities are not 24 hour functions, they will ideally not be accessible out of hours. They need to be positioned so that staff do not work in isolation or traverse unoccupied areas at night. Therefore, staff with 24 hour responsibilities should not be located within this area.

Ideally the Main Entry will be located centrally in the building, in order to minimise travel to other parts of the building as far as possible.

Access

602209 430 .9.00 EXTERNAL

Legal obligations regarding access to workplaces exist in many States and Territories under OHS legislation. These legal requirements must be complied with.

Designers must implement the principles of Crime Prevention through Environmental Design. Relevant issues in external design will include:

- Access to front entry and building site by gates (which can be useful to redirect and limit traffic in emergency situations / major disaster.
- Bollards where vehicular access is close to front entry of buildings.
- Wheelchair access ramps at drop off points and crossings.
- Excellent linkages between the Main Entry and public car parks and public transport precincts. These need to be well lit.
- Minimisation of the number of night entrances.
- Enabling staff and the public to access the facility at entrances adjacent to car parks to limit the time outside the facility at night.
- The Main Entry door should be flush with the exterior wall to maximise the visibility of people approaching the building.

Staff swipe card entry at access points should be considered as they provide a more secure, cost effective access control. CCTV surveillance/intercom at entry points will allow people presenting to an entry after hours to be screened.

Patient and visitor access after hours will generally be via the Emergency Department.

602210 430 .9.05 INTERNAL

Legal obligations regarding egress from workplaces exist in many States and Territories under OHS legislation. These legal requirements must be complied with.

The Design of the Main Entry should enhance way finding to the rest of the health facility. The hospital street (i.e. main corridor), will flow directly from the Main Entry.

The internal design must allow the Front of House Unit to be appropriately secured after hours, in keeping with the service and operational profile of the facility. It is essential that gaining access to the Main Entry after hours does not allow unauthorised access to the whole facility.

A Hearing Augmentation Listening system may be required at the reception/enquiries counter to assist people with a hearing impairment.

Parking

602211 430 .10.00 A covered drop-off and collection zone will be provided at the Main Entry.

The building canopy should provide shielding for people alighting from vehicles in inclement weather and be compatible with vehicles that may use the Main Entry e.g. disabled taxis, patient transport vehicles, buses and mini-buses, ambulance, police vans and armoured vehicles (for cash transfers).

The Main Entry drive way should be one-way and sufficiently wide to allow large vehicles to safely pass vehicles that are parked / stopped. Bollards should be installed at the Main Entry where vehicles come in close proximity to the front doors.

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Consideration may be given to providing limited use car parking spaces in close proximity to the Main Entry (e.g. ten minute parking bays, disabled parking, doctors' parking bays).

A taxi rank and / or phone should be located within easy walking distance of the Main Entry.

Patient Transport vehicles may require a pick up and set down area at the Main Entry, depending on the operational policies of the facility.

General patient and visitor parking require excellent linkages to the Main Entry. The design of the linkages should aim to eliminate cross over of pedestrian and vehicle paths to maximise pedestrian safety.

The efficiency of parking space availability may be managed with a parking attendant.

For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

602212 430 .11.00 BACK UP SYSTEMS

It is essential that equipment such as minimum lighting, telephones, duress alarm systems and electronic locking systems, fire alarm and fire control systems are connected to the non-interruptible emergency power supply.

Refer to Part B Clause 80 and Part C of these Guidelines for further information.

602213 430 .11.05 CRITICAL OPERATIONS PROCEDURES

Facilities will likely have a comprehensive critical operations manual that provides direction for responses in emergency or disaster situations. These will provide input to design elements that may need to be considered for events, such as temporary signage, duress systems, emergency egress signage and use of space to deal with media or mass casualties.

Infection Control

602214 430 .12.00 GENERAL

Infection risks in the in the Front of House are minimal, however in the event of exposure to body fluids, standard precautions should be taken.

Design must consider the positioning of dirty utility rooms and where relevant, mortuaries, so that staff do not have to traverse public areas such as lobbies and administration areas.

602215 430 .12.05 WASTE MANAGEMENT

Consideration should be given to installing receptacles for clinical waste / sharps in public toilets.

Recycling should be available to administrative staff working in the Front of House Unit and patrons of retail outlets / vending machines.

Commercial operators may be encouraged to minimise waste generation

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through implementation of appropriate waste management strategies.

602216 430 .12.10 FOOD HANDLING

Retail outlets selling food will need to comply with food safety regulations in the relevant jurisdiction. This will be the responsibility of the operator of the business.

Environmental Considerations

602217 430 .13.00 AMENITY

The Main Entry creates an overall impression of the facility with patients and visitors. The space should therefore be inviting and non-threatening.

Consideration should be given to cultural requirements / expectations. A community art program should be considered to create a sense of place.

Selection of artwork should consider safety aspects and integrity of displays. For example glass on paintings or parts of sculptures cannot be broken and used as weapons. Displays of historical information are also highly valued by the community, providing an opportunity to acknowledge changes to the life of a facility.

It should be noted that artwork may be subject to copyright protections. Art installations, especially those incorporated into permanent fittings need to be considered with regard to their potential to be affected by future alterations.

Opportunities might be created for the inclusion of an indoor garden or potted plants to enhance the amenity of the Main Entry.

602218 430 .13.05 ENTRY AREA

The Main Entry shall be at grade level, sheltered from inclement weather and accessible to the disabled.

Outside the Main Entry is often a popular place for patients, staff and visitors to go for fresh air. Consideration should be given to how a discrete and pleasant outdoor seating area might be incorporated into the design of the Main Entry.

Some jurisdictions / facilities have exemptions to smoke free health campus policies. Where this applies, designated smoking areas should be located away from the Main Entry to prevent exposure of patients, visitors and staff to environmental tobacco smoke.

The provision of an airlock to the Main Entry is the preferred option, but will be determined subject to a risk assessment taking local environmental conditions into account. An airlock is recommended in locations that experience a large range in summer and winter temperatures. In other locations, an airlock will assist in maintaining air conditioning and minimising dust, vegetation, smoke or chemicals from penetrating the Main Entry. The airlock should be capable of lockdown to prevent entry / exit in operational or emergency situations.

Specific permanent entry mats may be useful to reduce dirt and contaminants, particularly in wetter climatic environments. It is recommended that the mats be positioned in a mat-well to provide drainage. Mats should be chosen with consideration of the impact on patient mobility.

602219 430 .13.10 ACOUSTICS

Large volumes of people move through the Main Entry, therefore the area should be acoustically treated to minimise ambient noise. This will be particularly important where an Admissions Unit is located as part of the Main Entry.

It is desirable for the spiritual care multipurpose room to be acoustically private.

Reference:

AS/NZS 2107 - Acoustics - recommended design sound levels and reverberation times for building interiors.

This standard recommends design sound levels and reverberation times for different areas of occupancy in various categories of buildings. It specifies methods of measuring the ambient sound level reverberation time. It is intended for use in assessing the acoustic performance of the buildings and building services. It does not apply to the evaluation of occupancy noise.

602220 430 .13.15 NATURAL LIGHT

The presence of natural light to the Main Entry, spiritual care multipurpose room, and public amenities such as the Coffee Shop / Kiosk, is desirable in creating a pleasant introduction to the facility for patients, visitors and staff. These places are often places of relaxation away from the stresses associated with healthcare facilities.

Careful use of natural light beyond the Main Entry will be a helpful means of promoting way finding throughout the facility.

602221 430 .13.20 PRIVACY

Provision of a counselling room in the Spiritual Care Unit will ensure the privacy of patients, visitors and staff who use this service. Where the Unit is not sufficiently large to justify a dedicated counselling room, an alternate location for private counselling should be identified for when the need arises.

602222 430 .13.25 INTERIOR DESIGN

Refer to Part C of these Guidelines for information on interior design.

Selection of materials and colours in the Main Entry should be suitable to withstand heavy pedestrian utilisation, whilst creating a safe (including slip resistant) and welcoming environment.

Interior design and artwork should be used to create a focal point that aids orientation and way finding within the facility.

The spiritual care multipurpose room should be designed in a manner that promotes prayer, reflection and worship for all faiths. The room should not highlight any one faith's religious iconography. This would be permissible in a chapel / prayer room that is dedicated to a particular faith.

602223 430 .13.30 SIGNAGE

The orientation of people to and within healthcare facilities is greatly assisted or hampered by the quality and location of signage which may be directional, be used as a means of identification, or be a statutory requirement. Signage

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can have an important role in safety and security.

Signage is an important element in the way finding system, which supports the overall process of how individuals find their way to and through a site, to get to and recognise their destination, and then make their way back out.

Comprehensive signage (including a facility plan) should be obviously located at the Main Entry and secondary entries.

External signage, including in car parks, lifts, stairwells, and at vehicle and pedestrian access points, should clearly indicate the location of the facility's Main Entry (and other major units if applicable).

All signage must be easily understood by staff and the general public. Where necessary and appropriate, languages other than English and / or consistent symbols or pictograms may also be used.

Any signposting, or other initiatives put in place, must be considered from the perspective of out-of-hours use. Certain access points may be locked outside of office hours / visiting hours and clear instructions for alternative access are required. Directions indicated through signposting should, therefore, be evaluated in this context.

Signage should comply with guidelines that promote access for people with disabilities.

Space Standards and Components

602225 430 .14.00 ENVIRONMENTALLY SUSTAINABLE DESIGN

There may be opportunity to design the Front of House components with a view to maximising compliance with principles of sustainable design. Issues for consideration will include:

- Reduction in energy consumption through natural ventilation
- Use of day light in design of entry atria
- Appropriate choice of materials.

602226 430 .14.05 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, Furniture, Fittings and Equipment (FF&E) and work environment to the physical and cognitive capabilities of all persons using the building.

As the requirements of Occupational Health and Safety and antidiscrimination legislation will apply; this section needs to be read in conjunction with the section on Safety and Security in Part C of these Guidelines in addition to OHS related guidelines.

602227 430 .14.10 ERGONOMICS

The design of reception counters, retail counters and staff work stations in the Front of House will ensure appropriate heights and depths to minimise the impact on the Occupational Health and Safety of staff and patients. (See 430.16.00 for more details regarding reception counters).

Tables in kiosks / cafes should be arranged to ensure access for people with a disability. Wheelchair access is possible where tables have a minimum distance of 1660mm between them.

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Refer to Part C Section 730.12 under Access and Mobility of these Guidelines.

602228 430 .14.15 OFFICES

For provision of offices and associated administration areas, refer to jurisdiction specific policy or guidelines.

602229 430 .14.20 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines - Section 710 - Space Standards and Dimensions.

Doorways must be sufficiently wide and high to permit the manoeuvring of beds, wheelchairs, trolleys and equipment without risk of damage or manual handling risks.

The Main Entry door will be operated by automatic electronic timer locking, with manual override and a button to allow after-hours exit.

Safety and Security

602230 430 .15.00 GENERAL

The Australian Safety and Compensation Council's Guidance on the Principles of Safe Design for Work provides information for designers and architects on how to eliminate hazards during the design stage of a building project.

Refer to Part C of these Guidelines: Design for Access, Mobility, OHS and Security, Section 790 - Safety and Security Precautions.

602231 430 .15.05 SECURITY

Overt security devices are to be used carefully so as not to detract from a welcoming, supportive and respectful environment. Facility planners and designers should enhance security by incorporating the principles of territorial reinforcement, surveillance, space management and access control into design decisions.

In relation to Main Entry, Public Amenity and Spiritual Care facilities the following specific security issues should be considered:

- CCTV of the Main Entry, Reception and Waiting, and any other high risk areas such as Cashier and ATM as determined by the Risk Assessment, including appropriate security and CCTV signage.
- The Reception / Enquiries Counter should have clear oversight of the entrance and waiting areas.
- Lighting in the Main Entry (internal and external) and Public Amenities must be sufficient to avoid areas of excessive shadow which hamper oversight.
- Reception staff will sit at a deep reception counter (to a maximum depth of 1410mm). Each will have emergency egress points and access to duress alarms.
- After hours security measures to secure the reception counter are necessary.
- Reception staff may have access control for the Main Entry. They may also have the capability of triggering entrapment barriers to prevent penetration into the facility. Alternatively this capability may be the responsibility of security personnel.

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- An intercom type system may be located outside the Main Entry, should visitors be uncertain about after-hours access or concerned about security matters.

All external doors to the facility will be locked after hours and fitted with alarms linked to Security. Key access doors will be well lit, fitted with CCTV / intercom function and swipe card access as appropriate.

Finishes

602232 430 .16.00 GENERAL

Finishes in this context refers to walls, floors, windows and ceilings.

Refer to Part C of the Guidelines - Design for Access, Mobility, OHS and Security, Section 710 - Space Standards and Dimensions.

602233 430 .16.05 WALL PROTECTION

Refer to Part C of these Guidelines for more information.

602234 430 .16.10 FLOOR FINISHES

Selection of floor finishes must minimise exposure to the risk of staff, patients and visitors slipping, tripping and falling.

Selection of floor finishes must take into account manual handling issues including the impact of the flooring on push/pull forces for wheeled equipment.

Floor finishes will facilitate appropriate cleaning protocols. Front entry mats are to be designed to minimise water and dirt.

The colour of access assistive tiling should be appropriate for people with visual impairment.

Refer to Part C of these Guidelines for more information.

602235 430 .16.15 CEILING FINISHES

Refer to Part C of these Guidelines for more information.

Fixtures, Fittings & Equipment

602236 430 .17.00 COUNTERS

The design of admissions counters and workstations will ensure appropriate dimensions to minimise risk exposure for staff, patients and visitors. The counter should be designed to minimise risks identified through ergonomic and security risk assessments.

Australian Standard 1428 outlines best practice requirements for counters and desks.

Counters should provide a suitable barrier between staff and visitors without impeding communication. It is essential that a section of the counter is accessible to disabled people.

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Counters should be to a maximum depth of 1410mm (AS1428), but a width of 900mm to 1200mm is recommended. A standing counter is essential; it will be 850mm (+/- 20mm) high, with clearance beneath the unit from the floor of 820mm (+/-20mm). In addition, if it is possible to provide a counter for seated interactions, the second counter is recommended at 750mm (+/- 20mm) with clearance beneath the counter from the floor of 730mm (+/- 20 mm).

In high risk areas, a security barrier is recommended, such as laminated glass or similar alternative. It must be designed so as not to inhibit communication between parties, particularly for disabled customers, and to allow for passing of documents over the counter.

Where possible, counters, workstations and furniture should be adjustable to fit the user's individual characteristics.

Consideration should be given to how the counter may be secured after hours, if required.

Reference:

AS 1428 Design for Access and Mobility Part 2: Enhanced and additional requirements - buildings and facilities.

Building Service Requirements

602237 430 .18.00 GENERAL

In addition to topics addressed below, project staff may also refer to:

- Part E of these Guidelines - Building Services and Environmental Design, and
- TS11 - Engineering Services and Sustainable Development Guidelines.

602238 430 .18.05 AIR HANDLING SYSTEMS

The temperature of the Front of House should be maintained within a comfortable range. Refer to Part E of these Guidelines - Building Services and Environmental Design and, depending on jurisdiction:

- TS11 - Engineering Services and Sustainable Development Guidelines, or
- WA Health Facility Guidelines for Engineering Services.

602239 430 .18.10 ELECTRICAL SERVICES

It is essential that equipment such as minimum lighting, telephones, surveillance systems, duress alarm systems, electronic locks are connected to the non-interruptible emergency power supply.

Electrical services to food outlets need to support ovens, stoves, bain maries, deep fryers etc.

602240 430 .18.15 INFORMATION TECHNOLOGY & COMMUNICATIONS

The following will be required in the facility's Front of House:

- Duress alarm systems - fixed and personal
- Voice / data systems
- CCTV monitoring systems.

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The following may be required in the facility's Front of House:

- Infrastructure for electronic medical records
- Server rooms
- Communication rooms / closets
- Nurse / emergency call systems.

602241 430 .18.20 HYDRAULIC SERVICES

Option for cold water only to public hand basins and religious washing basins.

602242 430 .18.25 FIRE SERVICES

It is common that fire service panels are provided in the main entry, particularly in small facilities. Where this is the case, clear visibility and ease of access are required for both emergency and routine maintenance situations.

COMPONENTS OF THE UNIT

General

602243 430 .19.00 Standard Components (SC) refer to rooms/spaces for which room data sheets, room layout sheets (drawings) and textual descriptions have been developed and are available on the HFG website. Their availability in these guidelines is indicated by "Y" in the SC column of the Schedule of Accommodation.

Standard components are provided to assist with the development of a project. Their use is not mandatory and if used they can be edited to be project specific.

Refer to Part B, Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets.
www.healthfacilityguidelines.com.au

Non-Standard Components

602244 430 .20.00 SPIRITUAL CARE MULTIPURPOSE ROOM & WASH ROOM

The spiritual care multipurpose room is a place for prayer, spiritual reflection and worship services.

The wash room is required for religious ablutions by some faith groups prior to undertaking their prayers.

602245 430 .20.05 LOCATION AND RELATIONSHIPS

Part of the Spiritual Care Unit in the Front of House. The Religious ablutions area should be adjacent to but not have direct access to the spiritual care multipurpose room.

Although described as part of the Front of House, it may not need to be located in the front entry if it is well signed. The most appropriate location will be decided through user group participation.

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602246 430 .20.10 CONSIDERATIONS

The spiritual care multipurpose room is to be a flexible space which may accommodate and support a diverse range of spiritual / religious beliefs and practices. For Muslim users, the room should include an immovable direction of the Kibla (direction of prayer), usually placed on the ceiling.

The wash room is to be a unisex facility.

602247 430 .21.00 RETAIL SHOPS

Shops for the convenience of staff, patients and visitors to the healthcare facility.

602248 430 .21.05 LOCATION AND RELATIONSHIPS

Located in the Main Entry clearly visible to through traffic. Isolated retail is discouraged to minimise the risk of crime.

602249 430 .21.10 CONSIDERATIONS

Requirements will vary according to the type of retail to be established. Responsibility for the fit out will vary according to the terms of the lease.

APPENDICES

Schedule of Accommodation

602250 430 .22.00 A Schedule of Accommodation follows.

SC = Standard Component
O = Optional

602251 430 .22.05 MAIN ENTRANCE

ROOM / SPACE	SC	Qty x Sqm					Comments
ENTRY AIRLOCK		1 x 12					
MAIN LOBBY / DISPLAY SPACE		1 x 30					Room size will depend on size of health facility and volume of traffic to be directed via Main Entry
WAITING		1 x 36					8 x 1.5 sqm spaces; 15 x 1.2 sqm spaces
RECEPTION / ENQUIRIES		1 x 10					Assumes separate admissions / cashier
BAY - WHEELCHAIRS		1 x 8					For 5 wheelchairs
CLEANER'S ROOM	Y	1 x 5					
TOILET - STAFF	Y	1 x 3					Depending on number of people working in Front of House
VOLUNTEER'S ROOM		1 x 15					Optional. Room for volunteers to meet, work and store belongings.
STORE - GENERAL (VOLUNTEERS)		1 x 10					Optional

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OFFICE: SINGLE PERSON, 9M2 (VOLUNTEER COORDINATOR)	Y	1 X 9					Optional. Depending on size of service
OFFICE / INTERVIEW ROOM (PATIENT ADVOCATE)	Y	1 x 15					Optional. Refer to operational policies
OFFICE: SINGLE PERSON, 9M2 (ABORIGINAL LIAISON SERVICE)	Y	1 x 9					Optional. Refer to operational policies
LOUNGE / MEETING ROOM (ABORIGINAL LIAISON SERVICE)		1 X 30					Optional. Refer to operational policies. Beverage bay included. Access to outdoor area desirable.
DISCOUNTED CIRCULATION %		25					

602252 430 .22.10 PUBLIC AMENITIES

Toilet numbers and space requirements will be subject to BCA and AS 1428 part 1 and 2. The requirements below are a guide only.

ROOM / SPACE	SC	Qty x Sqm					Comments
TOILET - ACCESS	Y	1 X 5					
TOILET - PUBLIC - FEMALE	Y	3 X 3					
TOILET - PUBLIC - MALE	Y	3 X 3					
PARENTING ROOM	Y	1 X 6					
BAY - ATM		1 X 2					Optional. Discrete area
BAY - PARKING MACHINE		1 X 2					
BAY - PUBLIC TELEPHONE		1 X 4					
BAY - VENDING	Y	1 X 3					
BAY - WATER FOUNTAIN		1 X 1					In absence of vending machine / kiosk
DISCOUNTED CIRCULATION		10					

602253 430 .22.15 KIOSK / COFFEE SHOP

The schedules of accommodation for the Kiosk as well as other retail e.g .newsagent, florist, commercial pharmacy etc. will be dependent on the size of the facility and the nature of retail to be established.

ROOM / SPACE	SC	Qty x Sqm					Comments
STORE		1 x 10					Includes dry and cold storage
PREPARATION		1 x 12					
SERVERY		1 x 15					
SEATING		1 x 50					For 30 people
DISCOUNTED CIRCULATION %		20					

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602254 430 .22.20 SPIRITUAL CARE

ROOM / SPACE	SC	Qty x Sqm					Comments
SPIRITUAL CARE MULTI-PURPOSE ROOM		1 x 40					May also need vestry type space
FAITH SPECIFIC PRAYER ROOM		1 x 12					Requirement dependent on user profile
WASH ROOM		1 x 4					For religious ablutions if required
OFFICE: SINGLE PERSON, 9M2	Y	1 x 9					Will depend on staff establishment
MEETING ROOM - SMALL, 12M2	Y	1 x 12					For private counselling
BAY - BEVERAGES	Y	1 X 4					Part of meeting room
DISCOUNTED CIRCULATION %		15					

Functional Relationships

602255 430 .23.00 A diagram of key functional relationships is attached

Checklists

602256 430 .24.00 Refer to the Planning Checklists at the ends of Parts A, B, C and D of these Guidelines.

References and Further Reading

602257 430 .25.00 LEGISLATION AND STANDARDS

Australian Capital Territory Occupational Health and Safety Act, 1989.

Commonwealth Disability Discrimination Act, 1992.

NSW Occupational Health and Safety Act 2000 & Occupational Health and Safety Regulation, 2001.

Northern Territory Workplace Health and Safety Act, 2007.

Queensland Workplace Health and Safety Act, 1995.

South Australian Occupational Health, Safety and Welfare Act, 1986.

South Australian Occupation Health, Safety and Welfare Regulations, 1995.

Tasmanian Workplace Health and Safety Act, 1995.

Victorian Occupational Health and Safety Act, 2004.

Western Australian Occupational Safety and Health Act, 1984.

Australian Standard 4485: Security for health care facilities, 1997.

Australian Standard 4806: Closed circuit television (CCTV), 2008.

NSW Health, Technical Series TS2 - Signposting for Health Care Facilities, 1994 (under revision).

NSW Health, Technical Series TS11 - Engineering Services and Sustainable Development Guidelines, Version 2, Dec 2007.

602258 430 .25.05 POLICIES & GUIDELINES - NEW SOUTH WALES

NSW Health Policy PD 2005-339: Protecting People/Property: NSW Health Policy/Guidelines for Security Risk Management in Health Facilities, 2005.

NSW Health Policy Directive (Circular 98/42): Chaplaincy Services to the Health System, 2005.

NSW Health Policy PD2005-132 - Waste Management Guidelines for Health Care Facilities, 1998.

NSW Health Policy PD2005-576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service, 2005.

NSW Health Policy PD2007-036 - Infection Control Policy, 2007.

NSW Health PD2005_409 - Workplace Health and Safety: Policy and Better Practice Guide, 2005.

602259 430 .25.10 POLICIES & GUIDELINES - QUEENSLAND

Queensland Government - Crime Prevention Through Environmental Design (CPTED) Guidelines for Queensland, 2007.

Queensland Health - A Better Choice: Healthy Food & Drink Supply Strategy, 2007.

Queensland Health - Security Implementation Standard OHSMS 2-44#21 and its related Work Practice Directives.

Queensland Health Security Guidelines - OHSMS 2-44-1#38.

Queensland Health Infection Control Guidelines.

Queensland Health Work Place and Office Accommodation Policy and Guidelines.

QH Revenue Leasing and Licensing of Health Real Property Policy and Procedures v1.3 May 2007.

602260 430 .25.15 POLICIES AND GUIDELINES - SOUTH AUSTRALIA

Implementation and application of Health Facility Guidelines
<http://www.health.sa.gov.au/Default.aspx?tabid=156>.

SA OHS&W Act 1986 & OHS&W Regulations 1995 -
<http://www.legislation.sa.gov.au/index.aspx>.

Government Office Accommodation guidelines -
<http://www.buildingmanagement.sa.gov.au/as/about/whatwedo/office/standards.html#PC018>

Infection Control Guidelines 2007
<http://www.health.sa.gov.au/INFECTIONCONTROL/Default.aspx?tabid=157>

Human Rights and Equal Opportunity Commission Access to buildings and services: guidelines and information
http://www.hreoc.gov.au/disability_rights/buildings/good/Guidelines.doc.

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602261 430 .25.20 POLICIES AND GUIDELINES - WESTERN AUSTRALIA

WA Disability Services Act 1993.

WA Equal Opportunity Act 1984.

WA Department of Health Disability Access and Inclusion Plan 2007-2010.

The Western Australia Public Patients Hospital Charter.

WA Guidelines on the Application of the Health (Public Buildings) regulations 1992.

602262 430 .25.25 POLICIES AND GUIDELINES - VICTORIA

Victorian Department of Human Service, Design Guidelines for Hospitals and Day Procedure Centres, 430 Main Entrance Unit.

Victorian Department of Human Services, Design Guidelines for Hospitals and Day Procedure Centres, 590 Public Amenities Unit.

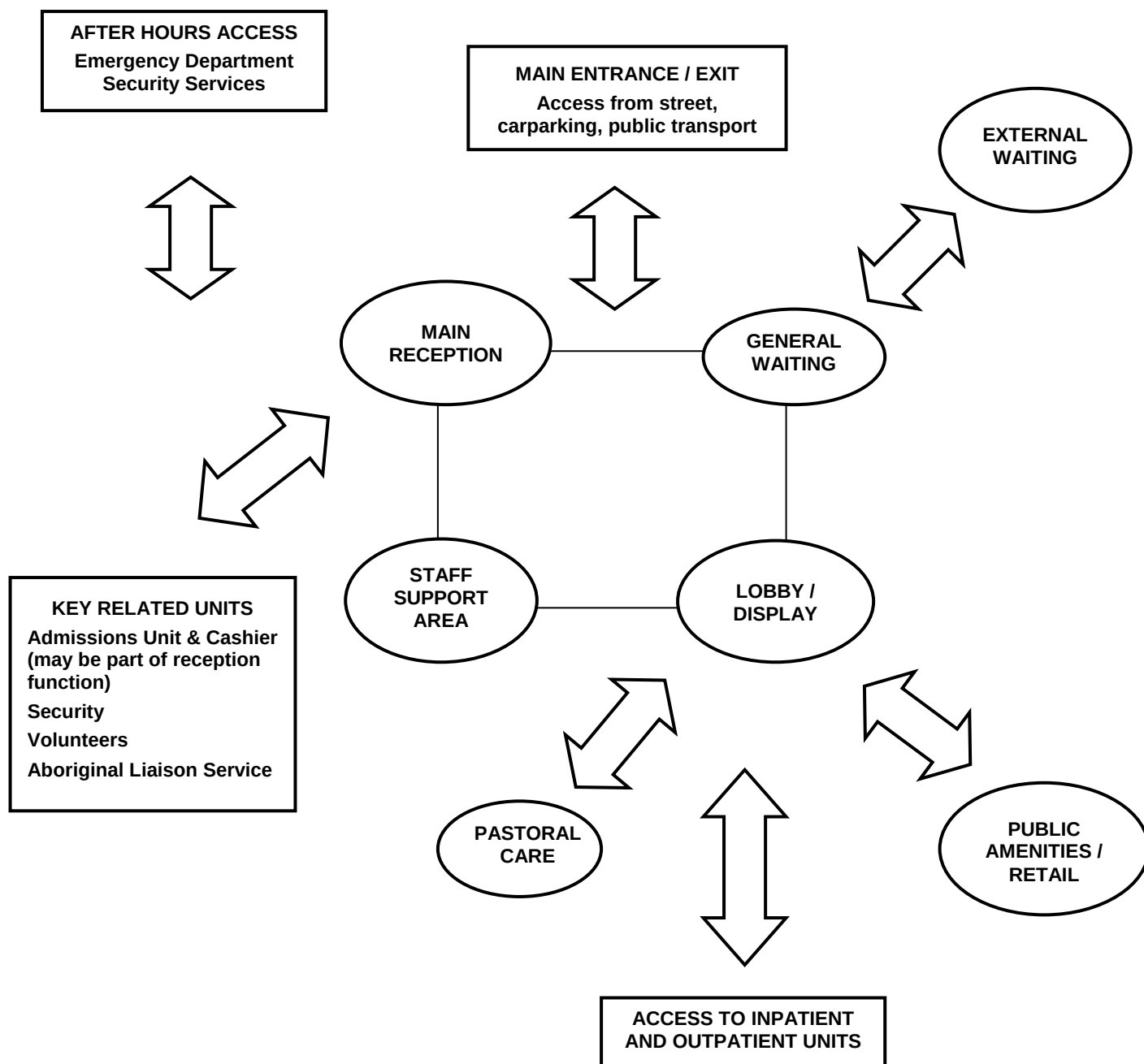
602263 430 .25.30 ARTICLES

Model Plan for Chaplaincy and Pastoral Care Services in Hospitals, Civil Chaplaincies Advisory Committee, 1997.

Salvaterra, T & Queensland University of Technology, 2008, Design for multi-faith spaces within a hospital context, School of Design, Queensland University of Technology, [Brisbane].

FUNCTIONAL RELATIONSHIP DIAGRAM – FRONT OF HOUSE

The following diagram sets out the relationships between zones in Front of House:



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503060 440 .0.10

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Preamble

503061 440 .1.00 Medical Imaging (Diagnostic Radiology) is a Clinical Support Service in the Guide to the Role Delineation of Health Services (Third Edition 2002). Six levels of service are delineated and a description of type of service, facilities and staffing for each level is provided.

Planners may refer to this document to determine/understand the service profile and roles of the institution/s in which the Medical Imaging Unit occurs to determine the extent of facility needs.

Medical Imaging Units will vary in size. Components and allocated spaces will depend on the outcome of a needs analysis and a service plan. The service plan is based on the location, size, needs and population of the area in which the Medical Imaging Unit is to be sited and must be well in place prior to the commencement of the capital planning process.

In addition, facility design, must, where appropriate, meet all necessary criteria to reach accreditation standards with regard to design and equipment. Refer to the Australian Council on Healthcare Standards (ACHS) EQUIP Guide.

503062 440 .2.00 NEW TECHNOLOGIES

Medical Imaging is possibly one of the most rapidly developing and evolving specialties within the health care system. Whilst general radiology still forms the bulk of the workload in terms of volume, modalities such as ultrasound and MRI are increasing exponentially in terms of their applications and safety factors. At the more complex end of the spectrum, the interventional / therapeutic work is growing at major hospitals and is expected to grow further. This may require additional requirements in areas such as infection control, monitoring, outpatients review and resuscitation.

Planners need to be very aware of future possibilities, build in flexibility for expansion and/or change but also be aware not only of the capital cost of major equipment, but

- be confident that the health outcomes of installing a particular imaging modality can be justified
- consider the overall impact on other hospital services in terms of referral patterns and
- be aware of what is available in the private sector particularly in rural areas to avoid unnecessary and costly duplication and under-utilisation. Some small towns rely on private practice for more sophisticated modalities and private practitioners may be contracted to provide facilities on the hospital campus.

Introduction

503063 440 .3.00 This Health Planning Unit (HPU) is a resource to assist project teams with the planning, design and construction of a Medical Imaging Unit. It should be read in conjunction with generic requirements and Standard Components (Room Data & Room Layout Sheets (RDS/RLS) in Parts A, B, C and D of these Guidelines.

This Guideline will address the following imaging modalities:

- General imaging including Tomography
- Orthopantomography (OPG)
- Fluoroscopy (Screening)
- Ultrasonography
- Mammography
- Digital chest screening
- Computerised Tomography (CT)

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- Angiography
- Digital Subtraction Angiography
- Magnetic Resonance Imaging (MRI)
- Picture Archiving & Communication Systems (PACS)

It will also address the type and provision of mobile imaging units.

503064 440 .4.00 Cardiac angiography is excluded from this guideline although it may be incorporated into an Interventional Suite of a Medical Imaging Unit to share recovery facilities etc.

Nuclear Medicine, Positron Emission Tomography (PET) and Bone Mineral Densitometry will be included at a later date.

Policy Framework

503065 440 .5.00 LEGISLATION

Radiation Control Act 1990 (amended 2002) and Radiation Control Regulations 2003 administered by the Environment Protection Authority (EPA). Areas of EPA responsibility include:

- Licensing
- Registration and
- Accreditation

PD2005_339. Manual - "Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities".

PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Description of the Unit

503066 440 .6.00 DEFINITION OF HPU

The Medical Imaging Unit is a discrete unit of the hospital which provides for radiological investigations, both diagnostic and increasingly therapeutic. The most common modalities at Level 4 and above are general radiology, screening (fluoroscopy), ultrasound and computed tomography (CT). Depending on the level of service and the clinical profile of the facility, the unit may also provide:

- tomography
- OPG (orthopantomography)
- Mammography (in support of a breast service, not screening)
- Chest screening
- Peripheral angiography
- DSA and
- Magnetic resonance imaging (MRI).

It is expected that there will be a need for some level of anaesthesia to be given, particularly if the Health Facility offers paediatric services and substantial interventional imaging that will require associated nursing care and patient holding, preparation and recovery facilities.

503067 440 .7.00 PATIENT CHARACTERISTICS

Unit design and layout must accommodate the needs of a wide range of patients, from mobile outpatients to acutely ill patients on life support and a significant proportion of patients will/may require high levels of nursing and medical support during transfer to and from, and throughout their time in the

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Imaging Unit. Examples include:

- frail aged (walking aids & wheelchairs)
- ventilated patients
- patients suffering acute trauma
- confused, breathless, sedated or unconscious patients
- patients being monitored for vital signs
- patients on intravenous therapy
- patients undergoing sedation or general anaesthesia during the procedure and requiring recovery post-procedure
- neonatal and paediatric patients
- antenatal patients.

Paediatric patients merit special consideration as a proportion of these may be acutely or seriously ill, may require specialist nursing care and are more likely to need some degree of anaesthesia / sedation and consequent recovery.

PLANNING

Operational Models

503068 440 .8.00 HOURS OF OPERATION

Hours of operation will depend on the Level of Service. Small units may only operate during business hours with an on-call after-hours service. Large units will provide a 24 hour, 7 days a week service. Both operating regimes will have some impact on Unit access and security.

503069 440 .9.00 INTERVENTIONAL UNITS

A single consolidated Medical Imaging Unit at ground level with direct adjacency to Emergency and ready access to Ambulatory Care facilities is the ideal with or without a satellite Unit in the Emergency Unit.

However, the increasing incidence of complex interventional and surgical procedures under radiological control are starting to raise concerns over the optimum location of the Interventional Suites with regard to recovery and access to anaesthetists and trained recovery nursing staff.

The line between surgery in an Operating Unit and Interventional Imaging is blurring and intraoperative imaging is emerging to the point where the Interventional Imaging could be considered as part of an operating unit sharing recovery etc. This will generally result in a "split" department and planners need to carefully consider all the implications, particularly for patient safety and staffing -anaesthetic, nursing and radiological.

There is however, a considerable cost differentiation between the utilisation of Operating Unit and Imaging Unit for interventional work as the Operating Unit has an inbuilt high structural cost that should be taken into consideration.

503070 440 .10.00 EMERGENCY SATELLITE

If collocation of Medical Imaging and the Emergency Unit cannot be achieved, or if travel distances are too great (depending on the size of the respective units), and if emergency workload and acuity justify, it will be appropriate to locate a satellite unit within Emergency, usually comprising a general room, CT room and ultrasound. (The latter may be via a mobile unit). Major trauma centres may also have overhead gantries in their resuscitation rooms.

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503071 440 .11.00 ORTHOPAEDIC CLINIC SATELLITE

If a high volume of work is generated by the Hospital's Orthopaedic Service, every attempt should be made to locate the Orthopaedic Clinic as close as possible to Medical Imaging. If this cannot be achieved, consideration may need to be given to a Satellite Imaging Unit. If this occurs, it should be integrated with the Clinic itself.

503072 440 .12.00 OBSTETRIC ULTRASOUND SATELLITE

The need for dedicated perinatal ultrasound room/s remote from the main Imaging Unit will depend on the complexity, utilisation and throughput of the Obstetric Service. If provided, it will usually be incorporated into the Maternity Ambulatory Care Unit. Most likely restricted to facilities with a major Women's Health service.

503073 440 .13.00 PICTURE ARCHIVING & COMMUNICATION SYSTEMS (PACS)

PACS are computers or networks dedicated to the storage, retrieval, distribution and presentation of images, and a full system can handle images from any modality from plain x-rays to PET.

It provides the capability of off-site viewing and reporting (telediagnosis) and allows practitioners in disparate locations to view and discuss the same data simultaneously (teleradiology).

It allows for instantaneous reporting, obviates the need for film transport between units thus minimising the risk of lost films and possible re-examination and ultimately obviates the need for hard copy film storage as existing hard copy film can be progressively digitised and stored into the system.

If there is integration with HIS, then order entry may be automatic.

It is important to recognise the difference a fully implemented PACS system makes to work flows and to unit layout as clerical duties change and radiographers can verify images at time of exposure, hence most of their work is done in the x-ray room.

It is envisaged that all new and/or refurbished facilities will utilise this system making traditional daylight processing obsolete. However, a back-up dark room may be needed in case of failure of the digital systems.

Satellite units, off-campus units, private practices and staff homes may all be linked into the system. All wards and departments will be able to retrieve and view images but manipulation of images will be restricted.

Modalities

503074 440 .14.00 GENERAL RADIOLOGY / TOMOGRAPHY

Each room will probably contain an upright Bucky stand for chest films.

Where volumes are low, OPG, Mammography and Tomography may be added to the general room equipment. This will necessitate a slightly larger room

Tomography is becoming increasingly rare with the advent of CT but may be required/preferred by a Urology service. The necessary attachments may be incorporated into a General Room.

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Assuming no satellite in the Emergency Unit, one room must be sized and located to facilitate transfer of patients from ED.

503075 440 .15.00 ORTHOPANTOMOGRAPHY (OPG)

OPG is a method of obtaining films of the upper and lower teeth-bearing jaws that supports Trauma, Dental and Faciomaxillary services.

Utilisation patterns and the clinical services provided will determine whether it can be incorporated into a General Room or whether it needs its own dedicated space.

503076 440 .16.00 MAMMOGRAPHY

Mammography will usually only be provided if the Hospital provides a breast service (clinics, surgery etc) as it will be used for diagnostic not screening purposes. It should be sized to allow prone positioning for some biopsy procedures.

It is unlikely that a general hospital will house a screening service as part of BreastScreen Australia but there may be exceptions in Women's Centres. This needs to be ascertained as it will affect facility requirements and functional relationships.

Mammography should be located adjacent to an Ultrasound Room for fine needle biopsies. Change Rooms should be discreet and access to an Interview Room will be required.

503077 440 .17.00 DIGITAL CHEST UNIT

Usually only provided if a chest screening service is part of the Hospitals' service profile.

503078 440 .18.00 ULTRASOUND

One of the most rapidly growing modalities in terms of use, ultrasonography is particularly appropriate to the imaging of internal organs and blood vessels in Obstetrics, Medicine, Surgery, Cardiology and Vascular Surgery. In the latter two specialties, the work will either be done in their own specialty units or in an integrated unit for clinical measurement. They are rarely part of a Medical Imaging Unit.

One ultrasound room should be sized to allow for interventional procedures.

There must be access to a toilet and drinking water as procedures often require the patient to have a full bladder.

Adjacent Preparation Area for set-up and review of biopsy slides etc.

503079 440 .19.00 FLUOROSCOPY

Room equipped for fluoroscopic/radiographic examination involving contrast media, serial repositioning of the patient and the timed use of a fluoroscopic imaging system.

The functions of the Screening (Fluoroscopy) Room involve the administration to the patient of a contrast media which will suitably outline an organ or system, and subsequent radiological examination utilising fluoroscopic equipment.

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Facilities for barium preparation and a toilet / shower will be required. For maximum flexibility, the latter should be accessed from inside the room and from the external corridor.

Procedures may be general or specialised. With the general decline in use of barium contrast studies and advances in equipment technology, general screening and angiography may sometimes be appropriately combined in one room.

The room must be equipped for anaesthesia - ERCPs etc.

503080 440 .20.00 DIGITAL SUBTRACTION ANGIOGRAPHY (DSA).

Angiography is the imaging of the vascular system.

Simple angiography involves injection of a radiographic contrast agent into blood vessels so that vascular structures are enhanced and revealed together with surrounding bony and soft tissue structures. Used for simple peripheral studies and can be done on a fluoroscopy table.

With DSA, a contrast agent is administered directly, via a catheter, into an artery close to the area to be examined. The subtraction of a pre-contrast mask suppresses interfering structures from the image so that the arteries become clearly defined.

Enables a full spectrum of vascular and non-vascular procedures including angiography, angioplasty, arterial and venous stents, biopsy and drainage procedures, and biliary and urologic procedures.

503081 440 .21.00 COMPUTERISED TOMOGRAPHY (CT SCANNING)

Standard Component. A Control Room may service 2 rooms. May need to be serviced for general anaesthesia. Also needs a bed/trolley bay adjacent to each room in order for staff to observe whilst carrying out other duties.

503082 440 .22.00 MAGNETIC RESONANCE IMAGING (MRI)

Requires its own suite for access control and protection of/from the magnet (fringe field), and preparation/nursing support areas. Needs ready access to a small interview for patient consents and explanations. Include storage for MRI-compatible (non-ferrous) equipment. Locker for patients' property that may interfere with or be damaged by the magnet such as credit cards, keys.

Careful consideration must be given to the siting of the MRI in order to minimise the shielding required (and the cost of same). I.e. do not locate a helipad above it or locate the MRI next to a sub-station.

Siting considerations must also include:

- floor / slab structurally capable of carrying the weight of the MRI
- good external access for the installation of the MRI. This may be less expensive if done through a removable side panel rather than dismantling the RF shielded door
- room size / shape must be able to contain the 5 Gauss magnetic field with the room and consideration should be given to the needs for future 3T MRIs
- Access control designed in, so that the four zones of control are accommodated, with only authorised staff entering the MRI room
- Other moving ferrous objects which can interfere are lifts, cars moving through car parks, construction sites,

Need to ensure that emergency equipment such as fire extinguishers and

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medical gas bottles in the vicinity are not made of magnetic iron.

503083 440 .23.00 ENDOSCOPIC RETROGRADE CHOLEOPANCREATOGRAPHY (ERCP)

ERCP is a diagnostic procedure for examination of the biliary and pancreatic ducts system and may be a therapeutic intervention for removal of gall stones etc.

It is a procedure used by gastroenterologists, and project staff will need to ascertain whether the procedures are to be performed in the Medical Imaging Unit or in an Endoscopy Unit if the latter is provided.

Unlikely to occur in Level 4 facilities and below.

503084 440 .24.00 DENTAL X-RAY

Wall-mounted x-ray units in Dental Surgeries with benchtop processing. Usually managed by the Dental Unit and outside the scope of this Guideline.

503085 440 .25.00 COMPUTED AND DIGITAL RADIOGRAPHY (CR & DR)

Computed radiology is replacing traditional film processing as a means of capturing an image. Cassettes are still used but viewing is done on a CR viewing monitor and the image can be enhanced by the operator to capture the best image before being stored onto the PACS network for reporting.

Digital radiography does away with the use of cassettes altogether and images appear directly onto the workstation monitor and allow manipulation of the images.

Hard copy film brought in by a patient may be digitised and stored onto the network and as images can be viewed from any computer with the necessary authorised access there is no need for traditional x-ray viewing boxes. However, it may be appropriate to locate a viewing box in the Outpatient Department for use until such time as the films can be digitised.

Operational Policies

503086 440 .26.00 PATIENT TRANSPORT

Determine whether the Unit will have its own dedicated portering service or use a central portering service. If the former, space will be required for trolley/wheelchair parking, a small orderly base, storage for linen and portable oxygen cylinders and a small area with sink for wiping down trolleys.

503087 440 .28.00 ANAESTHETICS & RECOVERY

It is vital to ascertain the likely extent of anaesthetic requirements (general and sedation) in order to assess holding and recovery needs, equipment needs and medical servicing of rooms.

Access to a small Interview Room will be required for consents etc in privacy.

Planning Models

503088 440 .29.00 PRIVATISATION OF SERVICES

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Increasingly, and especially in smaller facilities, consideration is being given to partial or full privatisation of Medical Imaging services. These options need to be addressed early in the planning process as they may have considerable spatial, design and cost implications.

503089 440 .30.00 OFF-SITE SERVICES

In smaller or remote rural hospitals that cannot justify a full Medical Imaging Unit, access to off-site services such as CT scanning and MRI is an important consideration in the planning phase as is the possibility of establishing teleradiology links with a larger centre. (Implications for an appropriately equipped room).

Functional Areas

503090 440 .31.00 FUNCTIONAL ZONES

The Medical Imaging Unit will consist of the following Functional Zones depending on Operational Policy and service demand:

- Reception, Waiting for ambulatory patients and visitors and Public Amenities
- Clerical / administrative areas (typing, sorting, bookings)
- Imaging rooms with access to patient change areas and toilets
- Patient Holding/Recovery
- Support areas including interview rooms, preparation areas, storage, disposal and utility rooms
- Film processing areas - whether dark room, daylight or computed radiology (CR) workroom
- Film storage
- PACS storage and work areas
- Viewing and reporting areas
- Staff offices & Amenities including Staff Room, Change Rooms, Toilets and Meeting Room/s

503091 440 .32.00 RECEPTION / WAITING

Standard Components. May require a Child Play area. Accessible public toilets and toilets for people with disabilities.

Must be well-designed, well-defined and user-friendly. The Reception must oversight the entry and waiting areas. Approximately a third of available seating must have arms and seat height of 500mm to allow patients with some disability e.g. hip replacement to get out of the seat easily.

Ambulatory outpatients only. No patients on beds/trolleys.

In large departments, it may be preferable to limit the numbers of patients at the "front" and direct to sub-waiting areas once patients have registered.

503092 440 .33.00 CHANGE AREAS

There should be separation of "changed" and "unchanged" patients, and ambulatory patients and those in wheelchairs or on beds/trolleys requiring some supervision.

Optional arrangements for Change Cubicles include:

- Two dedicated cubicles per imaging room, each opening directly into that room or
- A bank of cubicles located adjacent to the imaging rooms but not opening

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directly into the rooms. This option may be supported by a bank of lockers and separate male and female “changed” waiting areas so that patients are not confined to a cubicle. This latter option allows for more flexibility re wheelchair access and more efficient management of clean and soiled linen and call systems. There will still need to be a toilet attached to the screening room.

503093 440 .34.00 INTERVIEW / ASSESSMENT / PRE-PROCEDURE ROOMS

For patient assessment by medical and technical staff, explanations and consents.

Ready access from reporting area & imaging suites.

503094 440 .35.00 IMAGING ROOMS

Usually clustered into suites of like rooms that can share appropriate radiological and patient support. For example

- General & screening rooms
- Ultrasound & Mammography (and often CT)
- CT
- Interventional (DSA & Angiography)
- MRI

503095 440 .36.00 MOBILE IMAGING EQUIPMENT

Mobile units may be general x-ray units, image intensifiers or ultrasound units. Their use and provision should be defined in the Service Plan / Functional Brief as they will impact on space and staffing.

General units will be parked in the Medical Imaging Unit for deployment around the facility, with dedicated units in:

- Operating Unit - general and image intensifier
- NICU - general and ultrasound
- ICU - general and ultrasound
- Emergency - general (if no satellite) and ultrasound.

Locations will need to be determined so that the appropriate parking bays, fittings, protective aprons, power etc can be provided in outlying units.

It is expected that images will be digital or CR system and on the PACS system, so no processing facilities should be required - in the Operating Unit for example. However these units may require viewing stations for better clarity of images.

The responsibility for maintenance etc rests with Medical Imaging.

503096 440 .37.00 VIEWING & REPORTING

These days reporting rarely uses traditional x-ray viewers but “soft copy” reading using high resolution viewing monitors. Design of reporting areas must be conducive to productivity, comfort and efficiency.

Each reporting station will need a minimum of two viewing monitors, a computer for patient and radiological information systems (PIS and RIS) and dictating equipment.

In some instances, reporting may be carried out in the Control Rooms but

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this requires additional space in these areas for audio privacy.

If staff with permanent offices wish to do reporting in their offices, they must also have two viewing monitors to give better clarity for more accurate diagnosis, dimmable lighting etc.

Staff in shared offices and visiting medical staff will need access to reporting stations.

Reporting stations need to be central with easy access from imaging suites (particularly US, CT, MRI)

Control of environmental conditions i.e. lighting, noise levels etc - ideally individually at each reporting station. Voice recognition software in future will need to be isolated from noise pollution

503097 440 .38.00 PACS ROOM

A climate-controlled area to house the optical disc storage unit/s ("juke boxes") and computers for use by the PACS controller and the suppliers of the equipment.

All digital machines will have - in the imaging room - an ISDN connection linked back to the PACS Room to either an individual monitor or to a single router (a device in a network that handles message transfer between computers) to so that software maintenance of equipment by suppliers requires only one line in/out. Similarly the workstations in the CR Workroom will be linked back.

503098 440 .39.00 SUPPORT AREAS

CLEAN UTILITY / PREPARATION ROOM required for preparation and mixing of contrast media and storage of medications and sterile supplies. If conveniently located, may serve a number of rooms and the Patient Holding/Recovery Area. When pre-prepared media is used, additional storage should be provided for the media.

DIRTY UTILITY ROOM required and size and number will depend on the number of patient holding/recovery bays and type of patient accommodated. In many instances, a Sub Dirty Utility will suffice but more than one room will/may be required in large Units to minimise staff travel distances.

RESUSCITATION TROLLEY BAYS: In large units, more than one trolley will be needed and planners will need to define locations which may include the Interventional Unit, MRI, and Recovery.

503099 440 .40.00 FILM PROCESSING & VIEWING AREAS

It is likely that in the future, even in small units - and certainly in private units, that all storage will be via PACS making dark rooms and daylight processing obsolete.

- Dark room: May be required as a back-up in the event of a disaster or failure of the PACS system.

- Daylight processing if provided should be located convenient to the General Imaging Rooms and to the quality control area. Still used for mammography.

If a computed radiography system is used, allow 1 CR unit per 2 general

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rooms located central to the rooms.

Laser printers are required for CT, Ultrasound, MRI etc

Film scanning (digitiser) for conversion of conventional films to PACS and the laser printer will be used to convert back to hard copy.

503100 440 .41.00 FILM STORAGE

Hard copy storage requires a room with static shelving and should ideally be located near the main Reception/Clerical Area for ease of retrieval. Size will depend on Operational Policy re culling, retention or destruction and archiving and may be progressively reduced as films become digitised or culled. Films must be retained for 7 years and paediatric records until children are 7 years past their age of majority - i.e. 25 years.

Storage for archived film may need to be provided. It may be outside the Imaging Unit, but must be properly secured to protect films against loss or damage.

Film to be retained for teaching and research purposes may be housed in a Film Library.

Storage facilities for unexposed film should ensure protection of film against exposure and should not be warmer than the air of adjacent occupied spaces.

If the facility has converted to digital imaging, there will need to be an area for the PACS archive storage units.

At the time of the redevelopment a decision must be made to determine the system the unit will adopt - total digital and PACS systems or a combination of PACS and old films system. However, the maintenance of dual system is inefficient and ineffective and a decision regarding the conversion of films to digital format should be made based on a cost benefit analysis.

503101 440 .42.00 PATIENT HOLDING / RECOVERY AREAS

Patients may be in the Unit for periods of up to four hours and longer during the course of an examination or series of examinations.

Because of increasing patient acuity and the increasingly interventional nature of examinations, often requiring anaesthesia/sedation, there is a corresponding need for an area designated as a patient holding/recovery area with nursing supervision and support areas.

The number of bed/trolley spaces will depend on the Level of Service and the number and mix of imaging modalities but there should be a minimum of two bed spaces for routine purposes. Where Computerised Tomography procedures are to be carried out, an additional bed-space will be required.

The required dimensions of the Patient Holding/Recovery area should be determined with reference to:

- operational policy on the transport of patients within the facility (own bed, trolley)
- additional mobile/fixed equipment to be accommodated (IV stands, monitors etc)
- staff access to patient/equipment.

This area needs to be supported by a Staff Station, Utilities etc.

Functional Relationships

503102 440 .43.00 EXTERNAL

It is highly desirable that the Medical Imaging Unit has ready access to:

- Emergency Department
- Ambulatory Care areas - particularly orthopaedic and surgical clinics

When determining location, transfer of patients through public areas must be avoided, particularly those who are critically ill or severely traumatised.

There must also be effective horizontal or vertical links between Medical Imaging and

- Intensive Care / Coronary Care
- Surgical/Orthopaedic Inpatient Units
- Radiotherapy/Nuclear Medicine where applicable
- Transport arrival points

503103 440 .44.00 INTERNAL

Location of diagnostic rooms around a central staff and processing area if achievable provides for optimal workflow/circulation.

The rooms used for large volume outpatients should be located near the main entry & outpatient waiting.

DESIGN

Accessibility

503104 440 .45.00 ENTRIES

There should be one only point of access to the Unit for outpatients and visitors to the Unit overseen by the Reception. (A shop front entrance may be highly attractive to outpatients in a competitive market environment)

Wherever possible there should be separate discreet entry for patients on beds/trolleys from Emergency, ICU and Inpatient Units to provide privacy for inpatients away from public scrutiny and to optimise workflows. This entry may also efficiently serve as a dedicated staff access particularly for staff movements to and from outlying units and particularly after hours.

Consideration should be given to the most appropriate means of entry for outpatients brought in by ambulance (e.g. from a Nursing Home).

Access for large equipment must be considered and a "back-of-house" access for supplies delivery and waste removal will need to be determined.

503105 440 .46.00 WAYFINDING

In large Units that provide sub-waiting areas for each modality / cluster of modalities, very careful thought must be given to overall layout and wayfinding and the manner in which patients may be directed from Reception by sensory or other means as it is unlikely that there will be the staff to act as escorts under most circumstances.

Parking

503106 440 .47.00 Visitors will use public car parks with access to drop-off and car spaces for people with disabilities.

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Staff parking is addressed in Part C of these Guidelines (Section 790.59)

Disaster Planning

- 503107 440 .48.00 There should be emergency power available to allow completion of processing of digital images and storing in to PACS, thus overcoming the need for repeat x-ray exposure to patients.

Digital records should not only be backed up on site, but also remotely for added security.

Seismic joints as indicated.

Infection Control

- 503108 440 .49.00 Handbasins in all imaging rooms and clinical support areas.

Interventional rooms will need to be designed to operating room standards.

Also refer to Section D of these guidelines for further information.

Environmental Considerations

- 503109 440 .50.00 ACOUSTICS

Acoustic privacy in all imaging rooms, interview rooms and especially in reporting areas.

- 503110 440 .51.00 NATURAL LIGHT

Although imaging rooms are usually windowless, an attempt should be made to provide natural light wherever possible as it contributes to a sense of wellbeing and minimise the stress of the unknown or potentially uncomfortable or painful procedure.

In staff areas, the Staff Rooms and offices should have access to natural light and preferably a pleasant outlook.

- 503111 440 .52.00 LIGHTING

Ceiling mounted shadowless lighting required in CT and Angiography. Indirect and dimmable lighting required in all examination rooms for patient comfort.

- 503112 440 .53.00 TEMPERATURE & HUMIDITY

- Technological requirements of equipment (as per manufacturer's specifications).
- Control of heat and humidity critical in equipment/computer areas and as the heat load for equipment is high, there must be separate heating/cooling zones for the equipment and the Control Room.
- Patient comfort particularly if uncovered during an investigation.
- Heat generated by Ultrasound equipment.

Given the large diversity of heat outputs from imaging equipment, individual room control may be easier with multiple small air conditioner units rather than a few large capacity ones.

503113 440 .54.00

PRIVACY

Visual patient privacy, particularly if unclothed is an important consideration to be addressed in the design of rooms and waiting spaces. Consideration could be given to locations of privacy screens.

The Medical Imaging Unit should be designed to ensure confidentiality of patient conditions and instruction regarding examinations.

Discrete sub-waiting areas could be provided as necessary for patients wishing or needing to be separated.

503114 440 .55.00

INTERIOR DESIGN

Despite its technical nature, a sterile clinical environment must be avoided by judicious use of colour, furnishings and artwork.

Refer to Part C of these guidelines for further information.

Space Standards and Components

503115 440 .56.00

ROOM SIZES & CONFIGURATION

Imaging rooms must be sized and proportioned (usually rectangular) to suit the equipment to be installed, provide a safe working environment and allow the effective movement of staff and patients.

Since technology changes frequently and from manufacturer to manufacturer, rooms should be sized to allow upgrading of equipment in the future, particularly if existing equipment is to be transferred in the first instance.

For maximum flexibility, all rooms should enable bed/trolley access so that bed patients do not have to wait for the appropriate room.

503116 440 .57.00

ACCESS AND MOBILITY

Refer Part C of these Guidelines for information.

503117 440 .58.00

ERGONOMICS

Refer Part C, Section 730.12 of these Guidelines for information.

Addresses such issues as bench heights and depths, storage systems etc.

503118 440 .59.00

HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

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503119 440 .60.00 DOORS, WINDOWS AND CORRIDORS

Special consideration should be given to the width and height of doorways to ensure delivery and removal of equipment is not impeded or prevented and that patient trolley and bed movement is not hampered.

Where windows are provided in imaging rooms, they should be fitted with operator-controlled screening and be radiation shielded where necessary.

Refer Part C of these Guidelines for information.

Safety and Security

503120 440 .61.00 SAFETY

In Imaging Units, risks to staff are :

- exposure to radiation and other chemicals
- manual handling from trolley to table and back and
- after-hours isolation.
- risks associated with the MRI Magnetic Field

In-use warning lights must be located outside all imaging rooms; may be manual or automatic operation.

For OHS reasons, installation of ceiling-mounted lifters may be considered in rooms dealing with non-ambulant patients.

Refer to the Occupational Health & Safety Act 2000 and Regulation 2001.

Refer to Part C of these Guidelines for further information.

Environmental Protection Authority for radiation safety standards

503121 440 .62.00 SECURITY

Access control particularly after-hours.

Duress call at Reception.

Patients' property - own locker or use of basket that stays with the patient during examination.

Finishes

503122 440 .63.00 WALL PROTECTION

It is imperative that intra-departmental corridors have protection to the lower part of the walls to minimise what can be considerable damage from trolleys.

Refer to Part C of these Guidelines

503123 440 .64.00 FLOOR FINISHES

Refer to Part C of these Guidelines

503124 440 .65.00 CEILINGS

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

- 503125 440 .66.00 Refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

503126 440 .67.00 CONSTRUCTION

Construction standards for a Medical Imaging Unit include the following:

- Flooring adequate to meet load requirements for equipment, patients and personnel.
- No conduits should be laid in the vicinity of expected core holes
- Provision for cable trays, ducts or conduits in floors, walls and ceilings as required for equipment installation
- Ceiling heights that suit the equipment, but should not be less than 3000 mm
- for ceiling tube mount installations
- Ceiling-mounted equipment needs properly designed, rigid support structures located above the finished ceiling.
- A unistrut or equivalent ceiling should be considered for ease of installation, service and remodelling.
- Lighting to be designed so as not to obstruct ceiling-mounted tubestands
- X-ray control screens to be designed so as not to obstruct equipment positioning and ceiling-mounted tubestands
- Separate air-conditioning to control rooms to accommodate high fluctuating A/C equipment loads.

Recent post-occupancy evaluations undertaken for NSW Health state that the use of ceiling space as a return air plenum is ineffective in existing building conditions, where existing walls go up to the underside of the slab above.

The above ceiling space requirements are important considerations given the amount of equipment which has to be accommodated - air conditioning, vents, cable runs, plumbing, unistruts for x-ray gantries etc.

In the digital age, the x-ray control screens should be full ceiling height to facilitate the running of data cables to the control bench.

503127 440 .68.00 RADIATION PROTECTION

Medical imaging (ionising) equipment requires radiation protection. Plans and specifications will require assessment by a Radiation Services consultancy and reviewed by an Accredited Consultant Radiation Expert (CRE)

The radiation protection assessment will specify the type, location and amount of radiation protection required according to final equipment selection and layout. Radiation protection requirements should be incorporated into the final specifications and the building plans.

503128 440 .69.00 CALL SYSTEMS

Systems will comprise:

- Nurse call located in or near change cubicles, patient-use toilets and showers and at every holding/recovery bay
- Staff Assist and Emergency Call - In every imaging room, in the Holding/Recovery area and corridor/s.
- Duress call - At Reception

Annunciator panels in corridors must be located for optimum viewing and be

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non-scrolling.

Consideration needs to be given as to exactly where calls will be annunciated particularly in times of reduced staffing (night shift).

503129 440 .70.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

Systems will/may include:

- Voice / data cabling for phones and computers
- Dictation system for reporting and / or voice recognition system
- High speed network for digital and CR equipment
- PACS
- Patient (or Hospital) Information System (HIS)
- Radiology Information System (RIS) ideally linked to the PIS
- Teleradiology

503130 440 .71.00 ELECTRICAL SERVICES

Three phase power for x-ray generating rooms - equipment specific
Interventional rooms will need to be cardiac-protected.

503131 440 .72.00 MEDICAL GASES

Oxygen and suction in all rooms and holding / recovery bays.

Medical air, nitrous oxide (if used) and scavenging will be required in all rooms where general anaesthesia is delivered.

Medical gas systems must have alarms within the imaging suite which alert staff to diminished capacity or potential failure, as well as when gas bottles need changing

All portable ferrous oxygen cylinders must carry MRI Warning Label

COMPONENTS OF THE UNIT

Standard Components

503132 440 .73.00 Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data and Room Layout Sheets.

Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

503133 440 .74.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

503134 440 .75.00 COMPUTED RADIOGRAPHY (CR) WORKROOM

DESCRIPTION & FUNCTION

Uses phosphor plates (cassettes) instead of the traditional film plates and effectively replaces Dark Room and Daylight functions for processing

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general films. It allows viewing of the image on a computer monitor and the radiographers can enhance the image before storing. The following equipment for 2 radiographer workstations will service 4 general rooms:

- CR plate readers - a multiplate unit and a smaller back-up unit
- Computers for entering patient information - 1 per workstation
- CR monitors for viewing images - 1 per workstation
- Storage for manuals
- Plate holders (carriers) ideally mobile for moving between imaging room and workroom.

Smaller Units using a small reader may require a back-up Dark Room.

LOCATION & RELATIONSHIPS

Immediately outside the General Radiology Rooms with access from each room.

CONSIDERATIONS

Temperature control and ventilation.

503135 440 .76.00 CONTRAST MEDIA PREPARATION ROOM

DESCRIPTION & FUNCTION

Space for storing and preparing contrast media (barium sulphate or iodine compounds) for fluoroscopy examinations.

LOCATION & RELATIONSHIPS

May be part of a Clean or Dirty Utility room but must be a discrete space. Ready access to the Fluoroscopy Room

CONSIDERATIONS

Additional storage for pre-prepared media. Requires a dedicated sink.

503136 440 .77.00 DIGITAL (PACS) REPORTING WORKSTATION

DESCRIPTION & FUNCTION

Radiologist workstation for reporting on procedures using high resolution (LCD) monitors on which, unlike traditional x-ray viewers, images can be manipulated. A minimum of 2 linked monitors are required but occasionally 4.

In addition to the reporting monitors, a dedicated computer will be required for access to the Patient Information System and a system for dictating reports. In the future, these 3 functions may be integrated into a single computer system with appropriate software.

LOCATION & RELATIONSHIPS

Ready access from the imaging rooms but in a quiet location. Several workstations may be located in the one room but cubicles need to be visually and acoustically separated.

CONSIDERATIONS

Ergonomic design of the workstation to accommodate the monitors.

Temperature control imperative to minimise risk of monitor failure. Adequate ventilation

Individual cubicle lighting (dimable) and temperature controls

Acoustic management to ensure quality of voice recordings.

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APPENDICES

Schedule of Accommodation

503137 440 .78.00 A Generic Schedule of Accommodation for a Medical Imaging Unit - (General, Angiography, CT Scanning, MRI) at Level 2, 3, 4, 5, and 6 follows.

Note: (o) in Qty/ x m2 column = Optional

ENTRY / RECEPTION / CLERICAL

Note 1 : Transport Staff Workbase/Trolley Park
If provided, will need linen supply, portable oxygen cylinder storage & bench/sink for wiping down trolleys. (need larger space at facilities with heavy interventional work)

ROOM/SPACE	Standard Component	Level 2 Qty x m2	Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
ENTRY / RECEPTION / CLERICAL							
WAITING	yes	Share	Share	1 x 20	1 x 35	1 x 45	1.2 m2 per seat, 1.5m2 for w/chair. Respectively 15, 25 & 35 seats/wheelchairs
BAY - DRINKING FOUNTAIN				1 x 1	1 x 1	1 x 1	Optional vending may be added at 3m2
CHILD PLAY AREA				1 x 8 (o)	1 x 8 (o)	1 x 8 (o)	3-4 places
TOILET - DISABLED / BABY CHANGE	yes	Share	Share	1 x 5	1 x 5	1 x 5	Unless available nearby
TOILET - PUBLIC	yes	Share	1 x 3	2 x 3	2 x 3	2 x 3	Unless available nearby
RECEPTION	yes	Share	Share	1 x 10	1 x 12	1 x 12	1, 2 & 2 staff
CLERICAL WORKROOM		Share	1 x 9	1 x 10	1 x 15	1 x 20	May need larger area if they also combine booking system for the facility/AHS
CURRENT FILM STORAGE		Share	1x30(o)	1 x 50 (o)	1 x 70 (o)	1 x 100 (o)	Check need if PACS used
BAY - MOBILE EQUIPMENT	yes	Share	1 x 4	2 x 4	3 x 4	4 x 4	For mobile units depending on policy re decentralising
TROLLEY / WHEELCHAIR PARK		Share	1 x 5	1 x 6	1 x 10	1 x 12	Not required if provided from Transport Unit
TRANSPORT STAFF WORKBASE/TROLLEY PARK		Share		1 x 4	1 x 6	1 x 8	See note 1

503138 440 .79.00 SUPPORT AREAS

Note 2 : PACS Server Room

SUPPORT AREAS							
CLEANER'S ROOM	yes	Share	Share	1 x 5	1 x 5	1 x 5	
HARD COPY / DIGITISER ROOM				1 x 6	1 x 6	1 x 6	
PACS SERVER ROOM			1 x 10	1 x 12	1 x 20	1 x 30	See note 2.
STORE - GENERAL	yes		1 x 9	1 x 9	1 x 12	1 x 12	
STORE - FILM / CASSETTES / PLATES			1 x 9	1 x 9	1 x 12	1 x 12	
OPTICAL DISCS STORAGE ROOM			1 x 9	1 x 9	1 x 12	1 x 12	

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PACS OPERATION/MANAGEMENT TEAM			1 x 9	1 x 9	1 x 12	1 x 12	

503139 440 .80.00 GENERAL X-RAY & FLUOROSCOPY (SCREENING)

GENERAL X-RAY & FLUOROSCOPY (SCREENING)							
PATIENT BAY - HOLDING	yes		1 x 8	2 x 8	0	0	For Level 5 & 6 refer to general nursing holding/recovery unit.
BAY - LINEN	yes		Share	1 x 2	1 x 2	1 x 2	
GENERAL X-RAY ROOM	yes	1 x 30	1 x 30	2 x 30	3 x 30	4 x 30	Includes Control. Adjust numbers as per service plan
CHANGE CUBICLE - PATIENT	yes	1 x 2	1 x 2	2 x 2	3 x 2	4 x 2	1 cubicle per imaging room. Less required if centralised
CHANGE CUBICLE - W/CHAIR ACCESS	yes	1 x 4	1 x 4	2 x 4	3 x 4	4 x 4	1 cubicle per imaging room. Less required if centralised
CHANGED WAITING / PATIENT LOCKERS (IF PROVIDED)	yes			2x5 (8 seats)	2 x 7	2 x 10	Required if Change Cubicles are centralised. Seperate male & female patients.
PATIENT LOCKER BAY (IF CENTRAL CHANGED WAITING)				1 x 1	1 x 2	1 x 2	
COMPUTED RADIOLOGY (CR) PROCESSING				1 x 20	1 x 30	1 x 40	Approximately 10m2 per Imaging Room for CR equipment & workstations (1 per imaging room)
DARK ROOM	yes		1 x 6	1 x 6	1 x 6	1 x 8	Back-up for Level 4 single CR plate reader & system failure
DAYLIGHT PROCESSING	yes		0	0	0	0	Assumed no longer required
SCREENING ROOM (FLUOROSCOPY)	yes		1 x 36 (o)	1 x 36	1 x 36 (o)	1 x 36 (o)	Includes control
CONTRAST MEDIA PREPARATION ROOM/BAY			1 x 5 (o)	1 x 5	1 x 5	1 x 5	Could be part of nearby Utility Room
CHANGE CUBICLE - PATIENT	yes		1 x 2 (o)	1 x 2	1 x 2	1 x 2	
SHOWER/TOILET - DISABLED			1 x 6 (o)	1 x 6 (o)	1 x 6 (o)	1 x 6 (o)	Dual access from room and corridor
BAY - RESUSCITATION TROLLEY	yes		0	1 x 2 (o)	1 x 2	1 x 2	

503140 440 .81.00 ULTRASOUND, MAMMOGRAPHY & CT SCANNING

Note 3 : CT Scanning Room

Size may be increased to contain computer cabinets thus eliminating need for a separate room.

ULTRASOUND, MAMMOGRAPHY & CT SCANNING							
SUB-WAITING (U/SOUND & MAMMOGRAPHY)			1 x 6	1 x 8	1 x 10	1 x 10	
ULTRASOUND ROOM	yes		1 x 12 (o)	2 x 12	2 x 12	2 x 12	Numbers adjusted to suit service plan
ULTRASOUND ROOM			0	0	1 x 24	1 x 24	For interventional procedures
CHANGE CUBICLE - U/SOUND	yes		1 x 2 (o)	1 x 2	1 x 2	1 x 2	1 per room
CHANGE CUBICLE - DISABLED			1 x 4 (o)	1 x 4	1 x 4	1 x 4	1 per room
MAMMOGRAPHY ROOM	yes(draft)			1 x 16	1 x 16	1 x 16	
CHANGE CUBICLE - MAMMOGRAPHY	yes		1 x 2	2 x 2	2 x 2	2 x 2	2 per room

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MAMMOGRAPHY PROCESSOR				1 x 6	1 x 6	1 x 6	
ULTRASOUND/ MAMMOGRAPHY PREP ROOM/LAB					1 x 9	1 x 9	
CT SCANNING ROOM	yes(draft)		1 x 45 (o)	1 x 45	2 x 45	2 x 45	See note 3.
CT CONTROL ROOM	yes(draft)		1 x 6	1 x 6	1 x 12	1 x 12	Shared between 2 rooms
CT COMPUTER ROOM			1 x 12 (o)	1 x 12 (o)	2 x 12 (o)	2 x 12 (o)	Optional depending on equipment selected.
CHANGE CUBICLE - DISABLED - CT	yes		1 x 4	1 x 4	2 x 4	2 x 4	1 per room
TOILET - PATIENT	yes			1 x 4	1 x 4	1 x 4	
PATIENT BAY - HOLDING	yes		1 x 8	1 x 8	2 x 8	2 x 8	1 per room outside room
CLEAN UTILITY (PREP) ROOM -	yes			1 x 8	1 x 8	1 x 8	
BAY - LINEN TROLLEY	yes		Share	1 x 2	1 x 2	1 x 2	
BAY - RESUSCITATION TROLLEY	yes		0	1 x 2 (o)	1 x 2 (o)	1 x 2 (o)	Depending on size and layout of unit

503141 440 .82.00 ANGIOGRAPHY / DSA

ANGIOGRAPHY / DSA							
ANAESTHETIC INDUCTION ROOM	yes			15 (o)	15 (o)	15 (o)	
SCRUB-UP / GOWNING	yes			1 x 6	1 x 6	1 x 6	2 scrub stations. May be shared between Angiography Rooms if design permits
STERILE STOCK / SET-UP ROOM	yes			1 x 16	1 x 18	1 x 24	
ANGIOGRAPHY ROOM	yes			1 x 42	2 x 42	3 x 42	Refer Service Plan to determine number of rooms (50m ² 8m L x 6.25W)
CONTROL ROOM - SINGLE	yes			1 x 14	0	1 x 14	
CONTROL ROOM - SHARED				0	1 x 24	1 x 24	
COMPUTER EQUIPMENT				1 x 6	2 x 6	3 x 6	1 per Angiography Room.
REPORTING ROOM	yes			1 x 8	1 x 12	1 x 16	Adjust as necessary
BAY - RESUSCITATION TROLLEY	yes			1 x 2	1 x 2	1 x 2	
STORE - FILMS / CDS / VIDEOS				1 x 6	1 x 8	1 x 8	

503142 440 .83.00 MRI (1 room only assumed for the purposes of this Guideline but may be a suite of 2 rooms at Level 6)

MRI							
INDUCTION / PREPARATION ROOM	yes			1 x 20	1 x 20	1 x 20	Include small staff base/clean utility and 1 patient trolley/bed bay per room
BAY - HANDWASHING (TYPE A)	yes			1 x 1	1 x 1	1 x 1	Part of Prep Area
MRI SCANNING ROOM				1 x 42	1 x 42	1 x 42	Size will depend on equipment selected

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MRI CONTROL				1 x 10	1 x 10	1 x 10	Must oversight and control entry into magnet room
MRI COMPUTER ROOM				1 x 10	1 x 10	1 x 10	
OFFICE / REPORTING	yes			1 x 9	1 x 9	1 x 9	
CHANGE CUBICLE	yes			1 x 2	1 x 2	1 x 2	
PATIENT LOCKER BAY	yes			1 x 1	1 x 1	1 x 1	
SUB-WAITING	yes			1 x 6	1 x 6	1 x 6	
TOILET - PATIENT	yes			1 x 4	1 x 4	1 x 4	
BAY - RESUSCITATION TROLLEY				1 x 2	1 x 2	1 x 2	Non-ferrous construction
STORE - DEWAR TANK				Remote areas only	Remote areas only	Remote areas only	Remote areas only. Must provide easy access into MRI room for top-up using mobile Dewars.

503143 440 .84.00 PATIENT HOLDING / RECOVERY

Note 4 : Patient Bay - Holding / Recovery

At least 2 per interventional room (Holding / Recovery may be combined make it single larger area with direct observation from Nurses Station. Separate holding area adjacent to each modalities may inefficient due to additional staff resources. A lot of interventional work is being performed under the control of CT and Ultrasound)

PATIENT HOLDING / RECOVERY							
PATIENT BAY - HOLDING / RECOVERY	yes		9	9	9	9	See note 4.
STAFF STATION	yes			1 x 10	1 x 10	1 x 10	
CLEAN UTILITY	yes			1 x 10	1 x 10	1 x 10	
BAY - LINEN TROLLEY	yes			1 x 2	1 x 2	1 x 2	
BAY - RESUSCITATION TROLLEY	yes			1 x 2	1 x 2	1 x 2	
DIRTY UTILITY - SUB	yes			1 x 8	1 x 8	1 x 8	
DISPOSAL ROOM	yes			1 x 8	1 x 8	1 x 8	
STORE - EQUIPMENT	yes			1 x 9	1 x 12	1 x 12	
DISCOUNTED CIRCULATION %			35%	35%	35%	35%	

503144 440 .85.00 STAFF OFFICES & REPORTING

Offices/workstations will be based on Staff Establishment. Sizes based on NSW Health Directive - PD2005-576 - Office Accommodation

STAFF OFFICES & REPORTING							
OFFICE - SINGLE -12M2 (DIRECTOR)	yes				1 x 12	1 x 12	
OFFICE - SINGLE 9M2 (RADIOLOGIST)	yes	1 x 9	1 x 9	9	9	9	At Level 2 & 3, office used for reporting

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OFFICE - SINGLE 9M2 (RADIOGRAPHER)	yes			9	9	9	Chief Radiographer, Assistant Chiefs, Senior Radiographers etc
OFFICE - SINGLE NUM				1 x 9 (o)	1 x 9	1 x 9	
OFFICE - WORKSTATION (TRANSCRIPTION)	yes			4.5	4.5	4.5	
OFFICE - WORKSTATION (IT, CLERICAL)	yes				5.5	5.5	
OFFICE - WORKSTATION (SECRETARY)	yes				5.5	5.5	
OFFICE - WORKSTATION (REGISTRARS)	yes				5.5	5.5	
PACS REPORTING WORKSTATION			5.7	5.7	5.7	5.7	Refer Non-Standard Components. May be used for individual and group teaching.

503145 440 .86.00 STAFF AMENITIES

STAFF AMENITIES							
FILM LIBRARY / STUDY					1 x 20	1 x 20	5 places
QUIET STUDY ROOM					1 x 9 (o)	1 x 9 (o)	
STORE - PHOTOCOPY / STATIONERY	yes				1 x 8	1 x 8	
MEETING ROOM - MEDIUM	yes				1 x 20	1 x 20	
MEETING ROOM - LARGE	yes				2 x 30	2 x 30	
STAFF ROOM	yes			1 x 15	1 x 20	1 x 25	Depending on Staff Establishment
PROPERTY BAY - STAFF	yes			1 x 2	0	0	Numbers will depend on Staff Establishment
SHOWER - STAFF	yes			1 x 2 (o)	0	0	Numbers will depend on Staff Establishment
TOILET - STAFF	yes			2x 3	1 x 3	1 x 3	Easily accessible if main change rooms remote
STAFF CHANGE ROOM					2 x 14	2 x 14	1 Shower, 2 WCs plus lockers. Required for facilities with high interventional workload
DISCOUNTED CIRCULATION %				30%	30%	30%	

Functional Relationships

503146 440 .87.00 A diagram of key functional relationships is attached.

References and Further Reading

503147 440 .88.00 DS-15 Health Building Guideline - Medical Imaging Unit, NSW Health Department, 1992.

DHS Victoria HFG - Medical Imaging.

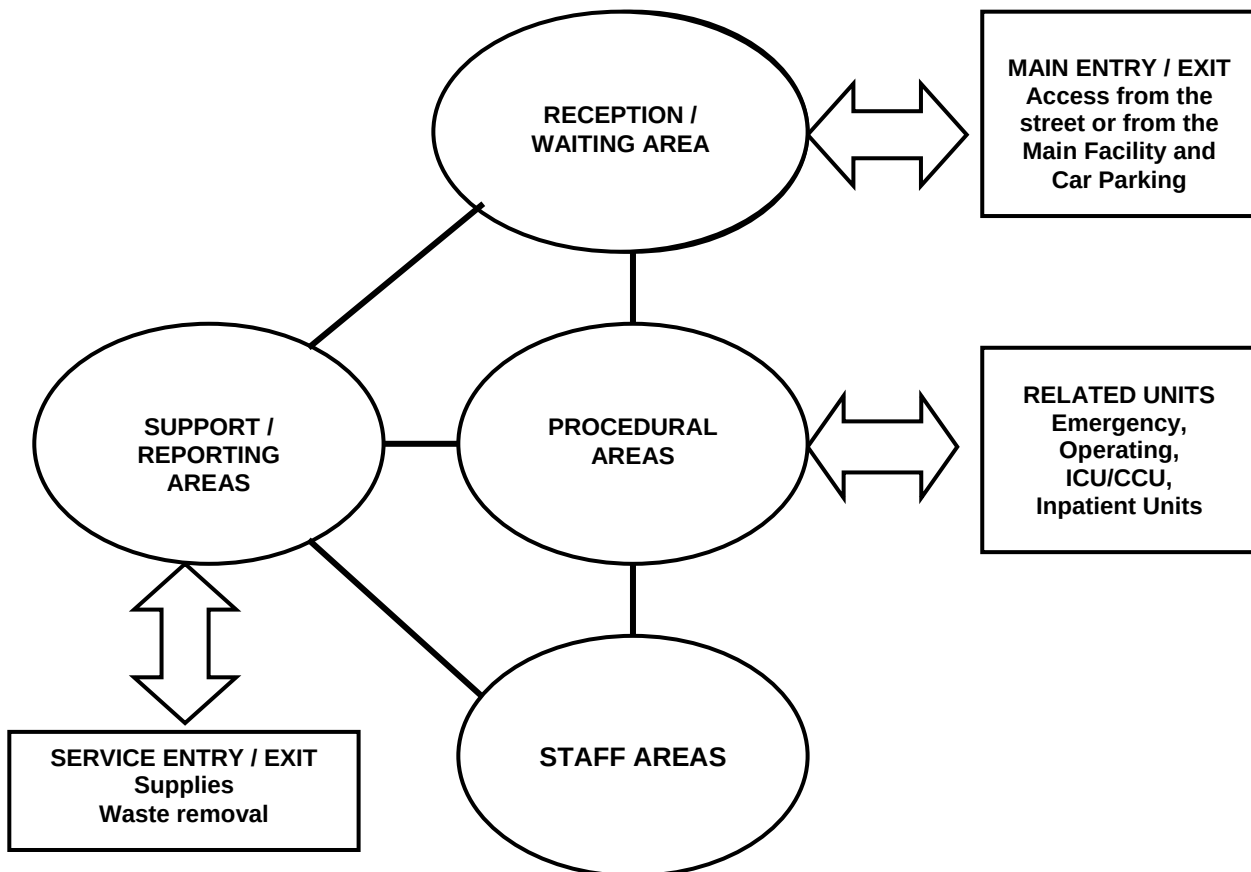
Checklists

503148 440 .89.00 A Security Checklist is appended to this document. Refer also to Part C of these Guidelines for general requirements.

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FUNCTIONAL RELATIONSHIP DIAGRAM –MEDICAL IMAGING UNIT

The following diagram sets out the relationships between zones in a Medical Imaging Unit:



SECURITY ISSUES TO BE CONSIDERED IN MEDICAL IMAGING UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Area where outpatients and inpatients come for treatment.	1. Control access.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
2. Patient files	1. Personnel working on these must return to secure area after use or return to Medical Records Department. 2. If any electronic files are produced, locate in restricted area of hard drive.
3. Drugs storage	1. Dangerous drug safe within the clean utility area.
4. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Provide appropriate after-hours access and security, including secure access from all parts of the facility.
5. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.

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SECURITY CHECKLIST – MEDICAL IMAGING UNIT

FACILITY:	DEPARTMENT: Medical Imaging Unit	
RISK ISSUE	DESIGN RESPONSE	
1. How is 'after hours' access provided for patients and how is this access point monitored ?		
2. Do staff have access to both fixed and mobile duress systems ?		
3. Is access to patient records restricted to staff entitled to that access ?		
4. Is a system implemented to prevent theft of equipment, files, personal possessions, etc ?		
5. How is after hours access provided for staff?		
6. How is this area secured during and after hours?		
7. Are there lockable storage areas available for specialised equipment?		
8. Is lockable furniture provided for storage of staff personal effects?		
9. Has a secure waiting area been planned in this area that allows for the public to present at a counter, sign forms, wait and then receive photocopies of relevant records as requested?		
10. Are drug safes installed in accordance with current regulations?		
DESIGN COMMENTARY /NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

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INTRODUCTION

Preamble

604101	480 .1.00	PREAMBLE
		This Health Planning Unit (HPU) has been developed for use by project staff - architects, planners, engineers, project managers and other consultants, and for end users to facilitate the process of planning and designing a unit that will be fit for purpose in line with local service plans.
604102	480 .1.05	It should be read in conjunction with the Australasian Health Facility Guideline (AusHFG) generic requirements and Standard Components described in:
		- Part A Introduction and Instructions for Use
		- Part B Section 80 - General Requirements
		- Part C Design for Access, Mobility, OHS and Security

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- Part D Infection Prevention and Control
- Part E Building Services and Environmental Design.

604103 480 .1.10 It is strongly recommended that this HPU is read in conjunction with HPU 500 - Nuclear Medicine Unit.

Introduction

604104 480 .2.00 DESCRIPTION OF POSITRON EMISSION TOMOGRAPHY (PET)

'Positron Emission Tomography (PET) is a nuclear medicine technology that uses short-lived radioisotopes to enable the non-invasive imaging of metabolic functions within the body. While computed tomography (CT) and magnetic resonance imaging (MRI) primarily provide information about anatomical structure, PET can image and quantify biochemical and/or physiological function. This is important because functional changes caused by disease are often detectable before any structural abnormalities become evident'. (Department of Health and Ageing 2009)

The primary radioactive isotope used for clinical PET is Fluorine-18 fluorodeoxyglucose (FDG), obtained from a cyclotron, with a half life of 110 minutes. This can only be transported relatively short distances before use. Because of this short half-life, the supplied isotope undergoes multiple half-lives of decay during the working day. This necessitates careful planning with respect to patient scheduling and may require one or more deliveries per day.

604105 480 .2.05 POSITRON EMISSION TOMOGRAPHY / COMPUTED TOMOGRAPHY (PET/CT)

All modern PET cameras now incorporate a CT scanner as an integral component of the equipment. Whereas PET detects biochemical changes, CT detects anatomical changes and the images can be 'fused'.

CT is mainly performed for anatomical localization and attenuation correction. Staff and licence requirements for additionally performing a diagnostic CT as part of a PET/CT study are governed by applicable State regulations and licence conditions.

The CT may be used for radiation therapy simulation. Laser positioning lights will need to be incorporated into the scanning room design if used for this purpose.

604106 480 .2.10 CYCLOTRON AND RADIOPHARMACY

DHS Victoria (2004) defines a cyclotron as follows:

'The Cyclotron is a device that is used to produce beams of charged particles that can be directed at a specific target. Cyclotrons are used for cancer treatment (proton therapy) and radioisotope production. Fluorodeoxyglucose (FDG) is used primarily for cancer diagnosis and Palladium-103 for prostate cancer implants'.

Radiopharmaceuticals for a PET unit are either provided by an on-site cyclotron or by third party suppliers.

This HPU does not address the detailed planning and design requirements for a cyclotron and associated radiopharmaceutical laboratory. However, if one is planned, assess the location and the necessary spatial requirements

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at a very early planning stage with particular emphasis on structural requirements to support the weight of the equipment, radiation shielding needs, and radiopharmaceutical support laboratories. The area required for the PET tracer production facility, including the cyclotron depends on the tracers to be produced and functional requirements of the facility and needs to be determined on an individual basis.

Hospitals with a cyclotron have Radiopharmacy Laboratories for their PET/CT use and provide services to other hospitals.

Policy Framework

604107 480 .3.00 RADIATION SAFETY AND PROTECTION

All issues relating to radiation protection and safety are subject to each jurisdiction's legislation with regard to Radiation Safety Acts and Regulations.

Codes of Practice and guidelines relating to radiation safety and protection are available from the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) www.arpansa.gov.au

In particular, project staff should familiarise themselves with RPS 14.2 - Safety Guide for Radiation Protection in Nuclear Medicine (ARPANSA 2008b).

This safety guide is one of three (3) guides that support the application of the Code of Practice for Radiation Protection in the Medical Application of Ionizing Radiation.

604108 480 .3.05 CT SHIELDING

For specific radiation shielding requirements for the CT component of the equipment, refer to RPS 14.1 - Radiation Protection in Diagnostic and Interventional Radiology (ARPANSA 2008a).

604109 480 .3.10 IONISING RADIATION

For safety requirements for laboratories and precautions needed to prevent the exposure of workers and members of the public to excessive levels of radiation where sources of ionising radiation are used, refer to AS 2243 (Stds Aust 1998).

Description of the Unit

604110 480 .4.00 DESCRIPTION OF PET HEALTH PLANNING UNIT (HPU)

PET/CT technology is used extensively in cancer assessment staging of disease, restaging and the evaluation of treatment response; in neurological disease in the evaluation of refractory epilepsy and neurodegenerative conditions and much less frequently in the assessment of viable heart muscle in cardiac disease.

A PET/CT Unit provides facilities for delivery of radiopharmaceutical agents and scanning under carefully controlled conditions.

It is assumed that all new scanning equipment will be combined PET/CT scanners that fuse functional image information from PET with anatomic information from CT.

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This HPU also assumes that all isotopes are obtained from external sources.

604111 480 .4.05 SCANNING PROCESS

The PET radiopharmaceutical is drawn up into the syringe and calibrated behind lead or lead glass viewing barriers in the Hot Laboratory (Hot Lab).

The syringe is then transported to the uptake rooms using special mobile dose shields and administered to the patient via a pre-inserted cannula. A portable lead barrier may optionally be used by the operator for shielding during dose administration. Patients are usually scanned within an hour of injection uptake.

Patients are escorted from the uptake room to the toilet just prior to scan to void the bladder before being escorted to the scanning room and positioned for scanning.

Once the scan is complete, outpatients remain in a radiation shielded discharge waiting room until the scans have been reviewed by the medical staff and may then return home.

604112 480 .4.10 PATIENT CHARACTERISTICS

Patients may be:

- all ages, levels of acuity and frailty
- ambulant and wheelchair-dependent outpatients, the predominant patient group
- inpatients.

Some bariatric patients may be unable to be scanned due to both weight limits on the scanning bed and the girth of the patient who may not be able to fit through the scanner. Girth therefore needs to be assessed before the patient is injected with the tracer.

PLANNING

Operational Models

604113 480 .5.00 HOURS OF OPERATION

The PET Unit will usually operate during business hours with arrangements for emergency access afterhours.

604114 480 .5.05 MODEL OF CARE

PET services are delivered in a discrete unit often, but not necessarily, collocated with the Nuclear Medicine Unit with which it may share support facilities.

As PET is extensively used as an oncology diagnostic tool, it may be located in a comprehensive Cancer Centre.

604115 480 .5.10 FUTURE GROWTH

Service planning relies on population projections and advances in technology. In cases where it is expected that population growth will require enhanced service capacity within a five year period, the following issues

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need to be addressed with regard to future expansion of the Unit:

- expansion of the scanning rooms to allow for upgrades to the equipment which will require additional shielding, increased load bearing capabilities and services requirements.
- access for supply and installation of new equipment
- increased numbers of bariatric patients
- identification of expansion zones for increased staffing requirements to meet service demand and technological changes.

In the future there may be combined PET/MRI systems. Design of a scanning room to accommodate a PET/MRI unit differs substantially from designing for a PET/CT unit - radiofrequency and magnetic shielding are required for MRI and weight is substantially greater. Tertiary facilities may need to consider how a PET/MRI unit could be accommodated in the future.

Operational Policies

604116 480 .6.00 GENERAL

Operational policies have a major impact on the design, and the capital and recurrent costs of health facilities. Policies will vary from unit to unit depending on a wide range of factors but the cost implications of proposed policies should be fully evaluated to ensure the most cost-effective and efficient design solutions are developed.

The development of operational policies is crucial to defining how the Unit will operate within the hospital, the health service, as well as in relation to adjoining health services from which patients may be referred. Users should define their own policies - refer to Part B Section 80 for further information. The following topics are specific to this HPU.

604117 480 .6.05 AMBULANT PATIENT WAITING

Waiting areas should allow separation of dosed and undosed patients.

Undosed outpatients, pre-scan, may wait in the general public waiting area with their family / supporters. Inpatients may be taken directly into an uptake room.

Once the scan is complete, outpatients leave the Unit via a separate radiation shielded discharge area.

For further information refer to ARPANSA (2002), RPS 4 on the discharge of patients undergoing treatment with radioactive substances.

604118 480 .6.10 ANAESTHESIA AND SEDATION

General anaesthesia (GA) or deep sedation is rarely needed except in units with a large paediatric component. However, at least one uptake room should be GA capable with direct access into the scanning room.

604119 480 .6.15 FILM / RECORDS STORAGE

Imaging using Picture Archive and Computer System (PACS) is assumed for film storage therefore neither a dark room nor hard copy film storage will be necessary. PACS storage will be required either locally or as part of a hospital-wide system.

In the absence of a comprehensive electronic patient record system, storage

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space for paper copies of patient scan reports / consent forms and referral documentation will be required. All patient records, including paediatric records, should be maintained and retained according to relevant jurisdiction policies and procedures. For adults this may range from 7 to 15 years, and 21 years for children.

Consideration should be given to electronic records in the future including electronic ordering of scanning procedures.

604120 480 .6.20 MANAGEMENT OF MEDICAL EMERGENCIES

Management of medical emergencies will be in accordance with hospital policy.

A resuscitation trolley should be easily accessible.

604121 480 .6.25 MANAGEMENT OF RADIOACTIVE SUBSTANCES SPILLS

All surfaces including floors, bench tops, walls and junctions should be impermeable and easy to clean.

An emergency shower and eye wash for patients and staff should be readily accessible and located in close proximity to all areas of potential exposure.

A decontamination kit should be stored in the Hot Lab for quick access to contain and clean up radioactive spills.

604122 480 .6.30 PATIENT MONITORING & COMMUNICATIONS

Dosed patients are alone in uptake rooms and during the scanning process and should be under observation at all times in case of emergency via closed circuit TV cameras (CCTV) with monitors in the Control Room and/or Staff Station. Cameras should be located at both the head and foot of the PET scanner.

A staff and emergency call system is required in the uptake rooms, scanning rooms, waiting areas and toilets.

An appropriate intercom system is required from the control room to communicate with patients in the scanning room. The system may also be extended to the uptake rooms.

Ancillary procedures during uptake and scanning processes may include electrocardiogram (ECG) and electroencephalogram (EEG) monitoring of the patient's condition with remote monitors in the Control Room or Staff Station.

604123 480 .6.35 PATIENT TRANSPORT

The model of care / service plan for the Unit should define whether the Unit will have its own porter staff, possibly shared with an adjoining unit or use a central transport department. This decision may depend on the number of inpatient studies to be undertaken.

If required, facilities should comprise a small porter's base with handbasin, linen storage, portable oxygen cylinders and parking areas for trolleys and wheelchairs.

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604124 480 .6.40 RADIOACTIVE ISOTOPES - DELIVERY

PET Units will receive sealed radioactive isotopes, delivered to a licensed person and will be required to handle and store these as described within the Radiation Protection guidelines. Refer to ARPANSA (2008b), RPS 14.2, Section 10.4 on the Storage and Safe Handling of Sealed Radiation Sources.

Isotope deliveries for PET studies with their short half life will usually be once or twice daily direct to the department, depending on workload.

Usually a vial of FDG is delivered to the PET Unit for dispensing by technologists. In some cases, unit doses may be supplied from an on-site or central radiopharmacy.

604125 480 .6.45 RADIATION PROTECTION AND MONITORING - PERSONNEL

Staff should be monitored with an approved dosimeter badge attached to clothing. Electronic personal dosimeters may be worn to allow dosage received during the day from specific activities to be assessed and minimised. These are particularly useful during the training of new staff.

Mobile lead screens may be provided for use in uptake rooms for administering radiopharmaceuticals and in scanning rooms for positioning the patient.

604126 480 .6.50 WASTE MANAGEMENT - GENERAL

There are several categories of waste but within the context of this HPU, and excluding radioactive waste covered separately below, waste will consist of:

- clinical waste - excluding sharps used for injection of radiopharmaceuticals
- recyclable waste - usually paper and bottles / cans
- general waste - any waste not included above and which is not capable of being recycled, reprocessed or re-used.

Refer to individual health jurisdiction waste management policies.

604127 480 .6.55 RADIOACTIVE WASTE MANAGEMENT

Radioactive waste is material contaminated with radioactive substances and may be solid, liquid or gaseous.

An emergency shower and eye wash in the Radiopharmacy Laboratory and a separate shower for patients and staff will be required. A decontamination kit should be stored in the Hot Lab or Radiopharmacy for quick access to contain and clean up radioactive spills.

604128 480 .6.60 RADIOACTIVE WASTE DISPOSAL

Radioactive waste is no longer deemed to be radioactive once lead shielded and allowed to decay to a safe level as set by the regulatory authority.

Due to the rapid decay of radioisotopes used for PET studies, very little solid waste will need to be stored except for syringes, needles, cannula etc. Specially designed lead-lined sharps bins are commercially available and should be readily accessible for use by all clinicians as required (ARPANSA 2008c).

The requirement for delay holding tanks for effluent from patient toilets in the

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immediate post-uptake areas will need to be assessed by the Radiation Safety Officer.

604129 480 .6.65 STORAGE

Provide a store for general equipment items that may include space for charging of electric equipment (e.g. IV pumps and transport tugs). Where appropriate, items of equipment may be stored in their room of use to minimise manual handling and OHS issues.

Storage will also be required for general equipment items, sterile stock and medical consumables.

Specific items for storage associated with PET scanning will include planning and testing equipment.

If not parked in the scanning room, consideration will need to be given to the corridor parking of the patient's bed when patients are transferred to the scanner table.

604130 480 .6.70 STAFFING

A staff establishment should be developed early in the planning process in order to assess the offices, workstations and amenities that will be required.

This HPU does not offer advice on staffing levels. However, a unit should be large enough to ensure that the safety, security and emergency responses of staff on duty are accommodated. Sizing of the unit on this basis provides for improved operational cost effectiveness as well as compliance with security and OHS requirements.

604131 480 .6.75 The staff establishment may include:

- PET physicians
- physicists
- Radiation Safety Officer
- PET Technologists
- nursing staff
- administration staff supported by cleaners, orderlies, etc.

604132 480 .6.80 TEACHING AND RESEARCH

The extent of teaching and research conducted in the Unit will need to be ascertained to ensure that necessary offices, laboratories, staff and student amenities are provided.

Planning Models

604133 480 .7.00 LOCATION

The Unit should not act as a thoroughfare to other units of the healthcare facility.

The floor loading weight of both equipment and shielding should be taken into consideration when locating the Unit. A ground floor site may be the most suitable location but if this cannot be achieved, consider units above, below and adjoining the proposed location with regard to radiation shielding requirements, the weight of equipment and associated shielding and access

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for equipment and radioactive isotopes.

Care should be taken to ensure that the location of the Unit minimises access by persons such as lost visitors, wandering patients from other units or those with criminal intent.

604134 480 .7.05 CONFIGURATION

Configuration of the Unit is critical with regard to patient and staff flows. This should ensure that patients, staff and visitors are not exposed to unacceptable levels of radiation as a consequence of poor layout resulting in unnecessary traffic movement in front of, through or adjacent to areas occupied by injected patients and scanning rooms.

Consider carefully the relative location of 'hot' areas - uptake rooms, toilet, scanning room, Hot Lab. 'Hot' and 'cold' areas should be geographically separated whenever possible.

The security of radioisotopes and radioactive waste is of particular importance.

Effective layout can also reduce the need for costly radiation shielding. Separate patient and staff corridor systems and provide separate entries for the general public - outpatients and for patients on beds / trolleys. Patient corridors should all accommodate passing and turning of wheelchairs and beds.

604135 480 .7.10 EQUIPMENT PROCUREMENT

Due to the complexities of tendering for and purchasing significant items of high technology equipment, there can be a 12-18 month timeframe before the final equipment selection takes place.

As the equipment is not generally known at the time of the initial design, a generic design should be undertaken whereby all major manufacturers' equipment can be accommodated. This also allows for easy future replacements without major renovation costs.

Functional Areas

604136 480 .8.00 FUNCTIONAL ZONES

The following rooms / spaces form the main functional zones of the Unit:

- Reception / Administration / General Waiting
- patient amenities
- Hot Laboratory
- PET/CT Suite (uptake rooms, scanning room, control room, equipment storage, plant room)
- clinical support areas
- staff offices and amenities
- Radiopharmacy (optional).

604137 480 .8.05 RECEPTION / ADMINISTRATION

Facilities will usually comprise:

- entry lobby (may be shared with adjacent unit such as Nuclear Medicine or Medical Imaging if units are collocated)
- ambulant patient / visitor waiting (may be shared with adjacent unit)

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- access to public toilets
- reception / enquiry desk
- administrative offices
- clerical work area for filing, photocopying and report writing.

604138 480 .8.10 PATIENT AMENITIES

The following patient amenities should be available specifically for PET patients:

- radiation-shielded access toilet/s and change cubicle/s
- beverage facilities
- small shielded discharge lounge / post scan waiting area.

604139 480 .8.15 PET/CT SUITE

The PET/CT Suite will consist of the following rooms / areas:

- individual pre-scan uptake rooms (refer Non-Standard Components) with one designed for anaesthesia
- PET/CT Scanning Room
- Control Room
- Hot Lab and radioactive waste store.

An equipment / plant room will be required for the following:

- uninterrupted power supply (UPS battery)
- water cooling units
- electronic cabinets and computer towers.

The Unit may need to be registered or accredited by the relevant authority.

604140 480 .8.20 HOT LAB / DISPENSARY AND RADIOACTIVE WASTE STORE

Unless single unit doses are supplied to the PET facility, a Hot Lab will be required where radiopharmaceuticals are drawn up or prepared ready for administration to the patient. A lead glass screen will act as a barrier behind which dispensing and calibration occur.

Radioactive waste holding may also be incorporated into or adjacent to this space.

Provide radiation shielding as advised by Radiation Safety consultants. The lab will need to be accredited by the relevant jurisdictional authorities.

Refer to Non-Standard Components for details.

604141 480 .8.25 RADIOPHARMACY LABORATORY

A Radiopharmacy Laboratory may be provided for the manufacturing of sterile pharmaceuticals to Therapeutic Goods Administration Standards (TGA).

Hospital radiopharmacies are exempt from TGA certification, provided the in-house kits are used within public hospitals and not supplied to private practices and interstate. Hospital radiopharmacists / radiochemists are exempt from licence if they conform to the above regulation.

Manufacturing of sterile pharmaceuticals as cold kits for supply to private

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practices or interstate to other nuclear medicine units requires full compliance with TGA for the premises and persons working there.

The Laboratory will comprise:

- general work area
- sterile Manufacturing Area incorporating a Clean Room for cell labelling and in-house manufacture (including a BSC Class 2/3)
- kit production area (Hot Lab)
- radioactive supplies store
- dose receiving (PET Return) room, if associated with a manufacturing facility.

Equipment will include a dose calibrator, biohazard safety cabinet(s) Class 2 and/or Class 3. Refer to AS/NZS 2982.1 (Stds Aust 1997).

Details of these laboratories are not covered in detail by this HPU but an approximate square metre area is given in the Schedule of Accommodation to facilitate early planning where such a laboratory is proposed.

604142 480 .8.30 CLINICAL SUPPORT AREAS

Provision of, or access to, the following clinical support areas may be required:

- optional small Staff Station - in addition to the Control Room
- Beverage Bay - light refreshment will be available for all PET and myocardial perfusion studies as these patients have been fasting for significant times
- Resuscitation Trolley Bay
- Dirty Utility Room - may be shared with adjoining unit
- Disposal Room - may be shared with adjoining unit
- Equipment Store
- Sterile Stock Store / Clean Utility Room.

604143 480 .8.35 VIEWING AND REPORTING

Provide a dedicated room for viewing and reporting on scans. In determining the size of this room, consider future trends in service delivery and the need to accommodate increasing levels of technology.

Each viewing workstation will require PACS capability, image display monitors, patient information access monitors and a PC at each workstation plus shelving for resource material.

The number of reporting stations will be dependent on service level, number of scanning rooms and the staff establishment.

Dimmable lighting is required and either no windows or windows with blinds for light control.

604144 480 .8.40 STAFF OFFICES AND AMENITIES

Depending on the size and location of the Unit and collocation with adjoining units, staff will need access to:

- staff room / beverage bay
- meeting rooms and library
- offices in accordance with staff establishment and teaching / research roles.
- toilets, showers and lockers.

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Refer to individual jurisdiction policies regarding office provision.

Functional Relationships

604145 480 .9.00 The source of most inpatients will be Oncology, Neurology and Cardiology Inpatient Units.

It is highly desirable that the PET suite has ready access from the Emergency Unit and the Cancer Centre.

Collocation with the main Nuclear Medicine Unit for sharing facilities is desirable but not essential.

Refer also to the Functional Relationship Diagram shown later in this HPU.

DESIGN

Access

604146 480 .10.00 EXTERNAL

There should be one point of access for outpatients and, where possible, a separate entry for beds / trolleys for inpatients, overseen by the Reception or a Staff Station.

Consideration needs to be given to access requirements for isotope deliveries and for vehicles delivering / removing equipment and providing maintenance.

604147 480 .10.05 INTERNAL

Patients should have ready access to water, refreshments, toilets and shower.

Parking

604148 480 .11.00 Patients and visitors will use the public parking facilities with access to drop-off areas and disabled parking. An identified parking area for vehicles delivering isotopes is required. This should be in close proximity to the Hot Lab. It is best to consider this issue during the schematic design phase of the project.

For staff parking, refer to Part C Section 790 for further information.

Disaster Planning

604149 480 .12.00 Each unit will have operational plans and policies detailing the response to a range of emergency situations both internal and external. Consider the ability to effect complete lock-down and issues such as the placement of emergency alarms, the need for uninterrupted or emergency power supply (UPS) to essential clinical equipment such as scanners, electronic sensor taps and services such as emergency lighting, telephones, duress alarm systems, servers and computers.

Arrangements for management of spills and radioactive exposure should be in place. An emergency shower with eye wash station should be readily accessible to staff, patients and the public in case of contamination.

Refer to Part B Section 80 for general information regarding other disaster

situations.

Infection Control

604150 480 .13.00 The infectious status of many patients admitted to the Unit may be unknown. All body fluids should be treated as potentially infectious and standard precautions should be taken in accordance with hospital policy.

Handbasins should be located in all clinical areas.

Refer to Part D Infection Prevention and Control for further information and to individual jurisdiction policies and guidelines.

Environmental Considerations

604151 480 .14.00 ACOUSTICS

Sound attenuation should be provided in the following areas:

- uptake rooms
- scanning rooms
- viewing / reporting room.

For further information also refer to Acoustic Requirements noted on Room Data Sheets.

604152 480 .14.05 NATURAL LIGHT

Natural light is desirable in all patient areas, the staff room, and controllable in reporting rooms. External windows provided in scanning and uptake rooms should be assessed by a Radiation Consultant for shielding requirements. In practice, it may be difficult to shield windows equal to wall shielding levels.

604153 480 .14.10 PRIVACY

Visual and acoustic privacy is required in all consultation, examination rooms and treatment spaces / scanning rooms.

Patients on beds / trolleys should not have to pass through public circulation space in order to access treatment areas.

If patients change in the uptake rooms, privacy from CCTV cameras will be required while getting changed.

Patients will also require privacy to discuss billing and private health-related concerns.

604154 480 .14.15 SIGNAGE

Provide visible warning signs at any general access point to a room where unsealed radioactive material is stored or used. Warning signs should comply with AS 1319-1994 (Std Aust 1994).

604155 480 .14.20 INTERIOR DECOR

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As far as possible without compromising clinical practice or safety, the environment should be calming, non-threatening and welcoming.

Treatment areas should have soft colours, paintings, etc to counteract, as much as possible, the isolation during treatment.

Consideration should be given to providing a decorative or interesting element to the ceiling for patient interest.

Space Standards and Components

604156 480 .15.00 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities.

Refer to Part C Section 730.

604157 480 .15.05 ERGONOMICS

Design the Unit so that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury and radiation exposure.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the occupational health and safety of staff as well as the welfare of patients.

Consider work practices in relation to manual handling of equipment with significant weight. Manual handling requirements may be reduced by appropriate local storage.

Refer to Part C Section 730 for further details.

604158 480 .15.10 ACCESS AND MOBILITY

Where applicable, comply with AS 1428 (Std Aust 2010).

Refer to Part C Section 730 for further details.

604159 480 .15.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C Section 710. Refer also to Room Data and Room Layout Sheets.

Doorways and turning circles should be sufficiently wide and high to permit the manoeuvring of wheelchairs, trolleys and equipment without risk of damage or manual handling risks, and to allow ingress / egress of equipment for installation or removal.

Provide the same level of shielding to vision panels in doors to treatment rooms and Hot Labs as to the adjoining walls.

Ensure that floors are able to support the weight of equipment and shielding, and that equipment is not located in vibration-prone areas.

Consider the need for shielding to floors or ceilings directly above, below or adjacent to the Unit.

Safety and Security

604160 480 .16.00 GENERAL

Safety and security involves people and policies as well as physical aspects but should be built in as part of overall design and not superimposed on a completed facility. A safety audit via a risk analysis of potential hazards should be undertaken during the design process.

Refer to Part C Section 790 and to Worksafe Victoria (2007).

604161 480 .16.05 OCCUPATIONAL HEALTH AND SAFETY

The handling of people and equipment is a significant issue in this Unit. As radiation exposure to staff can increase with time spent in close proximity to patients, it is important that the design facilitates efficient manual handling practices.

Consider work practices in relation to:

- manual handling of equipment for which significant weight is attached - bariatric patient beds etc
- manual handling of patients e.g. transfers from trolleys and exact positioning for scanning in narrow or confined spaces
- repair and maintenance of scanning equipment.

Manual handling requirements may be reduced by appropriate local storage locations and provision of space around equipment to allow transfers and use of manual handling equipment.

Refer to Part C Section 730 and to A Guide to Designing Workplaces for Safer Handling of People (Worksafe Victoria 2007).

604162 480 .16.10 SAFETY

Consider the impact of finishes, surfaces and fittings on safety. In particular, consider:

- slippery or wet floors
- protrusions or sharp edges
- stability and height of equipment or fittings
- adequate drainage facilities
- main drains which should be protected from potential contaminants
- adequate protection for workers against infection and any other hazards - particularly radiation exposure.

604163 480 .16.15 SECURITY

The security of radioisotopes and radioactive waste is of particular importance.

Refer to RPS 14.2 Section 10 - (ARPANSA 2008) and RPS11 - Security of Radioactive Sources, (ARPANSA 2007).

For general security, refer to individual jurisdiction policies and guidelines.

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Finishes

604164 480 .17.00 WALLS

Walls should be washable and easily decontaminated in the event of a radioactive spill.

Refer to Part C Section 710 for further information.

604165 480 .17.05 FLOOR FINISHES

Floor finishes and junctions should be impermeable and non-absorbent in case of radiation spills.

Refer to Part C Section 710 and also to TS7 (NSW Health & CHAA UNSW 2009).

604166 480 .17.10 CEILING FINISHES

Refer to Part C Section 710 for further information.

Fixtures, Fittings & Equipment

604167 480 .18.00 DEFINITIONS

Fixtures and Fittings are defined as follows:

Fixtures: Items that require service connection to walls, floor or ceilings (electrical, hydraulic, and mechanical) and include but are not limited to basins, light fittings, medical service panels.

Fittings: Items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

For additional detailed information refer to Part C Section 710, Part F Project Implementation Section 680, and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS).

Building Service Requirements

604168 480 .19.00 GENERAL

High cost engineering areas which should receive careful consideration include:

- lighting and the impact of deep planning on lighting requirements
- the number of sanitary fittings and the potential for reducing these by strategic location
- extent of the required emergency and uninterrupted power supply
- extent of provision of emergency doors
- the need for and the cost benefit / implications of a pneumatic transport system
- extent of provision of essential back-up systems e.g. dual generators, chillers, boilers and dual electrical circuits.

Refer to Part E Building Services and Environmental Design, TS-11 Engineering Services and Sustainable Development Guidelines (NSW Health 2007) and Health Facility Guidelines for Engineering Services 2006 (WA Health 2006).

604169 480 .19.05 CONSTRUCTION

In constructing the Unit address the following issues:

- ensure that new and existing floor structure and finishes are adequate to meet load requirements for equipment, shielding, patients, and personnel.
- ensure that walls contain necessary support systems for medical service panels.
- provision should be made for cable trays, ducts or conduits in floors, walls and ceilings as required for specialised equipment.
- the integrity of the shielding should not be compromised by ducts and penetrations.
- ceiling height in the scanning rooms should be a minimum of 3 metres.
- ceiling mounted equipment should have properly designed rigid support structures located above the finished ceiling.
- a tiled ceiling should be considered for ease of installation, service and remodelling.

Note 1: A PET/CT scanner weighs approximately 3 tonnes

Note 2: The wall for PET/CT with radiation shielding weighs approximately 9 tonnes.

604170 480 .19.10 ELECTRICAL SERVICES

A sufficient number of power outlets, both general and essential supply, including 3 phase outlets are required for current and anticipated future needs. Refer to TS11 Section 3 (NSW Health 2007), relevant Australian Standards and to jurisdiction specific engineering services guidelines.

An emergency back-up system for the power supply should be available for high priority equipment including cameras and server and for illumination.

Provide uninterrupted power supply (UPS) to the PET/CT scanner equipment and server according to the supplier's specifications.

All treatment rooms are to be body protected electrical areas.

All scanning rooms require dimmable down lighting with lighting not located directly above scanning beds.

604171 480 .19.15 HYDRAULIC SERVICES

Provisions for water cooling plant equipment will be required within easy access to scanning equipment modules.

When routing hydraulic services and air conditioning ducts in ceiling spaces, the space above PET cameras should be avoided as water leakage can cause significant damage.

The requirement for delayed holding tanks to patient toilets in the immediate post-uptake area will be dependent on the local water authority requirements and advice from the Radiation Safety Officer.

604172 480 .19.20 INFORMATION TECHNOLOGY AND COMMUNICATION SYSTEMS

The infrastructure for the following should be considered for the present and possible future expansion:

- wireless technology

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- voice / data systems
- video conferencing capacity
- duress call - fixed and personal (optional)
- CCTV monitoring systems of entry points (if considered necessary) and in the scanning and uptake rooms
- infrastructure for PACS, electronic records and imaging information management system
- server room
- patient / nurse and emergency call systems compatible with existing hospital systems.

Refer also to Part E Section 2 for additional information.

604173 480 .19.25 MECHANICAL SERVICES

For general requirements refer to TS-11 (NSW Health 2007) and the Western Australia Health Facility Guidelines for Engineering Services (WA Health 2006).

Refer to specific Special Requirements identified in the Standard and Non-Standard Components.

Special attention is required to cooling and ventilation of scanning rooms and associated computer equipment rooms as the equipment is sensitive to excessive ambient heat. Additional cooling and ventilation will be required.

Temperature control will be required for patient and staff comfort. The temperature of the Unit should be maintained within a comfortable range not exceeding 25°C.

604174 480 .19.30 MEDICAL GASES

Oxygen and suction will be required in all general uptake rooms. Provision of medical air is optional depending on patient acuity and operational policy.

Medical air, nitrous oxide and scavenging will also be required in the scanning room and induction / uptake room where general anaesthesia may be administered.

The PET scanner and cyclotron may use several different radioactive gases.

604175 480 .19.35 RADIATION SHIELDING

The principles of radiation safety and protection should be developed and integrated into the design and documentation of the Unit from the earliest stages and it is important that the design team are comprehensively briefed. A qualified radiation expert should be involved in the design.

Advice from Radiation Safety Officer should be sought for each project. Radiation shielding will be required to a number of areas within the PET Unit. These areas include but are not limited to the following:

- pre-scan uptake rooms and patient amenities
- PET/CT scanning room
- post-scan waiting areas
- Hot Lab / radiopharmacy lab.

Refer to RPS 14.2, Section 10.2 (ARPANSA 2008b).

Also refer to applicable State legislation, regulations and guidelines.

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In NSW, refer to the Draft Radiation Guidelines (NSW Department of Environment and Climate Change 2008).

COMPONENTS OF THE UNIT

Standard Components

604176 480 .20.00 Standard Components (SC) refer to rooms / spaces for which room data sheets, room layout sheets (drawings) and textual descriptions have been developed. Their availability is indicated by 'Y' in the Standard Component 'SC' column of the Schedule of Accommodation.

Standard Components are provided to assist with the development of a project. Their use is not mandatory and if used they can be edited to be project specific.

Refer to Part B Section 90 Standard Components for Room Data and Room Layout Sheets.

Non-Standard Components

604177 480 .21.00 The following Non-Standard Components are unit-specific.

- PET/CT Room
- Control Room
- Uptake Room
- Hot Laboratory.

604178 480 .21.03 PET/CT SCANNING ROOM

DESCRIPTION AND FUNCTION

The PET/CT Camera Room provides an enclosed area and equipment for non-invasive scanning procedures.

Patients are usually fully awake but may be sedated or occasionally under general anaesthesia.

604179 480 .21.05 LOCATION AND RELATIONSHIPS

Bed / trolley access will be required to the PET/CT scanning rooms and uptake rooms, especially the uptake room set up for general anaesthesia.

Direct adjacency to the Control Room is not essential provided that patients are fully monitored via closed circuit television.

Appropriate service links to the Equipment (PET) Plant Room and Control Room will be required according to manufacturer's specifications.

604180 480 .21.10 CONSIDERATIONS

The PET/CT scanning equipment has specialised requirements and installation will be according to manufacturer's recommendations based on model and size.

However, it should be noted that while the equipment manufacturer will provide a minimum spatial allowance, this space might not be adequate for all the complex operational requirements in a tertiary facility and needs to be

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further analysed for optimal functionality in the context of each project.

Weight loading of scanner and ancillary equipment may be 3-4 tonnes plus the weight of radiation shielding. Assessment of the adequacy of floor and other support structures will be required.

Room climate control or airconditioning is essential for equipment functioning. Negative air pressure is required relative to the surrounding areas.

CCTV cameras are required at the head and foot of the PET/CT scanner, with monitors in the Control Room positioned to enable visual observation of the patient at all times.

Wall mounted and/or other manual handling assistive devices such as hover mats, or bed tugs or pat slides will be required. The use of ceiling hoists can increase the time associated with transfers and thus radiation exposure. Mobile hoists may be of limited value where they cannot pass under the scanning equipment base.

Ancillary equipment includes water / air chillers and transformers located in the Equipment Plant Room.

A medical service panel is required offering:

- oxygen
- suction
- medical air
- nitrous oxide
- scavenging
- power outlets (x 6)
- nurse / emergency call system.

Additional room provisions include:

- radiation shielding as advised by consultants
- uninterrupted power supply to camera
- hands-free intercom to Control Room
- clock (visible to the patient)
- handbasin and associated dispensers
- work bench (standing height)
- shelving or louvre storage panels for small clinical supplies
- glare free, dimmable lighting that is not over the patient table
- laser lights for positioning if used for radiotherapy planning.

604181 480 .21.15 CONTROL ROOM

DESCRIPTION AND FUNCTION

The PET/CT Control Room provides facilities for operating the scanning process using scanner console and overview of images. It also allows observation of, and communication with, patients in scanning and uptake rooms via CCTV monitors and intercoms or similar speaker system.

LOCATION AND RELATIONSHIPS

The Control Room requires ready access to the scanning and uptake rooms. Direct observation is not essential if CCTV monitoring is provided.

CONSIDERATIONS

The following items are required:

- scanner control / console computer
- work bench

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- chair(s)
- CCTV viewing monitors
- remote ECG/EEG monitors
- screening monitors
- patient information computers.
- printers and telephone
- bookshelves
- dimmable lighting (may be required).

604182 480 .21.20 UPTAKE ROOM

DESCRIPTION AND FUNCTION

This is the room where patients are injected with the radiopharmaceutical and rest until uptake has occurred before transfer to the scanning room.

Patients (particularly patients undergoing neurological scans) need to be relaxed in a quiet dimmed environment to avoid inappropriate uptake. Uptake duration is typically 45 to 60 minutes. Scanning time varies between 10 and 25 minutes and patients may be sent home or back to the inpatient unit once scans are completed and have been checked.

LOCATION AND RELATIONSHIPS

The Uptake Room will require ready access to the Scanning Room and to a radiation shielded patient toilet.

CONSIDERATIONS

The following items are required:

- bed / trolley access
- radiation shielding as advised by consultants
- medical service panel including oxygen, suction, power, patient / nurse call
- emergency call
- dimmable lighting
- examination light
- handbasin
- optional mobile lead operator's screen
- ceiling-mounted closed circuit television camera (CCTV)
- intercom to Control Room (optional)
- patient trolley or recliner chair
- chair
- curtain track and screen around door.

604183 480 .21.25 UPTAKE / INDUCTION ROOM

In this room, patients may be anaesthetised or sedated. In most respects, this room is similar to the general uptake room. Additional room requirements include:

- minimum room size of 14m²
- direct access to scanning room
- patient monitor
- nitrous oxide, scavenging and medical air
- anaesthetic trolley
- benches and storage shelves / cupboards for supplies.

604184 480 .21.30 HOT LABORATORY

DESCRIPTION AND FUNCTION

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The Hot Laboratory (Hot Lab) will be used for receipt, delivery, storage and dispensing / preparation of radiopharmaceuticals.

Space and equipment is provided for dose calibration, computerised record keeping and quality control activities.

The room will include radioactive waste storage particularly for sharps.

LOCATION AND RELATIONSHIPS

It should be readily accessible to/from the uptake rooms.

Ready access is required from the Unit entry for delivery of FDG and other PET radiopharmaceuticals.

CONSIDERATIONS

Provide the following as required:

- radiation shielding as advised by staff / consultants.
- appropriate radioactive signage on access doors.
- sinks and basins with hands-free taps for handwash, decontamination and waste disposal.
- lead-shielded sharps bins and a bin for general radioactive waste that may be located under a bench in shielded cupboards.
- preparation benches incorporating stainless steel sink and lead shielded cover behind which actual preparation occurs.
- optional wall or ceiling-mounted hoist for lifting the transport containers from floor to bench.
- dose calibrator.

APPENDICES

Schedule of Accommodation

604185 480 .22.00 A Schedule of Accommodation follows for one PET/CT camera.

Y = Yes
SC = Standard Component
O = Optional
* = Minor variation to SC

604186 480 .22.05 PET/CT Suite

Note 1: Radiation shielded. Number of rooms based on assessment of workload. NB: one room requires GA capability.

ROOM / SPACE	SC	Qty x m2					Comments
WAITING / ENTRY	Y *	1 x 12					Entry lobby / public waiting, may be shared
TOILET - ACCESSIBLE	Y	1 x 5					May be shared, public
RECEPTION / CLERICAL	Y	1 x 10					1 staff; may be shared
OFFICE - 2 PERSON SHARED	Y	1 x 12					Administrative functions. Quantity dependant on staffing establishment
STORE - PHOTOCOPY / STATIONERY	Y	1 x 8					
PROPERTY BAY - STAFF	Y	1 x 2					

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CHANGE CUBICLE - ACCESSIBLE	Y	1 x 4					Pre and post-scan; radiation shielded
TOILET - ACCESSIBLE	Y	1 x 5					Radiation shielded, patient.
SHOWER - ACCESSIBLE	Y	1 x 4					For emergencies; radiation shielded
CONSULT ROOM	Y	1 x 12					May also have office function
UPTAKE ROOM		1 x 12					Refer Note 1 above
UPTAKE / INDUCTION ROOM		1 x 18					Radiation shielded
PATIENT BAY - HOLDING	Y	3 x 9					May be shared with adjoining unit
STAFF STATION	Y *	1 x 8 (o)					May be shared
BAY - BEVERAGE	Y	1 x 4					Include ice machine
BAY - WHEELCHAIR PARK	Y	1 x 4					Increase to 10m2 area if to accommodate transport staff, trolley, handbasin
BAY - LINEN	Y	1 x 2					
BAY - RESUSCITATION TROLLEY	Y *	1 x 1.5					
BAY - HANDWASHING - TYPE B	Y	1 x 1					In corridor
STORE - STERILE STOCK	Y	1 x 12					Assumes compactus
DIRTY UTILITY - SUB	Y	1 x 8					May be shared
DISCHARGE LOUNGE		1 x 8					Radiation shielded. Collocate with Beverage Bay
PET/CT SCANNER		1 x 50					Sized to suit the equipment selected.
CONTROL ROOM		1 x 16					May need to be radiation shielded
PET/CT PLANT / EQUIPMENT ROOM		1 x 18					Includes server etc. Air-conditioned
STORE - EQUIPMENT	Y	1 x 14					General items
HOT LABORATORY		1 x 18					
VIEWING AND REPORTING ROOM	Y *	1 x 18					3 workstations
OFFICE - SINGLE 12M2	Y	1 x 12					Staff Specialist / Unit Director
OFFICE - SINGLE 9M2	Y	2 x 9					Chief Technologist & Physicist
TOILET - STAFF	Y	1 x 3					Within envelope of Unit
CLEANER'S ROOM	Y	1 x 5					May be shared with adjoining unit
DISCOUNTED CIRCULATION %		32					

604187 480 .22.10 Staff Areas The following may be shared with an adjoining unit.

ROOM / SPACE	SC	Qty x m2					Comments
STAFF ROOM	Y	1 x 15					Includes Beverage Bay

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MEETING ROOM / LIBRARY		1 x 12					
TOILET - STAFF	Y	2 x 3					
SHOWER - STAFF	Y	1 x 3					

604188 480 .22.15 Cyclotron and Radiopharmacy

CYCLOTRON					80		Nominal size only
RADIOPHARMACY					150		Nominal only
STAFF & TECHNICAL SUPPORT					70		Nominal only

Functional Relationships Diagram/s

604189 480 .23.00 A diagram showing the functional relationships in the zones of the Positron Emission Tomography (PET) unit is attached.

Checklists

604190 480 .24.00 Refer to the Planning Checklists at the end of Parts A, B, C and D for general planning checklists.

References and Further Reading

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604193 480 .25.10 GUIDELINES

Department of Human Services Victoria 2004, Design Guidelines for Hospitals and Day Procedure Centres, Department of Human Services Victoria.

604194 480 .25.15 ARTICLES AND CONFERENCE PAPERS

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Lau, WF, et al. 2005, Clinical experience with the first combined positron emission tomography/computed tomography scanner in Australia, Medical Journal Australia, vol. 182, no. 4, pp. 172-6.

604195 480 .25.20 ORGANISATIONS

Australian and New Zealand Society of Nuclear Medicine (ANZSNM)
www.ANZSNM.org.au

Australian Nuclear Science and Technology Association (ANSTO)
www.ansto.gov.au

604196 480 .25.25 NSW POLICY DIRECTIVES

NSW Health 2005, PD2005_339: Protecting People & Property, NSW Health Policy/Guidelines for Security Risk Management in Health Facilities, NSW Health.

NSW Health 2005, PD2005_409: Workplace Health and Safety, Policy and Better Practice Guide, NSW Health.

NSW Health 2005, PD2005_576: Office Accommodation Policy, Public Health Organisations and Ambulance Service, NSW Health.

604197 480 .25.30 QUEENSLAND POLICY

Queensland Health 2008, Work Place and Office Accommodation Policy and Guidelines, Queensland Health.

604198 480 .25.35 SERVICE CAPABILITY

NSW Health 2002, Guide to the role delineation of health services, 3 edn, Statewide Services Development Branch, NSW Health.

NSW Health 2005, PD2005_602: Area Healthcare Service Plans, NSW Health Guide for Development, NSW Health.

Queensland Health 2005, Clinical Services Capability Framework, V 2.0, Queensland Health.

604199 480 .26.00 REFERENCES

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ARPANSA 2007, Radiation Protection Series 11: Code of Practice for the Security of Radioactive Sources, Australian Radiation Protection and Nuclear Safety Agency.

ARPANSA 2008a, Radiation Protection Series 14.1 - Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology. Australian

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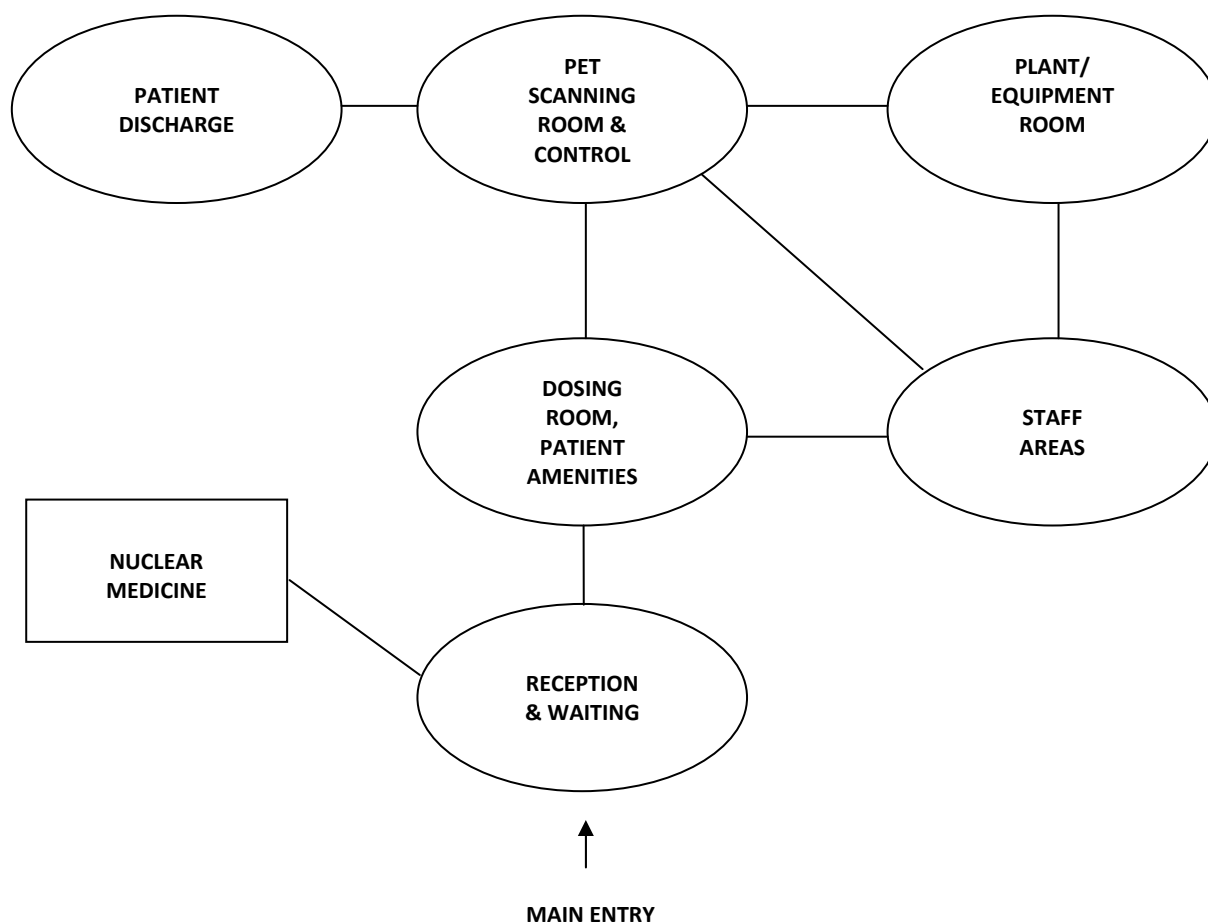
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WA Health 2006, Western Australia Health Facility Guidelines for Engineering Services, WA Health.

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FUNCTIONAL RELATIONSHIP DIAGRAM – POSITRON EMISSION TOMOGRAPHY (PET) UNIT

The following diagram illustrates the functional relationships between zones in a Positron Emission Tomography (PET) Unit.



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INTRODUCTION

Preamble

601551	490 .1.00	TERMINOLOGY - MORTUARY - MORGUE

The Public Health (Disposal of Bodies) Regulation 2000, defines a mortuary as follows: "... premises that are used, or intended to be used, for the preparation or storage of bodies as part of the arrangements for their burial or cremation, but does not include any premises (such as a hospital) in which bodies may be temporarily stored pending their transfer to a mortuary." The holding / storage facility is designated a "Morgue".

In order to comply with policy and legislation, the term "Morgue" has been adopted for this Health Planning Unit except where "mortuary" is used in a direct citation.

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Introduction

601552 490 .2.00

This document is a resource to assist project staff and client groups in the planning, design and construction of morgue and autopsy facilities in hospital settings.

As this document provides guidance on all levels of facilities, some aspects may not be appropriate to all hospitals e.g. a small hospital is unlikely to have an autopsy room unless in a rural / remote area with no alternative facilities and where it may act as the coronial morgue for a township. The provision of autopsy facilities must be therefore be justified and approved by the relevant authorities and in accordance with the agreed service plan for the region.

This Guideline should be read in conjunction with generic planning requirements and standard components described in Parts A, B, and C of these Guidelines.

Unit design, must, where appropriate meet all necessary criteria to reach accreditation standards with regards to design, equipment, safety and security.

Policy Framework

601553 490 .3.00

The following policies and guidelines provide a wide range of information on Morgue / Autopsy services and project staff are encouraged to familiarise themselves with the information contained therein.

NSW Health: Deceased Persons In Health Facility Mortuaries & Management of Health Facility Mortuaries; PD2007_017, February 2007.

NSW Health: Human Tissue - Use / Retention Including Organ Donation, Post-Mortem Examination and Coronial Mat (sic), PD2005_341, 27, January 2005.

NSW Health: GL2005_013, Guidelines for Investigation of a Stillbirth, January 2005.

NSW Government: Public Health Act 1991 and Public Health (Disposal of Bodies) Regulation, 2002.

Guidelines for the Facilities and Operation of Hospital and Forensic Mortuaries, National Pathology Accreditation Advisory Council, Commonwealth of Australia, 2004 (these Guidelines are under revision as at September 2007).

Multipurpose Services may refer to:
Bodies - Retention for Longer than Permitted in Public Health (Disposal of Bodies) Regulation 2002, NSW Health, GL2006_006, 15 May 2006.

Description of the Unit

601554 490 .4.00

DESCRIPTION OF HEALTH PLANNING UNIT (HPU)

The Morgue / Autopsy Health Planning Unit fulfils three main functions which, so far as possible, should be kept physically separate.

These functions are:

- the viewing and/or identification of a body;
- the temporary storage of bodies;
- investigations into the cause of death (autopsy) if an Autopsy Suite is included.

Depending on the level of the Autopsy Service, a fourth function may be the demonstration of post-mortem findings in cases of clinical interest.

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These functions must be able to be carried out simultaneously in safety and privacy within the overall accommodation.

The function of the Autopsy Suite must be determined i.e. hospital autopsies only or a coronial autopsy function.

It will need to be determined whether the Unit will be used to accept and hold bodies pronounced 'dead on arrival' (DOAs) at the hospital.

It is not intended that a funeral director use hospital facilities to prepare a body for interment. However, in remote rural areas where there is no local funeral director, the occasional use of hospital facilities may be approved where it would save the funeral director from a lengthy trip (exceeding 2 hours where the body could deteriorate due to increased temperatures). In such a case the hospital facilities must comply with the requirements of Schedule 2 of the Local Government (General) Regulation 2005 and the Public Health (Disposal of Bodies) Regulation 2000.

The number of cabinets / body storage positions must be justified and approved in line with the Service Plan. The gross death rate for the health facility, case mix of patients, population projections (in age groups) and autopsy rates for the next five to ten years will need to be considered when planning this unit. As a general rule, space for four bodies per hundred beds is workable, excluding isolation storage.

For the purposes of this Guideline, a nine capacity facility has been adopted plus autopsy facilities, and teaching needs for a tertiary hospital.

601555 490 .4.05 AUTOPSIES

Autopsies can be classified as "Hospital" or "Coronial".

The Hospital Autopsy is an examination performed with the consent of the deceased's relatives / next-of-kin for the purpose of:

- determining cause of death;
- providing correlation of clinical diagnosis and clinical symptoms;
- determining effectiveness of therapy;
- studying the natural course of disease processes;
- educating students, physicians and others.

This procedure is controlled by the NSW Human Tissue Act 1983 that controls post-mortem (after death) examinations, the use of human tissues for transplantation, and some aspects of deceased bodies being used for scientific, therapeutic and teaching purposes.

The Coronial Autopsy is an examination performed under the law (NSW Coroner's Act 1980) ordered by the State Coroner for the purpose of:

- determining the cause, manner or mode (mechanism) and time of death;
- recovering, identifying and preserving evidentiary material;
- providing interpretation and correlation of facts and circumstances relating to the death;
- providing a factual, objective medical report for law enforcement, prosecution and defense authorities;
- separating death due to disease from death due to external causes.

These deaths are known as "reportable deaths" and the death becomes a 'Coroner's Case'.

601556 490 .4.10 DESIGN CRITERIA

The design, layout and functionality of the unit should provide a safe and private environment to meet the needs of hospital staff, relatives of the

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deceased and attendant authorised persons.

The design must address the following:

- number of bodies to be stored;
- method of storage i.e. refrigerated cabinets, cool room, freezing capacity;
- isolation needs; if the morgue is used as a town's coronial mortuary accepting bodies from outside the hospital that may be in advanced stages of decomposition, complete isolation of the autopsy room and a body storage cabinet will be required to ensure containment of vermin, odour etc;
- management of and facilities for bariatric patients;
- separation of entries for families to view/identify bodies, delivery of bodies from inside the hospital and external delivery (if applicable) and collection by undertakers;
- the viewing and identification area should be located at a suitable distance from the Autopsy Room to avoid the possibility of visitors seeing or hearing an autopsy in progress;
- traffic flows / mobility of staff, specimens and equipment in the Autopsy Suite;
- safety; particular attention must be paid to chemical, biological, electrical and fire hazards, air contaminants and odor containment / removal.
- cost efficiency;
- fire egress;
- access for large items of equipment;
- infrastructure, present and future, for information technology.

601557 490 .4.15 FAMILY NEEDS

The design should allow relatives of the deceased to be able to view and/or identify the body with the least amount of trauma to the individuals.

Factors which can help alleviate distress include:

- a discrete entrance to the waiting / viewing area for relatives / police / others;
- the waiting and viewing area separated by a screened window and door to enable families to either observe from the Waiting Room or enter the Viewing Room and sit with the deceased;
- the viewing and waiting areas for relatives should be fitted out in an appropriately non-clinical fashion, with easy access to washroom facilities;
- in more remote areas where families may have traveled some distance, access to refreshments may be considered as may access to a small contained outdoor area, particularly for hospitals with a larger aboriginal population.

PLANNING

Operational Models

601558 490 .5.00 HOURS OF OPERATION

It is assumed that routine working hours will be eight hours per day, five days per week. Work times are assumed 8.00am-5.00pm.

The Morgue / Autopsy Unit will also be accessible to authorised personnel (hospital staff, police, undertakers etc) on a 24 hours per day, 7 days per week basis.

601559 490 .5.05 MODEL OF CARE - BODY HOLDING

There are two options:

- Walk-in Cool Room for individual trolleys;
- Bank of refrigerated cabinets.

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Where only a few bodies are expected to be stored, a bank of cabinets may be the most viable option.

Whichever option is selected, consideration should be given to the following:

- security of bodies;
- whole-of-life implications of the two options including capital and operating costs;
- flexibility for expansion in a disaster situation;
- isolation and bariatric needs;
- expected length of retention of bodies to determine if freezing capacity is required.

There are two types of morgue cold chambers:

- positive temperature 36/39°F (+2/+4°C) - this is the most common type, used for keeping the bodies a few days or weeks. Decomposition of the body continues at a reduced rate;
- negative temperature -5/-13°F (-15°C/-25°C) - this is used by forensic institutes for the storage of bodies that have not yet been identified. The body is completely frozen, halting decomposition.

Operational Policies

601560 490 .6.00

GENERAL

Operational Policies have a major impact on the design requirements and capital and recurrent costs of health facilities and must be established at the earliest stage possible. Refer to Part B Section 80 of these Guidelines for a list of general operational policies that may apply. Users must be guided by their own policies in their own health region / facility.

The following are examples of policies that may be specific to a Morgue / Autopsy Unit and this guideline has drawn extensively on policy excerpts from "Guidelines for the Facilities and Operation of Hospital and Forensic Mortuaries, National Pathology Accreditation Advisory Council, Commonwealth of Australia 2004. Details of the conduct of autopsies are described in detail in this Guideline.

601561 490 .6.05

AUTOPSY CONSENT

The process for obtaining agreement from next-of-kin for an autopsy to take place in non-coronial autopsies and the forms documenting this agreement must be in accordance with the National Code of Ethical Autopsy Practice. The medical officer who will perform the autopsy is responsible for checking that the relevant documents have been appropriately completed and signed prior to commencing the autopsy.

The morgue must have in place documented procedures for communicating information to next-of-kin regarding the autopsy.

A written record should be kept of any special requests made by family members.

601629 490 .6.10

BARIATRIC PATIENTS

Management of severely obese (bariatric) patients is becoming of increasing OHS concern across all areas of a health care facility including morgues with regard to:

- manual handling and associated equipment;
- body storage;
- transfer and transport;
- autopsy tables.

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Refer to NSW Health Guideline GL2005_070 - Occupational Health & Safety Issues Associated with Management of Bariatric (Severely Obese) Patients September 2005. Section 11.2 - When the Patient Dies.

601562 490 .6.15 BODY RECEPTION AND RELEASE

Bodies received into the morgue either from within the hospital or from outside must be appropriately registered and tagged.

Bodies may only be released from the morgue with the appropriate approval of hospital management and, unless a coronial case, issue of a death certificate in accordance with hospital policy.

Funeral directors will need some means of announcing their arrival, particularly if no morgue staff in attendance and will/may need access to the main hospital to collect death certificates.

At the time of transfer of a body to a funeral director, the funeral director should sign an acknowledgment that the body was received in an acceptable condition.

Funeral directors should have their access to the morgue shielded in such a manner as to prevent body transfer being seen by the public or hospital patients.

601563 490 .6.20 INFANTS AND CHILDREN

In general, infant and child deaths will be handled in the morgue in the same way as adults. Special requirements for infant viewing such as a bassinet should be available.

For information regarding stillbirths, refer to GL2005_013, Guidelines for Investigation of a Stillbirth, NSW Health, January 2005.

601564 490 .6.25 INFECTIOUS BODIES

Bodies to be stored in the morgue which are known to harbour or are suspected of harbouring infectious diseases must be contained both before and after autopsy within a body bag of approved construction which is durable and impermeable to body fluids.

601630 490 .6.30 INSTRUMENT CLEANING AND PROCESSING

Not all reusable instruments used in the Autopsy Room are required to be "sterile" and an instrument washer/disinfector will be adequate to process these instruments. Where sterility is required, they may be processed through the washer / disinfector prior to being sent to the Hospital's Sterile Supply Unit in accordance with that Unit's protocols.

601565 490 .6.35 ORGAN AND TISSUE RETENTION AND DISPOSAL

Organs and tissues for disposal following a hospital autopsy are classified as clinical waste and should be disposed of accordingly or in accordance with the wishes of the next-of-kin and in compliance with hospital policies and relevant statutory guidelines.

The retention and disposal of organs and tissues used for diagnosis,

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research or educational purposes must comply with all Australian Government, state or territory and institutional requirements governing such practices.

Records should be kept of organs and tissues retained for microscopic or other examination after completion of the autopsy.

601566 490 .6.40 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Before entering the Autopsy Room all staff should change into protective clothing.

Gowns, waterproof aprons and boots are minimal standards, and the use of masks, wrap-around eye protection and heavy duty gloves may be necessary. Facilities for cleaning reusable clothing and for storing such items, holding personal clothing, storage of clean protective clothing and disposal of used items will be required.

Also refer to Section 5.2 of Guidelines for the Facilities and Operation of Hospital and Forensic Mortuaries, Section 5.2 - Personnel Facilities.

601567 490 .6.45 VIEWING

A member of staff should be readily available throughout the viewing process to provide assistance or advice, if needed, but should not intrude into the privacy of the family unless they are responding to a request by the family.

601568 490 .6.50 WASTE DISPOSAL

Clinical waste must be bagged in clearly labelled biohazard bags in accordance with PD132_2005 and local waste management policies.

Formalin and other chemical waste should be dealt with in accordance with hospital guidelines and relevant legislation.

Soiled reusable autopsy clothing and other fabrics should be dealt with in accordance with hospital linen policy.

Refer to: PD132_2005 - Waste Management Guidelines for Health Care Facilities, August 1998 http://www.health.nsw.gov.au/public-health/ehb/general/waste/guide_clinical_waste.pdf

601569 490 .6.55 STAFFING ASSUMPTIONS

The Operational Policy assumptions for staffing made in this guideline are:

- management of autopsy facilities will be the responsibility of the Hospital's Pathology Unit;
- the Unit itself will be under the 'day to day' supervision of a morgue attendant;
- staff levels will depend upon and be affected by the facilities operational policies, style or specialty of the unit, performance and number of autopsies.

Any of these factors can affect the type or quantity of accommodation required.

601570 490 .6.60 LEVELS AND STYLES OF STAFFING

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The staff working in or visiting the Morgue Unit may include:

- part time or full time morgue attendant;
- pathologist/s;
- porter / wardsperson / transport person;
- medical and nursing students;
- cleaning staff;
- ambulance officers;
- undertakers;
- relatives, for viewing and identification purposes;
- police officers regarding coronial enquiries.

Planning Models

601571 490 .7.00

LOCATION OF A MORGUE / AUTOPSY UNIT

The morgue is an important part of the hospital, with particular needs for security and privacy.

It is desirable that the Unit be in the same building as the main health facility so that there is no need for external traffic weather protection.

It should not be located too close to any public area of the hospital to avoid distress to passers-by, and it should not be visible from inpatient areas.

The Unit should be located at ground level to allow easy and discrete access for ambulances, police and undertaker's vehicles to deliver and/or remove bodies via an exit lobby.

Functional Areas

601572 490 .8.00

FUNCTIONAL ZONES

The morgue may be divided into the following functional zones:

- Entry Lobby / Administration / Exit Lobby;
- Body Holding;
- Waiting / Viewing;
- Autopsy Suite (where provided);
- Staff Areas.

601573 490 .8.05

ENTRY LOBBY / ADMINISTRATION / EXIT LOBBY

The Entry and Exit Lobbies form part of a single space with direct access to the Body Holding Area whether cabinets or cool room. The area should include a handbasin and a workstation for body registration and removal details, parking space for the transport trolley and parking space for a hoist / elevating trolley if a bank of cabinets is the storage method of choice.

601574 490 .8.10

BODY HOLDING ROOM

The Body Holding Area provides refrigerated space for the temporary storage of bodies. There should be separate spaces / cabinets allowed for isolation and consideration will need to be given to storage and handling of a bariatric (obese) body.

Manoeuvring space will be needed in front of refrigerated cabinets to insert/withdraw the trays and 3 square metres is required for a body on a loose tray or trolley in a cool room.

The need for manual lifting of bodies in and out of refrigerated cabinets

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should be minimised by the provision of suitable body hoists and/or elevating trolleys.

601575 490 .8.15 WAITING / VIEWING

A discrete entrance from the main hospital to the Waiting area for relatives, police and others is required with direct access to / visibility into an adjoining Viewing Room. There should be no access to other sections of the Morgue / Autopsy Unit for viewers.

An accessible toilet for people with disabilities should be available.

601576 490 .8.20 AUTOPSY SUITE

Comprises the Autopsy Room, change room, clean-up room, waste holding and student viewing if provided.

Specific details can be found in Section 490.21.00 - Non-Standard Components.

601577 490 .8.25 STORAGE

Adequate storage space is necessary to ensure that the morgue is uncluttered and has clearly identified separation of clean and dirty areas.

Dedicated areas are required for the following:

General

- lockable store for the deceased's personal effects;
- clean linen;
- cleaning materials and agents;
- used linen awaiting collection;
- plastic body bags and sealing machine.

Autopsy

- rubber boots and aprons;
- supplies of visors, chain mail gloves, long veterinary gloves;
- clean specimen jars;
- packs of clean instruments;
- waste stored in approved containers awaiting safe disposal;
- specimen jars awaiting collection.

601578 490 .8.30 STAFF AREAS

Depending on the size of the Unit, staff areas may comprise of office, work stations, meeting / teaching rooms and amenities.

Office accommodation will be required for use by the pathologist and police for writing up post mortem / autopsy reports and for confidential telephone calls.

Facilities for staff refreshments will generally not be provided in the unit unless the Unit is large enough to justify its own Staff Room.

Toilet/s, shower and change areas will be provided for the Autopsy Suite.

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Functional Relationships

601579 490 .9.00

EXTERNAL

Anatomical Pathology laboratories and relevant clinical areas for transportation of laboratory specimens and deceased persons.

601580 490 .9.05

INTERNAL

Waiting Room and Viewing Room collocated.

Entry Lobby, Exit Lobby and Administrative Area part of a single functional area.

The autopsy areas will be accessed via the change room and exited via a clean-up room / hose-down area.

DESIGN

Accessibility

601581 490 .10.00

EXTERNAL

Separate access is required for the following:

- direct access from the Hospital for delivery of the body;
- direct but separate and discreet access for relatives of the deceased from all relevant areas of the hospital to morgue waiting / viewing area;
- adequate access for funeral directors for vehicle parking and discrete, weather protected, facilities for the collection of bodies;
- adequate access for ambulances delivering bodies "dead on arrival" if required;
- adequate access for police vehicles.

In addition, a dedicated external access to the Autopsy Suite via change rooms may be considered as may dedicated access into the Autopsy / Viewing Area if provided.

Access for people with disabilities will be required to the Waiting and Viewing Areas.

601582 490 .10.05

INTERNAL

Body holding room with direct access to/from:

- hospital corridor for use by morgue attendants, transport orderlies etc;
- Autopsy Room;
- Viewing Room;
- discreet access from body hold / cool room to hearse and ambulance parking bays. These bays will be undercover and at ground level.

Access for staff to the Autopsy Suite e.g. pathologist, attendants and technicians, needs to resemble that of an operating room with the transit zone between Autopsy Room providing change, toilet and shower facilities, and a strict demarcation area between "clean" and working areas. There should be no unauthorised access at any time because of risks of exposure to infection.

Parking

601583 490 .11.00

Adequate parking for funeral director vehicles, police and ambulance vehicles should be provided, giving easy access for trolleys.

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For staff parking, refer to Part C Clause 790 of these Guidelines for further information.

Disaster Planning

601584 490 .12.00 Consideration may be given to the use of an "open plan" cool room for body trolleys. This could provide more flexibility for additional bodies in a disaster situation.

Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

601585 490 .13.00 Bodies to be stored in the morgue and which are known to harbour or are suspected of harbouring infectious diseases must be contained both before and after autopsy within a body bag of approved construction which is durable and impermeable to body fluids.

Autopsies presenting possible or known high risk hazards should only be performed in institutions with the appropriate facilities.

A small wash-down / disposal / booting area between the clean change area and the autopsy area may be provided to prevent the spread of contaminated fluids from one area to another on the floor. A grill with a hand held shower on the outside of the autopsy room in a clean-up area may be provided.

Cleaned instruments and materials used in the morgue may be re-circulated through the usual channels to the Central Sterilizing Unit or autoclaved within the Morgue Unit.

It is essential that the unit design contributes to the control of infection by way of the following:

- an appropriate overall layout to minimise cross contamination in work areas;
- efficient work flow design and detailing;
- suitable materials and finishes;
- adequate number and location of hand wash facilities;
- appropriate cleaning, waste storage and waste disposal;
- effective specimen storage facilities;
- first aid facilities (Refer NATA/RCPA. Requirements for registration: medical testing);
- provision of effective extraction apparatus to areas such as specimen storage temporary holding and disposal systems;
- appropriate isolation of space and ventilation systems which present potential hazard (Refer AS 2982).

Refer to Part D of these Guidelines - Infection Prevention and Control for further information and in NSW to PD2007_036 - Infection Control Policy.

601586 490 .13.05 CLEANING

Particular consideration needs to be given to the cleaning policies of the Autopsy Room that has unique requirements for hosing down the work slabs and floors following an autopsy, including procedures for disinfection and the cleaning of instruments and equipment.

Layouts, fittings, furnishings, floor coverings and detailing can have a significant impact on the ease of cleaning and maintenance.

Luminaires will need physical cleaning and possible disinfecting to prevent the spread of microbes. The external surfaces of lighting should be smooth

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and free from apertures and crevices which are difficult to clean.

Environmental Considerations

601587 490 .14.00 GENERAL

The staff will need to be provided with sufficient space, working surfaces and appropriate equipment to safely carry out their duties.

601588 490 .14.05 ACOUSTICS

The only expected problems with acoustics in the Morgue Unit are those which could cause any offence to relatives while viewing the body. Casual conversations in adjoining rooms could be unacceptable.

601589 490 .14.10 INTERIOR DESIGN

The interior design considerations of the Unit will be determined largely by the strict regulations regarding:

- the control of infection;
- the needs for cooling and ventilation.

The needs of a comfortable environment in which to work for the pathologists and attendants and a serene environment required by the bereaved must be considered.

Space Standards and Components

601591 490 .15.00 HUMAN ENGINEERING

Human Engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all persons using the building.

As the requirements of Occupational Health and Safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in these Guidelines in addition to OHS related guidelines.

601590 490 .15.05 ERGONOMICS

Morgues should be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff as well as the welfare of patients.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

601592 490 .15.10 ACCESS AND MOBILITY

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Where necessary, design must comply with AS 1428 - Design for Access and Mobility.

Refer to Part C Section 730 of these Guidelines for details.

601593 490 .15.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines - Section 710 - Space Standards and Dimensions.

Doorways must be sufficiently wide and high to permit the manoeuvring of wheelchairs, trolleys and equipment without risk of damage or manual handling risks.

Safety and Security

601594 490 .16.00 SAFETY

Consider the impact of finishes, surfaces and fittings on safety. In particular, consider:

- choice of floor covering;
- slippery or wet floors;
- adequate drainage facilities protected from potential contaminants;
- protrusions or sharp edges;
- stability and height of equipment or fittings;
- adequate protection for workers against infection and any other hazards;
- fittings which should be well above floor level and/or waterproof.

601631 490 .16.05 MANUAL HANDLING

It is essential that the size and configuration of and equipment in the morgue must be such as to allow room for maneuvering trolleys and safe body handling.

Refer to: Manual Handling Incidents - NSW Public Health Services - Policy/Best Practice Guidelines Prevention. PD2005_224, 27-Jan-2005.

601595 490 .16.10 STANDARD AND CODES

Refer to:

Australian Standard 2243 - Safety in Laboratories;
Australian Standard 1940 - The storage and handling of flammable and combustible liquids;
"Storage and Handling of Dangerous Goods", No 1354, Workcover NSW, 2005.

601596 490 .16.15 SECURITY

Security may be defined as "...the protection of a person from violence, threats and/or intentional harm; the protection of information from unauthorised disclosure and the protection of property from intended damage and theft".

Specifically in a Morgue Unit security issues to be addressed include:

- deceased bodies;
- valuables left on the body e.g. wedding ring;

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- specimens removed during autopsy (for toxicology, microscopy etc);
- staff security;
- staff assets;
- premises and equipment;
- access and egress, particularly how staff arrive at and leave from the Morgue Unit at night and after hours.

The body store should be accessible to authorised persons only and must be lockable if not located within a secure area. The use of intercoms and monitors should be considered.

In NSW, refer to PD2005_339 - "Protecting People and Property: NSW Health Policy and Guidelines for Security Risk Management in Health Facilities", January 2001 (updated 2005).
http://www.health.nsw.gov.au/audit/manuals/protecting_people_property.pdf

601597 490 .16.20 BODY IDENTIFICATION

Bodies to be stored in the morgue should have, securely affixed to the body, some form of indelible label which records the full name of the deceased and at least one other identifier (date of birth, unit record number) which enables identification of the deceased with certainty. Secure identification information should also be fixed to the exterior of the body bag or shroud enclosing the deceased.

If the body is temporarily removed from a body bag or shroud, such as during autopsy, extreme care must be taken to match the body label with the label on the body bag or shroud before restoring the body to its covering.

Bodies' receipt and despatch will be recorded.

Finishes

601598 490 .17.00 CEILING FINISHES

Ceilings must be washable, impermeable and non porous.

Refer to Part C Section 710 of these Guidelines.

601599 490 .17.05 FLOOR FINISHES

Non-slip flooring is essential for all wet areas.

The floor surface should be impervious, easy to clean, sealed with coving at the edges and have adequate drainage. Floors should have drains with appropriately filtered traps which should allow for the entire unit to be hosed down when necessary, and the floor should be able to withstand copious amounts of water and drain it away quickly.

Carpeting will be appropriate only in the Viewing and Waiting Rooms and staff areas.

Refer to Part C Section 710 of these Guidelines.

601600 490 .17.10 WALL PROTECTION

The wall surfaces in the autopsy and body holding areas should be washable and/or scrubbable.

Pressurised water sprays should not be used in the Autopsy Room because

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of the dangers of aerosol contamination, but as most surfaces are frequently hosed down it is important that all surfaces are impervious to water and stains.

Refer to Part C Section 710 of these Guidelines.

Fixtures, Fittings & Equipment

601601 490 .18.00 DEFINITIONS

Within the context of the Health Facility Guidelines and the Room Data and Room Layout Sheets in the associated Health Facility Briefing System (HFBS), Fixtures and Fittings can be described as follows:

Fixtures: Refers to fixed items that require service connection (eg electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc. Not to be confused with "Serviced Equipment" such as theatre pendants etc.

Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Also refer to Part C, Section 710 of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

601602 490 .18.05 EQUIPMENT - GENERAL

All items of equipment will need to be itemised and larger items measured during the design phase to ensure the following:

- it can be suitably housed to provide for its operation and maintenance;
- equipment requiring services such as water and special power must be duly noted and passed to project engineers;
- doors are sized to allow passage of equipment;
- heat loads are estimated and catered for;
- weight loads are estimated and checked structurally.

Adequate space for maintenance of major equipment must also be considered.

Refer to part C of these Guidelines for further detailed information.

The autopsy table may be a fixed or mobile unit. Some units use the same storage trolley used in the body hold area others use affixed air extraction table complete with drains, spray hose and air hose. This is an important question to be asked as the mobile unit needs to slide into the sinks and cutting and examination areas behind the head of the body.

601603 490 .18.10 LABORATORY FURNITURE

Refer to AS/NZS 2982.1 - Under revision 2006.

601604 490 .18.15 SAFETY SHOWERS AND EYE WASHES

Safety shower and eye wash or eye / face wash equipment must be readily accessible and should be supplied with potable water.

Refer AS/NZS 2982.1 for details regarding location etc.

Eye wash equipment should permit a constant flow of water without requiring

one hand to open the tap / valve.

Building Service Requirements

601606 490 .19.00 GENERAL

High cost engineering areas which should receive careful consideration by design teams include:

- lighting and the impact of deep planning on lighting requirements;
- the number of sanitary fittings and the potential for reducing these by strategic location;
- extent of the required emergency power system;
- extent of provision of emergency doors;
- the need for and the cost benefit/implications of pneumatic transport systems for specimen transport;
- extent of provision of essential back-up systems (eg dual generators, chillers, boilers and dual electrical circuits).

In addition to topics addressed below, project staff may also refer to:

- Part E of these Guidelines - Building Services and Environmental Design and
- TS11 - Engineering Services and Sustainable Development Guidelines.

601607 490 .19.05 AIR-CONDITIONING, HEATING AND VENTILATION - GENERAL

To maintain a high level of staff concentration and to minimise the possibility of accidents, the temperature of the autopsy room should be maintained within a comfortable range not exceeding 20-21°C.

The ventilation system for the morgue should be designed to minimise the spread of odours and airborne pathogens by being isolated from other ventilation systems where possible.

601608 490 .19.10 AIR-CONDITIONING, HEATING AND VENTILATION - AUTOPSY ROOM

Ventilation and air conditioning requirements can be complex for the Autopsy Room. Consideration should be given to progressive flow of air from edge of room, over the autopsy team, then over the body and scavenged at low level.

Ventilation should be mechanical and designed so that the flow of aerosols, infectious material and airborne contaminants is controlled.

Filters will only be necessary in special cases.

Exhaust air may never be re-circulated or combined with other ventilation.

Detail of requirement should be ascertained via discussion with the client and by reference to AS 2982 Laboratory Construction and Part E of these Guidelines.

601609 490 .19.15 ALARMS

The operating temperatures of all cooled and freezing facilities should be continuously monitored and fitted with alarms which are activated when the temperature exceeds a predetermined level.

The alarm should register in an area that is manned 24 hours per day.

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601610 490 .19.20 FIRE SAFETY

All flammable liquids should be stored in accordance with relevant authority.

601611 490 .19.25 HYDRAULIC SERVICES

A hot and cold water supply should be readily accessible in the morgue.

Backflow prevention or a physical discontinuity to the water supply in the Autopsy Room should be provided.

601612 490 .19.30 LIGHTING

Adequate lighting should be available in all areas and will need to be of various types dependent on the task.

Surfaces should be glare free particularly at the height eye level for those working on dissections.

The main lighting requirements in the Autopsy Suite are:

- sufficient shadow-free lighting for the critical examination and dissection of the body;
- sufficient light for the correct manipulation of the instruments;
- characteristics of clinical colour rendering;
- even distribution of luminance throughout the non-working areas;
- walls that do not show reflections particularly at eye-height of staff when working;
- all light fittings in the autopsy room should be splash and dust proof.

601613 490 .19.35 POWER SUPPLY

Power supply outlets must be protected from wetting by having protective covers. An emergency back-up system for the power supply should be available for refrigeration, high priority equipment and illumination.

601614 490 .19.40 TRADE WASTE

The trade waste plumbing and drainage system must be designed to meet the requirements of the relevant sewerage authority and the Health Department. Information of the quality of chemicals and body fluids to be used/discharged must be provided by the client to the hydraulics engineer.

Standard Components

601615 490 .20.00 Rooms / spaces are defined as “Standard” and “Non Standard” Components.

Standard Components (SC) refer to rooms/spaces that are common to a range of Health Planning Units (eg offices, Dirty Utility Room) and for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by “Y” in the SC column of the Schedule of Accommodation.

Refer to Part B, Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets
www.healthfacilityguidelines.com.au

Non-Standard Components are generally very unit-specific and are described below.

Non-Standard Components

601616 490 .21.00 RECEPTION, ENTRY AND EXIT LOBBIES

DESCRIPTION AND FUNCTION

Provides an area for the reception of the body on a trolley and an area for removal by funeral directors, police etc. A small clerical area will be provided with facilities for recording details of the body and receipt, recording and storage of any valuables that may be left on the body such as wedding rings, or of any personal effects in the case of a death on arrival.

LOCATION AND RELATIONSHIPS

Direct access from the Hospital corridor and from the external area for funeral directors etc.

Direct access into the Body Holding Area, whether cabinets or cool room.

CONSIDERATIONS

Secure storage for personal effects and valuables.

Space to park the trolley and manoeuvre it either into the cool room or cabinets.

Handbasin will be required.

601617 490 .21.05 WAITING AREA

DESCRIPTION AND FUNCTION

This room is for relatives, friends, police and pastoral care workers to await the viewing and/or identification of the body, for interviewing, counseling and preparing distressed family members for this traumatic event.

LOCATION AND RELATIONSHIPS

- direct but discrete and controlled access from the Hospital corridor;
- direct access into the Viewing Room.

CONSIDERATIONS

The Waiting Room should be non-threatening in appearance and it is important to prepare distraught relatives for the traumatic event of viewing

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the body. As viewers enter the room, some simple furniture, carpeting and attention to interior design is suggested. The skilful placing of a picture, flowers and soft lighting can do much to alleviate the trauma of such an experience for viewers.

The room should be fitted out in an appropriately non-clinical fashion suitable for all denominations with easy access to washroom facilities.

The observation window between Waiting and Viewing Room should be screened on both sides.

It would be desirable to have a window offering external views and natural light for the bereaved.

601618 490 .21.10 VIEWING ROOM

DESCRIPTION AND FUNCTION

A room where bodies can be viewed by relatives and close friends. It should be suitable for all religions and denominations, be simply and tastefully decorated and offer a comforting and non-clinical environment.

The body is placed in this room prior to the arrival of relatives for grieving and identification purposes. Family may enter this room and or view from the Waiting Room.

LOCATION AND RELATIONSHIPS

Direct access from the adjoining Waiting Area and from the Body Holding Area.

CONSIDERATIONS

Acoustic privacy from morgue conversations and traffic.

601619 490 .21.15 BODY HOLDING ROOM

DESCRIPTION AND FUNCTION

The Body Holding Room provides refrigerated space for the temporary storage of bodies. There should be separated spaces allowed for isolation and special consideration should be given to the transport and handling of bariatric (obese) patients.

Bodies may be awaiting collection by a funeral director, autopsy or identification by police and/or relatives.

Bodies are brought to the body holding room on trolleys from the hospital. The clerical area for recording name, age, sex and clinical area of the deceased is in or directly adjacent to this room so that no body is left unidentified at any time.

At times, valuables such as rings will be left on the body, and for this reason, there should be facilities to record the receipt of valuables at the clerical area.

Other activities include:

- temporary storage for morgue trolley;
- permanent storage for lifting trolley.

LOCATION AND RELATIONSHIPS

Direct access to/from Entry and Exit Lobbies and to/from the Viewing Room.

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CONSIDERATIONS

Where a bank of refrigerated cabinets is the storage method of choice, there should be at least 3 clear metres in front of the cabinets for the elevating trolley.

Hand washing facilities for personnel in or near the selected holding facility.

Soiled linen skip.

601620 490 .21.20 AUTOPSY VIEWING AREA

DESCRIPTION AND FUNCTION

Visitors to the unit will primarily be students. A separate observation gallery with its own entrance and physical separation from the autopsy room should enable procedures to be viewed without placing the audience at risk and without contaminating the autopsy.

LOCATION AND RELATIONSHIPS

- direct oversight of the Autopsy Room;
- direct access to a staff toilet (in case of physical reaction to the autopsy).

CONSIDERATIONS

An intercommunication system would be fitted for educational purposes.

601621 490 .21.25 AUTOPSY ROOM

DESCRIPTION AND FUNCTION

The Autopsy Room is for the post-mortem examination of bodies and scientific determination of the cause of death.

Organs are removed from the body, dissected, and specimens for morphologic, microbiological and chemical examination prepared for transfer to the Anatomical Pathology Laboratory.

It is an area with high risks of exposure to infectious substances, aerosols and chemicals used for cleaning and disinfection.

Dissection benches require facilities for weighing and measuring organs.

This guideline assumes the provision of one (1) autopsy table.

Activities include:

- cleaning of bodies before incisions are made and post examination;
- photography of gross findings;
- audiovisual facilities increasingly needed for educational reasons and to prevent the passage of unnecessary traffic into this room;
- VDU recording of some autopsies may be a future requirement;
- hosing down of tables, benches, walls and floors;
- power sawing of bone;
- observation of procedures by students for educational purposes behind glazed glass panel and/or raised observation area (optional). A voice-activated dictaphone will be required.

LOCATION AND RELATIONSHIPS

Ready and discreet access from the Body Holding Area via Change Rooms

CONSIDERATIONS

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The autopsy room should utilise only appropriate tables or trolleys. The provision of height-adjustable equipment is encouraged.

Working bays should be of sufficient size to allow staff to be able to work in an uncrowded space.

Instruments, containers and other items needed during the conduct of an autopsy should be readily accessible within each work bay.

Waste disposal facilities.

Backflow prevention or a physical discontinuity to the water supply should be provided.

Equipment and services include:

- water hoses attached to pedestal of autopsy table;
- large work-sink self flushing;
- electric clock;
- telephone/ Intercom outlet must be non-hand actuated;
- waterproof socket outlets for electric saw, portable suction, illuminator X-ray
- general purpose (2);
- body scales;
- scales for weighing individual organs (usually free-standing or bench-mounted);
- earth leakage protection;
- dictaphone;
- video camera (optional);
- hand basin.

601622 490 .21.30 CLEAN UP ROOM

DESCRIPTION AND FUNCTION

Functions and Activities include:

- cleaning and disinfection of instruments;
- storage of specimens before delivery to the Anatomical Pathology Laboratory;
- temporary storage of waste material and goods and soiled linen;
- secure storage of instruments used for dissection and post mortem examination of bodies;
- preparation of instrument trolleys;
- assembling of equipment items;
- removal of soiled gowns, boots etc;
- hand washing.

LOCATION AND RELATIONSHIPS

Direct access from the Autopsy Room.

CONSIDERATIONS

Soiled articles should be returned to this area. A self flushing cleaning sink should be provided in addition to a separate hand basin.

Mechanical extract ventilation needed.

A washer / disinfectant to clean instruments.

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APPENDICES

Schedule of Accommodation

601623 490 .22.00 MORGUE UNIT

A Schedule of Accommodation is attached for a Level 4 Unit assuming a 9 body hold store.

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
WAITING AREA	yes					1 x 10	5 persons
VIEWING ROOM						1 x 8	1 morgue trolley plus 2 persons
TOILET - ACCESS	yes					1 x 5	Optional for relatives unless available nearby
ENTRY LOBBY						1 x 7	
OFFICE: WORKSTATION	yes					1 x 5	Bench for administration duties plus lockable cupboard for valuables
BAY: MORGUE TROLLEY PARKING						1 x 3	
BAY: HANDWASH TYPE B	yes					1 x 1	
BAY: STORAGE 3M2	yes					1 x 3	General and linen
EXIT LOBBY	yes					1 x 7	
BODY HOLDING ROOM	yes					1 x 30	Assumes 9 body hold cabinet (3x3 tiers), hoist, access to cold room store for maintenance
PLANT ROOM						1 x 8	
TOILET: STAFF	yes					1 x 3	Unisex
CLEANERS ROOM	yes					1 x 5	
DISPOSAL ROOM	yes					1 x 8	Shared with Autopsy Suite

601624 490 .22.05 MORGUE UNIT - One-Room Autopsy Suite

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
AUTOPSY ROOM						1 x 30	Autopsy bench / trolley, dissection bench, storage for containers
BAY: X-RAY PARKING						1 x 2	Optional
STORE: FLAMMABLE LIQUIDS						1 x 1	Flammable cupboard
BAY: EMERGENCY SHOWER						1 x 1	
CLEAN UP ROOM						1 x 9	Includes sink, storage and small sterilizer
VIEWING AREA / AUTOPSY						1 x 10	Seating for 6-7 observers
CHANGE - STAFF (MALE/ FEMALE)						2 x 5	Male and female includes property locker (Full length lockers and hooks)
SHOWER: STAFF	yes					1 x 2	Unisex
TOILET: STAFF	yes					1 x 3	Unisex

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DISCOUNTED CIRCULATION %

20

601625 490 .22.10 Notes

1. Type of body storage will affect allocated space.
2. Number of autopsy rooms will also determine need for an office, size of change rooms etc.

Functional Relationships

601626 490 .23.00 Refer to RLS MOR-PL for a concept layout of a Morgue.

A diagram of key functional relationships is attached.

Checklists

601627 490 .24.00 Refer to the Planning Sections at the end of Parts A, B, C and D of the Australasian Guidelines for further information.

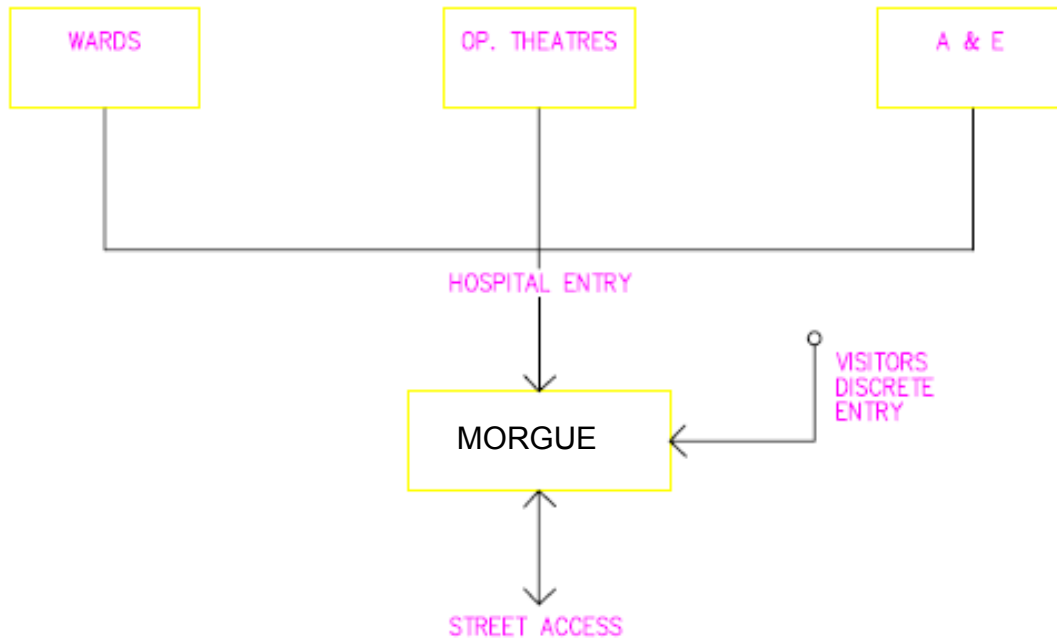
References and Further Reading

601628 490 .25.00 DS-17 Health Building Guideline - Mortuary/Post Mortem Unit, NSW Health, 1992.

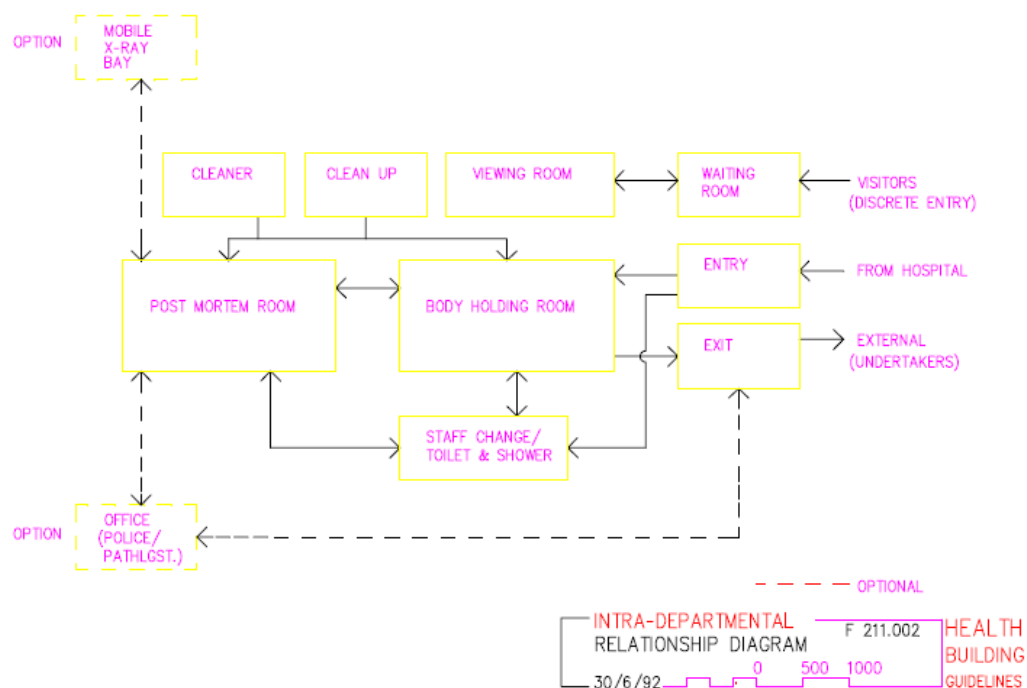
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FUNCTIONAL RELATIONSHIP DIAGRAM - HOSPITAL MORGUE / AUTOPSY UNIT

The following diagram sets out the relationships between zones in a Hospital Morgue / Autopsy Unit.



ADD PATHOLOGY



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INTRODUCTION

Preamble

604251	500 .1.00	PURPOSE OF GUIDELINE
		This Health Planning Unit (HPU) has been developed for use by project staff - architects, planners, engineers, project managers and other consultants, and for end users to facilitate the process of planning and designing a unit that will be fit for purpose in line with local service plans.
604252	500 .1.05	It should be read in conjunction with the Australasian Health Facility Guideline (AushFG) generic requirements and Standard Components described in:
		- Part A Introduction and Instructions for Use
		- Part B Section 80 - General Requirements

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- Part C Design for Access, Mobility, OHS and Security
- Part D Infection Prevention and Control
- Part E Building Services and Environmental Design.

604253 500 .1.10 It is strongly recommended that this HPU is read in conjunction with HPU 480 - Positron Emission Tomography (PET).

Introduction

604254 500 .2.00 DESCRIPTION OF NUCLEAR MEDICINE

Nuclear Medicine (including PET) is the specialty of medicine which employs unsealed sources of radioactive isotopes (radiopharmaceuticals or tracers) for diagnosis (85%) and therapy (15%). It has an impact on most areas of modern clinical medicine.

Nuclear medicine differs from most other imaging modalities in that:

- it has distinctive clinical and technical staffing, training and accreditation requirements
- the tests primarily show the physiological function of the system or organ being investigated as opposed to the anatomy as is the case with radiology.

However, nuclear medicine images can be superimposed on appropriately registered images from modalities such as computed tomography (CT) or magnetic resonance imaging (MRI) - image fusion - to further highlight in which part of the body the radiopharmaceutical is concentrated.

Nuclear medicine imaging works by administration of a radioactive substance or tracer to the patient that gives off energy as gamma rays or beta particles. In a normal organ, the radiopharmaceutical will have characteristic uptake, clearance or distribution. Organs not functioning normally will have variations on these characteristics and therefore indicate potential disease. The gamma camera detects the rays and with computer processing, images and measurements of organs and tissues are produced.

The tracer is usually administered intravenously but may be taken orally, inhaled or by other means such as eye drops.

The radiopharmaceutical used is determined by the part of the body under study, since some compounds collect in specific organs better than others.

604255 500 .2.05 DIAGNOSTIC PROCEDURES

Nuclear medicine scanning techniques may be used for, but are not limited to:

- analysis of kidney function
- imaging of blood flow and cardiac function
- scans of lungs for respiratory and blood-flow problems
- examination of brain function to determine signs of dementia, epilepsy and tumour
- staging of tumours at diagnosis and assessment of response to therapy and tumour viability
- early detection of metastatic disease
- measurement of thyroid function to detect an overactive or underactive thyroid
- evaluation of bones for fracture, infection, arthritis or tumour.

Therapeutic procedures include, but are not limited to:

- treatment for an overactive thyroid (hyperthyroidism) or thyroid tumours using radioactive Iodine-131 - also called Radioiodine-131
- palliative pain relief and palliation of metastatic bone pain using Strontium-89
- palliation and treatment of other tumours including liver and adrenal malignancies.

In therapeutic nuclear medicine, the radionuclides used often differ from those in diagnostic nuclear medicine in that they are usually beta emitters with longer physical and biological half-lives. Therapy radionuclides may require different facilities to radionuclides used for diagnostic procedures to ensure the safe preparation and administration of the radiopharmaceutical.

604257 500 .2.15 RADIOPHARMACY

Radiopharmacy deals largely with the preparation, compounding, quality control and dispensing of radiopharmaceuticals for human use - in vivo studies. Radioactive isotopes are attached to a pharmaceutical substance and used as radiopharmaceuticals in the diagnosis and treatment of many diseases.

Radiopharmaceuticals are prepared in a Radiopharmacy Laboratory. Only designated units will have an in-house laboratory where cold kits are prepared for in-house use and for supply to smaller Nuclear Medicine Units. Smaller units will be supplied with sterile pharmaceuticals to Therapeutic Goods Administration (TGA) standard as cold kits stored and dispensed in a laboratory specifically designed for the storage and supply of radiopharmaceuticals. This is called the Hot Laboratory.

The work is performed by radiochemists or nuclear medicine technologists and/or dedicated medical laboratory scientists. Many nuclear medicine units e.g. private practices may receive a daily delivery of the radiopharmaceutical already prepared and dispensed as individual patient doses. Other isotopes / radionuclides e.g. gallium, thallium are delivered weekly or monthly as required and come prepared for dispensing into individual doses.

604258 500 .2.20 TECHNETIUM

Technetium is a short-lived solution used for a wide range of organ scanning. It is the work horse of isotope production and is eluted from a technetium generator.

A range of cold kits is reconstituted with aliquots of the eluted 99mTc solution to form 99mTc-radiopharmaceuticals. Following quality control tests, the products are released for use as bone, renal, brain, myocardial, liver, spleen, blood flow and infection imaging agents.

It is common to have two generators at any one time as the expiry date for each is two weeks. The generators are placed in customised lead caves on a reinforced bench. Generators may be returned to the supplier on expiry, or may be stored on site for longer periods.

A weekly delivery will usually provide adequate technetium supply for most units.

604259 500 .2.25 SOURCE OF ISOTOPES & RADIOPHARMACEUTICALS

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All users obtain isotopes from a range of external sources both within Australia and overseas. Some units with a Radiopharmacy Laboratory prepare their own radiopharmaceuticals for administration.

604260 500 .2.30 HALF LIFE

Half-life is the time required for the radioactivity of the isotope to diminish by 50% of its original activity due to radioactive decay. This is different to biological half-life which is the time required to eliminate 50% of the original activity of the radiopharmaceutical from the target organ.

This is important with regard to timing of scans once the radioisotope has been administered to the patient and also for frequency of delivery of isotopes from external suppliers and in-house manufacturing.

The most commonly used isotope, Technetium-99m (99mTc), is delivered from a 99Mo/99mTc generator and eluted as required to create the appropriate radiopharmaceutical with a half-life of 6 hours.

Policy Framework

604261 500 .3.00 RADIATION PROTECTION

All issues relating to radiation protection and safety are subject to each jurisdiction's legislation with regard to Radiation Safety Acts and Regulations.

Codes of practice and guidelines relating to radiation and protection are available from the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) website www.arpansa.gov.au

In particular, project staff should familiarise themselves with RPS 14.2 Safety Guide for Radiation Protection in Nuclear Medicine (ARPANSA 2008b).

This safety guide is one of three guides that support the application of the Code of Practice for Radiation Protection in the Medical Application of Ionizing Radiation.

604262 500 .3.05 IONISING RADIATION SAFETY IN LABORATORIES

For safety requirements for laboratories and precautions needed to prevent the exposure of workers and members of the public to excessive levels of radiation where sources of ionising radiation are used, refer to AS 2243 (Stds Aust 1998a).

Description of the Unit

604263 500 .4.00 DESCRIPTION OF NUCLEAR MEDICINE HEALTH PLANNING UNIT (HPU)

Nuclear medicine services are usually provided in a dedicated unit or suite of rooms within a healthcare facility that may or may not include a Radiopharmacy Laboratory and may incorporate a PET/CT suite. The size of a unit in terms of numbers and type of cameras will be determined by the service plan and clinical needs.

Scanning equipment may comprise:

- single photon emission computed tomography (SPECT)
- dual head gamma cameras capable of SPECT

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- hybrid SPECT/CT cameras
- PET/CT if an integrated unit
- bone densitometry may be incorporated in some units and is therefore addressed in this HPU.

604264 500 .4.05 SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY (SPECT)

SPECT is a nuclear medicine tomographic imaging technique using gamma rays. It is very similar to conventional nuclear medicine planar imaging using a gamma camera. However, it is able to provide true 3D information. This information is typically presented as cross-sectional slices through the patient, but can be freely reformatted or manipulated as required.

To acquire SPECT images, the gamma camera is rotated around the patient. Projections are acquired at defined points during the rotation, typically every 3-6 degrees. In most cases, a full 360 degree rotation is used to obtain an optimal reconstruction. The time taken to obtain each projection is also variable, but 15-20 seconds is typical. This gives a total scan time of 15-20 minutes.

A SPECT camera may be combined with a computerised tomography (CT) unit to form a hybrid system and fusion imaging of the physiology and anatomy of the area/s being scanned. SPECT/CT requires a separate control room and radiation screening in accordance with CT requirements.

604265 500 .4.10 SCANNING PROCESS

Injections (doses / tracers) may be administered by injection, orally or by inhalation e.g. Technegas. Patients may be scanned during, immediately after, a few hours later, or even several days after administration of the tracer depending on the organs to be studied and the time required for full uptake.

Scanning times vary and may range from as little as 10 minutes for oesophageal transit studies to two hours for whole body scan studies. The general range is 20 to 45 minutes.

Patients may be scanned on the gamma camera table or on their own bed although the latter is rarely possible with SPECT and SPECT/CT cameras so scanning rooms should be able to accommodate transfer of patient from bed to table and space to park the bed.

Once the scan is complete, patients remain in the waiting room until the scans have been reviewed by medical staff to avoid unnecessary return for rescan.

Patients should not be discharged if it seems likely that:

- a sealed source of radiation is lost
- a spread of contamination may occur as a result of the excretion of an unsealed source
- the patient may vomit shortly after the oral administration of an unsealed source.

Refer to Radiation Protection Series 4 (ARPANSA 2002).

604266 500 .4.15 PATIENT CHARACTERISTICS

The Nuclear Medicine Unit requires facilities to accommodate a wide range of patients who may be:

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- all ages, levels of acuity and frailty. For paediatric studies refer to Operational Policies - Paediatric Studies
- ambulant and wheelchair-dependent outpatients - the predominant patient group
- inpatients including ventilated intensive care patients
- breathless or exercise intolerant patients.

PLANNING

Operational Models

604267 500 .5.00 HOURS OF OPERATION

The Nuclear Medicine Unit will usually operate during business hours with a possible requirement for emergency access afterhours, particularly in tertiary centres.

604268 500 .5.05 MODEL OF CARE

The model of care will depend on level of services provided as defined in the service plan and the presence or otherwise of PET as a sub-component of the Nuclear Medicine Unit.

In large centres, it will be a discrete unit. If there are only one or two gamma cameras, it may be a discrete sub-unit of Medical Imaging.

All units will have a Hot Laboratory - Hot Lab. Large centres may or may not have a Radiopharmacy Laboratory that will prepare its own radiopharmaceuticals for general use and may service other Nuclear Medicine Units in the area.

Bone densitometry may or may not be included and is described in this HPU.

604269 500 .5.10 FUTURE GROWTH

Service planning relies on population projections and advances in technology. In cases where it is expected that population growth will require enhanced service capacity within a five year period, the following issues need to be addressed with regard to future expansion of the Unit:

- expansion of the scanning rooms to allow for upgrades to the equipment which will require additional shielding, increased load bearing capabilities and services requirements.
- access for supply and installation of new equipment
- increased numbers of bariatric patients
- identification of expansion zones for increased staffing requirements to meet service demand and technological changes.

Operational Policies

604270 500 .6.00 GENERAL

Operational policies have a major impact on the design and the capital and recurrent costs of health facilities. Policies will vary from unit to unit depending on a wide range of factors but the cost implications of proposed policies should be fully evaluated to ensure the most cost-effective and efficient design solutions are developed.

The development of operational policies is crucial to defining how the unit will operate within the healthcare facility, the health service and adjoining

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health services from where patients may be referred. Users should define their own policies - refer to Part B Section 80 for further information. The following are policies specific to this HPU.

604271 500 .6.05 ANAESTHESIA

General anaesthesia (GA) or deep sedation is rarely needed except in units with a large paediatric component. However, at least one scanning room should be GA capable with direct access into the scanning room. Refer to the section on Paediatric Studies below.

Sedated/anaesthetised/unstable patients may proceed to a general recovery area after the examination is completed or may recover in the Unit.

604272 500 .6.10 BOOKINGS

Appointments are made in the Unit via a central booking system in order to coordinate supply of radiation substances. Due to the nature of some of the advice and instructions given to patients when booking the scanning procedure, access to an interview room or privacy booth will be required at reception for this purpose.

604273 500 .6.15 FILM / RECORDS STORAGE

Picture Archiving and Communication Systems (PACS) is assumed. Therefore a dark room is not necessary, but a server and print room will be required if the PACS system is hosted by Nuclear Medicine. A print room is required and should be large enough to include a CD robot, a multi-format printer and consumable media for these devices.

In the absence of a comprehensive electronic patient record system, storage space for paper copies of patient scan reports / consent forms and referral documentation will be required. All patient records, including paediatric records, should be maintained and retained according to relevant jurisdiction policies and procedures. For adults this may range from 7 to 15 years, and 21 years for children.

Consideration should be given to electronic records in the future including electronic ordering of scanning procedures.

604274 500 .6.20 MANAGEMENT OF MEDICAL EMERGENCIES

Management of medical emergencies will be in accordance with hospital policy.

A resuscitation trolley should be located in or very near the Stress Testing Room as this is the most likely place for cardiac arrest. In a very large unit, a second trolley may be required in or near the Patient Holding Area.

604275 500 .6.25 MANAGEMENT OF RADIOACTIVE SUBSTANCES SPILLS

All surfaces including floors, bench tops, walls and junctions should be impermeable and easy to clean.

An emergency shower and eye wash in the Radiopharmacy Laboratory and a separate shower for patients and staff will be required - located in close proximity to all areas of potential exposure.

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A decontamination kit should be stored in the Hot Lab or Radiopharmacy for quick access to contain and clean up radioactive spills.

604276 500 .6.30 PAEDIATRIC STUDIES

Carefully consider the needs of children treated in Units.

Sedation may be needed in children younger than four years of age for specific studies that take 30 to 45 minutes to complete or for which body motion may severely degrade the images. The sedation is usually oral, however may be intravenous, depending on the child's weight. Unless the child has been sedated, daily activities can be resumed after the nuclear medicine examination. Unless pregnant, a parent may stay with the child during the procedure. Refer to the radiology information resource for patients website www.radiologyinfo.org

Specific issues relating to children and adolescents may include:

- presence of parent / carer / nurse
- patient preparation including caloric intake and warming
- immobilization or when to use sedation or general anaesthesia.

604277 500 .6.35 PATIENT AMENITIES

The following patient amenities should be available and, where possible, should be positioned so that dosed patients do not have to cross undosed waiting areas or public corridors to access these areas:

- toilets including access toilet
- change cubicle/s and shower - for emergencies and post-stress testing hygiene.

604278 500 .6.40 PATIENT REFRESHMENTS

A beverage bay or drinking fountains should be provided for patient refreshments.

Many patients undergoing scanning procedures may be fasting pre-scan, may require a cup of coffee or tea to relieve headaches and nausea, or need to be provided with a fatty meal to precipitate gall bladder contraction. Provision of refreshments should be supervised by staff.

604279 500 .6.45 PATIENT WAITING

Ideally, waiting areas should allow separation of dosed and undosed patients, particularly for patients undergoing cardiac scans who may wait for 45 minutes for uptake.

It is preferable to separate dosed patients from people who accompanied them to the Unit which may include young adults, pregnant women and children.

Patients having a post-therapy I-131 scan should preferably be separated from patients having diagnostic scans.

Dosed patients should have access to drinking water and toilet facilities without having to go through general waiting areas.

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It is preferable to separate outpatients from inpatients as the latter need more privacy e.g. for bedpans, nursing care etc. Provide separate entrances.

Outpatients and their relatives need to be provided with explicit advice about the radiation safety requirements for themselves and others if they are required to wait several hours for uptake pre-scan. These patients should be encouraged to stay within the dosed patient waiting area, but if allowed to leave should be discouraged from spending any appreciable amount of time in enclosed public areas such as cafeterias. Inpatients may return to their respective wards.

Care should be taken if patients have to go to other areas for further tests.

604280 500 .6.50 PATIENT TRANSPORT

The model of care / service plan for the unit should define whether the Unit will have its own porter staff possibly shared with an adjoining unit or use a central transport department.

The decision may depend on the number of inpatient studies to be undertaken.

If required, facilities should comprise a small porter's base with handbasin, linen storage, portable oxygen cylinders and parking areas for trolleys and wheelchairs.

604281 500 .6.55 PROTECTIVE APPAREL

Depending on unit policies, staff may need to wear a protective lead apron. Refer to RPS 14.2 (ARPANSA 2008b).

Equipment bays holding the appropriate personnel protective apparel should be provided in close proximity to the scanning areas or located within the scanning rooms for ease of access and use.

604282 500 .6.60 RADIOACTIVE ISOTOPES - DELIVERY

Nuclear Medicine Units will receive sealed radioactive isotopes (delivered to a licensed person) and will be required to handle and store these as described within RPS 14.2, Section 10.4 on the Storage and Safe Handling of Sealed Radiation Sources (ARPANSA 2008b).

Technetium generators may only need to be delivered weekly, depending on requirements. There may be no guarantee delivery will occur during business hours so arrangements will have to be made for couriers to have access to a secure area in the Nuclear Medicine Unit. This can be directly into a small storage area opening off the main corridor or via the Unit into a nominated area such as the Hot Lab.

604283 500 .6.65 WASTE MANAGEMENT - GENERAL

There are several categories of waste but within the context of this HPU, and excluding radioactive waste covered separately below, waste will consist of:

- clinical waste - excluding sharps used for injection of radiopharmaceuticals
- recyclable waste - usually paper and bottles / cans
- general waste - any waste not included above and which is not capable of being recycled, reprocessed or re-used.

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Refer to individual health jurisdiction waste management policies.

604284 500 .6.70 RADIOACTIVE WASTE MANAGEMENT

Radioactive waste is material contaminated with radioactive substances and may be solid, liquid or gaseous.

An emergency shower and eye wash in the Radiopharmacy Laboratory and a separate shower for patients and staff will be required. A decontamination kit should be stored in the Hot Lab or Radiopharmacy for quick access to contain and clean up radioactive spills.

604285 500 .6.75 RADIOACTIVE WASTE DISPOSAL - LIQUID

A delay holding tank within the Unit for effluent from patient toilets, pan sanitisers and laboratory sinks is not required.

For further information regarding toilets associated with treatment of inpatients with radioactive iodine, refer to section below.

604286 500 .6.80 RADIOACTIVE WASTE DISPOSAL - SOLID

Solid radioactive waste includes all items / materials used in treatment and manufacture e.g. laboratory glassware, pipette tips, plastic vials and trays, paper tissues, used syringes, tools, etc. Such items are to be suitably bagged, labelled and segregated, and retained in a dedicated waste holding area until designated safe for routine disposal.

It is essential that items contaminated with iodine are stored in a shielded area for three months to allow for full decay and may then be disposed of in the usual manner e.g. linen, sharps, and clinical waste.

The Radioactive Waste Store may be in the Nuclear Medicine Unit or elsewhere on the campus and should be appropriately sited and shielded. It is preferable that the waste store is in the Nuclear Medicine Unit, so consider a room at the perimeter with dual and carefully controlled access. However, if not in the Unit itself, access should not compromise radiation safety principles e.g. appropriate shielding (ARPANSA 2008c).

604287 500 .6.85 RADIOACTIVE WASTE DISPOSAL - SHARPS

To reduce the risk of needle stick injury and radiation exposure of staff, needles, cannulae etc used for dispensing and dose administration should be disposed of into shielded sharps containers at the point of use. When the containers are full they should be held in the radiation waste storage area for disposal.

604288 500 .6.90 STORAGE

Provide different storage areas to cater for clinical and non-clinical supplies and equipment. These include:

- storage in the scanning rooms to reduce manual handling issues associated with movement of heavy or bulky articles such as collimators and scanning phantoms.
- equipment bays for mobile items such as portable TVs, wheelchairs, trolleys, lifters and ultrasound scanners.

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- equipment bay for Technegas unit and argon cylinder/s. The Technegas unit is bulky and sits on a trolley about 600x800mm which can be wheeled to bedside or camera for patient to inhale Tc99m. When not in use, it needs parking space alongside a large cylinder of argon gas.
- general storage for smaller equipment items
- storage for office supplies
- storage for sterile stock and medical consumables
- storage for cleaning supplies.

604289 500 .6.95 STAFFING

A staff establishment should be developed early in the planning process in order to assess the offices, workstations and amenities that will be required.

This HPU does not offer advice on staffing levels. However a Unit should be large enough to ensure that the safety, security and emergency responses of staff on duty are accommodated. Sizing of the Unit on this basis provides for improved operational cost effectiveness as well as compliance with security and OHS requirements.

604290 500 .6.96 The staff establishment may include:

- Medical Specialists qualified in Nuclear Medicine including radiologists, endocrinologists, cardiologists and paediatricians
- Nuclear Medicine registrars / residents supported by cleaners, orderlies
- Nuclear Medicine physicists
- Nuclear Medicine technologists / scientists
- Radiopharmacist/s
- Nursing staff
- Administration staff.

A Radiation Safety Officer should be appointed who may or may not be a Nuclear Medicine staff member.

604291 500 .6.97 TEACHING AND RESEARCH

The extent of teaching and research conducted in the Unit will need to be ascertained to ensure that necessary offices, laboratories, and staff and student amenities are provided.

All major teaching hospitals will undertake staff and student teaching, research and possibly prepare novel radiopharmaceuticals for clinical use.

Units undertaking clinical trials will need to carefully assess needs in excess of routine requirements both in terms of treatment rooms and staff facilities.

Dedicated infusion rooms may be required for patients requiring extended periods of observation.

Planning Models

604292 500 .7.00 LOCATION

The Unit should not act as a thoroughfare to other units of the healthcare facility.

The floor loading weight of both equipment and shielding should be taken into consideration when locating the Unit. A ground floor site may be the most suitable location but if this cannot be achieved, consider units above, below and adjoining the proposed location with regard to radiation shielding

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requirements, the weight of equipment and associated shielding and access for equipment and radioactive isotopes.

Care should be taken to ensure that the location of the Unit minimises access by persons such as lost visitors, wandering patients from other units or those with criminal intent.

604293 500 .7.05 CONFIGURATION

Configuration of the Unit is critical with regard to patient and staff flows. This should ensure that patients, staff and visitors are not exposed to unacceptable levels of radiation as a consequence of poor layout resulting in unnecessary traffic movement in front of, through or adjacent to areas occupied by dosed patients and scanning rooms.

Effective layout can also reduce the need for costly radiation shielding. Separate patient and staff corridor systems for the privacy of inpatients, and provide separate entries for the general public / outpatients and for patients on beds / trolleys. All patient corridors should accommodate passing and turning of wheelchairs and beds.

If provided, the Bone Density Room should be located near the entry to the Nuclear Medicine Unit to ensure patients do not unnecessarily cross areas of radioactivity. Consider separating the room from dosed patients by distance or shielding to avoid interference from high ambient radiation levels.

Functional Areas

604294 500 .8.00 FUNCTIONAL ZONES

The following rooms / spaces form the main functional zones of the Unit:

- Reception / Administration
- outpatient waiting
- patient holding, observation and recovery area
- treatment areas
- clinical support areas
- Hot Lab / Radioactive Waste Store
- staff offices and amenities
- teaching and research facilities in Tertiary Centres.

604295 500 .8.05 RECEPTION / ADMINISTRATION

Facilities will usually comprise:

- entry lobby and general public waiting
- reception / enquiry desk
- bookings office or alcove
- administrative offices
- clerical work area for filing, photocopying, and report typing.

Public toilets should be readily available but need not be inside the Unit.

If the Nuclear Medicine Unit is part of a Medical Imaging Unit, these facilities may be shared.

604296 500 .8.10 OUTPATIENT WAITING

The Outpatient Waiting Area usually comprises:

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- separate areas for dosed and undosed patients who may be ambulant or in wheelchairs
- access to toilets, shower and refreshments arranged so that dosed patients are not travelling across the undosed patient waiting area
- child play area, if required.

A separate small waiting area for patients having bone density studies may be appropriate / required or the general public waiting may be utilised.

604297 500 .8.15 PATIENT HOLDING, OBSERVATION AND RECOVERY AREA

An area will be required for holding of inpatients, and recovery and observation as necessary of both inpatients and outpatients. It usually comprises the following:

- dedicated inpatient entry - direct is desirable if this can be achieved
- curtained bed / trolley bays for holding, observation and recovery. The size of each bay and configuration of the overall space should permit both dosed and undosed patients to be held safely.
- a small staff base with handbasin
- ready access to Dirty Utility, Linen Trolley Bay, Sterile Stock Store
- resuscitation trolley - if only one, it is recommended it be parked in or near the Stress Testing Room.

604298 500 .8.20 TREATMENT AREAS

All the following rooms are accessed by patients and require radiation shielding as advised by consultants:

- Dosing / Consult Exam rooms - ideally adjacent to the dispensing Hot Lab
- Cardiac Stress Testing Room
- Scanning Room/s
- Bone Density Room if provided.

604299 500 .8.25 CLINICAL SUPPORT AREAS

Clinical support areas usually include the following areas. However, if collocated with a Medical Imaging Unit, some areas listed may be shared:

- viewing / reporting area
- dirty utility room
- disposal room
- equipment bays
- equipment and general stores
- sterile stock store or clean utility room
- print / server room.

604300 500 .8.30 VIEWING AND REPORTING AREA

Provide a dedicated room for viewing and reporting on scans. In determining the size of this room, consider future trends in service delivery and the need to accommodate increasing levels of technology.

Each viewing workstation will require PACS capability, image display monitors, patient information access monitors and a PC at each workstation plus shelving for resource material.

The number of reporting stations will be dependent on service level, number of scanning rooms and the staff establishment.

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Dimmable lighting is required and either no windows or windows with blinds for light control.

604301 500 .8.35 HOT LAB / DISPENSARY AND RADIOACTIVE WASTE STORE

In the Hot Lab radioactive radiopharmaceuticals are stored, drawn up and prepared ready for administration to the patient. A lead screen will act as a barrier behind which dispensing occurs.

Radioactive waste holding may also be incorporated into or adjacent to this space.

Refer to Non-Standard Components for details.

604302 500 .8.40 STAFF OFFICES AND AMENITIES

Depending on the size and location of the Unit and collocation with adjoining units, staff will need access to:

- staff room / beverage bay
- meeting rooms and library
- offices in accordance with staff establishment and teaching / research roles.
- toilets, showers and lockers.

Refer to individual jurisdiction policies regarding office provision.

604303 500 .8.45 RADIOACTIVE IODINE SEALED BEDROOM

Some patients who receive radioactive I-131 treatment will require inpatient management within a specially shielded inpatient single bed room. The physical location of the bed/s will be dependent on the operational policy and service requirements for the facility. These rooms are usually associated with tertiary services, recognising the role delineation / service capability profile of the facility.

Refer to the end of this HPU for specific requirements.

Functional Relationships

604304 500 .9.00 The source of most inpatients will be Cardiology and Oncology Wards and the Emergency Department but will depend on the clinical specialties of the individual healthcare facility.

Collocation with Medical Imaging has advantages and, if Nuclear Medicine is only a small unit, some facilities such as Reception and Staff Amenities may be shared.

The Unit may be collocated with the PET Suite where provided.

Access

604305 500 .10.00 EXTERNAL

Provide:

- easy, direct access for delivery of isotopes / cold kits both during and after business hours
- easy access to/from the inpatient units, outpatient units and staff facilities
- easy access for vehicles providing maintenance or delivery of large, heavy items.

604306 500 .10.05 INTERNAL

Patients should have ready access to water, refreshments, toilets and shower.

Parking

604307 500 .11.00 Patients and visitors will use the public parking facilities with access to drop-off areas and disabled parking. An identified parking area for vehicles delivering isotopes is required. This should be in close proximity to the Hot Lab. It is best to consider this issue during the schematic design phase of the project.

For staff parking, refer to Part C Section 790 for further information.

Disaster Planning

604308 500 .12.00 Each unit will have operational plans and policies detailing the response to a range of emergency situations both internal and external. Consider the ability to effect complete lock-down and issues such as the placement of emergency alarms, the need for uninterrupted or emergency power supply (UPS) to essential clinical equipment such as scanners, electronic sensor taps and services such as emergency lighting, telephones, duress alarm systems, servers and computers.

Arrangements for management of spills and radioactive exposure should be in place. An emergency shower with eyewash station should be readily accessible to staff, patients and the public in case of contamination.

Refer to Part B Section 80 for general information regarding other disaster situations.

Infection Control

604309 500 .13.00 The infectious status of many patients admitted to the Unit may be unknown. All body fluids should be treated as potentially infectious and standard precautions should be taken in accordance with hospital policy.

Handbasins should be located in all clinical areas.

Refer to Part D Infection Prevention and Control for further information and to individual jurisdiction policies and guidelines.

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Environmental Considerations

604310 500 .14.00 ACOUSTICS

Sound attenuation should be provided, but not limited to, the following areas:

- SPECT/CT scanning rooms (hybrid units may be noisy)
- viewing / reporting room
- consulting rooms
- toilets particularly if adjacent to offices.

For further information also refer to acoustic requirements noted on Room Data Sheets.

604311 500 .14.05 NATURAL LIGHT

Natural light is desirable in all patient areas, the staff room, and controllable in reporting rooms. External windows provided in scanning and uptake rooms should be assessed by a Radiation Consultant for shielding requirements. In practice, it may be difficult to shield windows equal to wall shielding levels.

604312 500 .14.10 PRIVACY

Visual and acoustic privacy is required in all consultation, examination rooms, and treatment spaces / scanning rooms.

Patients on beds / trolleys should not have to pass through public circulation space in order to access treatment areas.

Patients will also require privacy to discuss billing and private health related concerns.

604313 500 .14.15 SIGNAGE

Visible warning signs are to be provided at every entry to a room where unsealed radioactive material is stored or used. Warning signs should comply with AS 1319 (Stds Aust 1994).

Visible warning signs are also required to rooms with irradiating apparatus - bone densitometry and SPECT/CT systems.

604314 500 .14.20 INTERIOR DECOR

As far as possible without compromising clinical practice or safety, the environment should be calming, non-threatening and welcoming.

Treatment areas should have soft colours, paintings, etc to counteract, as much as possible, the isolation during treatment.

Consideration should be given to providing a decorative or interesting element to the ceiling for patient interest.

Space Standards and Components

604315 500 .15.00 HUMAN ENGINEERING

Human engineering covers those aspects of design that permit effective,

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appropriate, safe and dignified use by all people, including those with disabilities.

Refer to Part C Section 730.

604316 500 .15.05 ERGONOMICS

Design the Unit so that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury and radiation exposure.

Badly designed recurring elements, such as height, depth and design of workstations and counters, shelving and the layout of critical rooms, have a great impact on the occupational health and safety of staff as well as the welfare of patients.

Consider work practices in relation to manual handling of equipment with significant weight. Manual handling requirements may be reduced by appropriate local storage.

Refer to Part C Section 730 for further details.

604317 500 .15.10 ACCESS AND MOBILITY

Where applicable, comply with AS 1428 (Stds Aust 2010)

Refer to Part C Section 730 for further details.

604318 500 .15.15 BUILDING ELEMENTS

Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C Section 710. Refer also to Room Data and Room Layout Sheets.

Doorways and turning circles should be sufficiently wide and high to permit the manoeuvring of wheelchairs, trolleys and equipment without risk of damage or manual handling risks, and to allow ingress / egress of equipment for installation or removal.

Ensure that floors are able to support the weight of equipment, and shielding, and that equipment is not located in vibration prone areas.

Consider the need for shielding to floors or ceilings directly above, below or adjacent to the Unit.

Ensure that the allowances in some equipment specification manuals provide adequate space for complex transfers requirements such as patient from ICU bed to scanner. Refer to non standard components and the schedule of accommodation for guidance on appropriate room sizes for the scanning rooms.

604319 500 .15.20 DOORS AND DOORWAYS

Doorways should be sufficiently wide and high to permit movement of bariatric patients on large hospital beds, traction beds, wheelchairs, trolleys, equipment and accompanying staff escort without risk of damage or manual handling risks.

Sliding doors may be appropriate provided there is an area of wall of sufficient length.

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Provide the same level of shielding to vision panels in doors to treatment rooms and Hot Labs as to the adjoining walls.

Doorways to scanning rooms should be flush to the floor for ease of camera installation and movement of equipment such as collimator carts.

For details refer to Part C Section 710.

604320 500 .15.25 RADIATION SHIELDING

Advice should be sought for each project from the Radiation Safety officer. Radiation shielding will be required to a number of areas within the Unit.

These areas include but are not limited to the following:

- gamma camera rooms
- SPECT scanning room
- SPECT/CT scanning room
- dosed patient waiting area
- reception and other rooms adjacent to dosed patient areas.

Consider the need for shielding to floors or ceilings directly above or below treatment rooms or hybrid SPECT/CT rooms.

Safety and Security

604321 500 .16.00 GENERAL

Safety and security involves people and policies as well as physical aspects but should be built in as part of overall design and not superimposed on a completed facility. A safety audit via a risk analysis of potential hazards should be undertaken during the design process.

For details refer to Part C Section 790 and to Worksafe Victoria (2007).

604371 500 .16.02 OCCUPATIONAL HEALTH AND SAFETY

The handling of people and equipment is a significant issue in this Unit. As radiation exposure to staff can increase with time spent in close proximity to patients, it is important that the design facilitates efficient manual handling practices.

Consider work practices in relation to:

- manual handling of equipment for which significant weight is attached - bariatric patient beds etc
- manual handling of patients e.g. transfers from trolleys and exact positioning for scanning in narrow or confined spaces
- repair and maintenance of scanning equipment.

Manual handling requirements may be reduced by appropriate local storage locations and provision of space around equipment to allow transfers and use of manual handling equipment.

Refer to Part C Section 730 and to A Guide to Designing Workplaces for Safer Handling of People (Worksafe Victoria 2007).

604322 500 .16.05 SAFETY

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Consider the impact of finishes, surfaces and fittings on safety. In particular, consider:

- slippery or wet floors
- protrusions or sharp edges
- stability and height of equipment or fittings
- fittings which should be well above floor level and/or waterproof
- adequate protection for workers against infection and any other hazards - particularly radiation exposure
- manual handling of technetium generators. The generators weigh up to 20 kg and a hoist may be required to transfer from transport package to bench top and vice versa. The hoist should be capable of slow, accurate manipulation to avoid damage to the Mo99 column within the generator shield.

Refer to individual jurisdiction policies and guidelines.

604323 500 .16.10 RADIATION SAFETY

Refer to RPS 14.2 (ARPANSA 2008b).

604324 500 .16.15 SECURITY

The security of radioisotopes and radioactive waste is of particular importance. Refer to RPS 14.2 Section 10 - (ARPANSA 2008b) and RPS11 - Security of Radioactive Sources, (ARPANSA 2007).

For general security, refer to individual jurisdiction policies and guidelines.

Finishes

604325 500 .17.00 WALLS

Walls should be washable and easily decontaminated in the event of a radioactive spill.

Refer to Part C Section 710 for further information.

604326 500 .17.05 FLOOR FINISHES

Floor finishes and junctions should be impermeable and non-absorbent in case of radiation spills.

Refer to Part C Section 710 and also to TS-7 (NSW Health & CHAA UNSW 2009).

604327 500 .17.10 CEILING FINISHES

Refer to Part C Section 710 for further information.

Fixtures, Fittings & Equipment

604328 500 .18.00 DEFINITIONS - FIXTURES AND FITTINGS

Fixtures and Fittings are defined as follows:

Fixtures: Items that require service connection to walls, floor or ceilings

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(electrical, hydraulic, and mechanical) and include, but are not limited to, basins, light fittings, medical service panels.

Fittings: Items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

For additional detailed information refer to Part C Section 710, Part F Project Implementation Section 680, and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS).

Building Service Requirements

604329 500 .19.00 GENERAL

High cost engineering areas which should receive careful consideration by design teams include:

- lighting and the impact of deep planning on lighting requirements
- the number of sanitary fittings and the potential for reducing these by strategic location
- extent of the required emergency and uninterrupted power supply
- extent of provision of emergency doors
- the need for and the cost benefit / implications of a pneumatic transport system
- extent of provision of essential back-up systems (e.g. dual generators, chillers, boilers and dual electrical circuits).

Refer to Part E Building Services and Environmental Design, TS-11 Engineering Services and Sustainable Development Guidelines (NSW Health 2007) and Health Facility Guidelines for Engineering Services 2006 (WA Health 2006).

604330 500 .19.05 CONSTRUCTION

In constructing the Unit address the following issues:

- ensure that new and existing floor structure and finishes are adequate to meet load requirements for equipment, shielding, patients, and personnel
- ensure that walls contain the necessary support systems for medical service panels
- provision should be made for cable trays, ducts or conduits in floors, walls, and ceilings as required for specialised equipment
- the integrity of the shielding should not be compromised by ducts and penetrations
- ceiling height in the scanning rooms should be a minimum of 3 metres
- ceiling mounted equipment should have properly designed rigid support structures located above the finished ceiling
- a tiled ceiling should be considered for ease of installation, service and remodelling.

604331 500 .19.10 ELECTRICAL SERVICES

A sufficient number of power outlets, both general and essential supply, including three phase outlets, are required for current and anticipated future needs. Refer to TS-11 Section 3 (NSW Health 2007), relevant Australian Standards and to jurisdiction specific engineering services guidelines.

An emergency back-up system for the power supply should be available for high priority equipment and illumination.

Provide uninterrupted power supply (UPS) to cameras, acquisition

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workstations and servers to prevent data loss and/or damage during power surges or brown outs.

All treatment rooms are to be body protected electrical areas.

All scanning rooms require dimmable down lighting with lighting not located directly above scanning beds.

604332 500 .19.15 HYDRAULIC SERVICES

When routing hydraulic services and air conditioning ducts in ceiling spaces, avoid the space above gamma cameras as water leaks can cause significant damage.

The need for delayed holding tanks to patient toilets in the Unit will be dependent on the local water authority requirements and advice from the Radiation Safety Officer.

604333 500 .19.20 INFORMATION TECHNOLOGY AND COMMUNICATION SYSTEMS

The infrastructure for the following should be considered for the present and possible future expansion:

- wireless technology
- voice / data systems
- video conferencing capacity
- duress call - fixed and personal (optional)
- CCTV monitoring systems of entry points, if considered necessary and in the scanning and uptake rooms
- infrastructure for PACS, electronic records and imaging information management system
- server room
- patient / nurse and emergency call systems compatible with existing hospital systems.

Refer also to Part E Section 2 for additional information.

604334 500 .19.25 MECHANICAL SERVICES

For general requirements refer to TS-11 (NSW Health 2007) and the Western Australia Health Facility Guidelines for Engineering Services (WA Health 2006).

Refer to specific Special Requirements identified in the Standard and Non Standard Components and to those listed below.

Additional cooling and ventilation will be required to Scanning Rooms and associated computer equipment rooms as the equipment is sensitive to excessive ambient heat. Additional cooling capacity should be built in to allow for future growth and technological development of scanners. Some scanners may require chilled water for cooling.

Avoid large temperature changes in scanning rooms (>4°C/hour) because of the possibility of crystal fracture in gamma cameras.

General airconditioning needs to cool equipment but not blow over partially undressed patients.

To maintain a high level of staff concentration and to minimise the possibility of accidents, the temperature of the Unit should be maintained within a comfortable range not exceeding 25°C.

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Smoke detectors in treatment rooms should be sensitive to radiation i.e. Photoelectric. Carefully consider the location of these.

Additional air extraction may be required in the Camera Room/s where ventilation agents such as Technegas are administered in accordance with state regulatory requirements.

Hot lab and Technegas room air should not be recirculated but exhausted. Both rooms should be at a negative pressure to the rest of the Unit.

The Hot Lab may require a fume cabinet with ducting to a stack.

A pneumatic tube system should be provided and linked to Pathology, inpatient units and other departments as required.

604335 500 .19.30 MEDICAL GASES

Oxygen, suction and medical air will be required in all scanning rooms, stress testing rooms and to patient bed bays.

Nitrous oxide and scavenging will be required in rooms where general anaesthesia may be administered, particularly in units where children are treated.

Medical gases installation and testing in accordance with AS2896 (Std Aust 1998b).

604336 500 .19.35 RADIATION SHIELDING

The principles of radiation safety and protection should be developed and integrated into the design and documentation of the Unit from the earliest stages and it is important the design team is comprehensively briefed. A qualified radiation expert should be involved in the design.

Advice from the Radiation Safety Officer should be sought for each project. Radiation shielding will be required to a number of areas within the Unit. These areas include but are not limited to the following:

- pre scan uptake rooms and patient amenities
- SPECT/CT scanning rooms
- post-scan waiting areas
- Hot Lab / radiopharmacy lab.

Refer to RPS 14.2, Section 10.2 (ARPANSA 2008b).

Also refer to applicable State legislation, regulations and guidelines.

In NSW, refer to the Draft Radiation Guidelines (NSW Department of Environment and Climate Change 2008).

Standard Components

- 604337 500 .20.00 Standard Components (SC) refer to rooms / spaces for which Room Data Sheets, Room Layout Sheets (drawings) and textual descriptions have been developed. Their availability is indicated by 'Y' in the Standard Component 'SC' column of the Schedule of Accommodation.

Standard Components are provided to assist with the development of a project. Their use is not mandatory and if used they can be edited to the project specific.

Refer to Part B Section 90 Standard Components for Room Data and Room Layout Sheets.

Non-Standard Components

- 604338 500 .21.00 The following Non-Standard Components are unit-specific:

- Scanning Rooms SPECT and SPECT/CT
- Dosing / Consult / Exam Room
- Hot Laboratory
- Radioactive Waste Holding
- Bone Densitometry Room.

- 604339 500 .21.05 SCANNING ROOM - SPECT AND SPECT/CT

DESCRIPTION AND FUNCTION

A scanning room is used for obtaining nuclear medicine images. The room for SPECT/CT should be larger.

Equipment may be SPECT camera or combined SPECT/CT hybrid system.

Radiation shielding is required for SPECT/CT.

Bed / trolley access is required plus space to park bed or trolley.

Installation of equipment should be in accordance with manufacturer's recommendations.

- 604340 500 .21.10 LOCATION AND RELATIONSHIPS

Rooms are ideally provided in pairs with direct access between rooms so one Nuclear Medicine technologist can monitor two patients if necessary.

Ready access is required from dosing rooms and dosed patient waiting areas.

- 604341 500 .21.15 CONSIDERATIONS

- Floor structure should support the equipment weight.
- UPS power is required to the cameras and associated acquisition / processing workstation/s to prevent data loss and/or damage during power surges or brown outs.
- individual room temperature and humidity control is required.
- dimmable down lighting should be placed so that lights do not shine directly into the patient's eyes.
- bed / trolley access is required plus space to park a bed or trolley.

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- should be a body protected electrical area.

In addition to the camera / CT, fixtures, fittings and equipment will include:

- collimator rack/s - the collimator is a directional guide. The size and length of the collimator holes determine which gamma rays reach the detector in the camera. A range of collimators will be required. Collimator racks vary according to the model / level of Gamma Camera.
- ECG trigger and monitor for cardiac scans
- CCTV camera (optional in SPECT/CT room)
- protective lead clothing
- medical gases - oxygen, suction, medical air on service panel
- nurse and emergency call system
- power outlets on the medical services panel
- handbasin - Type B
- PAT slide wall-mounted
- storage / prep bench and shelving
- TV - fixed or portable (optional)
- overhead power to avoid floor leads
- computer data points near gamma camera unit as well as processing workstations.

604342 500 .21.20 Scanning rooms also need to consider the space requirements for servicing equipment and machines which is frequently done in situ given the size of these machines. Machines may be pulled apart to provide access to internal workings thus occupying a larger space than when operational.

604343 500 .21.25 CONTROL BAY

The Control Bay may be integral to the SPECT scanning room but should be separate area for SPECT/CT (as per CT imaging requirements).

It requires:

- a lead observation screen for the ordinary camera to shoulder height and for SPECT to full height
- a work bench
- chair/s
- viewing monitors
- bookshelves
- CCTV monitor if CCTV camera installed in SPECT/CT room.

604344 500 .21.30 DOSING / CONSULT / EXAM ROOM

DESCRIPTION AND FUNCTION

This room is for patient consulting, examination and administration of isotopes.

In most respects, this room is similar to the Standard Component - Consult Room except that radiation screening will be required.

LOCATION AND RELATIONSHIPS

Ready access to scanning rooms and undosed patient waiting is required.

Ideally, it should be located adjacent to the Hot / Dispensing Lab .

CONSIDERATIONS

Provide for inclusion of:

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- examination couch
- desk
- chairs
- handbasin
- PC / data / phone.

604345 500 .21.35 HOT LABORATORY

DESCRIPTION AND FUNCTION

Note: This is not a Radiopharmaceutical Laboratory.

This is a room for storage and dispensing of radiopharmaceuticals.

Space is required for dose calibration, record keeping and quality control activities.

LOCATION AND RELATIONSHIPS

Ensure the room is readily accessible to/from dosing rooms and scanning rooms.

CONSIDERATIONS:

- radiation shielding as advised by Consultants
- appropriate radioactive signage on access doors
- computerised dispensing system
- sharps bins and a bin for general radioactive waste which may be located under a bench in lead-shielded cupboards
- design of a preparation bench incorporating a stainless steel sink and a lead shielded cover behind which actual preparation occurs. The cover may be fixed or hinged.
- sinks and basins with handsfree taps for handwash and decontamination
- fridges, freezers and storage cupboards for cold kits
- computer and label printer
- dose calibrator.

604346 500 .21.40 RADIOACTIVE WASTE HOLDING

DESCRIPTION AND FUNCTION

A room for the temporary storage of radioactive material until it is fully decayed when it can be disposed of as per normal waste.

LOCATION AND RELATIONSHIPS

Dual access to/from the Unit is desirable but with external access, well controlled.

CONSIDERATIONS

- radiation shielding to be provided in accordance with advice from the Radiation Consultants.
- bench for sharps bins.

604347 500 .21.45 BONE DENSITOMETRY ROOM

DESCRIPTION AND FUNCTION

A room for bone densitometry imaging studies primarily for osteoporosis

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assessment and management. Tests usually take 20 minutes.

Patients are not usually required to change unless clothing has metal fasteners - zips, etc. If necessary they may change within the room itself unless throughput can be improved by providing separate change rooms.

The room should allow the operator to maintain a safe distance from the active equipment and to be able to see the patient during the scan and not positioned with back to the patient. The Radiation Consultant should be involved in the design of the room and the shielding to ensure the dose from scanner to operator is minimised.

In facilities with spinal cord injury units or where the unit may be expected to see a larger number of highly dependent patients, the room should be sufficiently sized to allow safe transfer from a trolley.

LOCATION AND RELATIONSHIPS

The room should be located at or near the Unit entry to prevent patients coming into contact with dosed patients waiting scanning or having to pass in front of the scanning rooms. The scanner should be separated by distance or shielding from adjoining areas used by dosed patients. Check whether high radiation levels from nearby patients e.g. I -131 or PET could interfere with data/image quality of BMD scans.

Provide ready access to undosed patient waiting areas or alternatively these patients may use the general public waiting area.

CONSIDERATIONS

- bone densitometer machine - dual-energy x-ray absorptiometry - DXA or DEXA
- computer workstation
- office chair
- visitor chair
- shelving for gowns, positioning pillows, braces etc
- handbasin
- shielding as necessary. NB: modern machines have a very low radiation dose for the scans.

APPENDICES

Schedule of Accommodation

604348 500 .22.00 A Schedule of Accommodation follows.

SC = Standard Component
O = Optional
* = Minor Variation to SC

604349 500 .22.05 Entry / Reception

		2 Cameras	6 Cameras				
ROOM / SPACE	SC	Qty x m2	Qty x m2				Remarks
ENTRY LOBBY		1 x 6	1 x 6				
WAITING	Y	1 x 10	1 x 15				
RECEPTION / CLERICAL	Y	1 x 10	1 x 15				1 and 2 staff

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MEETING ROOM - SMALL	Y	1 x 9	1 x 9				Private consultations, bookings etc
OFFICE - 2 PERSON, SHARED	Y	1 x 12	1 x 15				2 & 3 staff
STORE - PHOTOCOPY / STATIONERY	Y	1 x 8	1 x 8				
STORE - FILES	Y	1 x 8	1 x 8				

604350 500 .22.10 Patient Care Area

		2 Cameras	6 Cameras				
ROOM / SPACE	SC	Qty x m2	Qty x m2				Remarks
WAITING - UNDOSED	Y *	1 x 12	1 x 20				Outpatients
WAITING - DOSED	Y *	1 x 6	1 x 9				
PLAY AREA - PAEDIATRIC	Y	1 x 10 (o)	1 x 10 (o)				
TOILET - PATIENT	Y	2 x 4	2 x 4				1 male, 1 female
TOILET - ACCESSIBLE	Y	1 x 5	1 x 5				
SHOWER - PATIENT	Y	1 x 4	1 x 4				For post-stress testing patient hygiene and incontinent patients
BAY - BEVERAGE, OPEN	Y	1 x 4	1 x 4				
BAY - WHEELCHAIR PARK	Y	1 x 4	1 x 4				May also include a patient trolley
ENTRY LOBBY - INPATIENT		1 x 6(o)	1 x 6				
PATIENT BAY - HOLDING	Y	3 x 9	8 x 9				Curtained bays
BAY - HANDWASHING - TYPE B	Y	1 x 1	2 x 1				Part of Inpatient Holding Area
STAFF STATION / CLEAN UTILITY		1 x 8	1 x 10				Part of Inpatient Holding Area
BAY - LINEN	Y	1 x 2	1 x 2				Part of Inpatient Holding Area
STORE - STERILE STOCK	Y *	1 x 10	1 x 12				
DIRTY UTILITY - SUB	Y	1 x 8	1 x 8				
DISPOSAL ROOM	Y	1 x 8	1 x 8				
DISCOUNTED CIRCULATION %		32	35				

604351 500 .22.15 Treatment Areas

		2 Cameras	6 Cameras				
ROOM / SPACE	SC	Qty x m2	Qty x m2				Remarks
SPECT SCANNING ROOM (INCLUDES CONTROL BAY)		42	42				Rooms should be rectangular (e.g. 6x7m)
SPECT/CT SCANNING ROOM		48	48				Rooms should be rectangular (e.g. 6x8m)

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SPECT CONTROL ROOM		10	10				
BAY - MOBILE EQUIPMENT	Y	1 x 4	2 x 4				
BAY - MOBILE EQUIPMENT	Y *	1 x 2	1 x 2				Technegas machine & argon cylinder
STRESS TESTING ROOM	Y *	1 x 16	1 x 16				Add 2m2 if includes resuscitation trolley
BAY - RESUSCITATION TROLLEY	Y *	1 x 1.5	1 x 1.5				Unless located in Stress Testing Room
DOSING / CONSULT / EXAM ROOM	Y *	2 x 12	4 x 12				For dose administration and examination. Radiation safety advice may be required.
PROCEDURE ROOM	Y *		1 x 14 (o)				Ideally adjacent to the Hot / Dispensing Lab
BONE DENSITY MEASUREMENT ROOM		1 x 12 (o)	1 x 12 (o)				Increase to 16m2 if trolley / bed access required
STORE - EQUIPMENT (GENERAL)	Y *	1 x 9	1 x 12				
COMPUTER ROOM		1 x 8	1 x 8				Computers, printer
VIEWING & REPORTING ROOM	Y *	1 x 10	1 x 25				2 & 5 workstations near scanning rooms
DISCOUNTED CIRCULATION %		35	35				

604352 500 .22.20 Hot Laboratory

		2 Cameras	6 Cameras				
ROOM / SPACE	SC	Qty x m2	Qty x m2				Remarks
							Dual access from main corridor and inside Unit unless
ENTRY LOBBY - ISOTOPE DELIVERY		1 x 4 (o)	1 x 4 (o)				delivered directly into unit. May be combined with Waste Holding Store
HOT LAB / THERAPY DISPENSING		1 x 10	1 x 12				Fume hood, dose calibrator, balance, centrifuge etc
RADIOACTIVE WASTE HOLDING STORE		1 x 4	1 x 6				
SHOWER - STAFF EMERGENCY		1 x 2	1 x 2				Decontamination
DISCOUNTED CIRCULATION %		15	15				

604353 500 .22.25 Staff Areas

		2 Cameras	6 Cameras				
ROOM / SPACE	SC	Qty (each) x	Qty (each) x				Remarks
OFFICE - SINGLE 12M2	Y	1 x 12	1 x 12				Unit director
WORKSTATION		1 x 5.5 (o)	1 x 5.5				Secretary to Director
OFFICE - SINGLE 9M2 (STAFF SPECIALISTS)	Y	9.0	9.0				Number depends on staff establishment
WORKSTATION (REGISTRARS)		5.5	5.5				Number depends on staff establishment
OFFICE - SINGLE 12M2 (CHIEF PHYSICIST) PERSON	Y	1 x 9 (o)	1 x 12				

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WORKSTATION - (PHYSICISTS)		5.5 (o)	5.5				Number depends on staff establishment
OFFICE - SINGLE 9M2 (CHIEF TECHNOLOGIST)	Y	1 x 9 (o)	1 x 9				
WORKSTATION - TECHNOLOGISTS		5.5	5.5				Number depends on staff establishment
OFFICE - SINGLE 9M2 (RADIOPHARMACIST)	Y	0	1 x 9				If required
WORKSTATION (MEDICAL TYPISTS)		5.5	5.5				Number depends on staff establishment
OFFICE: SINGLE - 9M2 (NURSE MANAGER)	Y	1 x 9	1 x 9				
STAFF ROOM	Y	1 x 15	1 x 25				Includes beverage bay
MEETING ROOM - MEDIUM / LARGE - 15M2	Y	1 x 15	2 x 15				
PROPERTY BAY - STAFF - 2M2	Y	1 x 2	2 x 2				Size depends on staff establishment
SHOWER - STAFF	Y	1 x 3	1 x 3				
TOILET - STAFF	Y	2 x 3	2 x 3				*Number will depend on staff establishment
CLEANER'S ROOM	Y	1 x 5	1 x 5				*May be shared with adjoining unit
DISCOUNTED CIRCULATION %		25	30				

Functional Relationships Diagram/s

604354 500 .23.00 A diagram of key functional relationships is attached.

Checklists

604355 500 .24.00 Refer to the Planning Checklists at the end of Parts A, B, C and D of these Guidelines for general planning checklists.

Iodine I-131 Bedroom

604356 500 .25.00 IODINE-131

Iodine-131 (I-131) is used for the treatment of thyroid cancer. The isotope has a half-life of approximately eight days. Patients undergoing treatment are nursed in a radiation-shielded room for a period of 3-4 days. During this period, the patient is an external radiation hazard to persons nearby and an internal radioactivity hazard to persons who may come in contact with the patient's body fluids including urine, saliva, sweat, vomit, and contaminated items and surfaces.

604357 500 .25.05 RADIATION SHIELDING

Provide radiation shielding in accordance with regulations.

604358 500 .25.10 BEDROOM

The bedroom will be part of an inpatient unit but located so as to minimise passing traffic and consequent radiation exposure and therefore minimise shielding needs. This may be achieved by locating the room at the end of a corridor or by locating the ensuite and storage between bedroom and public

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corridor and/or adjacent to unoccupied areas.

During the planning phase, consider positioning the room to allow the patient a short path of travel external to the bedroom, ideally with access to a small window bay in the corridor or a sitting area. This will assist to relieve, to some extent, the confinement (up to 3-4 days), enable the patient to stretch his / her legs, and provide a differing outlook from the bedroom.

With the exception of the radiation shielding, the bedroom will be identical to other inpatient unit bedrooms with regard to furniture, fixtures and fittings. Refer to Standard Component - One Bed Room - Single.

Collocation with a brachytherapy room in an Oncology Inpatient Unit has numerous advantages with regard to shielding, multipurpose use and staff training.

604359 500 .25.15 ENSUITE SHOWER / TOILET

A dedicated ensuite shower / toilet accessible from inside the bedroom is required. This will be used only by the room occupant. Connection to a delayed holding tank may be required by the local water or regulatory authorities. If required the contents should be monitored before discharge to the sewerage system.

Should delay holding tanks not be required, it may be appropriate to consider radiation shielding of plumbing stacks particularly if the I-131 bedroom is located on an upper level with drainage lines passing through habitable accommodation areas of the floors below. Advice should be obtained from the Radiation Protection Officer.

Toilets should NOT be dual flush system as low volume flush may lead to blockage.

Consider installation of a water outlet suitable for use with a portable haemodialysis machine.

Paper towel dispensers should NOT be installed in the bedroom or ensuite to reduce the risk of toilet blockage.

Inpatient unit toilets used by inpatients being treated with radioiodine should be clearly marked and used only by those patients.

Refer to Standard Component Ensuite 5m2 for basic details.

604360 500 .25.20 ANTEROOM

A handbasin with emergency eyewash fitting is required plus storage space for decontamination kits and protective clothing.

Note: Eye contamination of staff should be dealt with locally and immediately. More extensive decontamination could be carried out in the ensuite shower.

Refer to Standard Component - Anteroom 6m2 for basic details.

604361 500 .25.25 GENERAL DISPOSAL

A small cleaner's room should be provided to be accessed from the anteroom for dedicated cleaning equipment and supplies and slop hopper / sluice.

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604362 500 .25.30 DELAY HOLDING TANKS

These tanks accumulate the radioactive body substances such as urine, faeces, and vomit. After a period to allow radioactive decay, the contents are discharged into the sewerage system. Assess capacity based on bedroom occupancy. Two tanks will be required.

To avoid leakage problems, the tanks should be located such that the drainage line from the toilet to the tanks does not cross a building expansion joint.

Where Iodine - 131 bedrooms and ensuites are provided within the facility (usually as part of inpatient unit) delayed holding tanks will may be required to be connected to the ensuite facility. Advice on size will be required from the Radiation Safety Consultant and guided by the local water authority requirements.

Note: The issue of delay tanks for Iodine-131 treatment rooms is contentious. The information on disposal to sewer in the 1985 NHMRC Code is to be replaced by a Schedule in Version 2 of the National Directory of Radiation Protection (ARPANSA 2008b). Even so, a local water authority may have the right to require a hospital to install tanks even if the discharge level is exempt under NDRP.

Refer to the Safety Guide on the Predisposal Management of Radioactive Waste (ARPANSA 2008c).

604363 500 .25.35 FINISHES

Finishes should be impervious and easily cleaned. Provide sealed vinyl floors.

References and Further Reading

604364 500 .26.00 LEGISLATION AND STANDARDS

Refer to References section.

604365 500 .26.05 SERVICE CAPABILITY

NSW Health 2002, Guide to the role delineation of health services, 3rd edn, Statewide Services Development Branch, NSW Health.

NSW Health 2005, PD 2005_602: Area Healthcare Service Plans - NSW Health Guide for Development, NSW Health.

Queensland Health 2004, Clinical Services Capability Framework, V 1.0, Queensland Health.

Queensland Health 2005, Clinical Services Capability Framework - V 2.0, Queensland Health.

604366 500 .26.10 ORGANISATIONS

Australian and New Zealand Society of Nuclear Medicine (ANZSNM), www.anzsnm.org.au

Australian Nuclear Science and Technology Association (ANSTO), www.ansto.gov.au

604367 500 .26.15 GUIDELINES

DHS Victoria 2004, Design Guidelines for Hospitals and Day Procedure Centres, Department of Human Services Victoria.

NHS Estates 2003, Schedules of Accommodation, NHS Estates.

NHS Estates 2001, Health Building Note 6: Facilities for Diagnostic Imaging and Interventional Radiology, NHS Estates.

604368 500 .26.20 GENERAL POLICIES

NSW Health 2005, PD 2005_576: Office Accommodation Policy, Public Health Organisations and Ambulance Service, NSW Health.

NSW Health 2005, PD 2005_132: Waste Management Guidelines for Health Care Facilities, NSW Health.

NSW Health 2005, PD 2005_409: Workplace Health and Safety, Policy and Better Practice Guide, NSW Health.

NSW Health 2005, PD 2005_339: Protecting People & Property, NSW Health Policy / Guidelines for Security Risk Management in Health Facilities, NSW Health.

Queensland Health 2008, Work Place and Office Accommodation Policy and Guidelines, Queensland Health.

604369 500 .26.25 WEBSITES

The following websites are a source of valuable information:

Austin Health 2010, Nuclear Medicine and Centre for PET, Austin Health Victoria, viewed 21 June 2010, www.austin.org.au/nmpet

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Radiology Society of NorthAmerica (RSNA) & American College of Radiology 2010, The radiology information resource for patients, Radiology Society of NorthAmerica, viewed 21 June 2010, www.radiologyinfo.org/

Royal Adelaide Hospital, n.d., Department of Nuclear Medicine, PET & Bone Densitometry Website, Royal Adelaide Hospital, viewed 21 June 2010, www.rah.sa.gov.au/nucmead/index.htm

604370 500 .27.00 REFERENCES

ARPANSA 2002, Radiation Protection Series 4 - Recommendations for the Discharge of Patients Undergoing Treatment with Radioactive Substances, Australian Radiation Protection and Nuclear Safety Agency.

ARPANSA 2007, Radiation Protection Series 11: Code of Practice for the Security of Radioactive Sources, Australian Radiation Protection and Nuclear Safety Agency.

ARPANSA 2008a, Radiation Protection Series 14.1 - Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology. Australian

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Radiation Protection and Nuclear Safety Agency.

ARPANSA 2008b, Radiation Protection Series 14.2 - Safety Guide for Radiation Protection in Nuclear Medicine. Australian Radiation Protection and Nuclear Safety Agency.

ARPANSA 2008c, Radiation Protection Series 16 - Safety Guide for the Predisposal Management of Radioactive Waste. Australian Radiation Protection and Nuclear Safety Agency.

Nestor, C. 2007, The OR Challenge: New technologies lead to increased complexity, Health Facilities Management, vol. 20, no. 4.

NSW Department of Environment and Climate Change 2008, Draft Guideline 7: Radiation shielding design assessment and verification requirements, NSW Government.

NSW Health 2007, TS-11 - Engineering Services & Sustainable Development Guidelines. Sydney, NSW Health.

NSW Health & CHAA UNSW 2009, TS-7 - Floor Coverings in Healthcare Buildings V1.1, NSW Health.

Queensland Health 2005, Clinical Services Capability Framework, Version 2.0 Queensland Health.
www.eatwellbeactive.qld.gov.au/publications/corporate/CSCF/docs/cscfv2_s4.pdf

Std Aust 1994, AS 1319: Safety Signs for the Occupational Environment, SAI Global.

Std Aust 1998a, AS/NZS 2243:4: Safety in laboratories - Ionizing radiations, SAI Global.

Std Aust 1998b, AS 2896: Medical gas systems - Installation and testing of non-flammable medical gas pipeline systems, SAI Global.

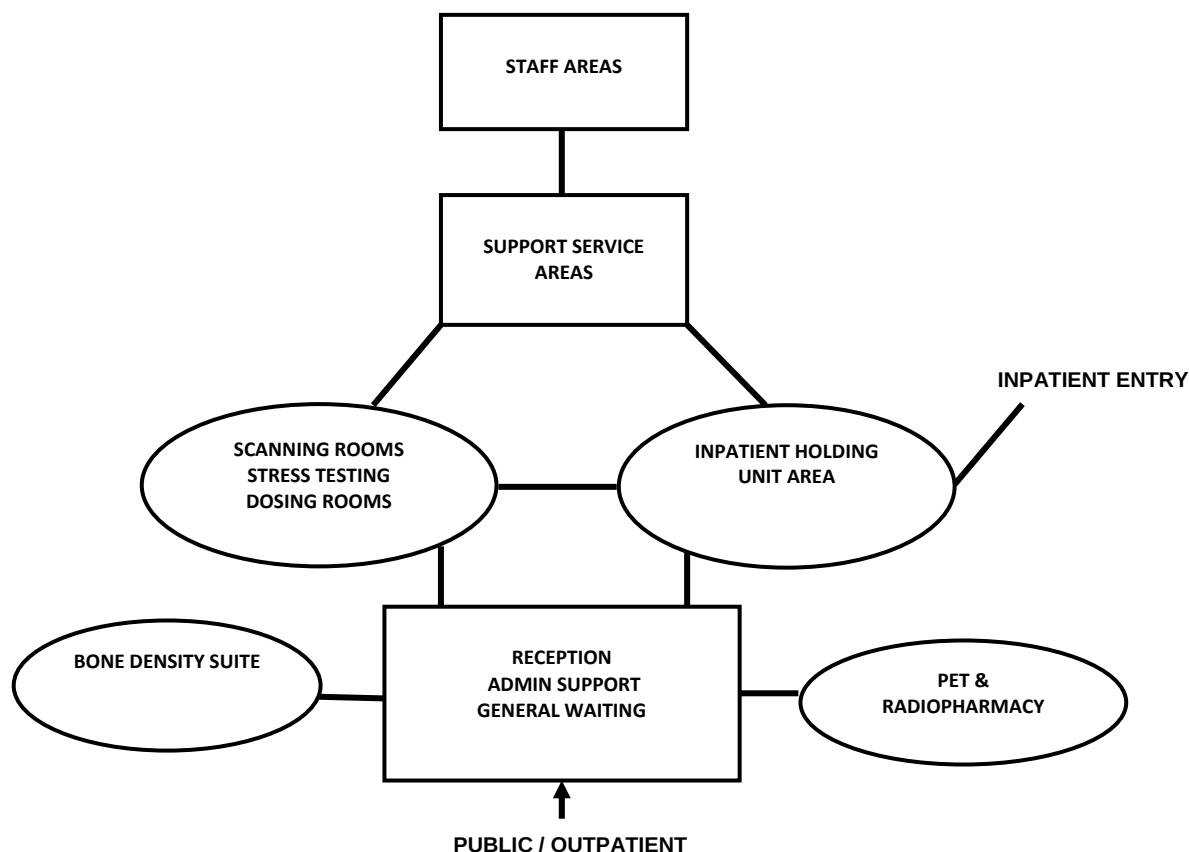
Std Aust 2010, AS 1428.(Set): Design for Access and Mobility, SAI Global.

WA Health 2006, Western Australia Health Facility Guidelines for Engineering Services, Government of Western Australia.

Worksafe Victoria 2007, Designing Workplaces for Safer Handling of People, Worksafe Victoria.

FUNCTIONAL RELATIONSHIP DIAGRAM - NUCLEAR MEDICINE UNIT

The following diagram illustrates the functional relationships between zones in a Nuclear Medicine Unit:



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INTRODUCTION

Preamble

502251	510 .1.00	Maternity/Obstetrics is the branch of health care which provides services for the management of pregnancy, birth and the postnatal period, and care of the newborn. It encompasses the total needs of the pregnant woman and her family, including the physical, educational and psycho-social requirements, irrespective of the care setting. (Note that home birthing is not addressed in this Guideline).
502252	510 .2.00	Maternity is a Core Service under Maternal and Child Health in the NSW Guide to the Role Delineation of Health Services (Third Edition 2003). It defines 6 levels of service from 1 to 6 and also defines the level of neonatal care necessary for each level of Maternity Services. Appendix II of the Guide also defines risk factors for maternity patients.

Planners should use the Role Delineation to assist in determining facility

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needs in conjunction with the approved Service Plan, staff establishment and in accordance with the Process of Facility Planning.

It is essential to be aware of the impact on the Unit itself and associated facilities in other units of:

- Operational Policy
- the various models of maternity care available.

In addition, facility design, must, where appropriate, meet all necessary criteria to reach accreditation standards with regard to design and equipment.

Introduction

502253 510 .3.00

This Health Planning Unit is a resource to assist in the planning, design and construction of a Maternity Unit. It should be read in conjunction with generic planning requirements and Standard Components described in Parts A, B, C, D & E of these Guidelines.

This Guideline may be used for the planning and design of birthing facilities at all levels of service but - as per the original HBG DS-18 - Obstetric Unit - the Schedule of Accommodation assumes a Level 4 service comprising a 24 Bed Inpatient Unit, 4 room Birthing Unit and Special Care Nursery to create an integrated unit.

However, bed, birthing room and cot numbers are purely nominal in order to create a logical schedule of accommodation and planners will need to modify the schedule to suit their own particular circumstances in accordance with the Service Plan. In Level 5 and 6 Units, there may be dedicated antenatal and postnatal wards.

Details are given for a Level 3 Birthing Unit but assumes that general ward beds will be used for antenatal and postnatal care.

Details for nurseries are omitted at Levels 5 & 6 as these can be found in the Guideline for Neonatal / Special Care Nurseries.

The Guideline also provides a suggested Schedule of Accommodation for a Maternity Outpatient Clinic.

Policy Framework

502254 510 .4.00

Before embarking on a project, planners and project staff are encouraged to familiarise themselves with the following NSW Health reports.

Models of Maternity Service Provision across NSW - Progressing Implementation of the NSW Framework for Maternity Services, NSW Health, April 2003, and

The NSW Framework for Maternity Services (2000) that states:

"... NSW Health adopt the following philosophy statement for developing maternity services:

NSW Health recognises pregnancy, labour, birth and parenting as significant and meaningful life events and acknowledges the right of consumers to access safe maternity care and quality maternity services.

Continuity of care and consistent information is essential to the provision of care that is culturally sensitive and appropriate."

The policy framework recognises the multiplicity of the community and the fact that special groups within that community require special consideration of their needs to enhance the effectiveness of any services provided.

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In the context of Maternity Services these groups include all women of child-bearing age :

- in rural and remote communities and particularly Aboriginal & Torres Strait Islanders;
- with physical and sensory disabilities;
- from culturally diverse backgrounds
- who are of non-English speaking background (NESB)
- with underlying medical conditions;
- with drug dependencies
- who are socially and psychologically disadvantaged
- experiencing fertility problems;
- who are undergoing terminations for foetal abnormalities (note that "social" terminations usually performed in the private sector)
- experiencing stillbirths, deaths in utero
- who are relinquishing babies for adoption.

Pregnancy in young women creates its own special needs.

Also refer to:

Homebirth Policy Statement - NSW Health, PD2005_176 (To be updated)

At time of writing, NSW Health has no specific policy stance on the following:

- LDRP Rooms versus LDR Rooms
- Water birthing.

Description of the Unit

502255 510 .5.00

DEFINITION OF HEALTH PLANNING UNIT (HPU)

The Maternity Unit is a discrete unit providing facilities for the safe antenatal, birthing and postnatal care of mothers and their babies.

This Guideline at Level 4 provides for a nominal 24-bed unit plus birthing rooms capable of accommodating approximately 1000 deliveries per year. The accommodation is appropriate for the provision of care for mothers and babies with low to moderate risk factors and related complications.

It is anticipated that the unit will be managed as one entity including the Nursery.

Sub-zones within the unit will provide for the care of mothers with antenatal or postnatal complications requiring acute maternity care, healthy mothers having normal deliveries, healthy newborns requiring minimal care, babies requiring care for complications arising from moderate risk factors and babies with severe complications awaiting transfer to a Neonatal Unit of higher delineation.

The Birthing Unit includes a number of self-contained rooms that accommodate the birthing process of:

- Labour
- Delivery / Birthing
- Recovery
- Postnatal (or Post-Partum)

The model combining Labour, Delivery and Recovery in one room is referred to as LDR. The model combining all four processes is referred to as LDRP. If the LDRP option is selected it will impact on the number of postnatal beds required.

502256 510 .6.00

ASSESSMENT OF NUMBER OF BIRTHING ROOMS & BEDROOMS

The level of service and anticipated number of births as determined in the Service Plan, average lengths of stay, number of elective Caesarean

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sections and model of care will all affect:

- the number of birthing rooms required;
- number of postnatal inpatient beds required.

The anticipated number of elective Caesarean sections booked directly into the operating suite thus bypassing the delivery suite should be deducted from total births when assessing the number of birthing rooms.

The following is based on the LDR model and assumes approximately 1 delivery per room per 24 hours although this may vary from unit to unit:

1000 births - 3 birthing rooms plus 1 assessment
1500 births - 4 birthing rooms plus 1 assessment
2000 births - 5 birthing rooms plus 1 assessment
3000 births - 8 birthing rooms plus 1 or 2 assessment rooms.

Hospitals adopting the LDRP model will need to reassess these figures depending on Operational Policy and average lengths of stay.

502257 510 .7.00 FACTORS AFFECTING PLANNING & DESIGN

The following are not traditional priorities but are a reflection of our changing society and may have an increasing impact on design:

- increasing concerns about infant safety and possible abduction
- prevalence of domestic violence
- prevalence of theft
- continuing change in the composition of the maternity population with a higher percentage of older women and / or women with complex pregnancies - particularly multiple births and prematurity
- early discharge and community care programmes (that may transfer facilities from the hospital to the community setting)
- increase in elective Caesarean sections as a birthing option
- increasing emphasis on mental health and well-being.

PLANNING

Operational Models

502258 510 .8.00 HOURS OF OPERATION

The Maternity Unit will provide a 24 hour, seven day per week service with admissions occurring around the clock.

502259 510 .9.00 MATERNITY OUTPATIENT SERVICES

Maternity outpatient care encompasses antenatal and postnatal care including education, counselling and support services for mothers, partners and families to ensure preparation for, and understanding of pregnancy, birth, parenting and mother care. One of the main objectives of antenatal care is the early detection of risk factors and referral to the appropriate level of care.

Increasingly, services are expanding and diversifying to include management of early pregnancy (e.g threatened miscarriage) and follow-up perinatal bereavement counselling. Also used for multidisciplinary team review of infant postmortem results -with the parents when indicated. Related clinics such as fertility services and uro-gynaecology are also often part of outpatient services.

Planners must determine the model of care to be adopted by the facility to determine:

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- the location of outpatient facilities - hospital or community setting
- the range of services and the number of clinic rooms required and
- whether there is enough throughput to justify dedicated clinic rooms or shared with a general outpatients

Midwives operating a midwifery-led/birth centre model would/may prefer that their women are seen within the Unit.

502260 510 .10.00 DAY ONLY MATERNITY & PERINATAL SERVICES & FACILITIES

In addition to routine clinic attendances, it may be necessary for some antenatal women to attend hospital on a day or half-day basis for foetal assessment monitoring (CTG), ultrasound, blood tests etc. In small hospitals the Ambulatory Care Ward may be utilised.

Large regional centres will have a dedicated unit that will/may include ultrasound (depending on the proximity of the Medical Imaging Department and Operational Policy) and will be colocated with the Maternity Outpatient Clinics.

502261 510 .11.00 PROVISION OF OPERATING ROOM/S

It is assumed that all elective Caesarean sections will be performed on a booked basis in the general Operating Unit.

Consideration needs to be given to the travel distance from the Birthing unit to the Operating Unit. When an urgent Caesarean Section is deemed necessary, or an obstetric emergency arises, timely access to the Operating Rooms consistent with clinical best practice guidelines will be required and should ensure appropriate levels of patient privacy and dignity.

Models of Care / Work Practices

502262 510 .12.00 GENERAL

Planners and project staff are referred to the NSW Framework for Maternity services (NSW Health 2000) for description of the various models of care and will need to determine the impact of them on facility needs. In particular, location - metropolitan, rural or remote, and client profiles and culture will/may affect the type of unit required.

502263 510 .13.00 "BIRTH CENTRE"

The term generally used to describe facilities for midwife-led services for women with normal pregnancies. It allows for antenatal and postnatal care and continuity of carer during labour and birthing within a family/home like environment. May be a dedicated suite of rooms within the Maternity Unit, an integral component of the main Birthing Unit or a free-standing unit for low risk women.

502264 510 .14.00 MIDWIFERY SERVICES

Midwifery care may be accessed via midwives' clinics or team midwifery or caseload models located at hospitals, community health centres or GP practices.

Postnatal community midwifery services are now offered by most units. They are not just about early discharge but are provided according to the woman's

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need; it may be for “early” discharge and/or may be provided to women who require further supervision after hospitalisation. It will need to be ascertained whether the midwives are accommodated in the Maternity Unit or in the community so that in the former instance appropriate office space and storage can be provided.

502265 510 .15.00 SHARED CARE

GP and locals Maternity Hospital

502266 510 .16.00 MULTIDISCIPLINARY TEAM APPROACH

Within a tertiary or regional hospital, the pregnant woman will be assessed for risk factors on first presentation and allocated to a multidisciplinary team that will supervise her care for the duration of pregnancy, labour and delivery, and possibly but not necessarily - postnatal care. The team may comprise obstetricians, midwives, general practitioners, allied health staff, paediatricians, geneticists etc.

This model of care may also impact of facility design as wards and birthing rooms may be collocated in clusters.

502267 510 .17.00 SPECIALIST OBSTETRIC CARE

To be available where required, but especially for women with special care needs, medium to high risk pregnancy or complicated medical history, multiple births or previous history of complications during pregnancy. This care is provided by a specialist obstetrician, usually within a tertiary care or regional/general hospital facility with access to emergency support services for both mother and baby.

There are also emerging models where midwives skilled in management of high risk women work with the specialists.

Operational Policies

502268 510 .18.00 ROOMING-IN

Postnatal accommodation assumes rooming-in, but there will/may be circumstances resulting from the mother or baby's health status where this is not possible. A small holding nursery may be incorporated into the ward for babies who do not require the level of care provided by a special care nursery - and who are not “inpatients” (i.e. qualified births).

502269 510 .19.00 BIRTHING ROOM BATHS

Baths are generally requested and installed for pain management but there are issues of safety to be considered with regard to getting a labouring woman, not so much into, but out of the bath, particularly in an emergency.

If installed, must be “jetless” for Infection Control reasons and ceiling hoists or lifters should be considered.

502270 510 .20.00 WATER BIRTHS

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If water birthing is included in the Operational Policy, the Unit will require access to a dedicated Bathroom. The Bathroom will require a large peninsular bath, with access to both sides. The Bathroom should have a minimum area of 15m². and comply with all other requirements noted in Standard Components - Bathroom.

Note: These Guidelines do not imply endorsement of Water Birthing as a safe or appropriate operational model.

502271 510 .21.00 MEDICAL RECORDS

Assuming files are still hard copy, antenatal clinic and booking files are ideally stored in the Birthing Unit Reception area so as to be immediately accessible when woman present in labour (unless 24 hour medical record service).

Locked secure storage area is required and must be accessible after hours.

502272 510 .22.00 PARENTCRAFT

Multipurpose rooms should be available for parent education - feeding, bathing etc.

502273 510 .23.00 ANTENATAL CLASSES

Assuming that antenatal classes are not conducted in a community setting, there must be a space available within the Hospital with storage for mats and the capacity to show videos. In the past classes have been conducted by physiotherapists but most education is now provided by midwives and childbirth educators. A room in the Physiotherapy Unit may an option; however, if numbers are small, classes may be conducted in a unit-based Multidisciplinary Room. After-hours access will be required.

502274 510 .24.00 MANAGEMENT OF SPECIAL CIRCUMSTANCES

Women who have suffered perinatal loss (stillbirths, neonatal deaths, terminations for foetal abnormalities and miscarriages) or who are relinquishing a baby for adoption need special consideration in terms of privacy and isolation from the sound and sight of live babies. Ideally they should be able to stay in the Birthing Room until ready for discharge but if transfer to a ward bed is necessary, it should not be in a ward with other mothers and babies; continuing access to midwifery / obstetric care is required.

A separate quiet room with appropriate décor and - especially - artwork may be appropriate for grieving, bonding, laying out etc. This room may be formally designated a SANDS room (Stillbirth and Neonatal Death Support).

Care should also be taken that these women are not colocated with women undergoing termination of pregnancy.

502275 510 .25.00 NEONATAL RESUSCITATION

All birthing rooms and nurseries will need facilities for infant resuscitation and stabilisation and holding if retrieval is necessary. And occasionally emergency delivery occurs on the antenatal ward where access to

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resuscitation equipment is also vital especially for premature babies and if the ward is not in the immediate vicinity of the Nursery.

502291 510 .25.05 BABY BATHING

Depending on Infection Control policies, if users wish to allow baby bathing in the mother's bedroom, there are specially-designed basins that can be bench-set that can also serve as the clinical handwash basin. Care must be taken with bench heights and the basin set as close to the front of the bench as possible.

Use of a standard clinical basin for baby bathing is not safe practice and there have also been attempts to use the empty bassinet by filling from clinical basins. This is also not recommended.

Mothers in two bed rooms will have access to a separate Baby Bathing Area unless budget allows for 2 bathing units in each room. This however impacts on bedroom sizes and 28m² instead of 25m² will be required.

503053 510 .25.06 FORMULA PREPARATION, MANAGEMENT OF BOTTLES AND TEATS

The Nursery will require a room for formula preparation and storage of expressed breast milk. And unless the Hospital's Sterile Supply Unit provides the service, the room will also require space and equipment for cleaning and sterilizing bottles and teats.

If the Hospital also has a paediatric service, it may be appropriate for a single room to service the needs of all infants with regard to bottle and teat processing.

503054 510 .25.07 BABY FRIENDLY HOSPITAL INITIATIVE (BFHI)

This initiative was launched in 1991 by UNICEF and the World Health Organisation to encourage the use of breast milk either by breast feeding or expressing. Details may be found on the UNICEF web site - www.unicef.org/programme/breastfeeding and in the NSW Public Health Bulletin 2005; 16(3-4) 63-66 that describes a case study at the Royal Hospital for Women..

Hospitals who wish to gain BFHI status will need to consider the resources necessary such as

- Lactation Consultant/s (workstations, storage)
- Comfortable, quiet room in Nurseries for feeding & expressing with assistance and supervision from staff if necessary (In the postnatal ward, this may be done in bedrooms but women may gain support from their peers if such a space is available away from the bedside.
- Follow-up clinics for women experiencing problems after discharge (some Women's Centres provide specific facilities for this purpose).
- Fridges/freezers for expressed milk.

Planning Models

502276 510 .26.00 LOCATION

In order to provide easy access for ambulances or private vehicles, a ground floor position is the location of choice for the Unit if this can be achieved. Such a location would additionally facilitate access to hospital grounds and verandas for the mothers and their supporters. If this cannot be achieved, access to a secure courtyard is desirable.

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Units should be located to avoid:

- disturbing sounds, both on-site and off-site such as ambulance sirens traffic, trains etc
- disturbing views such as cemeteries, mortuaries or their entries etc
- problems associated with prevailing weather conditions. It is preferable for patient accommodation to have a north-east aspect.

The functional needs of the unit however must take priority over other locational needs.

502277 510 .27.00 CONFIGURATION

In small centres, if an LDR model, Birthing Rooms and inpatient beds may be combined as an integrated unit.

In larger centres, there will be dedicated maternity inpatient beds/units separate from the Birthing Suite.

Where a Hospital has no dedicated Special Care Nursery or Neonatal Intensive Care Unit, a small Level 1 nursery will/may be part of the Maternity Ward.

Functional Areas

502278 510 .28.00 FUNCTIONAL ZONES

The Maternity Unit at Level 4 comprises the following functional zones:

- Reception and arrival area including provisions for visitors and administrative activities
- Birthing Rooms
- Inpatient Areas - Acute Care (Antenatal & sick post-natal) & Mother Care
- General & Special Care Nursery
- Support & Staff areas including facilities that can be shared between zones and other units

502279 510 .29.00 RECEPTION

This zone provides an area where mothers, their supporter/s, visitors and other members of the public are initially received and directed to the appropriate part of the Unit. There needs to be convenient access to public telephone and toilet facilities particularly for supporters. It may be the preferred location for a Visitors' Lounge that could include Child Play Space.

The office/s for nursing administration and midwifery educators may be located in this vicinity.

The area may be used as a booking facility for expectant mothers or this may occur in the Maternity Ambulatory Care Area.

When designing the Reception, particular consideration needs to be given to security of the area (duress alarm, controlled access etc) and also to space for the initial holding of frequent flower/gift deliveries.

502280 510 .30.00 BIRTHING AREAS

The entire birth process takes place in this area and involves assessment, early and established labour, vaginal delivery - with or without intervention, the bonding process of mother, partner and family with baby as well as a rest period prior to transfer to a ward bed or discharge if a community midwifery programme.

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If the Facility provides LDRP rooms, the patient will occupy the same room for the entire length of stay.

Facilities comprise:

- Birthing Rooms
- One at least multi-purpose assessment room that can be used for consultations and examinations and as a back-up birthing room
- Facilities for support persons and other family members throughout the entire birthing process and period immediately following the birth
- At Level 3, a holding nursery to provide additional facilities for baby resuscitation, space for parking a transport humidicrib and additional bassinets for multiple births. The nursery should provide facilities for preparing babies for early transfer home directly from the Birthing Unit and for the laying out of stillborn babies.

502281 510 .31.00

NURSERY AREAS

Provided at Level 3 /4 Maternity as a possible adjunct to a Maternity Inpatient Unit, the General (Level 1) Nursery will provide facilities for the care of well babies away from their mother's bed area and for the following functions:

- baby weighing, bathing and changing
- Feeding of babies in comfortable chairs
- Parent and staff education
- Phototherapy
- Sleeping of babies in daytime using partial blackout curtains
- Short-term accommodation, with assisted ventilation if required, for the care of babies with unexpected severe complications while awaiting transfer to a centre with a Neonatal Intensive Care Unit.

The Nursery must have a minimum floor area of 2.8m² per bassinet and a minimum of one metre clear and unobstructed passageway between each bassinet. Number of cot bays will depend on rooming-in policies and the number of mothers unable or reluctant to do so.

The Special Care (Level 2) Nursery will in addition to the above have sick and recovering premature infants requiring care in humidicribs and bassinets due to problems related to their prematurity and/or low weight.

502282 510 .32.00

INPATIENT ACCOMMODATION

The Inpatient Area provides suitable accommodation for antenatal and postnatal mothers.

The Schedule of Accommodation assumes a 24 bed unit comprising a mix of one and two bed rooms for acute care mothers and for mothercare but bed numbers are nominal only and will need to be adjusted to suit the specific project - and geography and patient demographics. The bed mix should be designed for use by a variable mix of mothers e.g. a higher than normal antenatal population..

Acute care may include antenatal patients and mothers recovering from Caesarean sections etc. Mothercare areas are for well mothers and well babies.

The bedrooms should be arranged in functional groups according to degree of dependency. Acute care rooms should be well positioned in relation to the staff station and utility areas to facilitate effective patient observation by staff. The bedrooms for the mothercare group may be located towards the

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periphery of the unit and should convey a relaxed domestic environment.

Four bedded rooms are not recommended for Maternity Units due to the rooming-in policy in many hospitals, as four babies in one room can cause excessive disruption to mothers requiring rest.

It is suggested that at least 1 pair of adjoining one bed rooms be designated for standard isolation with a handwash and PPE bays outside. Provision of Class N Isolation Rooms (negative pressure plus ante room) will depend on level of service and even geographical location with regard to likelihood of diseases such as TB.

502283 510 .33.00 SHARED AREAS

The opportunity to share space, equipment and staffing should be maximised, both between the various zones of the unit and between the Maternity Unit and other units where appropriate. Within the unit it will be possible to share areas such as staff station, utilities, waiting and lounge space between zones. By judicious planning it should be feasible to share areas such as tutorial and toilet facilities with adjacent units. The size of shared spaces may need to be larger than "standard" to accommodate the greater number of staff or visitors occupying them.

502284 510 .34.00 OFFICE ACCOMMODATION

With the exception of the office for the NUM that is included in the Schedule of Accommodation, the staff establishment will determine the number of offices/workstations required and users of this Guideline are referred to the NSW Health Policy Directive PD2005-576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service for sizes.

Functional Relationships

502285 510 .35.00 EXTERNAL

The Unit should be located to maximise or provide quietness and an outlook and access to the outside during long periods of labour. This latter is of particular importance for units in rural areas with high aboriginal populations who are not used to being confined indoors. However, privacy must be maintained.

The Maternity Unit, and in particular the Birthing module, should be located with easy access to the Operating Suite.

502286 510 .36.00 INTERNAL

The Maternity Unit should be designed to prohibit non-related traffic through the unit.

Within the Unit, the Reception should be located at the entrance to the unit and should provide direct access to each of the Birthing, Inpatient and Nursery areas. The area should accommodate waiting space and provide ready access to assessment & consultation/examination facilities.

Refer Functional Relationship Chart

Accessibility

502287 510 .37.00 EXTERNAL

The Unit requires 24 hour access. If the Unit does not have its dedicated entry, specific arrangements will need to be made for after-hours access.

Access during normal hours will be via the Reception Area. After hours access for expectant mothers and their supporters will be via the Birthing Area. After hours policy may allow restricted access to partners/support persons of mothers in the In-patient Area and parents of neonates in the Neonatal Special Care Area.

The unit should be located close to:

- ambulance transport bay - particularly for the NETS retrieval team
- helipad if provided - also for retrieval teams
- short-term car parking for partners bringing women to the Birthing Unit and for flower deliveries although the latter must not obstruct the patient drop-off area
- hospital car park
- public transport facilities

Parking

502288 510 .38.00 Drop-off parking for women in labour - private vehicles and taxis

General visitor parking

Nearby parking for visiting obstetricians

Refer to Part C, Clause 790.59 for further information.

Disaster Planning

502289 510 .39.00 Particular attention must be paid to means of evacuation of mothers in advanced labour, and evacuation of babies to avoid separation from their mothers.

Refer to Part B (Clause 80.51) and Part C of these Guidelines for further information.

Infection Control

502290 510 .40.00 HANDWASHING

There will be a scrub basin Type A (Refer Standard Component) in each Birthing Room.

Handbasin in each bedroom and outside each pair of designated Isolation Rooms if provided.

At entry to Nursery for parents & staff.

At least one handbasin per 6 cots in the Nursery. Staff to be no further than 6 metres from a basin.

502292 510 .42.00 PLACENTA DISPOSAL

Placental material will usually be considered contaminated waste and dealt

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with as per the individual hospital/Area Health Service Waste Management policies. The use of placental macerators is not recommended.

Units may need to consider providing dedicated refrigerator or freezer for storage whilst awaiting disposal or collection by families for cultural reasons.

Environmental Considerations

502293 510 .43.00 GENERAL

The Birthing Rooms should have individually-controlled air-conditioning systems. If the thermostats are located inside the Birthing Room, the controls should be located out of the reach of children and under the control of staff only. The rooms need to be able to quickly obtain a temperature range of 25-27°C when the baby is born. The Nursery also requires similar temperature control.

502294 510 .44.00 ACOUSTICS

Acoustic treatment is essential in the Birthing Rooms to allow the mother to vocalise as desired during labour without disturbing other mothers in labour.

Babies crying at night are a major source of noise and for those mothers recovering from surgery or other conditions eg. pre-eclampsia, noise may be detrimental to their condition.

One of the prime considerations in the Nursery is the amount of noise created by babies crying, monitors, suction pumps, ventilators, etc. Methods of sound dampening should be carefully considered, but should not interfere with observation and ease of access between the Nursery and staff/support areas.

Refer to Part C of these Guidelines for further information.

502295 510 .45.00 LIGHTING

Colour-corrected dimmable lighting is essential in all patient areas where high dependency care is provided - birthing/assessment rooms and birthing room en suites and bathrooms, all nurseries and baby bathing/examination/resuscitation areas.

502296 510 .46.00 NATURAL LIGHT

Essential in all bedrooms, birthing rooms and nursery.

502297 510 .47.00 PRIVACY

The design of the Assessment and Birthing Rooms should ensure that the foot of the bed does not face the door. Viewing panels in the Birthing Room door should be avoided.

502298 510 .48.00 INTERIOR DESIGN

Particular care needs to be given to the Nursery and to the Birthing Rooms to achieve a non-clinical ambience. Medical services may be encased in joinery panels and equipment stored in an adjoining area or behind folding

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doors or screens

Care must be taken with the reflective quality of colours e.g. the effect of yellow on jaundiced babies.

Refer to Part C of these Guidelines for further information.

Space Standards and Components

502299 510 .49.00 ERGONOMICS

Refer to Part C of these Guidelines for information.

502300 510 .50.00 HUMAN ENGINEERING

Refer to Part C of these Guidelines for information.

502301 510 .51.00 ACCESS AND MOBILITY

Refer to Part C of these Guidelines for information.

502302 510 .52.00 DOORS, WINDOWS AND CORRIDORS

Refer to Part C of these Guidelines for information.

Safety and Security

502303 510 .53.00 SAFETY

Compliance with Occupational Health & Safety Requirements. Refer to Part C, Section 790 of these Guidelines for further information.

Special consideration needs to be given to lifting techniques and equipment if baths are provided in Birthing Rooms.

502304 510 .54.00 SECURITY

Security issues are of major importance in design of what is a highly emotional environment due to the prevalence of domestic violence, theft and the seemingly increase in infant abduction or other illegal acts by estranged parents or disturbed members of the public.

Fridges and freezers used for storage of breast milk should either be locked or the Formula Room restricted to Staff access only or mothers under staff supervision to ensure that the correct milk is issued to the right infant.

Minimising entry and exit points, incorporating an Access Control System, by means of a reed switch, electric strike and card readers to all Unit perimeter doors, can avoid the use of an unsophisticated - and costly - infant tagging system. Card readers need to be provided on the internal as well as the external approach to all egress doors, including fire egress doors. No unsecured exit from the Maternity Unit should be available, except in a fire or other emergency situation.

Provision of one entrance for patients and visitors to enter the Birthing Area will aid security To maximise control by the staff there should be direct

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observation of all persons entering the unit including video intercoms for after-hours remote access.

502310 510 .54.05 ELECTRONIC INFANT TAGGING

Electronic infant tagging involves a tag being put around a baby's ankle which responds to sensor panels located at unit / hospital exits. If the baby is taken through the sensor an alarm goes off and the hospital's security team is alerted. Infant tagging is costly and has proved problematic where it has been implemented as neonates lose weight in the first days of life; the tag bracelets therefore become too large and slip off easily.

Finishes

502305 510 .55.00 WALL PROTECTION

Refer to Part C of these Guidelines

502306 510 .56.00 FLOOR FINISHES

Refer to Part C of these Guidelines

502307 510 .57.00 CEILING FINISHES

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

502308 510 .58.00 Leaning/squatting rails for active birth in Birthing Rooms

Refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

502309 510 .59.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

Communication systems - phone, data etc - must be compatible with existing or planned overall hospital systems including staff and emergency call systems.

Annunciator panels should be clearly visible in corridors and of the non-scrolling type so that all rooms can be seen. However, the ability to control audibility at night should be a criterion when selecting systems.

502311 510 .61.00 DURESS ALARM SYSTEM

Locate at Reception and Staff Stations.

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COMPONENTS OF THE UNIT

Standard Components

- 502312 510 .62.00 Standard Components identified in the Schedule of Accommodation must comply with details in the Standard Components described in these Guidelines.
Also refer to Standard Component Room Data Sheets (RDS) and Room Layout Sheets (RLS).

Non-Standard Components

- 502313 510 .63.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to Operational Policy and Functional Brief.

- 502314 510 .64.00 STORE - BIRTHING ROOM

DESCRIPTION & FUNCTION

Area where clinical supplies and equipment (bowls, trolleys etc) and birthing equipment (bean bags, mats, balls etc) may be stored when not in use in order to maintain a domestic environment.

LOCATION AND RELATIONSHIPS

An integral part of the Birthing Room.

CONSIDERATIONS

Doors - whether sliding, standard or may just be a curtained bay.

- 502315 510 .65.00 BREASTFEEDING ROOM

DESCRIPTION AND FUNCTION

A room for demonstrations, breastfeeding or using breast pumps for expressing milk and should be a minimum of nine m². In small units, it may also be used to prepare and store formula/breast milk substitutes in line with Baby Friendly Hospital Initiatives.

LOCATION AND RELATIONSHIPS

The Room should be located with convenient access to the Nursery or to the Ward.

CONSIDERATIONS

The Breast Feeding Room will require the following:

- A bench with an inset sink
- Handbasin (Type b) for mothers and staff assisting
- Comfortable chairs suitable for breastfeeding
- Refrigerator/ freezer (if required)
- Storage for pump and attachments
- General power outlets for use of a breast pump
- Access to educational material either within the room or conveniently located nearby.

The room will require visual and acoustic privacy.

- 502316 510 .66.00 BATHING / EXAMINATION ROOM

DESCRIPTION AND FUNCTION

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A room for infant examination and demonstration to new mothers of baby bathing techniques as part of parentcraft education. Size will depend on Operational Policy re demonstration and whether bathing occurs in mothers' bedrooms. It is recommended that purpose-built baby baths and sinks are used for safety and OH&S reasons rather than portable baths or bassinets.

LOCATION AND RELATIONSHIPS

May be part of a Nursery or part of a Maternity Inpatient Unit

CONSIDERATIONS

Storage for baby scales

Attention to height of benches and mounting of baby baths.

APPENDICES

Schedule of Accommodation

502317 510 .67.00 A Generic Schedule of Accommodation for a Maternity Unit at Level 3, 4, 5, and 6 follows.

Note: (o) in Qty/x m2 column = Optional

BIRTHING UNIT

ROOM/SPACE	Standard Component		Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
BIRTHING UNIT							
ENTRY / RECEPTION			Share with Ward	May share			
RECEPTION	yes		0	1 x 10	1 x 10	1 x 10	Increase to 12 sqm if more than 1 staff
WAITING-SUB	yes		0	1 x 5	1 x 8	1 x 8	
TOILET - PUBLIC	yes		0	2 x 3	2 x 3 (o)	2 x 3 (o)	Optional if not available in nearby public areas
TOILET / BABY CHANGE - ACCESS				Share	1 x 5 (o)	1 x 5 (o)	Optional if not available in nearby public areas
BAY - WHEELCHAIR PARK	yes		0	1 x 4	1 x 4	1 x 4	
LOUNGE - PATIENT/VISITOR	yes		0	1 x 12	1 x 15	1 x 15	Separate from general waiting. Includes a Beverage Bay.

502318 510 .67.10 PATIENT & SUPPORT AREAS

PATIENT & SUPPORT AREAS							
EXAMINATION / ASSESSMENT	yes		0	1 x 28	1 x 28	1 x 28	Will act as a back-up Birthing Room
BIRTHING ROOM (LDR)	yes		2 x 28	4 x 28	28	28	No. determined by no. of births
EN SUITE - BIRTHING ROOM			2 x 7	5 x 7	7	7	Double showers; 1 per Birthing Room
BATHROOM - BIRTHING ROOM	yes		0	10(o)	10(o)	10(o)	Includes peninsular bath. Replace Ensuite.
STORE - BIRTHING ROOM			2 x 3	4 x 3	3	3	1 per Birthing Room
STAFF STATION	yes		1 x 10	1 x 14	1 x 14	1 x 14	
OFFICE - CLINICAL / HANDOVER	yes		0	1 x 12 (o)	1 x 12	1 x 12	

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CLEAN UTILITY/MEDICATIONS	yes		Share with Ward	1 x 12	1 x 12	1 x 12	Adjust size to meet requirements
DIRTY UTILITY	yes		1 x 8 (o)	1 x 12	1 x 12	1 x 12	Include placenta storage fridge or freezer
DISPOSAL ROOM	yes		Share with Ward	1 x 8	1 x 8	1 x 8	
BAY - LINEN / BLANKET WARMING	yes		1 x 3	1 x 3	2 x 3	2 x 3	
BAY - MOBILE EQUIPMENT	yes		1 x 4	1 x 4	2 x 4	2 x 4	
BAY - RESUSCITATION TROLLEY (ADULTS)	yes		Share with Ward	1 x 2	1 x 2	1 x 2	
BAY - BEVERAGE, ENCLOSED	yes		Share with Ward	1 x 4	1 x 4	1 x 4	
CLEANER'S ROOM	yes		Share with Ward	1 x 5	1 x 5	1 x 5	
STORE - EQUIPMENT	yes		1 x 14	1 x 14	1 x 14	1 x 14	
STORE - GENERAL	yes		0	1 x 9	1 x 9	1 x 9	
STORE - GENERAL (RENTAL BABY CAPSULES)	yes		0	1 x 6 (o)	1 x 9 (o)	1 x 9 (o)	

502319 510 .67.20 OPERATING UNIT (OPTIONAL)

Note:

If provided, for emergency C -SECTIONS ONLY.

Elective C-sections via Operating Unit.

OPERATING UNIT							Optional
ANAESTHETIC INDUCTION ROOM	yes				1 x 15	1 x 15	Optional
CLEAN - UP ROOM	yes				1 x 7	1 x 7	
OPERATING ROOM - MINOR	yes				1 x 36	1 x 36	Needs baby resusc capability
SCRUB-UP / GOWNING					1 x 6	1 x 6	Two stations only.
STERILE STOCK / SET-UP					1 x 12	1 x 12	
PATIENT BAY - RECOVERY	yes				2 x 9	2 x 9	
STAFF BASE / MEDICATIONS					1 x 6	1 x 6	Part of Recovery
DISCOUNTED CIRCULATION %			30%	32%	32%	32%	

503055 510 .67.30 SPECIAL CARE NURSERY

Notes:

Level 3 consists of 4 Cot Bays.

Level 4, refer to Service Level for No. of Cot Bays.

Level 5 & 6 , refer to NICU / SCN HPU for No. of Cot Bays.

502320 510 .67.30 SPECIAL CARE NURSERY

Notes:

Level 3 consists of 4 Cot Bays.

Level 4, refer to Service Level for No. of Cot Bays.

Level 5 & 6 , refer to NICU / SCN HPU - 390

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SPECIAL CARE NURSERY			Level 3	Level 4	Level 5	Level 6	
STAFF STATION	yes		Share	1 x 10			
CLEAN UTILITY - SUB			Share	1 x 8			
BAY - MOBILE EQUIPMENT	yes		Share	1 x 4			
EQUIPMENT CLEAN-UP ROOM			Share	1 x 12			
DISPOSAL ROOM	yes		Share	Shared with Ward			
BAY - LINEN	yes		1 x 2	1 x 2			
BAY - HANDWASH	yes		1 x 1	1 x 1			At entry
BAY - HANDWASH	yes		4 x 1	1			1 per 4-6 cots
COT BAY - SPECIAL CARE	yes		0	10			
COT BAY - RESUSCITATION/TREATMENT			0	14			
ISOLATION ROOM			0	1 x 14 (0)			Optional.
NURSERY - GENERAL CARE (4 COT BAYS)			1 x 30	see Remarks			L4 consists of 4 cots + workstation. 1 bay to be designed for resuscitation, stabilisation and
STORE - EQUIPMENT	yes		Share	1 x 14			
BATHING / EXAMINATION			1 x 10	1 x 10			
BREASTFEEDING ROOM			1 x 9	1 x 12			
FORMULA PREPARATION ROOM			1 x 9	1 x 14			Reprocessing teats, bottles, preparing formula

502321 510 .67.35 STAFF OFFICES

Notes:

Remainder of Offices/Workstations determined by Staff Establishment. Refer NSW Health Office Policy

STAFF OFFICES							
OFFICE - SINGLE 9M2 (UNIT MANAGER)	YES		Refer Ward	1 x 9	1 x 9	1 x 9	

502322 510 .67.45 STAFF AMENITIES (For Birthing & Nursery)

Notes:

Level 3 shared with Ward

STAFF AMENITIES (FOR BIRTHING & NURSERY)			Level 3	Level 4	Level 5	Level 6	
PROPERTY BAY	yes			1 x 2	1 x 2	1 x 2	Adjust size to suit establishment
STAFF ROOM	yes			1 x 15	1 x 20	1 x 25	Adjust size to suit establishment
SEMINAR ROOM				1 x 15	1 x 20	1 x 25	
MEETING ROOM	yes			1 x 15	1 x 20	1 x 25	Adjust size to suit establishment. May be shared
SHOWER - STAFF	yes			1 x 2	1 x 2	1 x 2	

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TOILET - STAFF	yes			1 x 3	1 x 3	1 x 3	
OVERNIGHT STAY - BEDROOM	yes			1 x 10 (o)	1 x 10 (o)	1 x 10 (o)	
OVERNIGHT STAY - EN SUITE	yes			1 x 4 (o)	1 x 4 (o)	1 x 4 (o)	

502323 510 .67.50 INPATIENT UNIT

Notes:

- access to general ward beds;
- remaining Support & Staff Areas as per HPU 340 - General Inpatient Accommodation.

ROOM/SPACE				24 Beds	30 Beds	30 Beds	Bed mix approx. 50% single rooms; number and mix may be adjusted
INPATIENT UNIT							
1 BED ROOM	yes			11 x 15	15 x 15	15 x 15	One room may be designated as a SANDS room
1 BED ROOM - SPECIAL	yes			1 x 18	1 x 18	1 x 18	Optional (multiple births etc)
2 BED ROOM	yes			6 x 25	7 x 25	7 x 25	
EN SUITE - STANDARD	yes			18 x 5	23 x 5	23 x 5	
BAY - HANDWASHING	yes			2 x 2	4 x 1	4 x 1	
LOUNGE - PATIENT	yes			1 x 15	1 x 15	1 x 15	with beverage facilities
NURSERY - GENERAL	yes			1 x 16 (o)	1 x 20 (o)	1 x 20 (o)	General care/holding only
BATHING/EXAM ROOM				1 x 12	1 x 12	1 x 12	
BATHROOM	yes			1 x 15	1 x 15	1 x 15	
DISCOUNTED CIRCULATION %				32%	35%	35%	35% to cater for the number of 1 & 2 bed rooms

Functional Relationships

502249 510 .68.00 A diagram of key functional relationships is attached.

Checklists

502343 510 .69.00 A security checklist is appended to this document. Refer also to Part C of these guidelines.

References and Further Reading

502344 510 .70.00 The NSW Framework for Maternity Services - 2000

Models of Maternity Service Provision across NSW, NSW Health, April 2003.

NSW Guide to Role Delineation of Health Care Services (Third Edition 2003)

NSW Department of Health HBG - DS-18 - Obstetric Unit 1992

Victorian HFG Guideline 510 - Obstetric Unit. March 2005 (Birthing Unit Only)

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Homebirth Policy Statement - NSW Health - PD2005-176

NSW Health Policy Directive PD2005-576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service.

502345 510 .71.00 ADDITIONAL REFERENCE MATERIAL USED IN COMPILING THIS HPU:

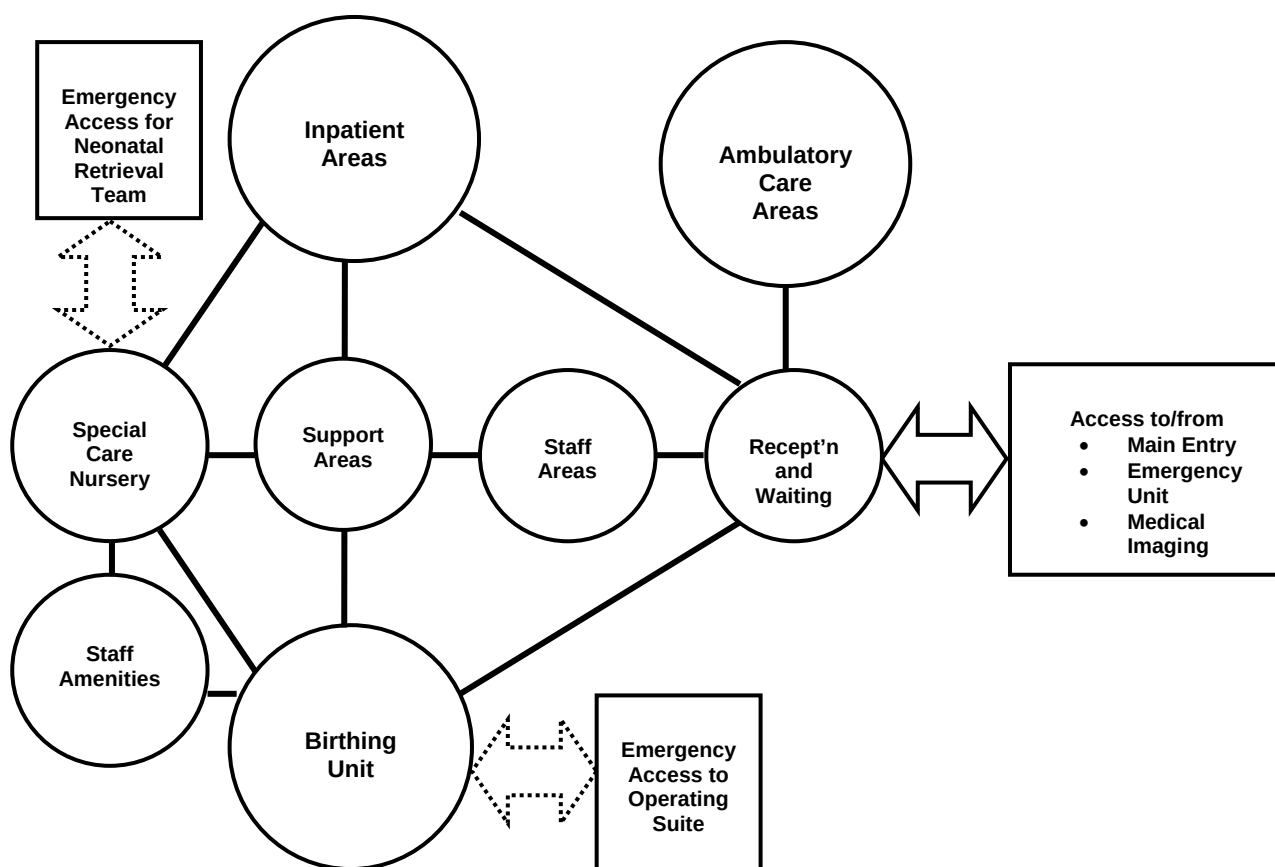
National Maternity Action Plan - The Maternity Coalition Inc. - "Implementing Community Midwifery Across NSW".

Evidence-based project briefing experience of the following Maternity Units/Hospitals:

- The Royal Hospital for Women, Sydney 1994;
- The Women's Hospital, Brisbane 1995;
- Campbelltown & Camden Hospitals' Maternity Units 1996;
- North Shore Hospital, Auckland, NZ, Maternity Unit 2000;
- Wellington, NZ, Women's Hospital 2002;
- The Royal Women's Hospital, Melbourne 2002 & 2004.

FUNCTIONAL RELATIONSHIP DIAGRAM –MATERNITY UNIT

The following diagram sets out the relationships between zones in a Maternity Unit:



SECURITY ISSUES TO BE CONSIDERED IN MATERNITY UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Pre-natal, birthing, post natal, mothers with sick and well baby's nursery.	1. Minimise entry and exit doors to all areas with newborn babies, minimising the risk of illegal removal of babies. 2. CCTV monitoring of Inpatient Unit entry and exit doorways. 3. After hours remote switch and video intercom on entry doors. 4. Use of reed switches and electric locking on external doors and entries. Swipe card readers may be required to both sides of internal doors, to allow access for authorized staff.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Relatives / Visitors – includes risk of violence from non-custodial, alcohol or drug affected parents/visitors.	1. Staff station at main entrance to allow staff to monitor access and egress. 2. Good visibility from staff station to nursery. 3. Minimise number of relatives/visitors admittance in the area by restricting number of relatives/visitors attending at any one time and/or restricting visiting hours to set times. 4. Implement appropriate specific security procedures in respect of the risk associated with illegal removal of babies. 5. If appropriate, install system in hallways to monitor visitors entering the unit. 6. Courtyards, where provided, to be securely screened/fenced and adequately monitored (from Staff Station, CCTV, etc.) 7. Reception desk security. 8. Duress alarm system.
2. Illegal removal of babies	1. Minimise entry/exit doors. 2. Controlled access of entry/exit doors. 3. No external opening doors/windows. 4. All egress past staff station. 5. CCTV on entry/exit doors. 6. Baby tagging system to set off alarm if attempted unauthorized removal of baby from the unit.
3. Patient files	1. Personnel working on these files must return to secure area after use or return to Medical Records Department. 2. If any electronic files are produced, locate in restricted area of hard drive.
4. Drugs storage	1. Dangerous drug safe within the clean utility area.
5. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
6. Safety of Hospital personnel	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. There must be lighting of exits and staff car parks.
7. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.

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SECURITY CHECKLIST – MATERNITY UNIT

FACILITY:	DEPARTMENT: Maternity Unit
RISK ISSUE	DESIGN RESPONSE
1. How is 'after hours' access provided for patients and how is this access point monitored?	
2. Do staffs have access to both fixed and mobile duress systems?	
3. Is access to patient records restricted to staff entitled to that access?	
4. Is a system implemented to prevent theft of equipment, files, personal possessions, etc?	
5. Are drug safes installed in accordance with current regulations?	
6. How is after hours access provided for staff?	
7. How are the offices secured during and after hours?	
8. Are there lockable storage areas available for specialised equipment?	
9. Is lockable furniture provided for storage of staff personal effects?	
10. How does this Department address the security of babies ?	
11. What systems are utilised to monitor access to rooms/wards by patients/visitors?	
DESIGN COMMENTARY / NOTES	DESIGN SIGN-OFF
	Name: Position: Signature: Date:
	Name: Position: Signature: Date:
	Name: Position: Signature: Date:

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Preamble

501224 520 .1.00

This Facility Planning Guideline aims to promote the development of optimal environments for the conduct of surgery and the pre and post operative management of patients undergoing surgical procedures, whilst enabling the adoption of emerging technologies and changing models of care.

The design of the Operating Unit and Peri-Operative Unit must be sufficiently flexible to accommodate the day-to-day fluctuations in surgical caseload and the corresponding fluctuations in staff and patient numbers.

A high quality physical environment will indicate that:

- the patient is valued;
- there is recognition of the positive contribution such environments make to the safe and efficient provision of surgery and for the pre-operative immediate post-operative recovery of patients;
- the staff who provide care are valued and enabled to provide optimal care in safe and pleasant workspace.

Introduction

503029 520 .2.00

This Section outlines the specific requirements for the planning of an Operating Unit or Peri-Operative Unit. Generic planning requirements and Standard Components must be read in conjunction with this section.

Since an Operating Unit may be incorporated within an Ambulatory Care facility, this section must be read in conjunction with the Ambulatory Care component of these Guidelines.

Policy Framework

501226 520 .3.00

NSW Health policies that impact on the management of surgical services and operations of Operating Units and Peri-Operative Units include:

Waiting Time and Elective Patient Management Policy, PD2006_020, 07-Mar-2006.

Guide to the Role Delineation of Health Services Third Edition, 2002.

What a difference a day can make - Same Day Surgical and Endoscopic Procedures Policy, May 1999.

Specific NSW Health's service plans impact on the planning of Operating Units. Selected highly specialised surgical procedures are provided on a statewide basis and as identified in the following:

Selected Specialty and Statewide Service Plan No 1 - Heart Lung Transplantation, January 2002.

Selected Specialty and Statewide Service plan No 2 - Pancreas Transplantation, January 2002.

Selected Specialty and Statewide Service Plan No 3 - Liver Transplantation, January 2002.

Selected Specialty and Statewide Service Plan No 4 - Severe Burns, May 2003.

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Description of the Unit

503000 520 .4.00 The Operating Unit is a physically distinct and environmentally controlled facility comprising one or more Operating Rooms, with provision to deliver anaesthesia and accommodation for the immediate post-operative recovery of patients.

The Operating Unit may be:

- located as a dedicated facility within a hospital;
- collocated with a specialist clinical service within a hospital such as a Burns Unit or Obstetric Unit;
- located in a free-standing ambulatory surgical facility;
- ancillary support services and staff amenities may also be included in the Operating Unit.

The Operating Suite module provides a safe and controlled environment for the care of patients undergoing operative procedures within the Operating Suite.

Facilities are provided for:

- patient reception / identification;
- induction of anaesthesia;
- operative procedures;
- post operative recovery;
- ancillary support;
- staff amenities.

500263 520 .5.00 PERI-OPERATIVE UNIT

The Peri-Operative Unit functions as:

- Pre-Admission Reception Area for patients undergoing surgery;
- Post-Surgical Recovery Area and Pre-Discharge Lounge for patients.

503001 520 .5.50 OPERATING UNIT

The Operating Unit functions as an appropriate and safe venue to perform surgical procedures, using inhaled and other anaesthetic agents, and to provide accommodation for the recovery of patients in the immediate post-operative period (Stage 1 Recovery). Whilst facilitating the surgical management of patients, the Unit must also provide facilities to meet the needs of staff working in the Area.

503003 520 .6.00 The design of the unit should permit unimpeded traffic flows for sterile and used materials, patients, visitors and staff.

501225 520 .7.00 The number of Operating Rooms and recovery beds/spaces required, the configuration of the support and other services, and the size of the facility are determined by:

- the anticipated volume of surgical procedures;
- the casemix and complexity of the surgical caseload.

Operational Models

- 501227 520 .8.00 The model of surgical service delivery determines the configuration of the Operating Unit, and the functional relationships required with other Units and facilities.
- Examples of models of surgical service delivery include:
- 'The Integrated Ambulatory Care Model' where patients access surgical and/or medical procedures and other complementary services on a planned day-only basis in a dedicated facility;
 - 'The Peri-Operative Model' where patients having planned surgery as day-only or day-of-surgery admissions are admitted to a dedicated facility prior to surgery. Planned and emergency surgery and 1st stage recovery is undertaken in the Operating Unit. Day-only cases are then transferred back to the facility for pre-discharge care;
 - 'The Short Stay Surgery Model' where patients having planned surgery as a day-only or overnight admission are admitted to a dedicated facility, then transferred to the Operating Unit for surgery and 1st stage post-operative recovery, and then returned to the facility. Post-operative stay is usually 48 hours or less;
 - 'Specialist Surgery Model' catering for a single specialty such as ophthalmology or plastic surgery. Patients are day-only admissions for surgery and recovery.

- 501228 520 .9.00 Users must define their own Operational Policies as one of the earliest steps in the planning process.
- Policies that may affect planning include:
- Admissions procedures;
 - the manner in which food, linen and supplies are ordered, supplied and stored;
 - Medical records management;
 - use of dedicated theatres for individual specialities;
 - inclusion of an emergency theatre;
 - inclusion or exclusion of day procedures;
 - provision of sterile supplies from Central Sterile Supplies Department (CSSD) or Theatre Sterile Supplies Unit (TSSU);
 - Day of Surgery Admissions (DOSA) and day surgery patients.
- Refer to Part B - General Requirements for general discussion on Operational Policies.

Planning Models

- 503004 520 .10.00 The operational model chosen for the Operating Unit will greatly influence the planning model adopted.
- 501229 520 .11.00 There are many options available for planning a new or upgraded Operating Suite. The response to the agreed Planning Model should be a layout that achieves a balance between the environmental needs of the staff, infection control, operational flow and functional requirements.
- 501230 520 .12.00 The location of departments such as Day Surgery, TSSU/CSSD, Admissions/Bookings and Administration Services and Facilities, including

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the separation of the flow of patients, staff, goods and services, will have an impact on the selection of the Planning Model.

- 501231 520 .13.00 The shape of the building and the location of the department within the building will affect the planning of the unit; however there are a number of other issues that will need to be evaluated prior to commencing the internal planning of the Department.
- 501232 520 .14.00 SINGLE CORRIDOR
- A single corridor is an option that is often considered where all the goods, clean and used, plus pre and post operative patients all traverse the one corridor. There is ongoing debate as to the suitability of this approach. However, this option is considered suitable provided:
- the main circulation corridor is sufficiently wide in order to permit separation of passage of goods and services;
 - handling of clean supplies and waste is carefully considered.
- 501235 520 .17.00 A disadvantage of this planning model is that a patient awaiting surgery may be exposed to other patients following their surgery. These patients may have drains, visible blood stains, etc, and be surrounded by equipment that could be upsetting to other patients prior to surgery.
- 501236 520 .18.00 RACE TRACK
- A race track model allows for all the Operating rooms to be accessed from the rear via a combined Set Up/Stock Room. This model aims to separate 'dirty' from 'clean' traffic by controlling the uses of each corridor.
- 501237 520 .19.00 This is often preferred, as both stock and staff can be concentrated in one location. It therefore prevents duplication of equipment stock and staff.
- 501238 520 .20.00 The issues of flash sterilisation for dropped instruments and specialised instruments often requires considerable thought and discussion in terms of the Operational Policy and instrumentation requirements.
- 501239 520 .21.00 SMALL CLUSTERS
- Small clusters of two to four Operating Rooms per cluster with a shared Stock and Set-Up Room is often a preferred model during the planning stages, however the operating costs of providing dedicated staff and stock duplication can be an issue.
- 501240 520 .22.00 This model can add to the corridor space and circulation space. The staff often prefer the space to be used as stock storage rather than as corridor and circulation space.
- 501241 520 .23.00 DEDICATED THEATRES WITH FIXED OR MOBILE EQUIPMENT

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This model dedicates particular theatres to specific types of surgery. This may be beneficial in larger suites where work volumes justify this specialisation. In smaller suites the benefits of flexible use of theatres usually outweighs the benefits of specialisation.

501242 520 .24.00 Fixed equipment can preclude the multifunctional use of the Room. If a piece of equipment needs repair, the room cannot be used.

501243 520 .25.00 If the activity requires, it can be useful to provide dedicated theatres for specialities such as Urology, with a dedicated table and drainage.

501244 520 .26.00 Fixed radiology equipment is large and difficult to clean and may not be required for all cases.

Other Planning Issues

501245 520 .27.00 STERILE SUPPLIES

Sterile supplies may be provided from a dedicated TSSU or from a CSSD that also serves other areas of the hospital. Whichever option is chosen the Theatre Suite is a major user of sterile stock and its location relative to the sterile supplies is of high importance.

501246 520 .28.00 The Theatre Sterile Supplies Unit may be located within the Suite or externally. It is preferable to locate the TSSU adjacent to the Suite with direct access between the departments. If the footprint for the service cannot be located on the same floor, a dedicated clean and used goods lift should be provided.

501247 520 .29.00 Adequate standing space should be provided to allow for the holding of set-up trolleys in front of each of the lifts.

501248 520 .30.00 SCRUB LOCATION

Many Suites are planned with a shared Scrub Room. This allows more than 2 or 3 persons to scrub per room and will speed the change round process.

501249 520 .31.00 Most Operating Suites are planned with the Scrub Room located on the patient entry side, and this is recommended.

501250 520 .32.00 Where space on the entry side is at a premium, Scrub Rooms may be located on the set up and sterile goods inward flow side.

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501251 520 .33.00 SET UP, STERILE STOCK FLOW AND LOCATION

Smaller Suites may incorporate the set up and the stock holding flow as part of the TSSU.

501252 520 .34.00 To increase efficiency and throughput, a sterile set up area may be located between, or to the rear, or if space allows, in the front of the Operating Room. If the sterile packs are unwrapped in this set up area, the air conditioning and room pressure implications are considerable and costly.

501253 520 .35.00 SEPARATION OF PRE AND POST OPERATIVE GOODS AND PERSONNEL

Theatres can be planned with an entry for the clean goods and the patient on one side and an exit bay on the other side for the patient and waste. This is a useful way to plan a Suite when same day and day surgery patients walk into the Suite. Trolley holding and stock may be located on one side and a clean up bay and waste holding on the other side.

The location of Recovery can be an issue when planning this option.

501254 520 .36.00 SINGLE STOREY SUITE VERSUS MULTI- STOREY SUITE

There are occasions where the Change Rooms and sometimes Offices and Tea Rooms must be located on a floor above or below the Operating Suite due to space restrictions.

501255 520 .37.00 In this model the Anaesthetists usually prefer the Staff Room to be located on the same floor as the Suite as ease of access to the Recovery is important.

501256 520 .38.00 WINDOWS

The need for an external view from the Operating Room is often a prime requirement. The implications for this concept are:

- vision from the Operating Room could be through a corridor, set up area or directly to the external environment;
- many procedures require black-out and there are additional cost associated with external heat shields and cleaning blinds within the clean zone of the Suite;
- if the windows to the Suite are located on the outside of the building there are often heating and cooling implications that will have a considerable impact on the recurrent costs of managing the Suite;
- viewing windows from a corridor to the Operating Room can be useful for supervision and training purposes;
- given that only a limited number of windows can be achieved within a Suite, it may be preferable to provide the Staff Amenities and the patients in Recovery and Day Surgery with the windows rather than the staff working in the Operating Rooms;
- where a TSU is part of the unit, windows should also be provided where possible.

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Functional Areas

501257 520 .39.00 UNIT FUNCTIONAL ZONES

The Operating Unit comprises the following Functional Zones:

- Admissions / Reception Area - for receipt and admission of patients to the Unit, with general overseeing of day-to-day operations, control of entry and exit from the Unit, and completion of general administrative tasks;
- Pre-Operative Holding Area - for holding and management of patients prior to their operation or procedure;
- Operating Rooms Area - where procedures are carried out;
- OR Support Areas - where stock and sterile supplies, linen, anaesthetic equipment and supplies are stored and managed, waste is disposed of, small items sterilised etc;
- Recovery Area - where patients are assisted through the process of recovering from the effects of anaesthetic;
- Staff Areas - Male / Female Change Rooms and Staff Room.
- Clinical Support Area - where office and administration space is provided for Clinical staff.

Functional Relationships

501261 520 .40.00 EXTERNAL

Patients may enter the Unit from a number of locations; some of these will be emergencies or need urgent treatment. For these reasons it is desirable to have close and direct relationships with:

- Emergency;
- ICU/NICU;
- Ambulance Bay;
- Helipad;
- Lifts;
- Delivery Suite.

Links between these Units and the Operating Unit should be rapid, direct and discreet.

To minimise stress to patients and other hospital users, transfer of severely ill patients to and from the Unit through public corridors should be avoided.

Other Units that are intimately linked with the day-to-day running of the Unit, and are often planned as a part of the Unit include:

- Peri-Operative Unit;
- CSSD/TSSU.

Other Units with which a close relationship is desirable include:

- Pathology;
- Imaging.

501264 520 .41.00 INTERNAL

Planning of an Operating Unit is complex and requires the correct relationships to be achieved between the Functional Areas listed above.

Key issues to be managed include:

- separation of clean and dirty traffic flows;
- logical orderly patient flow from arrival at Reception, through Pre Operative Holding, Theatre and Recovery back to either the Peri-Operative Unit, the Ward or discharge to home;
- the ability of staff to monitor the condition and safety of patients at all times;

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- the efficient management of the Unit, in particular ensuring the design does not result in additional staffing costs.

Achievement of all these goals is not readily described in words and readers should refer to the diagrams included with these Guidelines for guidance.

DESIGN

Disaster Planning

501265 520 .42.00 A Disaster Management Plan should be prepared which describes the role of the hospital in a disaster situation.

Depending on the type of disaster the Operating Unit may be a key facility with a substantially increased workload.

The role of the Unit in the Disaster Plan should be understood before planning commences.

This is discussed in more detail in Part B, Section 80 of these Guidelines.

Environmental Considerations

501267 520 .43.00 The Operating Unit can be a stressful environment for both patients and staff. The inclusion of natural light and views can improve the environment considerably, however when doing this, care must be taken to control glare and light intensity.

Operating Units will be airconditioned and particular parameters apply to the Operating Rooms, the Recovery Area and storage areas for sterile stock.

Colour can be used to avoid an institutional atmosphere.

503005 520 .44.00 In all areas where patient observation is critical such as Operating Room/s, Anaesthetic Room/s, Recovery Area/Room, Holding Area/Room, colours should be chosen that do not alter the observer's perception of skin colour.

Infection Control

501266 520 .45.00 Due to the invasive procedures undertaken, infection control is a key issue in the design and planning of the Unit. For this reason, traditional theatre designs featured clean and dirty zones defined by red lines and completely separate corridor systems for patients and for clean and dirty goods.

Today Operational Policies play a greater role in managing the risk of infection, however it remains a key issue in design of this Unit.

Refer to Part D Infection Control Guideline.

Finishes

501270 520 .46.00 GENERAL

As with most Units, the selection of finishes for the Operating Unit is influenced by both durability and infection control issues.

The finishes in the Operating Suite/Day Procedures Unit should be easy to clean to facilitate infection control. At the same time, they should be hard wearing and impervious to moisture.

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Due to the high number of trolley movements in the Unit, wall protection is an important issue, and wall and corner protection is required wherever there is the potential for damage from trolleys.

See Part C of these Guidelines for further information.

500267 520 .47.00 FLOOR FINISHES

The floor finishes should be of a type that are impervious to moisture, easily cleaned, stain resistant, comfortable for long periods of standing and suitable for wheeled traffic. In the Operating Rooms and Procedure Room, the colour should be such that there is sufficient contrast to find small dropped items.

Non-slip sheet vinyl with welded joints and coved skirtings is considered appropriate throughout the Unit.

Some substances heavily stain sheet vinyl. This should be considered when choosing a colour and pattern for the floor material.

Carpet may be used in the Waiting Area. A short dense pile is recommended.

See Part C of these Guidelines for further information.

500282 520 .48.00 CHANGES IN FLOOR FINISHES

Where there are changes in types of floor coverings e.g. vinyl, ceramic, tiles, carpet, there should not be a change in floor levels. Ridges, cover strips and humps where two surfaces meet are dangerous and noisy and represent an infection control problem, and safety hazard for potential slips, trips and falls.

See Part C of these Guidelines for further information.

500283 520 .49.00 WALL FINISHES

Wall surfaces are subject to the cleaning protocols documented in the Operational Policy for the Operating Suite/Day Procedures Unit.

Ceramic tiles are not recommended as a wall finish due to their potential to compromise infection control. These tiles are also susceptible to damage from trolleys and if cracked or broken individual tiles may be difficult to replace.

500284 520 .50.00 CEILINGS

Ceilings will be subjected to the cleaning protocols documented in the Operational Policy for the Unit.

See Part C of these Guidelines for further information.

500285 520 .51.00 BENCH TOPS

Bench tops should be of a smooth, impervious finish, resistant to damage and stains. Joins should be avoided if possible because they are difficult to keep clean. A range of products is suitable e.g. laminates, synthetics and stainless steel. Consideration should be given to the use of the bench tops

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and the type of material most suitable to their task.

500286 520 .52.00 WINDOW TREATMENTS

Window treatments to patient bed areas require consideration of infection control issues, and may require external or internal (between double glazing) treatments.

See Part C for further information.

500288 520 .53.00 CLEANING REQUIREMENTS

The cleaning policy of the Unit must be determined during the design period.

Design, layouts, fittings, furnishings, floor coverings and finishings will have significant impact on the cleaning of the Unit. Ledges, corners and all other surfaces that are difficult to clean should be minimised.

Facilities should be provided that will assist in the efficient cleaning of the unit e.g. appropriate location of power outlets, adequate storage of cleaning materials and equipment, waste disposal and handwashing facilities.

Fixtures & Fittings

501271 520 .54.00 See Part C for further information.

Safety and Security

501269 520 .55.00 For security of drugs and equipment, and infection control reasons, access to the Operating Unit should be controlled. Generally this is achieved by limiting access for everyone, other than authorised staff, to one entry point controlled by Reception.

OCCUPATIONAL HEALTH AND SAFETY

Employers and employees have a statutory obligation to ensure the health, safety and welfare at work of all employees.

The design of the Unit should seek to prevent injury and reduce the number of potential hazards.

Hazards that may be prominent in the Operating Suite / Day Procedures Unit include the risk of:

- exposure to infectious substances;
- exposure to radioactive materials;
- exposure to anaesthetic gases;
- exposure to decontamination agents;
- injury from machines and lifting.

503006 520 .56.00 SAFETY & SECURITY Issues list is appended to this document.

See also Safety and Security in Part C.

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Building Service Requirements

501272 520 .57.00 GENERAL

The provision of appropriate building services to the Operating Unit, and easy access to these from the unit, is essential for efficient and safe operation.

Services and systems required include:

- medical gases;
- communication and data systems such as telephones, nurse call, emergency call, email, internet and vacuum tube;
- mechanical airconditioning and humidity control;
- light and power;
- Patient Monitoring systems;
- telemetry systems;
- bar code readers;
- sterilising facilities;
- thermostatic mixing valves;
- ice machine;
- fume extraction where glutaraldehyde is used.

These are described in more detail in both Room Data and Room Layout Sheets.

501274 520 .58.00 STERILISING

Sterilising facilities with high-speed sterilisers or other sterilising equipment for immediate or emergency use must be grouped to several Operating Rooms for convenient, efficient use. A work space and handwashing facility should be included. Such facilities should be provided at the ratio of one per four Operating Rooms.

Other facilities for processing and sterilising reusable instruments may be located in another hospital unit such as Central Sterilising Supply Department (CSSD) or Theatre Sterile Supply Unit (TSSU).

204170 520 .59.00 STORAGE

Storage Bays should be provided for equipment such as portable X-ray equipment, stretchers, fracture tables, warming devices, auxiliary lamps.

Equipment Bays should be provided at the minimum rate of 5m² per theatre and minimum dimension of 0.8 m (1m preferred). These areas should not impede on corridors or disrupt traffic. This can be satisfied by recessing the Bay into the corridor walls or adding the minimum equipment bay width to the corridor width.

Note: Mobile Equipment Bays are best designed as elongated rectangular shapes and combined as far as possible.

COMPONENTS OF THE UNIT

General

500289 520 .60.00 This section must be read in conjunction with Part B Standard Components, Room Data Sheets and Room Layout Sheets. The following text describes only specific requirements not covered by these other documents.

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Standard Components

- 500290 520 .61.00 Provide the Standard Components as identified in the Generic Schedule of Accommodation. Provision of Offices, Workstations and support areas will be dependant on the Operational Policy and service demand and may vary from the Schedule of Accommodation, however, room sizes should remain consistent. See also Planning Models and Functional Areas.

Non-Standard Components

- 500291 520 .62.00 Provide the Non Standard Components as described in this section, according to Operational Policy and service demand.

Admissions / Reception Area

- 501277 520 .63.00 MEETING ROOM - 9m2

DESCRIPTION AND FUNCTION

Similar to Standard Component.

The Meeting/Interview Room is a multipurpose room that may be used as an office. The Interview Room may also be designed so that it is divided by a physical barrier, such as a desk top. This would enable staff to conduct an interview without the necessity of them compromising their 'clean' status and the need for visitors to change into Operating Suite attire.

Functions and activities include:

- consultations;
- interviews;
- grief counselling with relatives;
- office activities.

This room will be multipurpose including functions usually associated with a Treatment Room.

LOCATION AND RELATIONSHIPS

The Consult Interview Room should be on the boundary between clean and dirty zones.

- 501275 520 .64.00 RECEPTION / CLERICAL

DESCRIPTION AND FUNCTION

The Reception / Clerical Area is the focal point of entry into the Operating Suite. It controls the boundary between the Operating Suite and the rest of the hospital.

The functions and activities of the Reception / Clerical Area include:

- patient delivery and identification;
- clerical work;
- enquiry point;
- monitoring of all persons entering / exiting the suite;
- over sighting of the Holding Bay;
- reception of goods.

LOCATION AND RELATIONSHIPS

The Reception / Clerical Area is located at the entry to the Operating Suite

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with direct access to both the hospital corridor and the Operating Suite corridor.

Patient Areas

501301 520 .65.00 EXIT BAY

DESCRIPTION AND FUNCTION

The Exit Area is for the egress of the patient and used equipment at the conclusion of a procedure. This area may be shared between two or more Operating/Procedure Rooms.

Functions and Activities undertaken include:

- storage of patient bed while procedure is in progress;
- used linen trolley, optional;
- storage of table accessories.

To comply with Standard Components.

LOCATION AND RELATIONSHIPS

Direct access is required:

- from the Operating/Procedure Room(s);
- to the Operating Suite corridor.

501278 520 .66.00 PATIENT BAY - HOLDING

DESCRIPTION AND FUNCTION

The Pre-Operative Holding Bays are a preparation area for patients immediately prior to their procedures.

People occupying space: 4 patients, 2 staff, average.

The functions and activities include:

- holding patients prior to transfer to the Operating Suite / Procedures Room;
- premedication of patients, when appropriate;
- pre-procedural preparations e.g. shaving, where appropriate;
- monitoring patients' condition prior to a procedure;
- pre-procedural documentation;
- pre-procedural identification;
- safe-keeping of personal effects (refer Operational Policy).

LOCATION AND RELATIONSHIPS

The Pre-Operative Holding Area should be located adjacent to the Operating / Procedure Rooms, the Patient Change Cubicles, Shower and Toilets and close to the Waiting Area and Reception Area.

503008 520 .67.00 PATIENT BAY - RECOVERY

DESCRIPTION AND FUNCTION

The Recovery Area / Room should provide for the following main functions:

- recovery of patients from anaesthetic;
- observation of patients including skin tone, blood pressure and pulse rate measurement;

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- resuscitation of patients, if required;
- bench level activities and storage;
- storage of clean linen;
- clinical handwashing;
- storage of drugs, some of which may require refrigeration.

LOCATION AND RELATIONSHIPS

Stage 1 Recovery Cubicles or rooms should be designed in such a way to permit good observation from a Staff Station, when required. This will require either open fronts or wide central doors to any private Stage 1 Recovery Rooms.

Any private room provided for Stage 1 Recovery may also be used for pre-operative preparation, changing or waiting of patients.

Note: Nothing in these requirements prevents the possibility of integrating the Stage 1 Day Surgery Recovery Room with the main Recovery Room of the Operating Unit.

Stage 2 should provide reasonable privacy for each patient such as curtained cubicles or private rooms of adequate size.

A Patient Toilet directly accessible from patient recovery should be provided.

There should be a clearance of at least 1.2 metres between patient beds and between patient bedsides and adjacent walls. Provision should be made for the isolation of infectious patients.

Clinical handwashing facilities type A (see Part D) with hands-free taps should be provided at the rate of at least one for every four beds. These should be uniformly distributed to provide equal access from each patient bed.

Refer Part D of these Guidelines for Infection Control.

Staff Areas

501311 520 .68.00 ANAESTHETIC STORE

DESCRIPTION AND FUNCTION

An area for storage of consumables, monitors and spare parts for anaesthetic equipment.

LOCATION AND RELATIONSHIPS

Direct access from the Operating Suite corridor for staff and equipment, and to Workroom.

501310 520 .69.00 ANAESTHETIC WORKROOM AND BIOMEDICAL EQUIPMENT

DESCRIPTION AND FUNCTION

An area for the repair maintenance and calibration of both Anaesthetic and Biomedical equipment, and as a work base for anaesthetic and biomedical technicians when visiting the Unit.

LOCATION AND RELATIONSHIPS

Accessible from both the sterile and non-sterile areas of the Unit.

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501318 520 .70.00 AUDIOVISUAL WORKROOM

DESCRIPTION AND FUNCTION

A room for audiovisual technicians to manage the recording, editing, broadcast and storage of video images used for teaching purposes.

LOCATION AND RELATIONSHIPS

In a non sterile part of the Unit with ready access from outside the Unit. Irregular access may be required to the Operating Rooms for camera maintenance.

501283 520 .71.00 BAY - BLANKET WARMER

DESCRIPTION AND FUNCTION

A Bay to accommodate a machine for the storing and warming of blankets.

LOCATION AND RELATIONSHIPS

This should be located off the Operating Suite corridor with ready access to the Operating Rooms and Holding/Anaesthetic Bays.

501315 520 .72.00 BAY - BLANKET/FLUID WARMER

DESCRIPTION AND FUNCTION

A Bay for a combined blanket and fluid warmer. This is likely to be used in a smaller Unit.

LOCATION AND RELATIONSHIPS

Centrally within the Unit accessible from Patient Care Areas such as Pre-Operative Holding and Operating Rooms.

501316 520 .73.00 BAY - FLUID

DESCRIPTION AND FUNCTION

A Bay for a fluid warmer.

LOCATION AND RELATIONSHIPS

Centrally within the unit accessible from Patient Care Areas such as Pre-Operative Holding and Operating Rooms.

501320 520 .74.00 BAY - PATHOLOGY

DESCRIPTION AND FUNCTION

Depending on the Operational Policy, an area for preparation and examination of frozen sections may be provided. This function may be performed by the general Pathology Laboratory if immediate results are obtainable without unnecessarily delaying the completion of surgery.

LOCATION AND RELATIONSHIPS

Centrally within the Unit, accessible from Operating Rooms and Patient Care/Holding Areas.

501319 520 .75.00 BLOOD STORE

DESCRIPTION AND FUNCTION

An area for refrigerated storage of blood and blood products.

LOCATION AND RELATIONSHIPS

Centrally within the Unit, accessible from operating rooms and patient care/holding areas.

501302 520 .76.00 FLASH STERILISING

DESCRIPTION AND FUNCTION

The Sterilising Bay is where instruments are sterilised within the Operating Suite.

People occupying space: 1-2 average.

The Sterilising Bay is fitted out for the washing and sterilising of instruments that are dropped in Operating Room procedures.

LOCATION AND RELATIONSHIPS

The Sterilising Bay, is immediately adjacent to the Operating Rooms and may be located in an alcove off the Sterile Stock Store or Set-Up Area.

The Sterilising Bay should not be located in either the Anaesthetic Induction or Scrub-up Rooms nor should it be located where steam could affect sterile stock.

Where possible one Sterilising Bay should be shared between two Operating Rooms.

501312 520 .77.00 PERFUSION ROOM

DESCRIPTION AND FUNCTION

An area for cleaning and maintaining perfusion equipment.

LOCATION AND RELATIONSHIPS

Direct access to the Operating Rooms in which the equipment is used.

501306 520 .78.00 SET-UP

DESCRIPTION AND FUNCTION

The Set-Up Area is where trolleys for each case are assembled i.e. loaded with instruments and sterile supplies, prior to delivery to the Operating/Procedure Rooms for set-up, which is the opening and laying out of the contents of the packs.

LOCATION AND RELATIONSHIPS

The Set-Up Area should have a direct relationship to the Operating Room(s) and the Central Sterile Supply Unit or Theatre Sterile Supply Unit, whichever is appropriate.

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Direct access to:

- Operating Rooms;
- Procedure Room;
- Central Sterile Supply Unit or Theatre Sterile Supply Unit, as appropriate.

501280 520 .79.00 STAFF STATION

DESCRIPTION AND FUNCTION

The Staff Station is the focal point controlling the functioning of the Operating Suite.

Functions and activities of the Staff Station include:

- staff handover;
- communications centre (telephone & computer) for the Operating Suite;
- preparation of operating lists;
- control and updating of drug records;
- stock control of Operating Suite supplies;
- report writing.

LOCATION AND RELATIONSHIPS

Operational Policies will affect the design and location of the Staff Station e.g. the Operational Policies may be such that the Staff Station has to overview one or more of the following areas: Reception / Entry Area, Holding Bay or Recovery.

501308 520 .80.00 STORE - EQUIPMENT - MAJOR

DESCRIPTION AND FUNCTION

The Equipment Store, provides for the storage of equipment not currently required in the Operating Rooms. Each item must be easily accessible. The area should not be so cluttered that fragile equipment is bumped or damaged.

LOCATION AND RELATIONSHIPS

Direct access is required:

- to the Operating Suite corridor and Operating Rooms.

501309 520 .81.00 STORE - EQUIPMENT - MINOR

DESCRIPTION AND FUNCTION

Similar to Store - Equipment - Major.

This is a supplementary store to provide an alternative location for storage of equipment closer to where it may be used, especially in a larger Unit.

LOCATION AND RELATIONSHIPS

Similar to Store - Equipment - Major

501303 520 .82.00 STORE - NON STERILE/DEBOXING

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DESCRIPTION AND FUNCTION

The storage of non-sterile goods on an open mobile shelving system for use in the Operating Suite.

LOCATION AND RELATIONSHIPS

Direct access is required to the Operating Suite corridor and from the Reception/Entry Area.

501313 520 .83.00 STORE - PERFUSION

DESCRIPTION AND FUNCTION

A room for the storage of consumable goods and spare parts for the perfusion equipment.

LOCATION AND RELATIONSHIPS

Direct access to the Perfusion Room.

APPENDICES

Schedule of Accommodation

501341 520 . Schedule of Accommodation for an Operating Unit at Levels 3, 4, 5 and 6 is at the end of this section.

501342 520 . See Schedule of Accommodation for notes.

500292 520 .84.00 A Schedule of Accommodation for Units at Levels 2, 3, 4, 5, and 6 follows.

GENERAL NOTE: Quantities and sizes of some spaces will need to be determined in response to the service needs of each unit on a case by case basis.

ROOMS/SPACE	Standard Component		Level 2	Level 3	Level 4	Level 5/6	REMARKS
OPERATING UNIT:			Qty x m2	Qty x m2	Qty x m2	Qty x m2	*Optional
ADMISSIONS/RECEPTION AREA -							
RECEPTION / CLERICAL			1 x 9	1 x 12	1 x 12	15	Level 2 includes space for porter.
WAITING	yes			1 x 4	1 x 8	16	Near Unit entry & reception.
MEETING ROOM - 9M2	similar			1 x 9	1 x 9	9	May also accommodate office & interview function.
PRE-OPERATIVE HOLDING AREA -							Caters for inpatients, day of procedures & DOSA patients.
PATIENT BAY - HOLDING			1 x 9	2 x 8	4 x 8	8	1 per theatre; sized for trolleys, but some may be spaces for peri-operat chairs @ 5m2.
OFFICE - WRITE-UP BAY	similar			1 x 6	1 x 6	1 x 6	Staff Work Area; ready access from Ors, main corridor, quiet & privacy desirable.

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STAFF STATION						6	Only allocated for L5/6 as Reception could be base used for other levels.
BAY - HANDWASHING	yes		1 x 1	1 x 1	1 x 1	1	Min 1 per 8 spaces. Accessible from OR & Patient Care/Holding Areas.
BAY - LINEN	yes					2	Min 1 per 16 spaces. Corridor with ready access to Holding/Anaesth Bays.
BAY - BLANKET WARMER						2	Min 1 per 8 spaces.
CLEAN UTILITY	yes					8	Direct access from Patient Holding Areas, may be shared with Recovery.
DIRTY UTILITY	yes					6	Direct access from Patient Holding Areas, may be shared with Recov & Post Op Lnge.
OPERATING ROOMS AREA -							
ANAESTHETIC INDUCTION	yes			2 x 15	4 x 15	15	1 per theatre
ANAESTHETIC INDUCTION - LARGE	yes					18	1 per larger theatre; in some instances may be suitable for L4.
OPERATING ROOM - GENERAL	yes		1 x 42	2 x 42	4 x 42	42	
OPERATING ROOM - LARGE	yes					52*	
SCRUB UP	yes		1 x 6	2 x 8	4 x 8	8	1 per theatre, may be shared. Located between Operating Rooms as required.
EXIT BAY			1 x 8	2 x 8	4 x 8	8	1 per theatre.
OR SUPPORT AREA -							
CLEAN UP	yes		1 x 15	1 x 15	2 x 15	15	1 per 2 theatres.
FLASH STERILISING			1 x 2	1 x 2	1 x 2	2	1 per 4 theatres. If area req'd to accomm a Steris machine, incr size to 6m2.
STORE - NON STERILE / DEBOXING			1 x 20	1 x 20	1 x 30	30	
STORE - STERILE STOCK	yes		1 x 12	1 x 24	1 x 44	10	Allows for 10-12 m2 per Operating Theatre. Direct relationship to CSSU/TSSU.
BAY - MOBILE EQUIPMENT	yes		1 x 2.5	2 x 2.5	4 x 2.5	2.5	1 per theatre.
SET-UP				1 x 8*	2 x 8*	8	Depends on Operational Policy eg may differ where case cart system used.
STORE - EQUIPMENT - MAJOR	yes		1 x 30	1 x 30	1 x 40	75	
STORE - EQUIPMENT - MINOR	yes			1 x 10	1 x 10	60	
ANAESTHETIC WORKROOM + BIOMEDICAL EQUIPMENT				1 x 10*	1 x 15*	20*	Assumes dedicated biomedical space for Levels 5/6.
ANAESTHETIC STORE				1 x 15	1 x 20	35	
PERFUSION ROOM						42*	
STORE - PERFUSION						30*	
BAY - LINEN	yes		1 x 2	1 x 2	2 x 2	2	1 per theatre. Corridor with ready access to OR.
BAY - FLUID/BLANKET WARMER			1 x 1	1 x 1			
BAY - FLUID					1 x 1	1	1 per 4 theatres.
BAY - BLANKET WARMER					1 x 1	1	1 per 4 theatres
AUDIOVISUAL WORKROOM						12	

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CLEANER'S ROOM	yes		1 x 5	1 x 5	1 x 5	5	1 per 8 theatres; ready access to all areas of unit, pref on perimeter in non-critical area.
DISPOSAL	yes		1 x 10	1 x 10	1 x 10	10	
BLOOD STORE			1 x 2*	1 x 2	1 x 2	2	May be for whole facility.
BAY - PATHOLOGY				1 x 9*	1 x 9*	9*	May be collocated with Clean Workroom or Blood Storage area.
OFFICE - WRITE-UP BAY	yes		1 x 6	1 x 6	1 x 6	6	
RECOVERY AREA -							
PATIENT BAY - RECOVERY			2 x 9*	4 x 9	8 x 9	9	2 beds per theatre & Proc Rm. L2 assumes Day Surg Patients recover in that Unit.
STAFF STATION - RECOVERY				1 x 9	1 x 12	24	
CLEAN UTILITY	yes			1 x 10	1 x 12	24	Direct access from Recovery Areas, may be shared with Patient Holding Areas.
DIRTY UTILITY	yes			1 x 12	1 x 12	16	Direct access from Recovery & Post Op Areas, may be shared with Patient Holding.
BAY - LINEN	yes			1 x 2	1 x 2	2	1 per 16 spaces.
BAY - BLANKET/FLUID WARMER				1 x 1	1 x 1	1	1 per 16 spaces.
STORE - GENERAL	yes			1 x 6	1 x 6	10	Low traffic area, access to pat holding; large eqt & deliv trolleys; wide & shallow preferred.
BAY - RESUSCITATION TROLLEY	yes			1 x 1	1 x 1	1	Central, access reqd from Operat'g R'ms & Patient Care/Holding Areas.
BAY - HANDWASHING	yes			1 x 1	2 x 1	1	1 per 8 spaces.
MEETING ROOM - 9M2	yes					9	
STAFF AREAS -							
CHANGE - STAFF	yes		2 x 25	2 x 20	2 x 35	2 x 120	Incl shrs & toilets; divide for female & male - refer relevant awards & legislation.
STAFF ROOM	yes		1 x 20	1 x 20	1 x 30	60	Minimise need to leave Unit. Smaller units - share as appropriate. Ext window desirable.
TOILET - STAFF	yes					3*	
DISCOUNTED CIRCULATION			35%	35%	40%	45%	
CLINICAL SUPPORT AREA* -							Depend on Operational Policy & management structure; HPUs may share.
OFFICE - SINGLE PERSON 9M2	yes			1 x 9	1 x 9	9	NUM clinical
OFFICE - SINGLE PERSON 12M2	yes				1 x 12	12	Nurse manager
OFFICE - SINGLE PERSON 9M2	yes					3 x 9	Recovery NUM, Anaesthetic NUM, IT Applications Manager
OFFICE - SINGLE PERSON 9M2	yes				3 x 9	3 x 9	Surgeon, Anaesthetist, CNC/Educator
OFFICE - 2 PERSON SHARED	yes				1 x 12	12	
OFFICE - 3 PERSON SHARED	yes				1 x 15	2 x 15	
MEETING ROOM - 12M2	yes		Shared	1 x 12			
MEETING ROOM - MEDIUM/LARGE	yes				1 x 15	30	1 per 8 theatres. With other office areas, ready access to main theatre corridor.
PERIOPERATIVE UNIT:							

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ROOM/SPACE	Standard Component		Level 2	Level 3	Level 4	Level 5/6	REMARKS
			Qty x m2	Qty x m2	Qty x m2	Qty x m2	*Optional
ADMISSION/RECEPTION AREA -							
CLERICAL SUPPORT/ MEDICAL RECORDS			1 x 9	1 x 9	1 x 9	1 x 9	May be shared with Operating Unit or Ambulatory Care Unit.
ENTRY CANOPY			Varies*	Varies*	Varies*	Varies*	Only required where external access is available.
LOBBY/AIRLOCK			1 x 12*	1 x 12*	1 x 12*	1 x 12*	Only required where external access is available.
RECEPTION/CLERICAL			1 x 9	1 x 9	1 x 9	1 x 12	May be shared with Theatre or consolidated with Reception in smaller units.
TOILET - DISABLED	yes		1 x 5	1 x 5	1 x 5	1 x 5	
TOILET - PUBLIC	yes		2 x 3	2 x 3	2 x 3	2 x 3	
WAITING - WARD PERSON				1 x 6	1 x 6	1 x 9	
PRE-OPERATIVE AREA -							
WAITING	yes						Lounge area for waiting relatives and patients.
CHANGE CUBICLE - PATIENT	yes		1 x 2	2 x 2	3 x 2	4 x 2	
1 BED ROOM - ISOLATION (CLASS S)	yes		1 x 12	1 x 12	1 x 12	2 x 12	
BAY - RESUSCITATION TROLLEY	yes		1 x 2	1 x 2	1 x 2	1 x 2	
CONSULT ROOM	yes		2 x 12	2 x 12	3 x 12	4 x 12	
ENSUITE - ISOLATION ROOM	yes		1 x 5	1 x 5	1 x 5	2 x 5	For each Isolation Room.
PATIENT BAY - HOLDING			2 x 9	8 x 8	16 x 8	24 x 8	
BAY - PATIENT PROPERTY			1 x 2	1 x 2	1 x 4	1 x 4	
BAY - HANDWASHING	yes		1 x 1	1 x 1	1 x 1	1	Minimum 1 per spaces.
SHOWER - PATIENT	yes		1 x 3	1 x 3	1 x 3	1 x 3	
TOILET - PATIENT	yes		1 x 3	1 x 3	2 x 3	3 x 3	Additional may be required if colonoscopy performed.
TOILET - PATIENT DISABLED	yes		1 x 5	1 x 5	1 x 5	1 x 5	
CLEAN UTILITY/ MEDICATION	yes		1 x 10	1 x 10	1 x 12	1 x 12	Could be shared.
POST-OPERATIVE AREA -							
PATIENT BAY - RECOVERY			3 x 9	4 x 9	8 x 9	9 x 9	2 per theatre.
LOUNGE - PATIENT RECOVERY			1 x 12	1 x 16	1 x 16	1 x 20	
STAFF STATION - RECOVERY			1 x 9	1 x 9	1 x 12	1 x 16	
CLEAN UTILITY	yes		1 x 10	1 x 10	1 x 12	1 x 12	Could be shared.
DIRTY UTILITY	yes		1 x 14	1 x 14	1 x 14	1 x 14	Could be shared.
DISPOSALROOM	yes		1 x 8	1 x 8	1 x 8	1 x 8	Could be shared.

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BAY - LINEN	yes		1 x 2	1 x 2	1 x 2	1 x 2	
BAY - BLANKET/FLUID WARMER			1 x 1	1 x 1	1 x 1	1 x 1	
STORE - GENERAL	yes		1 x 6	1 x 6	1 x 8	1 x 10	
BAY - RESUSCITATION TROLLEY	yes		1 x 1	1 x 1	1 x 1	1 x 1	
BAY - HANDWASHING	yes		1 x 1	1 x 1	1 x 1	1 x 1	
MEETING ROOM - 9M2	yes					9	May be shared with Ambulatory Care or Operating Unit.
STAFF AREAS -							
BAY/ROOM - BEVERAGE	yes		1 x 3	1 x 3	1 x 3	1 x 3	For patients post-procedure.
BAY - STAFF PROPERTY	yes		1 x 2	1 x 3	1 x 3	1 x 3	
BAY - PATHOLOGY			1 x 5	1 x 5	1 x 5	1 x 5	May be shared with Ambulatory Care or Operating Unit.
CLEANER'S ROOM	yes		1 x 5*	1 x 5*	1 x 5*	1 x 5*	May be shared with Ambulatory Care or Operating Unit.
OFFICE - CLINICAL/HANDOVER	yes		1 x 12	1 x 16	1 x 16	1 x 16	Write-up, multipurpose function.
OFFICE - SINGLE PERSON 9M2	yes		1 x 9	1 x 9	2 x 9	2 x 9	
STORE - GENERAL/ EQUIPMENT	yes		1 x 12	1 x 14	1 x 14	1 x 16	
PRE-ADMISSION CLINIC -							
CONSULT ROOM	yes		2 x 12	2 x 12	3 x 12	4 x 12	May be shared with Pre-Operative Area.
CLINICAL MEASUREMENT						1 x 12	Provided in Consult Rooms in smaller units.
OFFICE - SINGLE PERSON 9M2	yes		1 x 9	1 x 9	2 x 9	2 x 9	

Functional Relationships

501343 520 .85.00 A diagram showing key functional relationships is attached.

Checklists

502223 520 .86.00 A Security Checklist is attached to this document.

Operating Unit Flow Diagrams

910516 520 .87.00 The relationships between the various components within an Operating Unit are best described by process flow diagrams. The requirements for infection control and patient management result in a number of planning 'models' that have proved successful through numerous built examples and many years of practice.

Most Operating Unit plans are a variation of one of these 'models'. These have been provided in the Enclosures to these Guidelines.

A plan substantially based on one of these diagrams is 'deemed to satisfy' the requirements of these Guidelines.

A plan that is significantly different to these diagrams should be carefully

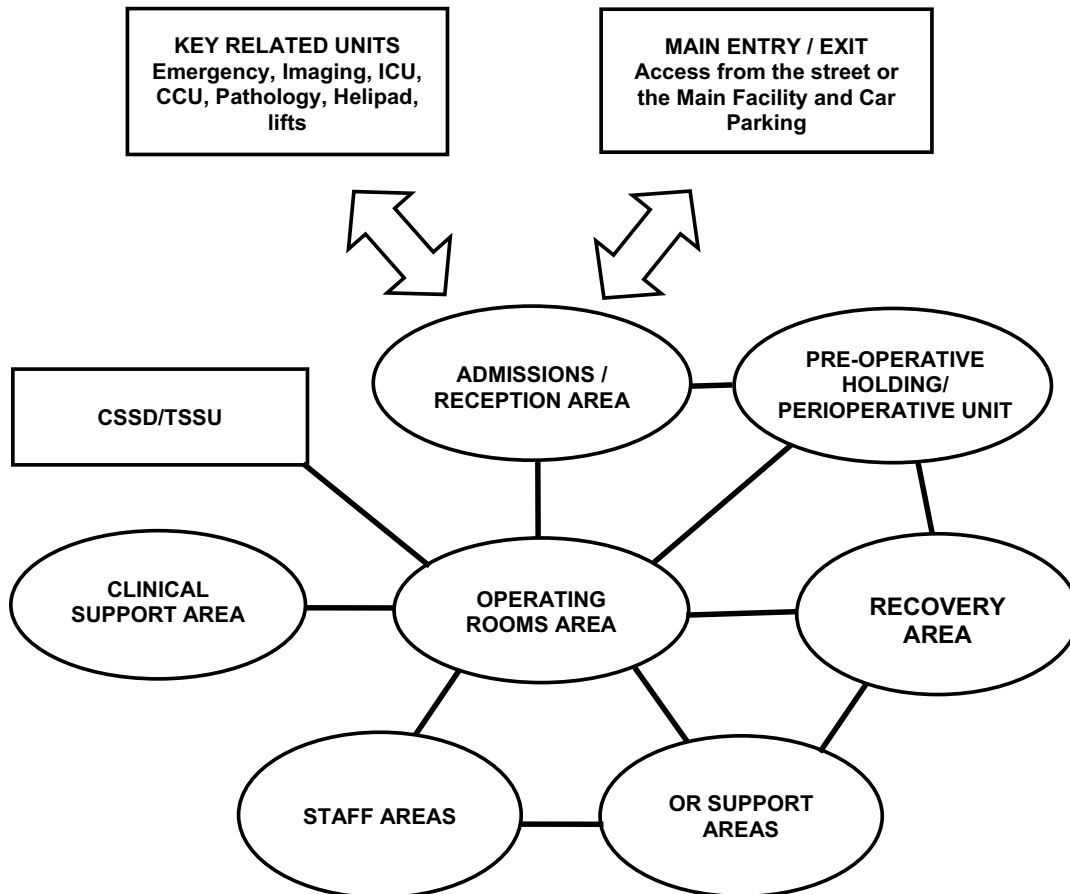
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examined against all the individual requirements of these Guidelines, especially those of Infection Control to determine if it is acceptable.

- 910517 520 .88.00 The enclosed Operating Unit flow diagrams also show the relationships between typical adjoining Units such as CSSU and possibly Day Surgery. For separate flow diagrams for CSSU, please refer to enclosures B1 to B6. For Operating Unit flow diagrams refer to enclosures B7 to B9. Flow diagrams B6 and B7 in combination create one complete surgical floor.
- 910518 520 .89.00 In reviewing and using the enclosed Operating Unit flow diagrams, designers should carefully consider a number of issues.
- Each flow diagram represents a method of managing patient access, clean/dirty flow, air pressurisation, sterilisation of dropped instruments etc.
- The diagrams are different, but each addresses the issues involved in a satisfactory manner. Each option may suit a different management mode or building configuration.
- Designers are strongly cautioned against creating hybrid options by combining features of various diagrams. This may result in wrong clean/dirty flows or other unacceptable features. If in doubt, designers should seek advice from specialist Theatre consultants and Infection Control nurses.
- 910519 520 .90.00 Flow diagram in enclosure B7 shows a base model. This is a linear model. It can be stretched to create the number of Operating Rooms desired. The support facilities required also grow with the number of Operating Rooms. This base model integrates fully with the CSSU simple model provided in enclosure B6.
- 910520 520 .91.00 Enclosure B8 shows alternatives to a typical Operating Room Module. Each module includes the configuration of:
- Operating Rooms;
 - Anaesthetic Induction Rooms;
 - Scrub Bays or Rooms;
 - Sterile Stock Store / Set-Up Room;
 - Clean-Up Room;
 - Flash Sterilising Bay.
- Enclosure B8 includes 4 alternatives that can be designed to work with the base Operating Unit model shown in Enclosure B7.

FUNCTIONAL RELATIONSHIP DIAGRAM – OPERATING UNIT

The following diagram sets out the relationships between zones in an Operating Unit:



SECURITY ISSUES TO BE CONSIDERED FOR OPERATING THEATRES

GENERIC SAFETY AND/ OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. To receive and return patients after undergoing surgery.	1. Minimise entry and exit doors and restricted area through to sterile areas.

SPECIFIC SAFETY AND/ OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Presence of drugs	1. Dangerous drug safe within the Clean Utility Area. 2. Dangerous drug safe in each Operating Room where mandated by Operational Policy.
2. Staff security.	1. Access doors to be locked at all times with key or card access provided to appropriate staff and monitoring system for personnel requiring access.
3. Furniture fittings and equipment including Computers and Office Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
4. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Restrict/minimise access by relatives to Recovery Area.
5. Staff personal effects	1. Provision for lockers in Staff Areas and lockable desk drawer to keep small personal effects.

SECURITY CHECKLIST – OPERATING THEATRES

FACILITY:	DEPARTMENT: Operating Theatres	
RISK ISSUE	DESIGN RESPONSE	
1. Do staff have access to both fixed and mobile duress systems?		
2. Is access to patient records restricted to staff entitled to that access?		
3. Is a system implemented to prevent theft of equipment, files, personal possessions, etc?		
4. Are drug safes installed in accordance with current regulations?		
5. How is after hours access provided for staff?		
6. How is this area secured during and after hours?		
7. Are there lockable storage areas available for specialised equipment?		
8. Is lockable furniture provided for storage of staff personal effects?		
9. How is access monitored?		
10. How is access by relatives/visitors managed and monitored?		
DESIGN COMMENTARY / NOTES		DESIGN SIGN-OFF
		Name:
		Position:
		Signature:
		Date:
		Name:
		Position:
		Signature:
		Date:
		Name:
		Position:
		Signature:
		Date:

Heading

Sub-heading

Operating Unit Flow Diagrams

Enclosure B7
Operating Suite/ Day Surgery/
CSSU Base Model

NOTE 1	ONLY THE MOST IMPORTANT FUNCTIONS ARE SHOWN FOR CLARITY
NOTE 2	CSSU MAY BE CONNECTED VIA SEPARATE CLEAN/DIRTY HOISTS
NOTE 3	OPERATING ROOM MODULE MAY BE MIRRORED AGAINST STERILE STOCK STORE TO DOUBLE THE NUMBER OF OPERATING ROOMS
NOTE 4	ANAESTHETIC INDUCTION ROOM IS OPTIONAL AND MAY BE CONSIDER AS HOLDING ROOM



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Heading

Operating Unit (B)

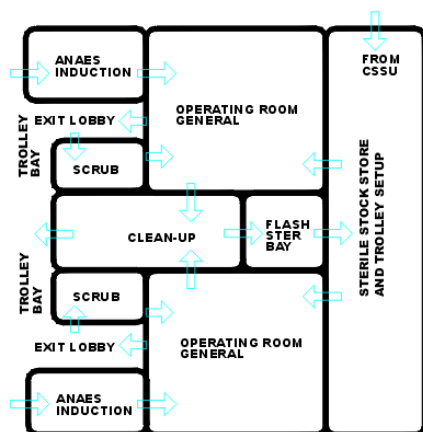
Sub-heading

Operating Unit Flow Diagrams

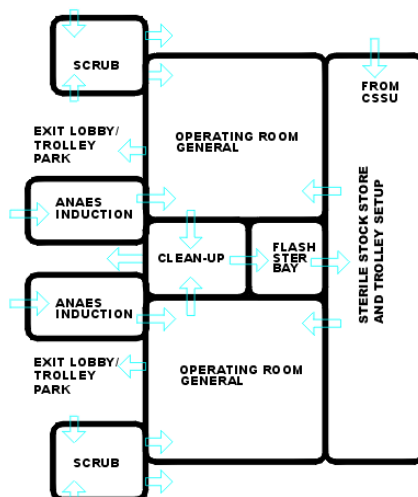
Enclosure-B8

Enclosure B8 Operating Room Modules

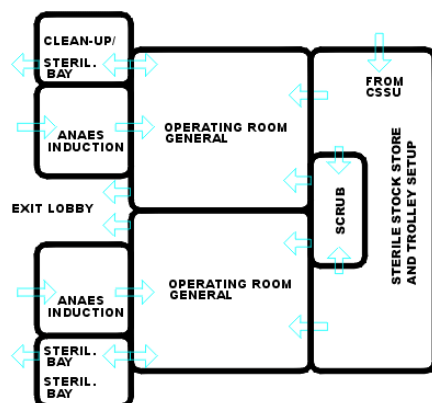
- NOTE 1 ONLY THE MOST IMPORTANT FUNCTIONS ARE SHOWN FOR CLARITY
NOTE 2 CSSU MAYBE CONNECTED VIA SEPARATE CLEAN/DIRTY HOISTS
NOTE 3 OPERATING ROOM MODULE MAY BE MIRRORED AGAINST STERILE STOCK STORE TO DOUBLE THE NUMBER OF OPERATING ROOMS
NOTE 4 ANAESTHETIC INDUCTION ROOM IS OPTIONAL AND MAY BE CONSIDER AS HOLDING ROOM



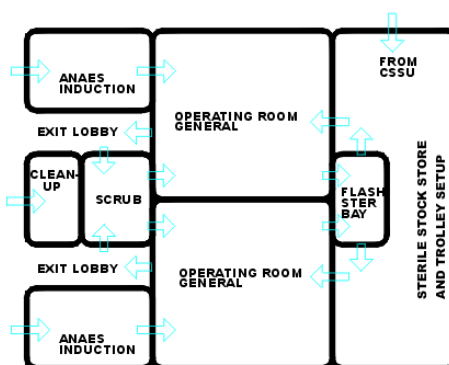
**Operating Room
Module Type A**



**Operating Room
Module Type B**



**Operating Room
Module Type C**



**Operating Room
Module Type D**

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Heading

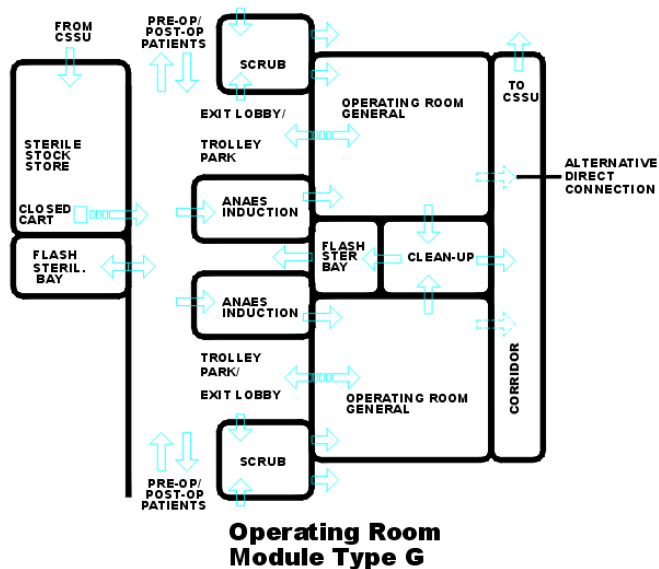
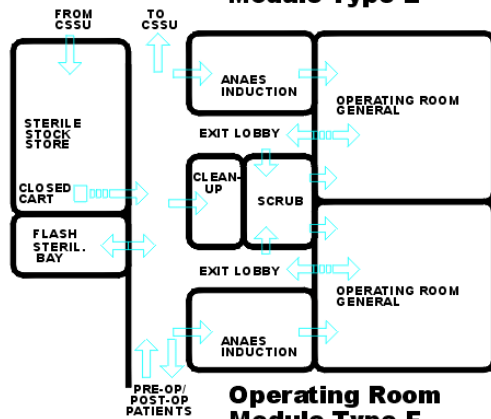
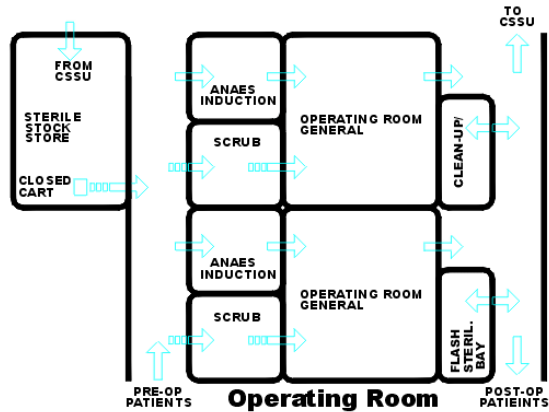
Operating Unit (B)

Sub-heading

Operating Unit Flow Diagrams

Enclosure-B9

Enclosure B9 Operating Room Modules



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502346 540 .0.10

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Preamble

502347 540 .1.00 In the Guide to the Role Delineation of Health Care Facilities, (Third Edition 2002), Paediatric Medicine and Paediatric Surgery are separately defined services under Maternal and Child Health Services.

6 levels of service are defined for each and planners should use this to assist in determining facility needs in conjunction with the approved Service Plan. Staff establishment and in accordance with the Process of Facility Planning.

It is essential to be aware of the impact of:

- Operational Policies
- Changes in clinical practice and models of care
- Change in role delineation or role delineation "creep" - usually upwards
- New technologies.

502348 540 .1.05 The trend towards more ambulatory care, less hospitalisation and shorter hospital stays for children has impacted on the design of paediatric units. Paediatric inpatients are generally sicker and more dependent, requiring higher levels of nurse staffing and observation than in the past.

There has been increasing recognition of the special physical and psychological needs of children in hospital and more concern to provide for them an environment which, as far as possible, normalises their stay. Even sick children can be quite active and need continuing opportunities for play and education. In addition, the needs of children with disabilities must be addressed.

Ideally children should not be admitted to an adult ward and in small units it may be appropriate to provide "swing" beds as a means of overcoming such an eventuality.

Provision for participation by parents in the care of their children is now regarded as an important principle of paediatric inpatient care.

Special facilities for children elsewhere in a hospital should be considered under individual departments, e.g.:

- Emergency Unit
- Medical Imaging Unit
- Operating Suite Unit

Paediatric Intensive Care services are only provided in Level 6 centres and are not addressed in this Guideline.

It is assumed that every unit will have formal intra-Area links as well as a formal relationship with a Children's Hospital within the network. Refer to the Service Plans for the Area Health Service and the Service Plan for the facility.

Introduction

502349 540 .2.00 This Health Planning Unit (HPU) is a resource to assist project teams with the planning, design and construction of Paediatric and / or Adolescent Inpatient Units at any level of service. It should be read in conjunction with generic requirements and Standard Components (Room Data & Room Layout Sheets (RDS/RLS) in Parts A, B, C, D and E of these Guidelines.

All relevant information identified in the NSW Health Post Occupancy Evaluation Program 2, Paediatric Units dated February 2005 has been incorporated into this Guideline.

Facility design, must, where appropriate, also meet all necessary criteria to

reach accreditation standards with regard to design and equipment.

Policy Framework

- 502350 540 .3.00 Guidelines for Networking of Paediatric Services in NSW, NSW Health Department, 2002.
- Protecting People and Property - NSW Health Policy and Guidelines for Security Risk Management in Health Facilities, Chapters 9-14, Core Security Risk Controls and Chapter 15 - Security in the Clinical Environment.
- PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service.

Description of the Unit

- 502351 540 .4.00 DEFINITION OF HPU
- The Paediatric/ Adolescent Unit is an Inpatient Unit with special provisions for babies, toddlers, and children and adolescents up to 16 years, specifically designed to reflect the varying physical and psychological needs of these age groups.
- This Guideline addresses only those Paediatric / Adolescent Units that are part of a General Hospital and not facilities in dedicated Children's Hospitals. However, the components of the Inpatient Unit as described in the Schedule of Accommodation may be used as the building blocks for major centres.
- In Paediatric / Adolescent Inpatient Units generally, bed occupancy levels and the age / diagnosis mix of patients will vary considerably according to the Service Plan. The design of accommodation in these units must therefore be flexible in provision of beds, cots and bassinets and in the mix of single and multiple occupancy rooms.
- A mix of one, two and four bed rooms provides for flexible use of accommodation.
- one-bed rooms provide accommodation for the multiple functions of isolation nursing, parent live-in and high dependency care provided there is the necessary monitoring equipment.
 - two-bed rooms provide suitable accommodation for older children.
 - four bed rooms may be used for high dependency care, short term acute assessment and day care depending on the individual hospital's operational policies. They must be sized to allow for parent privacy (breastfeeding), and confidentiality.
- The unit should be designed to achieve the maximum possible level of observation of patient areas. The staff station should be the focal point of the Unit and should overlook any high dependency beds.
- 502352 540 .4.05 GENERAL ARRANGEMENT
- The arrangement of facilities will / may depend on the level of service but where the Hospital only has one or two inpatient units, facilities for adolescents may profitably be designed as a special "wing" of the Unit.

Operational Models

502353 540 .5.00 HOURS OF OPERATION

The Paediatric/Adolescent Unit provides in-patient care 24 hours per day, 7 days per week.

Activities between 7a.m. and 8p.m. (i.e. supervised play, treatments, nursing care, visiting, elective surgery) means an increase in utilisation of the Unit's facilities in these hours.

502354 540 .5.05 NEEDS OF THE POPULATION

The needs of children and adolescents in hospital differ from those for adults.

It is a misconception to presume that because children are smaller they will need less space. In fact, a greater amount of space is required to accommodate such activities as parent participation in care, play by and between children, ambulation and family support.

Factors specific to paediatric care which will influence space utilisation and design features include:

- The mix of beds, cots and bassinets varies constantly. All rooms therefore must be of flexible use and sized to accommodate a bed. There must be adequate and easily accessible storage of the alternative beds, cots and bassinets..
- Rooms should be large enough to allow ambulation / play space for the child, space for parents to remain with the child and to allow some privacy for the family.
- Patients' special belongings, toys and drawings should be readily accessible and visible from the child's bed.
- More isolation facilities are required than in adult wards due to a higher incidence of contagious disease among children.
- Recreational playroom and facilities for continuation of education will be required for the developmental needs of differing age groups.
- Strollers, playpens and mobile toys such as tricycles are part of the everyday environment of children and storage space will be needed for this equipment.
- The need for observation of patients by nursing staff is greater in paediatric care, especially of infants and toddlers. However, the modesty of all patients and parents should be respected and adolescents will require more privacy.
- The need for parent/patient education activities and parent counselling means that an Interview Room is required.
- There is an increased need for attention to safety precautions and accident prevention.
- Patients should have an area which is "safe" i.e. where they know they will be free from treatments and distressing procedures.
- Areas which are likely to be occupied for any length of time by staff or patients should have windows.

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503265 540 .5.06 MANAGEMENT OF BARIATRIC (SEVERELY OBESE) PATIENTS

Obesity in children and adolescents is becoming an increasing problem. It is important to ensure that at least one bedroom and en suite can accommodate a larger bed if necessary and easy use of lifting equipment. It may also be necessary to consider provision of a larger-than-usual examination couch in at least one Consult / Exam Room. (Also need to consider that the parent of a child may be very obese.

Refer to NSW Health Guideline - GL2005_070, September 2005: Guidelines for the Management of OHS Issues Associated with the Management of Bariatric (Severely Obese) Patients.

503256 540 .5.07 ACCOMMODATION FOR MENTAL HEALTH PATIENTS

There is an increasing trend to “mainstream” pre-pubescent children with mental health conditions alongside a paediatric service to allow children access to all available paediatric facilities and mix with other children their own age as appropriate. Design requirements are addressed in the HFG 132 Child and Adolescent Unit.

502355 540 .5.10 ASSESSMENT BEDS

In hospitals where Emergency Units have no dedicated facilities for those children who, after initial treatment, either need a period of observation prior to discharge or where the decision to admit is as yet uncertain, an appropriately staffed Assessment Unit in the Paediatric Ward may be an option, rather than mixing children with adults. This places the child in the appropriate environment, reduces pressure on Emergency staff and is a more user-friendly option for children and their families.

502356 540 .5.15 PAEDIATRIC “PRECINCT”

Depending on the size of the Paediatric service, consideration should be given to creating a “Paediatric Precinct” that incorporates facilities for inpatient care, emergency assessment / observation, day care and outpatient clinics.

Depending on the Service Plan, facilities for day care could be a 4 bed room a little removed from the main ward but with access to all necessary support facilities.

Similarly, depending on volumes and utilisation, it may also be appropriate to operate dedicated paediatric clinics through the Unit via a small number of Consulting Rooms.

Operational Policies

502357 540 .6.00 GENERAL

Detailed guidelines for the preparation of internal Operational Policies based on the overall Operational Policies of the Area Health Service are provided in Part B of these Guidelines and will vary between Paediatric/Adolescent Units according to local circumstances. These policies will cover such areas as:

- care by parents
- patient security
- age and other admission criteria
- the use of the unit for day only patients, outpatient clinics and assessment
- meals and formula preparation and storage.

An example of an internal Operational Policy may be:

Rate-minders are to be used for all intravenous infusions on all paediatric patients. (This policy requires a large number of rate-minders, mobile IV poles on which to site them, wheelchairs able to accommodate IV poles and storage space for these items when not in use).

502358 540 .6.05 FORMULA PREPARATION

The individual Hospital and Area Health Service will determine whether formula preparation will be carried out in the Unit or in the Neonatal Nursery.

It is assumed that sterilisation of bottles and teats will be carried out in the Central Sterile Supply Unit.

A Formula Room may be used for teaching parents.

502359 540 .6.10 INTENSIVE AND HIGH DEPENDENCY CARE

Children requiring intensive care will be stabilised and transferred to a major Children's Hospital - either by ambulance or helicopter. Whether or not they need to be temporarily transferred to the adult ICU will be a clinical decision.

However, there will be occasions when a child needs a greater than normal level of treatment and observation but is not sick enough to need intensive care. Each facility must determine its policy on how these children will be managed. Options include:

- treating the child in their own room
- establishing an HDU within the Unit itself
- transferring to a hospital with a higher delineation for paediatric services
- temporary transfer to an adult HDU in consultation with the Neonatal Emergency Transport Service (NETS) when there is no other option.

The final decision may depend on staffing levels and available expertise.

502360 540 .6.15 STAFFING

The staffing assumptions made in this guideline are that there will be:

- a designated Director of Paediatric Services
- a Nurse Unit Manager (NUM) with at least three years experience in paediatrics (with no combined adult/paediatric roles)
- access to a Paediatric CNC
- majority of registered nursing staff who have paediatric qualifications or equivalent experience
- service provided by a specialist paediatrician on 24 hour call supported by a designated resident medical officer. There may also be a Paediatric Registrar.

Also refer to the Service Plan.

502361 540 .6.20 SCHOOLING

The average age of the unit's occupants and average length of stay should be carefully assessed when determining the need - if any - of facilities for education - whether a dedicated space or bedside laptops etc.

Planning Models

502362 540 .7.00

LOCATION

Where possible, the Unit should be located on the ground floor to achieve direct access to an Outside Play Area, and to reduce the use of lifts and staircases

Where ground floor location is not possible, every attempt should be made to provide a secure open play area.

502357 540 .7.05

FLEXIBILITY

It is perhaps worth considering possible future use for adults with regard to room sizes etc.

Functional Areas

502363 540 .8.00

- FUNCTIONAL ZONES

- The Paediatric/ Adolescent Unit will comprise the following functional areas:

- Inpatient areas including Bedrooms, Isolation Rooms, Play Areas, Multipurpose Activities area, Nursery and Feeding areas, En Suites and Bathrooms

- Day Stay / Assessment and Clinic Areas - if required by the Service Plan

- Parent / carer facilities

- Support areas including Staff Station, Utilities, Formula, Store, Pantry, Cleaner's and Disposal Rooms. Support rooms may be shared with adjacent units if appropriate

- Staff Areas including Offices, Meeting Rooms, Staff Change and Toilets may also be shared with adjacent units if design permits.

502411 540 .8.01

RECEPTION

Provision of a Reception if separate from the Staff Station and not intended for the Ward Clerk is not recommended as there is rarely the recurrent funding to staff and these spaces remain either inhospitably vacant or converted to other uses.

502364 540 .8.05

SANITARY ARRANGEMENTS

- En-suites are recommended for every 1-bed room, with hand basin, shower and toilet to provide total flexibility in the use of each room for isolation, very ill (high dependency) patients or care-by-parent patients

- A general bathroom containing a bath, shower, 2 toilets (1 low set), hand basin (low set) and baby bathing facilities provides for the babies, toddlers and younger children. The bath may be used for regular or burns (to Level 4 management) bathing. The low set toilet and hand basin are to encourage the independence of small children. However, such a multiple occupancy space may be problematic and should be carefully considered. There needs to be space for a wheelchair and to operate a hoist.

- Separate unisex shower and toilet are recommended for older children / adolescents

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- All toilets must allow sanichair access and one toilet should provide for wheelchair access

The use of mobile baby baths is not recommended for occupational health and safety reasons.

502365 540 .8.10 HANDBASINS

Hand basins are provided to facilitate the frequent handwashing required to minimise cross infection in the ward. They are located in all single bedrooms, at the entry to the 1-bed rooms (at a ratio of 1 hand basin to 2 rooms), and between each pair of 2-bed rooms, in the Staff Station, in the treatment room and in the clean and dirty utility rooms.

502366 540 .8.15 TREATMENT ROOM

Where children share a room or even if in a single bedroom, it is preferable to carry out more complex and potentially painful treatments / procedures away from the bedside so that the child does not a) associate their bedroom with distressing activities and b) crying does not disturb other children. A parent often accompanies the child.

A Treatment Room should be provided in a zone away from the bed rooms and may be designed in conjunction with the Clean Utility Room where the supplies will be located.

The child may be brought into the room on the treatment room trolley but if transferred on their bed/cot, extra space will be required in the room for transfer to the treatment trolley and space to park the bed/cot outside the room.

Decor should help to distract the child and allay fears - ceiling and wall graphics may be considered.

502367 540 .8.20 CLEAN UTILITY ROOM

In addition to its normal functions, for safety's sake, it may be appropriate to locate the resuscitation trolley and the blanket warmer if provided in this room. In the latter instance, care should be taken to ensure the cabinet is not installed near the drug storage area where heat may adversely affect the drugs. The resuscitation trolley must however be readily accessible.

If this is the decision, an additional 1-2m² will need to be added to the size of the room.

502368 540 .8.25 STORAGE

Storage will be required for toys and educational and recreational equipment. TVs where provided at the bedside should be ceiling-mounted.

Storage space should be provided to permit exchange of cribs, cots and adult beds.

Provisions should also be made for storage of equipment and supplies such as patient cots and recliners for parents and extra linen for parents who stay with the patient overnight.

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Functional Relationships

- 502369 540 .9.00 The Paediatric/ Adolescent Unit should be located with ready access to the Emergency Unit, Operating Unit, Critical Care areas and Medical Imaging. It should be located to avoid the need for through traffic.

In small units, collocation with an adult ward with swing beds may facilitate management in times of high occupancy.

DESIGN

Accessibility

- 502370 540 .10.00 EXTERNAL

Entrances to the hospital and routes to the Paediatric/Adolescent Unit should ensure minimal contact with sick or injured adult patients

- 502371 540 .10.05 INTERNAL

Internal access to the Unit needs to be controlled by either human or physical means at all times to prevent unauthorised access or patient egress. This may be by appropriate location of Staff Station or Reception or by video surveillance and electronic door controls, particularly after hours. However the Staff Station is not always occupied and in the absence of a ward clerk, the impact of monitoring video monitors on staffing levels needs to be considered.

Parking

- 502372 540 .11.00 For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

- 502373 540 .12.00 Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

- 502374 540 .13.00 The infectious status of many patients admitted to the Unit may be unknown. All body fluids should be treated as potentially infectious and adequate precautions should be taken particularly with small children.

Linen trolley bays must have doors to prevent contamination.

Refer to Part D of these Guidelines for further information.

Environmental Considerations

- 502375 540 .14.00 ACOUSTICS

Babies, toddlers and children are naturally boisterous at play and noisy when distressed. The sounds of children crying or in pain, the noise of unfamiliar equipment or, conversely, extreme quiet are all anxiety-provoking.

Ceiling acoustic tiles, absorbent panels, curtains, upholstered furniture and carpets can be used to absorb and soften sounds in all patient and most

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other areas.

The treatment room will require maximum acoustic containment to prevent the sounds of distressed children reaching those in the other patient areas. (In paediatric units, painful procedures are performed in the treatment room rather than at the bedside).

Auditory privacy will be required in the interview room and NUM office.

502376 540 .14.05 NATURAL LIGHT

Natural light to all bedrooms and to rooms such as playrooms, parent lounge.

502377 540 .14.10 PRIVACY VERSUS OBSERVATION

Design should allow nursing staff to have optimal observation of all patient areas and for the children to be able to see the staff in order to feel reassured and safe.

The need for observation and the safety of children must, however, be balanced against the need to protect the privacy, personal dignity of patients and their parents.. This can be achieved by curtains on windows and other glazed panels and the use of bed screens.

There is a particular need for privacy for children and adolescents during:

- examinations
- treatment
- bathing
- dressing
- times of distress

502378 540 .14.15 INTERIOR DESIGN

In the Paediatric/Adolescent Unit it is important to use decor to positively create an environment which is as non-institutional as possible.

Psychological reassurance will be provided by scaling the environment to the size of the child as far as possible.

Graphics provide distraction for children and visitors and can make areas more interesting and inviting. They can be used in all patient and common areas including corridors, treatment rooms, play room (inside) bed rooms and lounges.

Wall decorations should be at a height visible by children lying supine in bed and also some low enough for toddlers to see. Ceiling decoration should also be considered.

Display panels should be provided in bedrooms for the child to decorate in his/her own way. However, swallowed pins is a real issue with children so boards that do not need pins should be provided (velcrose-type material).

Also refer to Part C of these Guidelines.

Space Standards and Components

502379 540 .15.00 ERGONOMICS

Refer Part C of these Guidelines for information.

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502380 540 .15.05 HUMAN ENGINEERING

Refer Part C of these Guidelines for information.

502381 540 .15.10 ACCESS AND MOBILITY

Refer Part C of these Guidelines for information.

502382 540 .15.15 WINDOWS

- The height of the windows should enable children in their cots/beds to see outside.
- Natural ventilation to all patient bed rooms (with means of restricted opening for patient safety) provides fresh air, cross-ventilation and enables the children to hear and smell the outdoors. However, insect screen must be provided to all external doors and openable windows and glass must comply with AS/NZS 2208: 1996 - Safety glazing material in buildings.
- A low and wide internal window ledge will be well used by children.
- The Treatment and Tutorial Rooms will require provision for blackout.

Also refer to Part C of these Guidelines for further information.

502383 540 .15.20 DOORS

Door swings must be planned and arranged so that there is no danger of hitting a small child on other side.

Refer Part C of these Guidelines for information.

Safety and Security

502384 540 .16.00 SAFETY

The design of the unit environment should be such that all possible risks to the safety of the children are minimised including risks of abduction, and take into account the natural curiosity of children.

Design and layout must prevent access by children to areas containing equipment or material likely to be harmful to them, including:

- beverage pantry and heated food trolleys
- utility rooms, cleaners rooms, storage rooms, linen bay
- resuscitation trolley
- disposal room
- treatment room
- medication room
- ward exits.

In order to prevent injury whilst patients undertake their normal daily activities in the ward area, surface finishes, furniture and glazing must be of design and material appropriate to their use (e.g. rounded edges on furniture at low levels, safety glass in patient areas)

Provision of warm (thermostatically controlled) water to all areas

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Fitting of child-proof locks to all cupboards

Designing barriers and balustrades so they are non-climbable but can be seen through by toddlers

Provision of non-scalable safety fencing of adequate height around external play areas especially where this is not located at ground level

Service panels must be out of reach of small children

Similarly, nurse and emergency call buttons must be sited out of the reach of curious or mischievous hands.

Door handles out of the reach of small children.

Bedrooms to have doors with high and low vision panels and handles.

Power points in child-occupied areas must be above child height and shuttered

Consider the use of convex mirrors to blind corners.

Care with location of main access door so that if not at the ward perimeter, it does not impede access to rooms outside.

Glass observation panels in doors need to be sized so as to enable staff to see in and low enough to be able to see a small child on the other side.

As far as possible, safety measures should not cause avoidable inconvenience nor impair efficiency.

Space Standards and Components

502385 540 .16.05 SECURITY

Security issues are of increasing importance due to the prevalence of violence and theft in the hospital environment. In designing the unit, consideration should be given to:

- personal security of patients, parents and staff
- security of property of patients, visitors and staff
- security of hospital equipment and stores items
- drug security
- access and egress/unauthorised intrusion
- night staffing conditions
- security lighting

Egress points must be secured and should be monitored wherever possible to minimise and contain the risk of a child's unaccompanied egress or abduction from the unit and prevent interference from unauthorised persons.

Security measures may include

- direct staff observation
- closed circuit TV
- restricted window openings
- high level door latches
- stable doors
- locked doors. And monitoring unit access to

Security and safety issues need to be considered in conjunction to ensure that they do not conflict

Also refer to NSW Health Manual - Protecting People and Property, Section Two, Core Security Risk Controls.

Finishes

502386 540 .17.00 WALL PROTECTION

Refer to Part C of these Guidelines

502387 540 .17.05 FLOOR FINISHES

Carpet in corridors not suitable for children.

Refer to Part C of these Guidelines

502388 540 .17.10 CEILING FINISHES

If patients with mental health conditions such as anorexia are included in the patient population, care should be taken with regard to use of ceiling tiles that can be pushed up by a patient standing on the bed and where food can be secreted.

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

502389 540 .18.00 DOOR HARDWARE

Door hardware must be designed so as not to trap small fingers or be located out of reach.

502390 540 .18.05 Refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

502391 540 .19.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

In addition to the usual hospital communication systems, the Paediatric/Adolescent Unit has particular needs. These include the need for close observation of patient areas and meeting the psychological needs of children in maintaining contact with family members and friends.

Communication systems may include:

- staff call and emergency assistance. Operational policy should cover such matters as whether or not a patient call can be cancelled from the staff station.
- closed-circuit television monitoring where this is necessary to ensure adequate observation of patient areas and access/egress points.
- telephone services for staff, patients, parents and visitors. The extent of provision, location, type (i.e. fixed or portable) and charging will need to be addressed by the operational policies.
- television in all single bedrooms, particularly isolation rooms.
- Internet access for older children and adolescents is very important

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- alarm systems where necessary (e.g. dangerous drug cupboard opening)

Also refer to Part A, Section 80.17 of these Guidelines.

502392 540 .19.05 DURESS ALARM SYSTEM

Locate at Receptions and Staff Stations.

Refer to NSW Health Manual - Protecting People and Property, Chapter 11 - Alarm Systems and Chapter - Duress Response Arrangements.

502393 540 .19.10 CHILD MONITORING / TAGGING

May need to be considered especially for infants and toddlers.

502394 540 .19.15 CALL SYSTEMS

Non-scrolling annunciator panels with the ability to display all beds on one panel are preferred and must be easily visible in corridors.

COMPONENTS OF THE UNIT

General

502395 540 .20.00 GENERAL

The Paediatric/ Adolescent Unit will consist of a combination of Standard Components and Non-Standard Components.

Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data Sheets.

Standard Components

502396 540 .21.00 Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

502397 540 .22.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

502398 540 .22.05 BATHROOM - PAEDIATRIC

DESCRIPTION AND FUNCTION

The bathroom has adjustable height paediatric peninsula bath, shower, hand basin and toilet facilities to attend the hygiene and treatment needs of babies, toddlers and older children. (NOT adolescents)

A baby bath is required and should be bench-set, a baby change bench / table and baby and adult scales. Mobile baby baths are not recommended.

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Functions include::

- bathing of patients for treatment purposes
- weighing and height measuring on admission

Unaccompanied patients may not have access to this room (refer Operational Policy).

LOCATION AND RELATIONSHIPS

Centrally located to the bed rooms, with good visual observation and quick access from the Staff Station.

CONSIDERATIONS

Storage of

- mobile patient lifter
- baby clothes and nappies
- baby care supplies.
- bath cleaning equipment

Effective ventilation

Warm water

It must be designed for use by more than one child at a time whilst preserving acoustic and visual privacy.

Consideration should be given to providing an extra room for admission procedures

502399 540 .22.10 PLAY ROOM - INTERNAL

DESCRIPTION AND FUNCTION

The Inside Play Room provides an area where children may go for play, recreation, education and remedial activities. The following designated area may be provided:

- Dining for small children
- Television
- Reading / playing board games

It is envisaged that parents and siblings will accompany their children at times.

Occupancy: Up to 10 - including the Play Therapist - at 3m2 per person plus storage.

Functions and activities will include:

- Structured and unstructured play activities
- Reading
- Watching television
- Drawing (chalkboard, paper)
- Board games
- Meals, snacks, drinks for patients
- Remedial therapy activities
- Education

The patients may be:

- ambulant / crawling
- in bed / cot / bassinet
- in a stroller / pram
- on a tricycle
- on crutches
- in a wheelchair
- in a playpen

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- oxygen-dependent
- on IV therapy
- in traction.

LOCATION AND RELATIONSHIPS

Access must allow for a bed with orthopaedic fittings.

Direct access to the Outside Play Area

Good observation from Staff Station and general nursing circulation areas required.

CONSIDERATIONS

The following are required:

- Natural light (northerly aspect where possible)
- Bright and cheerful decor
- Acoustic absorption
- Means of restricted window opening for natural ventilation when required

Corridor wall and door to be glazed to allow observation of patients.

Dividing walls may be glazed to a height suitable to allow observation of patients.

Storage (not necessarily within the Play Area) required for:

- hospital-provided toys and games
- books, education material and CDs / DVDs
- chairs - stacking - several sizes
- high chairs
- tricycles
- playpen (fold-away)
- strollers and prams
- computers

If paints are to be used, a small sink should be fitted.

Consider a toddler-height handbasin for use before and after meals / snacks.

502400 540 .22.15 PLAY ROOM - EXTERNAL

DESCRIPTION AND FUNCTION

An outdoor area where children may go for play, recreation, remedial activities and family visiting.

Functions and Activities include:

- structured and unstructured play activities
- remedial therapy activities
- family interaction and quiet time

LOCATION AND FUNCTIONAL RELATIONSHIPS

Observation from the Staff Station.

Direct access to / from Inside Play Area

Consideration should be given to external access for maintenance purposes.

CONSIDERATIONS

Threshold should facilitate ease of manoeuvring for:

- patients in wheelchairs
- patient beds/cots/bassinet

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- those who have difficulty in walking

Requires protection from extreme weather conditions.

Ground area may be covered with outdoor carpet or pavers but not loose materials such as gravel or woodchips.

Non-scalable safety fence high enough to prevent removal of children is required for the surrounding area.

Access and egress should only be from the ward area.

APPENDICES

Schedule of Accommodation

502401 540 .23.00 A Generic Schedule of Accommodation for a Paediatric and Adolescent Unit at Level 2, 3, 4, 5, and 6 follows.

Note: (o) in Qty/x m2 column = Optional

ROOM/SPACE	Standard Component			Levels 2 / 3	Levels 4 / 5	Level 6	Remarks
				Qty x m2	Qty x m2	Qty x m2	
				See remarks	Stand-Alone Unit	Children's Hospital	For Levels 2 / 3 -Swing bedded zone of adult IPU, eg Maternity

502402 540 .23.10 BEDROOMS

BEDROOMS				10 Beds	30 Beds	30 Beds	Bed numbers are nominal and "mix" may be adjusted
1 BED ROOM	yes			3 x 15	19 x 15	23 x 15	Bed/chair for parent. For mangement of airborne infections such as chickenpox.
BAY - HANDWASHING - TYPE B	yes			1 x 1	2 x 1	2 x 1	Outside 2 pairs of Standard Isolation Rooms
BAY - PERSONAL PROTECTIVE EQUIPMENT	yes			1 x 2	2 x 2	2 x 2	Collocate with Handwash Bays
1 BED ROOM - ISOLATION CLASS N	yes			0	2 x 15	2 x 15	Bed/chair for parent. Class N Isolation Rooms
ANTE ROOM	yes			0	2 x 6	2 x 6	For Class N Isolation Rooms
1 BED ROOM - SPECIAL	yes			1 x 18	1 x 18	1 x 18	For bariatric patients
2 BED ROOM	yes			1 x 25	2 x 25	2 x 25 (o)	For older children
EN SUITE - STANDARD	yes			4 x 5	25 x 5	27 x 5	To 1 & 2 bed rooms
EN SUITE - SPECIAL	yes			1 x 7	1 x 7	1 x 7	For bariatric patients
4 BED ROOM	yes			1 x 42	1 x 42	0	For babies and toddlers. May also be used for high dependency at Levels 4 / 5
SHOWER - PATIENT	yes			1 x 4 (o)	1 x 4 (o)	0	To 4 Bed Room. If used exclusively for babies, may not be needed
TOILET - PATIENT	yes			1 x 4 (o)	1 x 4 (o)	0	To 4 Bed Room. If used exclusively for babies, may not be needed
BAY - LINEN (& BLANKET WARMER)				1 x 3	2 x 3	2 x 3	

502403 540 .23.20 CHILD--SPECIFIC AREAS (At Levels 2 & 3, may be part of a Maternity Unit)

CHILD--SPECIFIC AREAS							

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CHILD-SPECIFIC AREAS

CHILD-SPECIFIC AREAS							
FEEDING ROOM	yes			1 x 9	1 x 9	1 x 9	Also for use of breast pump if necessary. NSW HFG recommended 9m2.
FORMULA ROOM	yes			1 x 7	1 x 7 (o)	1 x 7(o)	May be located in NICU
PLAY ROOM				1 x 12 (o)	1 x 60	1 x 60	4 patients & 20 patients respectively at 3m2 per patient; adjust as required. Also used by Play

502404 540 .23.30 OLDER CHILDREN-SPECIFIC AREAS

OLDER CHILDREN-SPECIFIC AREAS							
RECREATION ROOM				1 x 14 (o)	1 x 35 (o)	1 x 35 (o)	4 patients & 10 patients respectively @ 3.5m2 per patient. Computers, TV, music etc. Optional
QUIET STUDY ROOM				1 x 9 (o)	1 x 15 (o)	1 x 15 (o)	2 and 4 patients respectively

502405 540 .23.40 ASSESSMENT / DAY STAY / AMBULATORY CARE

ASSESSMENT / DAY STAY / AMBULATORY CARE							Assumes dedicated ED; Day Ward and Clinics @ level 6 Unit
RECEPTION	yes			0	1 x 10	0	
WAITING	yes			Share	1 x 20	0	16 people including 2 wheelchairs at 1.2 sqm and 1.5 sqm per person
CHILD PLAY AREA				Share	1 x 9	0	
TOILET / BABY CHANGE - DISABLED	yes			Share	1 x 5	0	
4 BED ASSESSMENT/DAY STAY ROOM	yes			1 x 42 (o)	42	42 (o)	4 beds. Unless there is a dedicated paediatric area in Emergency Unit, may be used for short
SHOWER - PATIENT	yes			1 x 4 (o)	1 x 4	0	
TOILET - PATIENT	yes			1 x 4 (o)	1 x 4	0	
CONSULT ROOM				1 x 14 (o)	14	0	. Larger size for children. Number of rooms will be dependent on anticipated occasions of service
MEETING (INTERVIEW) ROOM				1 x 9 (o)	1 x 12	0	
BAY - LINEN TROLLEY	yes			Shared with ward	1 x 2	0	
STAFF BASE/CLEAN UTILITY				1 x 4	1 x 10	0	
DIRTY UTILITY - SUB	yes			Shared with ward	1 x 8	0	

502406 540 .23.50 SHARED SUPPORT AREAS

SHARED SUPPORT AREAS							
MEETING (INTERVIEW) ROOM				Shared	1 x 9	1 x 9	2-3 people
MEETING (INTERVIEW) ROOM				0	0	1 x 12	4-6 people
LOUNGE - PARENT				1 x 9 (o)	1 x 15	1 x 15	May include Beverage Bay & sofa bed
BATHROOM - PAEDIATRIC				1 x 16 (o)	1 x 16	1 x 16	Include a baby bath, change table and low-set toilet for toddlers
STAFF STATION	yes			Shared	1 x 14	1 x 14	

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OFFICE - CLINICAL / HANDOVER	yes			Shared	1 x 15	1 x 15	
STORE - PHOTOCOPY / STATIONERY	yes			Shared	1 x 8	1 x 8	May be collocated with offices
BAY - PARKING W/CHAIRS & STROLLERS	yes			1 x 4	2 x 4	2 x 4	
BAY - RESUSCITATION TROLLEY	yes			Shared	2 x 2	2 x 2	Assumes one for infants, one for adolescents
CLEAN UTILITY / MEDICATION ROOM	yes			Shared	1 x 12	1 x 12	
TREATMENT ROOM	yes			Shared	1 x 14	1 x 14	Interconnecting door with Clean Utility if required
DIRTY UTILITY	yes			Shared	1 x 10	1 x 10	May need 2 rooms depending on ward layout
DISPOSAL ROOM	yes			Shared	1 x 8	1 x 8	
PANTRY	yes			Shared	1 x 8	1 x 8	Parent Access
THERAPY / MULTIPURPOSE ROOM				0	1 x 20	1 x 20	
STORE - BEDS / COTS				1 x 12	1 x 25	1 x 25	Total storage at 1.5 sqm per bed
STORE - EQUIPMENT	yes			Shared	1 x 20	1 x 20	Total storage at 1.5 sqm per bed
STORE - GENERAL	yes			Shared	1 x 9	1 x 9	
CLEANER'S ROOM	yes			Shared	1 x 5	1 x 5	
DISCOUNTED CIRCULATION %				32%	35%	35%	

502407 540 .23.60 STAFF OFFICES & AMENITIES

Note : Office/workstation and meeting room sizes are in accordance with NSW Health Policy Directive PD2005-576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service

STAFF OFFICES & AMENITIES							
OFFICE - SINGLE - DIRECTOR	yes			0	1 x 12	1 x 12	
OFFICE - SINGLE - NUM	yes			1 x 9	1 x 9	1 x 9	
OFFICE - NURSING - SHARED	yes			0	12	12	Refer to staff establishment for numbers. May be mix of offices and open plan
OFFICE - MEDICAL - SHARED	yes			0	12	12	
OFFICE - WORKSTATION - MEDICAL	yes			5.5	5.5	5.5	
OFFICE - WORKSTATION - NURSING	yes			5.5	5.5	5.5	Refer to staff establishment for numbers. May be mix of offices and open plan
OFFICE - WORKSTATION - ALLIED HEALTH	yes			5.5	5.5	5.5	Refer to staff establishment for numbers. May be mix of offices and open plan
MEETING ROOM	yes			Share	1 x 20	1 x 20	
STAFF ROOM	yes			Share	1 x 15	1 x 15	
PROPERTY BAY - STAFF	yes			Share	1 x 2	1 x 2	

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TOILET - STAFF	yes			Share	2x 3	2 x 3	
SHOWER - STAFF	yes			Share	1 x 2 (o)	1 x 2 (o)	
DISCOUNTED CIRCULATION %				20%	30%	30%	

Functional Relationships

502408 540 .24.00 A diagram of key functional relationships is attached.

Checklists

502409 540 .25.00 A Security Checklist is appended to this document. Refer also to Part C of these Guidelines for general requirements.

References and Further Reading

502410 540 .26.00 DS-22 HBG Paediatric / Adolescent Inpatient Unit, NSW Health, Capital Works Branch, August 1992

NH Estates Schedules of Accommodation v2.0 - HBN23 - Hospital Accommodation for Children and Young People, April 2005.

540 Paediatric / Adolescent Unit, Department of Human Services, Victoria, November 2005.

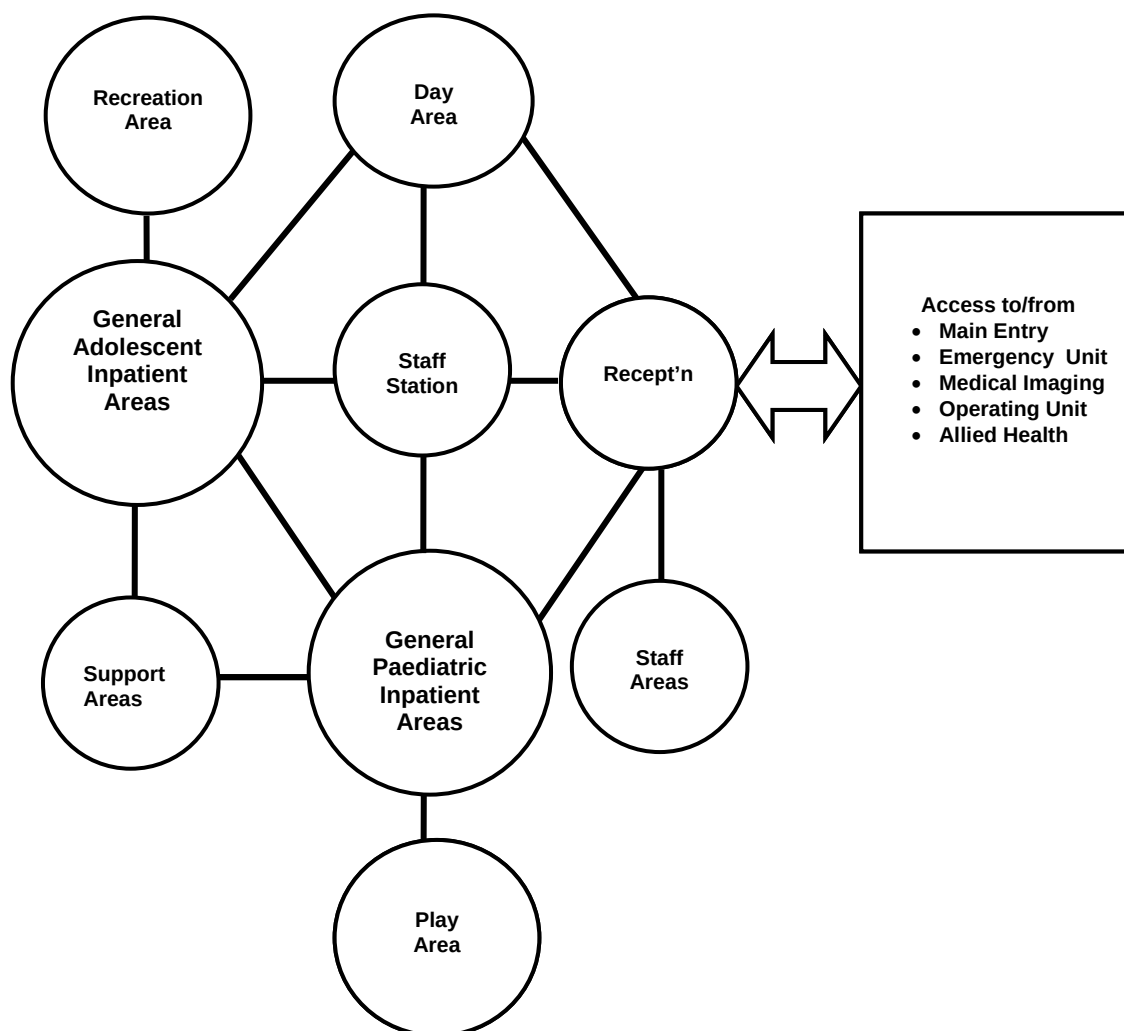
Guidelines for Networking of Paediatric Services in NSW, NSW Health, Department 2002

NSW Health Post Occupancy Evaluation Program 2 - Paediatric Units, February 2005

Maud Meates. "Ambulatory Paediatrics - Making A Difference", Archives of Disease in Childhood 1997, 76:468-476.

FUNCTIONAL RELATIONSHIP DIAGRAM –PAEDIATRIC AND ADOLESCENT UNIT

The following diagram sets out the relationships between zones in a Paediatric and Adolescent Unit:



SECURITY ISSUES TO BE CONSIDERED IN PAEDIATRIC AND ADOLESCENT UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Entry by all relevant personnel visiting or working within the Hospital.	1. CCTV monitoring of Ward entry and exit doorways. 2. After hours remote switch and intercom on entry doors. 3. Use of reed switches on all external doors and entries. Swipe card readers may be required to both sides of internal doors, to allow access for authorized staff.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Relatives / Visitors	1. Good visibility from staff station to ward. 2. Manage relatives/visitors admittance in the area by restricting visiting hours and/or number of visitors.
2. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
3. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Design shape of interview rooms and location of desks, etc, in such a way that minimises risk to health personnel. 3. Provide storage and store items not in constant use that could be used as weapons. (Operational Policy). 4. Minimise furniture that can be used as a weapon, ie, picked up and thrown.
4. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.
5. Drugs storage	1. Drugs safe to be located in area that can be monitored by staff.

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SECURITY CHECKLIST – PAEDIATRIC AND ADOLESCENT UNIT

FACILITY:	DEPARTMENT: Paediatric and Adolescent Unit	
RISK ISSUE	DESIGN RESPONSE	
1. How is 'after hours' access provided for patients and how is this access point monitored?		
2. Do staff have access to both fixed and mobile duress systems?		
3. Is access to patient records restricted to staff entitled to that access?		
4. Is a system implemented to prevent theft of equipment, files, personal possessions, etc ?		
5. Are drug safes installed in accordance with current regulations?		
6. How is after hours access provided for staff?		
7. How are the offices secured during and after hours?		
8. Are there lockable storage areas available for specialised equipment?		
9. Is lockable furniture provided for storage of staff personal effects?		
10. What system has been implemented to prevent the illegal removal of children?		
11. Are interview rooms appropriately designed with specific reference to staff egress, furniture selection, furniture location, provision for storage of equipment, etc.		
12. What surveillance/monitoring system will be implemented to monitor access to rooms/wards?		
DESIGN COMMENTARY / NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

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INTRODUCTION

Preamble

601151	550 .1.00	TERMINOLOGY

In developing this Guideline for use across all jurisdictions, the following terminology has been adopted whilst recognising that terminology may vary from jurisdiction to jurisdiction. Thus:

In defining the discipline, "Pathology" is used consistently instead of "Laboratory Medicine", also a valid and widely-used term.

Clinical Chemistry is also used consistently recognising that "Biochemistry" and "Chemical Pathology" may also be used.

601152	550 .1.05	The term "Pathology" encompasses all sub-sections of the discipline:

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Anatomical Pathology, Clinical Chemistry, Cytology, Fluoroscopy, Haematology, Immunochemistry, Lipidology, Microbiology, Pharmacology, Serology and Virology.

601153 550 .1.10 ACRONYMS

The following are acronyms used extensively throughout this Guideline:

NATA = National Association of Testing Authorities.

RCPA = Royal College of Pathologists Australasia.

NPAAC = National Pathology Accreditation Advisory Council.

Introduction

601154 550 .2.00 Pathology is the branch of medicine involved in understanding the cause and processes of disease by looking at changes in the tissues of the body and in blood and other body fluids. Some of these changes show the causes, while others reflect the severity of the disease and are used to monitor the effects of treatment.

The aim of the Pathology Unit/Service is to actively contribute to the overall ability of the related facility to ensure quality care for its user population. This contribution is achieved through:

- diagnostic testing to determine the existence of disease or condition;
- determination/confirmation of appropriate treatment to counteract given conditions;
- activities to monitor the effects of treatment or the progress of disease or condition;
- determination of the cause of death.

601155 550 .2.05 ROLE DELINEATION /LEVELS OF SERVICE - NSW

In the NSW Health Guide to the Role Delineation of Health Care Facilities (Third Edition 2002), Pathology is one of the Clinical Support Services essential to the successful provision of clinical core services. Six levels for Pathology are delineated and a description of type of service, facilities and staffing for each level is provided. However, the final level of service provision will vary according to current and projected workloads, case-mix, geographical, climate and other local considerations.

In NSW rural areas, project staff may also refer to the "Rural Companion Guide to the Role Delineation of Health Services", First Edition 2004.

601156 550 .2.10 QUEENSLAND - LEVELS OF SERVICE

In Queensland, the Clinical Service Capability Framework (2005, Version 2) outlines four levels of Pathology service. These are linked to the acuity of the patient and the number of acutely ill patients admitted to that facility. Trauma, emergency, oncology and obstetrics volumes are key variables in the level of pathology service required, due to the frequency of urgent requests.

PRIMARY PATHOLOGY SERVICES

Primary pathology services have access to blood and specimen collection mechanisms, 24 hours on call, with a courier service for specimen and blood product transfer. Services are provided remotely by laboratory staff in a NATA / RCPA accredited facility.

PATHOLOGY SERVICE LEVEL 1

Pathology service level 1 provides on-site blood product storage. Services are provided in a NATA/RCPA accredited facility and a pathologist is on-call 24 hours.

PATHOLOGY SERVICE LEVEL 2

Pathology service level 2 provides an on-site NATA/RCPA accredited facility and laboratory staff, with blood product storage and cross matching, cytology and frozen sections services, and a pathologist on-call 24 hours.

PATHOLOGY SERVICE LEVEL 3

Pathology service level 3 provides an on-site NATA/RCPA accredited facility and a range of specialised services including blood product storage, and cross matching, cytology and frozen sections services. Laboratory staff on-site 24 hours and a pathologist on-call 24 hours.

601157 550 .2.15 LABORATORY CATEGORIES

The NATA/RCPA accreditation scheme registers laboratories in five main categories that parallel the categories defined by the NPAAC. Categories are determined by the range of pathology tests performed and the level of supervision provided by the designated person in charge of the laboratory.

NPAAC defines 5 laboratory categories as follows:

- Category GX - General;
- Category GY - General;
- Category B - Branch;
- Category M - Medical Practice;
- Category S - Specialised.

The majority of Pathology Units for the purpose of this guideline will fall into Categories GX and GY and large Units will / may have a range of Category S laboratories.

601158 550 .2.20 CATEGORY GX AND GY - GENERAL

These categories are used for both large and small multidisciplinary or general laboratories providing comprehensive services, and also for limited discipline or single discipline laboratories. A Category GX laboratory has more than 2 pathologists and would be liable for the highest accreditation fee level.

601159 550 .2.25 CATEGORY B - BRANCH

This category is used for laboratories that are either:

- an integral part of a Category GX or GY laboratory apart from geographic location; or
- a part of a regional pathology service.

In either circumstance, the Category B laboratory will have a documented agreement with a Category GX or GY laboratory to ensure that the range of pathology tests provided and the standard of work in the laboratory is under the direction and control of a designated pathologist or senior scientist of an accredited GX or GY laboratory.

601160 550 .2.30 CATEGORY M - MEDICAL PRACTICE

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This category is allocated to laboratories which provide a specified limited range of tests for the patients of the medical practice at which the laboratory is situated. This category of laboratory is under the supervision of a registered medical practitioner of the medical practice.

A Category M laboratory is not able to provide tests on patients referred from other medical practices or other medical practitioners other than those medical practitioners of the medical practice at which the laboratory is sited.

601161 550 .2.35 CATEGORY S - SPECIALISED

This category is used for either:

- a laboratory in which a limited range of tests is performed on a particular patient population; or
- a laboratory in which a limited range of tests (services) is performed which are of a specialised nature, and are performed under the supervision of a person having special qualifications or skills in the field of those services.

Where the supervisor is a medical practitioner, approved pathology services may be provided for both patients of the supervising practitioner and those referred by other practitioners.

Examples of a Category S laboratory which performs a limited range of tests on a particular patient population are:

- a blood gas laboratory;
- a laboratory associated with an in-vitro fertilisation (IVF) unit;
- a laboratory where skin specimens only are processed and reported by a specialist in dermatology.
- a laboratory performing a trace metal analysis which is not readily available at other laboratories, and which may require specialised instrumentation and/or skills not usually found in a general pathology laboratory.

Further examples of specialised tests would be enzyme analyses or metabolite analyses associated with rare inborn errors of metabolism, or a laboratory associated with a neurological diseases unit where an uncommon or infrequently requested test, such as estimation of acetyl choline receptor antibodies, is performed.

601162 550 .2.40 PHYSICAL CONTAINMENT LABORATORIES

AS/NZS 2243.3 - Microbiological aspects and containment facilities - defines 4 levels of risk and specifies four levels of physical containment for laboratories.

All microbiology laboratories will be classified PC1, possibly PC2, and major Pathology Units may include a PC3 laboratory.

Virology/Serology laboratories, where provided, will usually be classified PC2 or higher.

601163 550 .2.45 PHYSICAL CONTAINMENT LEVEL 1 (PC1)

A Physical Containment Level 1 laboratory is suitable for work with micro-organisms where the hazard levels are low and where laboratory personnel can be adequately protected by standard laboratory practice. The organisms used are not known to cause disease in healthy adults (ie organisms in Risk Group 1). Work may be carried out on the open bench. Specimens that have been inactivated or fixed may be handled in a level PC1 laboratory. A PC1 laboratory may be naturally ventilated.

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601164 550 .2.50 PHYSICAL CONTAINMENT LEVEL 2 (PC2)

A Physical Containment Level 2 laboratory is suitable for work with material likely to contain micro-organisms which may be present in the community, where the micro-organism may be associated with animal, plant or human disease of moderate severity (ie organisms in Risk Group 2). With good microbiological techniques, work with these agents may be carried out on the open bench. If there is a significant risk from the production of aerosols, a biological safety cabinet must be used. These laboratories are usually maintained at negative pressure to surrounding areas.

601165 550 .2.55 PHYSICAL CONTAINMENT LEVEL 3 (PC3)

A Physical Containment Level 3 laboratory is suitable for work with indigenous or exotic micro-organisms and where there is a risk of serious infection to humans, animals or plants (ie organisms in Risk Group 3). A Physical Containment Level 3 laboratory provides safeguards to minimise the risk of infection to individuals, the community and the environment. PC3 laboratories are provided with a controlled airlock entry and are usually contained within a PC2 laboratory area.

601166 550 .2.60 PHYSICAL CONTAINMENT LEVEL 4 (PC4)

A Physical Containment Level 4 laboratory is suitable for work with dangerous micro-organisms that pose a high individual risk of life-threatening disease and may be readily spread to the community (ie organisms in Risk Group 4). A Physical Containment Level 4 laboratory is a facility situated in a building separate from other laboratories or constructed as a fully isolated area within a building requiring a complete change of clothing, footwear etc on entry and departure.

601167 550 .2.65 EXCLUSIONS

This Guideline does not address the following that would only be found in major reference / research laboratories or specialised units:

- PC4 Laboratories;
- Laboratories utilising radioactive materials;
- Teaching and research laboratories;
- IVF laboratories.

Policy Framework

601168 550 .3.00

The following organisations provide a wide range of information on Pathology Services and project staff are encouraged to familiarise themselves with the websites and the information contained therein:

The Royal College of Pathologists of Australasia (RCPA) advises the Commonwealth, State and Territory Health Ministers on matters relating to the accreditation of pathology laboratories. NPAAC plays a key role in ensuring the quality of Australian pathology services and is responsible for the development and maintenance of standards and guidelines for pathology practices. NPAAC is made up of representatives from all States and Territories, nominees from peak professional bodies and the Department of Health and Ageing. It is responsible for the development and maintenance of standards and guidelines for pathology laboratories.
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-npaac-index.htm>

Audits against these standards and guidelines are conducted by National

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Association of Testing Authorities, Australia (NATA), Australia's government-endorsed provider of accreditation for laboratories and similar testing facilities.

<http://www.nata.asn.au/>

International Accreditation New Zealand (IANZ), New Zealand's national authority for the accreditation of testing laboratories, radiology services and inspection services.

www.ianz.govt.nz

601169 550 .3.05 RELEVANT AUSTRALIAN AND NEW ZEALAND STANDARDS

The following list is not necessarily inclusive and the year of publication is omitted as this will/may change at any time.

AS/NZS 2982.1:1997 - Laboratory Design and Construction (Draft DR 05422 out for comment).

AS 1386 - Cleanrooms and clean workstations.

AS 1940 - The storage and handling of flammable and combustible liquids.

AS/NZS 2243 Parts 1-10 - Safety in Laboratories (particularly Part 3 - Microbiological aspects and containment facilities).

AS 2252 - Laminar flow biological safety cabinets (Class II) for personnel, environment and product protection.

AS 2430 - Classification of Hazardous Areas:

- Part 3 - Examples of area classification - Flammable Liquids;
- Part 4 - Examples of area classification - Flammable Gases;
- Part 6 - Examples of Area Classification - Laboratories including Fume cupboards and flammable medical agents.

AS 2381.1 Electrical equipment for explosive gas atmospheres - selection, installation and maintenance (for instance where a reclaiming still is used in an Anatomical Pathology Laboratory or a flammable gases storeroom).

AS/NZS: 3000 - Electrical Installations.

Description of the Unit

601170 550 .4.00 DEFINITION OF HEALTH PLANNING UNIT (HPU)

The Pathology Unit is a discrete unit of the hospital designed to cater for the examination of body tissues and fluids. This HPU is designed to provide the "building blocks" for a Pathology Unit of any size.

Activities include:

- specimen reception, sorting, labelling and distribution to the appropriate laboratory areas;
- specific analytical tests;
- preparation of reagents and instruments;
- calibration and quality control activities;
- calculations, reporting and interpretation of results;
- preparation of back-up facilities to cover instrument breakdown;
- preparation for specialised procedures;
- equipment maintenance;
- supplies ordering, receipt and storage.

Facilities for specimen collection from outpatients may be included in the Pathology Unit itself or in an Outpatient Department or similar, depending on hospital policy and the type of tests conducted.

601171 550 .4.05 RANGE OF SERVICES

The following is an edited extract from the Royal Australasia of Pathologists www.rcpa.edu.au.

Currently, pathology is divided into seven different disciplines (or areas of activity) comprising six 'specialist' disciplines and a general discipline:

Anatomical Pathology: diagnosis of disease using biopsy tissue taken from a living patient or at post-mortem, or small specimens of separated cells (including fluids and tissue smears);

Chemical Pathology: detecting changes in a range of substances such as electrolytes, enzymes and proteins, in blood and body fluids and detecting and measuring tumour markers, hormones, poisons and therapeutic and illicit drugs.

Genetics: clinical cytogenetics (which is concerned with the microscopic analysis of chromosomal abnormalities) and molecular genetics (which uses DNA technology to analyse genetic mutations);

Haematology: concerned with diseases that affect the blood and with the management of blood transfusion services;

Immunology: concerned with the immune system and involves, for instance, analysing the ability of the immune system to identify and destroy agents that are foreign to an individual's blood;

Microbiology: concerned with diseases caused by organisms such as bacteria, viruses, fungi and parasites. Clinical aspects involve control of outbreaks of infectious disease and dealing with the problems of infections caused by antibiotic-resistant bacteria;

General pathology: requires a familiarity with the preceding six disciplines rather than a detailed knowledge.

601172 550 .4.10 As a basic requirement, hospitals should have access to an approved 24 hour on-call pathology service for the performance of tests in:

- Haematology;
- Blood banking;
- Clinical chemistry;
- Microbiology;
- Anatomical pathology;
- Cytology.

The principal procedures to be carried out include:

- blood counts;
- blood glucose levels;
- electrolyte profile;
- blood urea and nitrogen levels;
- coagulation studies;
- blood typing and cross-matching;
- blood gases;
- urinalysis;
- creatinine levels;
- qualitative BHCG;
- Troponin I (well-established marker of heart muscle injury that is widely used to diagnose and treat heart attacks and other acute coronary syndromes).

In Queensland, refer to the Queensland Health Clinical Services Capability Framework Version 2.0 (2005).

601173 550 .4.15 DESIGN CRITERIA

Design must address the following:

Flexibility - of layout and engineering services for change in functions;

Infrastructure - present and future - for information technology;

Safety - with particular emphasis on chemical, biological, electrical and fire hazards, air contaminants and odour containment/removal;

Staff safety and security;

Quality of the environment - natural and artificial lighting, acoustics etc;

A layout and environment that facilitate interdisciplinary discussion and exchange of ideas on a formal and informal basis;

Cost efficiency;

Structural requirements particularly in relation to equipment/storage loads and anti-vibration requirements;

Flow/mobility of people, equipment and specimens;

Fire egress;

Access for large items of equipment;

Suitability of materials;

Waste disposal;

Storage of specimens, request forms and reports.

PLANNING

Operational Models

601174 550 .5.00 HOURS OF OPERATION

The Pathology Unit will usually provide services on a 24 hour 7 day a week basis, particularly where the hospital has emergency and critical care units.

As a rule, the laboratory will be fully staffed during the week between 0800 and 1730 hours Monday to Friday. Commonly there will be reduced staffing between 0800 and 1730 hours on weekends, public holidays and evenings until a time that will be defined by service needs and the level of service of the laboratory. After-hours services, overnight etc, have implications for access and staff security.

Note that turn-around time for pathology services is usually measured in hours rather than minutes and the opening hours and location of the service are often a business management decision.

601175 550 .5.05 FUTURE TRENDS

Design teams should be aware of the rapidly changing patterns of pathology practice. These changes may have major implications for spatial requirements for some unit functions and unit design should wherever possible provide flexibility for future usage. Some of the changes that may impact on design include:

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Demographic changes:

- ageing population with co-morbidities;
- prolonged survival of patients with previously untreatable diseases with the ongoing requirement for monitoring disease status and response to treatment;
- growing population of patients of different ethnicity with diverse genetic disorders and cultural needs.

Developments in medicine:

- genetic testing driving treatment options e.g. pharmacogenetics;
- increased numbers of transplant procedures;
- increased numbers of biopsies in general, in part due to the clinical emphasis on early diagnosis.

New developments in pathology:

- increased numbers of specimens generated by screening programs;
- increasing convergence of disciplines and shared use of equipment;
- and, conversely, increasing specialisation of sub-specialties with unique equipment.

601176 550 .5.10 MODELS OF SERVICE DELIVERY

There are a number of ways by which Pathology services may be provided:

On-site laboratory providing a comprehensive range of tests and services;

No on-site laboratory with services provided by an external laboratory on a contracted or other basis;

On-site provision limited to a stat laboratory for a limited range of urgent tests;

Networking of hospital laboratories across an area or region with varying arrangements for specialisation between laboratories.

Increasingly, consideration is being given to partial or full privatisation of hospital Pathology Departments that operate as Business Units. These alternative options for service provision may have significant design implications.

The main focus of this guideline is on the integrated on-site hospital service providing basic core services with guidelines as to more specialised needs.

601177 550 .5.15 POINT OF CARE TESTING (POCT)

Also called "Near Patient Testing", Point of Care Testing has an increasing importance, particularly in same-day procedural centres, community alternatives to hospital care and in rural and remote locations. POCT may include blood gas analysers with a range of parameters dispersed in hospital patient care areas to simple hand-held glucometers used by diabetic patients and their carers in their homes. POCT may be used as a strategy to shorten length of stays, move care to the outpatient setting, and as a central feature in medical decision making. Refer to Queensland Clinical Service Capability Framework.

POCT is a supplement to and not a replacement for central laboratory services and does not impact on the overall design of a laboratory except as it may affect throughput and maintenance needs when assessing staffing.

Operational Policies

601178 550 .6.00

GENERAL

Operational policies have a major impact upon the planning and design and capital and recurrent costs of health facilities. Design teams should be constantly reviewing their design proposals with these in mind and be able to demonstrate that the capital and recurrent cost implications of proposed operational policies have been fully considered.

Operational Policies may have hospital-wide application or be unit-specific. A list of general Operational Policies that may apply can be found in Part B Section 80 of these Guidelines.

601179 550 .6.05

AUTOPSIES

The Autopsy facility would be collocated with the Mortuary but there is generally no reason to collocate the Anatomical Pathology laboratories in the same area. The Mortuary / Autopsy Unit is addressed in a separate Guideline.

601180 550 .6.10

FROZEN SECTIONS

Frozen section involves the microscopic examination of small portions of rapidly frozen fresh tissue removed surgically (using cryostat or freezing microtome) and the provision of a diagnosis, often while the patient is still anaesthetised. Although the need for a frozen section may be pre-arranged between surgeon and pathologist, the actual procedure must be considered "urgent".

Unless the volume is very high (eg breast surgery service) or biopsies are done on a sessional basis, the process should be undertaken in the main Laboratory and any proposal to carry out all or part of the task in the Operating Suite itself should be discouraged.

However, this has implications for necessarily rapid transport and distance between the laboratory and Operating Suite. Specimens are usually hand-delivered but if the decision is made to use a pneumatic tube system, there should be a station in the area of the laboratory where the frozen section is to be processed.

Provision of audio links between the two units for immediate consultation with the waiting surgeon may be considered for consultation between pathologist and surgeon.

With the advent of technology, it is possible to attach a video camera on the microscope and view and discuss the specimen through the CCTV system. For teaching hospitals, this means of communication between the surgeon and pathologist is often selected; however often the funds are not available for a level 4 service or the existing physical facilities preclude the use of such technology. The surgeon and pathologist should have access to a hands free phone/intercom for discussion. The user groups would need to identify the appropriate policy to ensure the most suitable location of a frozen section area.

601181 550 .6.15

LABORATORY STERILIZERS

Laboratory sterilizers are used for:

- decontamination of specimens and disposable items prior to disposal;
- sterilization of culture media and equipment for laboratory use.

Items required sterile should not be processed in the same sterilizer as items

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for decontamination and laboratory sterilizers should not be used to process items required sterile for patient care or treatment.

NB: Hot air sterilizers may also be required in laboratories to sterilize oils, waxes and certain pieces of equipment.

601182 550 .6.20 LINEN

Provision will need to be made for delivery and dispersed storage of gowns and lab coats and for patient needs as necessary.

601183 550 .6.25 MEDIA PRODUCTION

Media, agar plates etc, for use in microbial growth may be prepared in-house or obtained from an outside commercial supplier. Improved results are obtained from fresh media but preparation will require a dedicated area.

601184 550 .6.30 PATHOLOGY REQUESTS

All pathology requests, test information and reporting of results will be computerised with authorised access to verified results being available at selected points throughout the facility. However, some use of paper within the work areas associated with request forms, notes etc should be expected.

Tests not able to be performed by the laboratory will be referred to appropriate reference laboratories.

601185 550 .6.35 RECORDS & SPECIMEN RETENTION

Specimens and reports will be retained in accordance with the requirements of the National Pathology Accreditation Advisory Council and for documentation of requirements of the Health Insurance Act for inspection by the Health Insurance Commission.

In practical terms, a Pathology Unit is expected to retain records for a minimum period of twelve months. However, the Health Insurance Commission requires that pathology providers retain the original written request (or a copy in an approved form) for eighteen months after the date of service, and the National Association of Testing Authorities / Royal College of Pathologists of Australasia requires that records are kept for a period of three years.

Additionally, States and Territories may have their own requirements. A table of relevant State and Territory legislation is available at Appendix 1 of the NPAAC Report. NPAAC: Retention of Laboratory Records and Diagnostic Material, Third edition, 2002.

601186 550 .6.40 REPORTING

Reporting of results will be carried out by staff of the Unit. The Director will have the ultimate responsibility for reporting accuracy.

The reporting system will aim to:

- generally minimise delays in preparation and dispatch of test results;
- ensure a same-day service for basic tests;
- accommodate immediate reporting of results which indicate the need for urgent therapeutic action.

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Planning needs to ensure the capability for results to be entered into a computer data base and direct interfacing of instruments is desirable when justified by volume of work.

After validation results should be available by:

- terminal entry at multiple sets;
- in writing in one or more format of paper (hard copy) reported either in the laboratory or at remote sites;
- the system to be effective must provide adequate security of confidential patient data;
- telephone reporting of results for critical care patient management ("critical values").

Design should enhance an efficient and effective work flow.

601187 550 .6.45 SPECIMEN COLLECTION / PHLEBOTOMY

Provision must be made for the collection of specimens from outpatients and services may include:

- adult and paediatric venepuncture & heel/finger pricks (phlebotomy);
- urine and faeces (collected in an adjoining toilet);
- Mantoux testing for TB reactions;
- glucose tolerance testing;
- skin and nail scrapings;
- urethral, vaginal, cervical, wound and throat swabs and sweat;
- bone marrow and fine needle aspirations (under aseptic conditions and by a pathologist);
- venesections.

It may also be necessary to provide facilities for autologous blood donation depending on hospital policy.

Depending on the size of the overall Facility, the Collection Unit may be collocated with the Pathology Unit or, as is more usual, will be a dedicated unit in an ambulatory care zone. In the latter instance, project staff will need to determine whether procedures that are required to be performed by a pathologist (eg bone marrow and fine needle aspirations) are to be carried out in the Collection Unit or whether additional facilities will be located in the Pathology Unit to provide ready access by the pathologist.

601188 550 .6.50 SPECIMEN TRANSPORT

Transport of specimens will involve both internal (to laboratories) and external (between facilities/buildings) systems. Due to the speed at which many specimens deteriorate and the instability of some specific analytes, it is critical that the interval is minimised between specimen collection and analysis. Planning should facilitate the appropriate traffic and delivery systems for the specimen collection process. In some instances the transport interval may be as little as one hour, requiring the patient to be transferred to the test site (eg Reference Hospital) for specimen collection. The design must facilitate unhindered delivery of all specimens to and from the unit.

Where specimens are to be forwarded to an external facility, they may be dispatched in batches at set times, rather than individually as they arise. It will therefore be necessary to provide suitable storage facilities such as refrigerators, freezers or incubators for the batch specimens.

It will be essential to ensure that specimens are suitably packaged for transportation to avoid breakage, spillage or deterioration whilst in transit. Packages should be clearly identified and addressed and any special temperature requirements noted (eg chilling or temperature control). The

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design should include functional packing space and surfaces, a range of conditions for packed specimens awaiting transfer (eg refrigeration) and adequate storage for packing materials.

Refer to the NPAAC publication: Information on the Transport of Pathology Specimens, 1998.

601189 550 .6.55 STORAGE - GENERAL

Storage facilities may include:

- external bulk area;
- internal bulk area;
- internal separated zones for designated items;
- storage within each laboratory area;
- reagent storage at workstations (do not include service outlets so that the shelves can be removed as necessary).

The Australian Standard for laboratory construction sets limits on the quantities of various potentially dangerous materials which can be stored in one place. Refer to AS 2982.

Special storage requirements include:

- cabinets for flammable solvents and other designated materials such as paraffin blocks;
- discrete areas for items such as liquid nitrogen, which additionally requires specially designated heavily insulated storage containers. Decanting of liquid nitrogen should preferably be done in an isolated area of the laboratory on an impervious bench designated for the purpose. Adjacent storage for face masks and gloves should be included in the design of the zone;
- stationery to be stored away from inflammables;
- adequate temporary storage for waste due to the large amount of disposable items which will be used by such a Unit. Access to such storage areas for collection personnel must not be through laboratories.

601190 550 .6.60 STORAGE - SPECIMENS

Specimens may need to be stored:

- out of hours (eg when delivered by night staff to the Unit);
- in the specimen receiving area prior to distribution to the appropriate laboratory
- by individual laboratories for re-testing.

The facilities required will inevitably call for refrigerators, freezers, ice machine and small incubator located in the appropriate zones. As well as ice machines and refrigeration, the Unit should have the capability to produce dry ice (carbon dioxide / CO₂). Note that there are specific requirements for holding and use of CO₂ in a laboratory area. Refer to <http://www.dryiceinfo.com/safe.htm> for safety issues.

601191 550 .6.65 STORAGE - BLOOD AND BLOOD PRODUCTS

All blood products must be stored in accordance with the Australian Red Cross Blood Transfusion Service requirements. Separate storage will be required for cross-matched and non-cross-matched blood.

AS 3864 - Medical refrigeration equipment-For the storage of blood and blood products - specifies requirements for the manufacture of medical refrigeration equipment such as reach-in cabinets and walk-in rooms for the storage of blood and blood products in the temperature range 2°C to 6°C, and for the storage of frozen blood plasma at a temperature of -25°C or lower, within an ambient temperature range of 10°C to 43°C.

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Blood refrigerators and freezers for storing fresh frozen plasma must be connected to the emergency power supply and require continuous temperature monitoring devices and alarms. Alarms will be activated in the case of a power failure or when the temperature falls outside the specified range for the particular product and must ring into a 24 hour 7 day per week staffed area.

Blood refrigerators located outside the Pathology Unit in critical care areas must also be monitored and alarmed and remain the responsibility of pathology staff.

Platelet concentrates must be agitated gently and continuously in a single layer on a platelet shaker during storage and may be stored for up to 5 days at 20-24°C.

Frozen blood products must be thawed under the control of the Blood Bank or other trained personnel.

Blood and blood products are transported in refrigerated boxes. The ice machine should be located in close proximity to the transport area to enable the packing of blood products into the boxes.

601192 550 .6.70 STORAGE - SLIDES AND TISSUE BLOCKS

Comprises bodily specimens, samples or materials examined in a diagnostic pathology procedure including slides, films, blocks, cultures and related material.

To be retained in accordance with current NPAAC minimum standards for the retention of diagnostic material.

Space required for storage will be considerable and heavy but it is assumed that the majority of slides would be stored in the main laboratory.

Tissue blocks are bulky but at least 2 years should be provided in the Unit and the remainder should be readily accessible from the Pathology Unit.

601193 550 .6.75 STORAGE - MEDIA

Media will usually be stored:

- in amounts suitable for immediate use;
- bulk stock will be refrigerated within the Unit in the media preparation room if provided.

601194 550 .6.80 STORAGE - REAGENTS

Reagents may require storage:

- at room temperature;
- at 4-60°C;
- frozen;
- desiccated.

Stocks may be stored wholly within the department in a well controlled central cool room.

601195 550 .6.85 WASTE MANAGEMENT

All pathological waste should be considered as potentially hazardous.

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The means of handling general clinical waste and soiled linen from the Unit should comply with measures implemented for other areas of the hospital.

However, the following categories of waste require further consideration and may call for the development of special policies:

- body parts and tissue (both fresh and preserved);
- radioactive specimens and reagents;
- large volumes of sharps requiring special sealable containers of large capacity;
- chemical waste;
- flammable liquids;
- used blood packs;
- fume extraction.

NB: The Metropolitan Water, Sewerage and Drainage Board/County Council/Local Council should be consulted with regard to requirements for waste disposal.

Suitable areas should be provided for the safe temporary storage of solid or liquid wastes collected from laboratories until they are removed by a waste collection agency or disposed of by other approved means.

All used media, faeces (faecal fats) and urine must be sterilized prior to disposal and suitable sterilization and storage facilities for biological waste should be provided in accordance with AS/NZS 2243.3.

Also refer to: NSW Health, PD2005_132, Waste Management Guidelines for Health Care Facilities, August 1998.

In Queensland, refer to Health Waste Management System, June 2004
<http://www.health.qld.gov.au/cwamb/cwguide/InfectionGuide.pdf>

601196 550 .6.90 UNIT MANAGEMENT

The head of the Pathology Service (usually referred to as "the Director") is a registered medical practitioner with recognised qualifications in pathology.

He/she is assisted by an Area Laboratory, Business/Operations Manager. The on-site management of the laboratory will be the responsibility of a Senior Scientific Officer who will manage the unit's daily operations.

Frequently, a Laboratory Manager is appointed. This Manager is responsible for the day-to-day management of the Unit and may be drawn from either the Medical or Scientific staff component.

Usually a Senior Scientific Officer manages satellite pathology services.

601197 550 .6.95 OPERATIONAL STAFF

Visiting medical officers or staff pathologists employed by the Pathology Service provide appropriate cover for all areas of the service i.e. anatomical pathology, microscopy, blood transfusion, clinical pathology, supported by the scientific analytical staff.

The centralization of specialist staff provides flexibility and the facility to interchange staff for holiday and special leave requirements.

Laboratory aides, post mortem staff, phlebotomist, couriers, clerical staff, nursing and scientific officers will work under the supervision of the Senior Scientific Officer.

Scientific staff may be trained to be multi-skilled or discipline-specific.

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Nursing staff employed in the collection areas should ideally be under the control of the Director of Pathology.

Project staff need to ascertain whether Infection Control staff will be located in/near the Pathology Unit.

Internal and external couriers may be employed by the Pathology service or an external agency may be used. Provided there is sufficient work, the former is preferred.

Planning Models

601198 550 .7.00

LOCATION

There is no definitive locational requirement, however the planners will need to consider and resolve the conflicting needs of the internal and external users of the service. Local and regional policies will also affect the locational requirements.

Ideally it should be in a discreet location to minimise unnecessary and undesirable traffic (eg "lost" patients or visitors from an adjoining ward).

The following requirements and issues need to be considered:

- proximity to the Operating Suite for frozen sections;
- proximity to the Critical Care and Emergency Units for urgent tests and blood products if no point-of-care equipment is provided.

The provision of a pneumatic tube system can remove the priority of placing the Pathology Unit within close proximity to the critical care areas of the hospital. This also reduces the need to provide regular courier services between the Units. When reviewing the need to incorporate pneumatic tubes, the planning team would need to analyse the capital cost versus recurrent costs and the clinical need to fully justify the installation of such a system.

601199 550 .7.05

BUILDING DESIGN

The shape of the department should be assessed at an early stage. Depending on the overall size of the unit, the concept of a deep plan that provides a double corridor system versus a linear single corridor system should be evaluated.

The laboratories will be highly serviced, hence the location of plumbing and air exhaust ducts will need to be carefully placed to ensure the appropriate environmental and safety elements are accommodated.

Ease of external access to storage areas for bulk items (reagents, cylinders etc) and provision of safe storage areas must be a consideration at early design stage as must storage / treatment areas for waste.

601200 550 .7.10

CONFIGURATION / ZONES

The following was sourced from the article "Change in Clinical Labs in Hospitals" InformeDesign Newsletter, Vol.03, Issue 09.

It suggested that laboratories be organized into three flexibility zones (highly flexible, semi-flexible and least flexible) that correspond to technological requirements since the equipment is central to the function of the lab. Analysis of the workflow suggests that organizing the lab by technologies e.g. automated versus manual processing, rather than by the traditional lab-specific departments, is essential.

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601201 550 .7.15 HIGHLY FLEXIBLE ZONE

The highly flexible zone would comprise those clinical areas that primarily use automated systems e.g. clinical chemistry and haematology, together with central receiving and processing areas. This area will process the majority of routine testing and account for approximately 75% of the testing volume. This area is also the most susceptible to change and is also the area where the most convergence of disciplines is occurring in terms of equipment sharing and staffing expertise. The most frequently used automated systems should be physically located closest to centralized processing and receiving areas.

Specialist laboratories for Immunology, Endocrinology etc may also be included in this zone.

601202 550 .7.20 SEMI-FLEXIBLE ZONE

The semi-flexible zone would include semi-automated and manual processing and include those functions requiring a greater degree of enclosure such as Microbiology, Anatomical Pathology and special labs etc. It would also include the Blood Bank and Patient Care Areas. The open plan from the highly flexible zone must extend into the semi-flexible zone to accommodate equipment that spans lab areas.

601203 550 .7.25 LEAST FLEXIBLE ZONE

Support areas such as sterilizing rooms etc should be located in a central core and offices and staff amenities should be located on the periphery to avoid workflow disruptions.

Functional Areas

601204 550 .8.00 FUNCTIONAL ZONES

- Clinical Procedure Area (if provided);
- Specimen Reception / Processing;
- Laboratories;
- Support Areas;
- Staff Areas.

601205 550 .8.05 PATIENT-ACCESSED AREA

If provided, patient-accessed areas will comprise consultation / examination / procedure rooms, a patient toilet and a small waiting area.

The majority of patients will arrive on foot with an occasional arrival by wheelchair. Very few patients are likely to access the unit on a trolley but trolley access should be planned for should a patient collapse while in the unit and need to be transferred elsewhere. Resuscitation equipment and a means of calling an emergency team must be available.

601206 550 .8.10 SPECIMEN RECEPTION / PROCESSING

A single space should be provided to accommodate the receipt of all specimens from whatever source. The area should be easily visible / recognisable from the Unit entry and visible from within the main laboratory but access to the receiving area should not permit any unauthorised access

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to the main laboratory.

It should be possible to deliver specimens to the area throughout a given 24-hour period and the receiving area may be designed to ensure that only a small zone with appropriate refrigeration / warming storage is accessible for after-hours specimen delivery.

The specimen reception / processing area should provide for:

- receipt of specimens with accompanying request forms; specimens may arrive singly or in batches following a courier delivery, collection staff or via pneumatic tube system;
- convenient out-of-hours drop-off point for specimens and means of alerting on-duty staff;
- identification and administrative processing of information of all specimens;
- sorting of urgent from routine specimens;
- distribution of specimens to the relevant internal laboratory;
- separate storage for specimens waiting to be forwarded to a specialist laboratory;
- safe storage of retained portions of specimens (aliquots);
- immediate access to hand washing facilities and safety shower/eyebath;
- ready access to staff amenities for after-hours staff.

601207 550 .8.15 LABORATORIES

For the most part open-plan laboratories work well for Haematology, Clinical Chemistry and for Immunology and Endocrinology where provided.

The need to physically confine a laboratory is based primarily upon the physical, chemical or biological hazards generated in laboratories such as microbiology, anatomical pathology and virology / serology laboratories. These laboratories must be physically separated by means of walls and doors from other laboratory work areas and should incorporate associated specialised areas for sterilization and media preparation facilities.

The design of sub-areas that have special equipment or work processes needs consideration. For example:

A quiet area will be required for blood grouping to facilitate concentration;

Fluorescence microscopes, where installed, need a small work area that can be completely darkened - either a dark room or inherent in the equipment itself;

Areas dealing with blood and blood products may require special construction to comply with TGA requirements e.g. no visible joints, all timber fully-sealed etc;

A rectangular module shape of 3 metres wide for an open plan laboratory will allow for a bench on 2 walls 750mm deep and a corridor space of 1400mm between facing benches. This complies with the requirements in AS 2982 - 1987 Section 3.6.2 which allows for 2 people working at both sides of the aisle.

601208 550 .8.20 SUPPORT AREAS

Dedicated areas will be required for glass washing, sterilizing, media preparation / storage, refrigerators, freezers and cool / cold rooms, distilled water, clean linen, waste holding and storage.

601209 550 .8.25 STAFF AREAS

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Staff areas will comprise offices, workstations, meeting / teaching rooms and amenities.

Senior staff offices may be collocated in an administrative cluster supported by photocopier etc and readily accessible to the public. Some pathologists and senior scientists will however prefer to have offices or work stations close to their area of clinical laboratory work and there will need to be write-up stations within the laboratories.

Meeting room/s, toilets and showers and the staff lounge / beverage may be collocated in a "Staff Only" zone with access by corridor and not through the laboratories.

For provision of offices etc, refer to NSW Health PD2005_576 - Office Accommodation Policy - Public Health Organisations and Ambulance Service, April 2005.

601210 550 .8.30 NIGHT STAFF

Consideration must be given to ensuring that night staff, particularly in large Units, have ready access to necessary facilities such as toilet, beverage-making facilities, photocopier, fax etc without having to travel outside the immediate work area. Also refer "Safety and Security".

Functional Relationships

601211 550 .9.00 EXTERNAL

Ready access to/from critical care units and the Emergency Unit for urgent tests such as blood gas analysis and supply of blood products will be required if no point-of-care testing and/or pneumatic tube system.

Proximity to the Operating Suite for frozen sections needs to be considered. Pneumatic tube systems are not generally used for the transport of unique or irreplaceable samples such as tissue for frozen section.

601212 550 .9.05 INTERNAL

Collocate Haematology & Clinical Chemistry with Specimen Reception where the bulk of general work is carried out.

Microbiology and Anatomical Pathology may be conveniently collocated for sharing of support facilities.

Admin offices easily accessible to visitors without accessing any labs.

Staff lounge with daylight and NOT accessed via laboratories.

Accessibility

601213 550 .10.00 EXTERNAL

The following requirements and issues need to be considered:

Access for couriers from the Australian Red Cross Blood Transfusion Service or outside laboratories. Access pathways and issues for out of hours courier deliveries direct to the Pathology Processing Unit needs to be considered;

Supplies - delivery of stores such as large boxes of specimen containers, flammable liquids and reagents, Dewar tanks of liquid nitrogen may go directly to the Pathology Unit or via the Central Stores Unit of the facility. Where supplies are delivered directly to the Unit, they may be placed in a central storage zone or distributed to individual laboratories. Provision should be made for container collection by suppliers e.g. gas cylinders. This may involve either a local or a central collection facility.

Waste disposal requirements;

Emergency fire egress requirements;

Outpatient access;

Public / visitors access: Must be such that separation of public areas from laboratory areas is ensured;

Staff access - staff may gain access to the unit via the main, public entrance or via a separate staff entrance. Any additional access points will increase the security requirements for the unit. Separation of staff from public areas must ensure staff security, particularly if working alone out of hours;

Access for equipment - some chemical analysers are extremely large, consequently installation service and equipment replacement issues need consideration early in the design phase.

601214 550 .10.05 INTERNAL

Planning should accommodate ready movement of staff between sections particularly for multi-skilled staff and night staff.

Parking

601215 550 .11.00 Urgent specimen delivery should be supported by an adequate number of short term spaces with time limits not less than the delivery time required.

For staff parking, refer to Part C Clause 790 of these Guidelines for further information.

Disaster Planning

601216 550 .12.00 The Unit must have plans in place in case of disaster. Refer to the Sections on Safety and to Part B Section 80 for further information.

Infection Control

601217 550 .13.00 The Pathology Unit requires special consideration in respect of infection control.

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On a daily basis the Unit deals with two major potential sources of infection:

- a broad range of body tissue / fluid specimens;
- the growth of living pathogens which, themselves, are capable of causing infection.

It is essential that unit design contributes to the control of infection and must incorporate:

- an appropriate overall layout to minimise cross-contamination between laboratories and work areas;
- efficient work-flow design and detailing;
- suitable materials and finishes;
- adequate numbers and location of handbasins with hot and cold water via an approved temperature control device;
- appropriate cleaning and waste storage and disposal facilities;
- effective specimen storage facilities;
- first aid facilities (Refer NATA/RCPA. Requirements for registration: medical testing).

Additionally, for those areas which deal particularly with the growth of organisms and the handling of known infectious materials, the design must include:

- appropriate isolation of space and ventilation systems which present potential hazard (Refer AS 2982);
- provision of effective extraction apparatus to specific equipment items such as: biological and chemical safety cabinets and to specimen storage, temporary holding and disposal systems.

Refer to PD2007_036 - Infection Control Policy, NSW Health.

Also to Part D of these Guidelines - Infection Prevention and Control for further information.

Environmental Considerations

601218 550 .14.00 GENERAL

The technical staff will need to be provided with sufficient space, working surfaces and environmental safety equipment to perform pathological tests safely.

601219 550 .14.05 ACOUSTICS

Open plan labs may be very noisy so all means of reducing loud and sudden noise should be considered.

Some areas require additional concentration and may be carpeted.

601220 550 .14.10 NATURAL LIGHT

Controlled natural light is desirable to provide a pleasant working environment for the staff however direct sunlight onto benches and equipment should be avoided not only to minimise glare to staff but also because some chemicals may become unstable or their properties altered if exposed for extended periods. Some equipment may also be unsuitable or intolerant to direct sunlight.

Space Standards and Components

601221 550 .15.00 ERGONOMICS

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Much benchtop equipment must be located flush to the edge of the bench for appropriate use.

Refer Part C of these Guidelines for information.

601222 550 .15.05 HUMAN ENGINEERING

Human Engineering covers aspects of the design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all people.

Refer Part C of these Guidelines for further information.

601223 550 .15.10 ACCESS AND MOBILITY

Refer Part C of these Guidelines for information.

601224 550 .15.15 DOORS, WINDOWS AND CORRIDORS

Subject to the appropriate building and fire codes, for the purpose of this Guideline, it is suggested that minimal doors are provided between the laboratory areas but doors to enclosed laboratories must be sized to accommodate the equipment to be installed e.g. electron microscope, autoclave. Standard doors may not always be large enough especially if lifting equipment or large trolleys are required for transport.

Day/sun light control may be achieved by means of blinds etc but also by placing benches that are located near windows at right angles to the windows and not parallel under windows. Louvres are not recommended.

It is recommended that "main" corridors in the Unit i.e. not the work aisles, should be wide enough to satisfy fire egress requirements but not so wide as to encourage de facto parking / storing of equipment which then becomes a fire egress obstacle.

Refer Part C of these Guidelines for information.

601225 550 .15.20 PLACEMENT OF EQUIPMENT

Project staff will need to itemise the various items of equipment, particularly floor-standing equipment to ensure it can be suitably housed. Adequate space for maintenance of any major equipment must also be considered.

Safety and Security

601226 550 .16.00 SAFETY

Corrosive, toxic, flammable, infectious, pathogenic materials are handled in the unit and effective levels of health and safety must be maintained. Refer to NPAAC - Standards for Pathology Laboratories 2002.

Safety issues to be considered in designing a Pathology Unit include:

- provision of non-slip flooring materials for areas where floors are subject to water and chemical splashing and paraffin/wax spills;
- installation of effective extraction units for the removal of toxic fumes (particularly formalin);

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- provision of sealed centrifuge units for protection against aerosols;
- inclusion of safety cabinets;
- adequacy and location of collection and holding system for sharps, contaminated waste and soiled linen;
- appropriate disposal of fluids a) into sewage system or b) by high temperature incineration;
- appropriate location and number of emergency shower and eyewash facilities relevant to laboratories;
- appropriate handling and storage facilities for flammable and highly explosive substances including fire blankets, fire hoses, fire extinguishers;
- appropriateness of patient accommodation for specimen collection e.g. use of reclining chair in anticipation of patient feeling faint during blood withdrawal and provision of resuscitation equipment.

601227 550 .16.05 STANDARDS AND CODES

Australian Standard 2243 - Safety in Laboratories. This Standard comprises ten separate parts dealing with different aspects of laboratory safety:

- Part 1 - General
- Part 2 - Chemical aspects
- Part 3 - Microbiology
- Part 4 - Ionizing radiations
- Part 5 - Non-ionizing radiations
- Part 6 - Mechanical aspects
- Part 7 - Electrical aspects
- Part 8 - Fume cupboards
- Part 9 - Recirculating fume cabinets
- Part 10 - Storage of chemicals

Also refer to "Storage and Handling of Dangerous Goods", No.1354, WorkCover NSW, 2005.
http://www.workcover.nsw.gov.au/Publications/LawAndPolicy/CodesofPractice/cop_storage_handling_dangerous_goods.htm

601228 550 .16.10 FORMALDEHYDE

The following is an extract from "Formaldehyde - Priority Existing Chemical Assessment Report, Draft for Public Comment September 2005 published by the Department of Health & Ageing.

"Recommendation 6. Specific recommendations for forensic/hospital mortuaries and pathology laboratories (Industry).

Following workplace controls are recommended:

- use of local exhaust ventilation at each specimen station;
- relocate specimen vats to areas with isolated ventilation or use local exhaust ventilation over the vats;
- avoid the need for [decanting and] dilution of concentrated formalin products by purchasing diluted formalin products;
- ensure effective ventilation, especially in areas where formaldehyde levels may be high, such as exhaust ventilation in storage areas, and down draught arrangements at dissection areas."

601229 550 .16.15 FLAMMABLE AND COMBUSTIBLE LIQUIDS

Refer to AS 1940 - The storage and handling of flammable and combustible liquids.

This Standard provides requirements for the planning, design, construction, and safe operation of all installations in which flammable or combustible

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liquids are stored or handled. In separate sections it deals with minor storage, package storage and handling, storage in tanks, fuel dispensing, piping and tank auxiliaries, operations and fire protection facilities.

To be used in conjunction with:

- AS/NZS 2381 - Electrical equipment for explosive atmospheres-Selection, installation and maintenance;
- AS 2430 - Classification of hazardous areas.

601230 550 .16.20 SECURITY

Security must encompass the physical well-being of staff and the integrity of specimens, equipment and patient information and the security design for the unit will essentially involve controlled access to the unit on a 24 hour basis.

The following elements need further consideration:

- monitoring of access to and from the unit during daylight hours;
- control of after-hours access to specific areas of the unit;
- security of unit for staff working after hours;
- authorised access to emergency after-hours blood storage facility;
- provision of a duress alarm system. This needs to take into consideration the mobility of pathology staff and whether a duress tracking system is warranted rather than a fixed button or zone system.

Location of computer terminals should be such that the 'public' cannot readily read the screen, especially at reception.

Access control may be achieved through the provision of minimal access points and electronic door controls.

Refer to PD2005_339 - Protecting People and Property, NSW Health Policy and Guidelines for Security Risk Management in Health Facilities.

TS11 - Engineering Services and Sustainable Development Guidelines (under revision) - Section 5 Security Systems that can be found in the "Reference" section of the Guidelines.

Finishes

601231 550 .17.00 WALL PROTECTION

Walls must be washable, impermeable and non-porous. Refer to Part C of these Guidelines.

601232 550 .17.05 FLOOR FINISHES

Floors should be level. Floor wastes, where installed, should not be graded as this impedes easy movement of equipment and mobile benches; rather grids should be located at door entries if overflow can be expected. In "wet" areas where floor hosing may occur, wastes should be located in the far corner of the room.

Particular attention should be given to non-slip flooring in Anatomical Pathology because of potential for paraffin and wax spills.

The use of carpet and other porous materials should not increase the risk of contamination by infectious material in the interests of noise suppression and the comfort of the occupants.

Where a floor surface is part of a containment area for spills as is required in flammable and corrosive store rooms, a drop-down floor may be required

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rather than bunding.

Also Refer to Part C of these Guidelines.

601233 550 .17.10 CEILING FINISHES

Ceilings must be washable, impermeable and non-porous.

Consideration needs to be given to ceiling finishes in significant negative pressure areas such as PC 3 laboratories.

Refer to Part C of these Guidelines.

Fixtures, Fittings & Equipment

601234 550 .18.00 LABORATORY FURNITURE

Refer to AS/NZS 2982.1 - Under revision 2006.

Modular furniture, adjustable height tables, and mobile units are recommended so workstations and equipment can be removed or reconfigured as technological processes change.

601235 550 .18.05 FUME CUPBOARDS AND SAFETY CABINETS

Fume cupboards and safety cabinets should comply with the following Australian / New Zealand Standards:

- AS/NZS 2243.8 - Fume cupboards;
- AS/NZS 2243.9 - Recirculating fume cabinets;
- AS 2252 - Laminar flow biological safety cabinets (Class II) for personnel, environment and product protection;
- AS 2647 - Biological safety cabinets - Installation and Use.

601236 550 .18.10 REFRIGERATION / FREEZER NEEDS

The Laboratory will require a range of walk-in cool rooms and/or refrigerators and freezers some of which may require emergency power supply and temperature alarms.

Refer to Section 550.6.65 for details re blood products storage.

601237 550 .18.15 SAFETY SHOWERS AND EYE WASHES

Safety shower and eyewash or eye/face wash equipment should be supplied with potable water. Refer to AS/NZS 2982.1 for details regarding location etc.

Eyewash equipment should permit a constant flow of water without requiring one hand to hold open the tap/valve.

601238 550 .18.20 STERILIZERS

A pressure steam sterilizer (autoclave) should be provided for the decontamination and sterilization of reusable equipment in microbiological laboratories of level PC2 and higher and where required by OGTR or AQIS. Compliance should be with the appropriate requirements of AS 2192 and AS

1410.

Facilities and equipment are required for terminal sterilisation of infectious or potentially infectious material (agar plates etc) before transport and disposal (terminal sterilisation is not required for specimens that are incinerated on site).

Where autoclaves are used for the terminal sterilisation of infectious waste, planners and design consultants must be aware of the pungent odour of autoclaved blood agar and body substances when selecting the location and mechanical services required for the autoclave room. The pungent odour can pervade adjoining laboratories and even small amounts can linger if the mechanical services do not work efficiently; not many people can work in this environment.

601239 550 .18.25 EQUIPMENT - GENERAL

All equipment should be itemised and located during the design phase to ensure that:

- the necessary space is provided for its operation and maintenance;
- the necessary services are available with appropriately located connection points;
- doors are sized to accommodate the passage of equipment;
- heat loads are estimated and catered for;
- weight loads are estimated and checked structurally;
- the need for special anti-vibration benches can be assessed if needed.

Building Service Requirements

601240 550 .19.00 GENERAL

High cost engineering areas which should receive careful consideration by design teams include:

- lighting and the impact of deep planning on lighting requirements;
- the number of sanitary fittings and the potential for reducing these by strategic location;
- extent of the required emergency and uninterrupted power supply and the necessary cabling and power outlets;
- extent of provision of emergency doors;
- extent of provision of essential back-up systems (eg dual generations, back up Uninterrupted Power Supply plant, chillers, boilers and dual electrical circuits);
- the need for and the cost benefit/implications of pneumatic transport/communication systems.

601241 550 .19.05 AIR-CONDITIONING / VENTILATION

Air-conditioning should be provided both for human comfort and to minimise variation and fluctuation of temperature and humidity for sensitive equipment especially in the blood storage areas.

Each type of laboratory in clinical areas should be evaluated in terms of the permissible amount of air recycling. For instance, anatomical tissue processing rooms and microbiology PC3 rooms would need 100% air replacement.

Air intake filters must not be contaminated by expelled air or fumes.

In order to calculate the air conditioning and heat load requirements, the mechanical engineer will require from the users, technical details of all the major items of equipment planned to be located in the area.

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Special attention to ventilation will be required in areas generating aerosols, dangerous fumes or noxious odours. The risks associated with asphyxiant gas leaks require a planned management system of ventilation.

Detail of requirements should be ascertained via discussion with the client and by reference to AS 2982 Laboratory Construction.

Infrastructure systems should include plans for additional capacity. The increasing density of technology in the highly flexible zone is causing more heat emissions, yet the equipment requires constant ambient temperatures. To satisfy codes and to ensure the safety and welfare of lab staff, HVAC systems should be planned in separate zones and planned for additional capacity allowing air quality to improve as testing procedures and methodologies evolve.

601242 550 .19.10 GASES

Town gas or LP gas will be required for Bunsen burners. Natural gas reticulation may be considered but it may be more economical to provide local requirements via a portable unit.

The following gases may be required in the Unit:

- oxygen and suction to the patient specimen collection area and to some specialised laboratories;
- special gases to fuel or calibrate instruments e.g. special mixtures of oxygen, nitrogen and carbon dioxide for calibration of blood gas analysers, nitrogen to purge air from certain systems, carbon dioxide or nitrogen used in certain incubators;
- high purity gases such as nitrogen, argon and helium for HPLC and Trace Metals laboratories;
- compressed air for some laboratories such as HPLC and Trace Metals. Compressed air may also be a requirement for the operation of sterilisers and for robotic sample handling systems.

Gases other than town gas (refer above) may be provided via a reticulated system or by cylinders. A reticulated system affords significant advantages in safety, convenience and often economy. Cylinders can create a laboratory hazard due to difficulty in moving or replacing and are generally discouraged under the Laboratory Safety Codes.

If piped gas systems are considered, especially with high purity systems, a specialised gas consultant should be engaged in the design of the reticulated gas system as special pipework, soldering / braze welding and monitoring systems are required.

With a reticulated gas system there are many factors to consider:

- alarming including alarming if there is a gas leakage in the laboratory;
- monitoring of supplies;
- emergency cut off;
- purity of gas required at the outlet;
- pressures to be delivered at the outlet.

Whether piped or from local cylinders, the risk of potential leakage and concentration build-up must be managed by ventilation systems.

601243 550 .19.15 ELECTRICAL SERVICES

Electrical wiring and services installations serving all laboratories should comply with AS/NZS 3000 and the requirements of the relevant authority. Refer to AS/NZS 2982.1 (under revision) for details.

Ducts for power cabling should ideally be brought in vertically from the ceiling and not run horizontally above benches as they can clutter; nor from

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the floor as this restricts future changes. In general, all services should be contained within the floor-to-roof area to facilitate future change with minimal disruption to adjacent areas.

The placement of safety showers and eyewash stations are usually situated in terms of complying with required travel distance. Care must be taken to ensure this does not lead to conflict with electrical fixtures.

Uniform, low glare lighting is required for staff comfort.

The need for uninterrupted power supply (UPS) to critical items of equipment will need to be assessed

601244 550 .19.20 FIRE SAFETY

Pathology laboratories present particular concerns in relation to fire.

Problems for consideration include:

- storage, decanting and use of highly inflammable liquids and/or gases;
- the presence of open flame equipment and hot surfaces;
- exhaust facilities to disperse flammable vapours;
- disposal of contaminated solvents;
- inadequate separation between hazardous reagents - refer to AS 2243 for storage of hazardous liquids;
- the need to consider the travel distances in respect of fire egress - refer to the BCA;
- safety standards in respect of installation of electrical equipment;
- the need to grade each room's activities so that the most potentially dangerous are sited furthest from the exits;
- adequate separation between laboratories and egress passages and other areas - refer to AS 2982 and the Australian and New Zealand Building Codes.

Consideration must be given to creating a balance between secure fire safety and workflow within the laboratories.

Egress corridors should comply with regulations but it is suggested that they should not be so wide as to encourage de facto parking of equipment along a wall thus obstructing fire egress.

Fire safety equipment will include extinguishers, blankets, hoses in accordance with BCA and laboratory safety requirements.

601245 550 .19.25 HYDRAULIC SERVICES

The quality of the water required in the area will vary according to use:

- domestic (potable water) to showers, hand basins and tea making areas;
- purified water for laboratory use. This may be provided through reverse osmosis units, filtered water or deionised water systems. A study of the most appropriate water purification system will need to be undertaken.

A break tank will be required for tap outlets in all laboratory areas. These taps will all require large notices nearby indicating the water from the water is non-potable.

Taps with hands-free action are desirable for laboratory sinks.

Consideration should be given to locating the water services on the perimeter of the unit thus leaving the central area free of floor penetrations. This will assist with any future design changes.

Check the location of the power outlets with regard to water outlets to ensure that electrical standards are met.

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The design of the hydraulic systems should ensure that spillage of hazardous or other waste will not flow through the floor penetrations.

Durable, non-corrosive, chemically inert piping should be selected for all the laboratory areas to avoid distortion, swelling and softening.

Safety shower/eye wash will be required though rarely used.

601246 550 .19.30 INFORMATION TECHNOLOGY / COMMUNICATIONS

Information and communication systems will include:

- telephone services;
- computer and internet access;
- nurse and emergency call in patient areas;
- security assistance;
- alarm systems where necessary (refrigerators etc);
- teleconferencing / telepathology facilities.

As with power, cabling ducts should ideally be brought in vertically from the ceiling and not run horizontally above or along benches.

Telepathology is the process of transmitting digital images (real time video or still) over telephone lines or a local/wide area network (LAN/WAN) and requirements need to be addressed during early planning stages.

601247 550 .19.35 LIGHT - GLARE MINIMISATION

Glare is a significant issue in laboratories where the outside windows are large and where either direct sunlight or reflected sunlight can enter the laboratory, and computer screens and monitors are glare affected. Planners and designers need to consider effective glare minimization.

Consideration must be given to the changing path of the sun between winter and summer and recognise that in laboratories that operate over extended hours, staff may be operating equipment at sunrise and sunset when direct sunlight entering the building is difficult to eliminate without external louvres.

Tinting is not always effective and solar-type blinds that still admit light only minimise the problem. In practical terms, the only effective means of controlling glare is to prevent sunlight getting onto the windows.

Placing benches at right angles to the window, does not work in practice as monitors and computers may be by necessity orientated to the window.

601248 550 .19.40 PNEUMATIC TUBE SYSTEM

Depending on the complexity and number of stations in the pneumatic tube system, delivery of a sample to the laboratory from a hospital station can be many minutes so this needs to be factored in to the design of any pneumatic tube system especially in relation to the Emergency and intensive care units where short turn around times are required.

Pneumatic tube systems are not generally used for the transport of unique or irreplaceable samples such as tissue for frozen section.

The installation of a pneumatic tube system in a facility can also be looked at in conjunction with being utilized by the pharmacy department. Sharing of installation cost may help in the business case.

The trade waste plumbing and drainage system for the laboratory fixtures must be designed to meet the requirements of the relevant Sewerage Authority and the Department of Health.

Information on the quantity of chemicals to be used/discharged must be provided by the client to the hydraulics engineer.

Pre-treatment facilities may include dilution, pH adjustment and holding tanks.

COMPONENTS OF THE UNIT

Standard Components

601250 550 .20.00 Rooms/spaces are defined as "Standard" and "Non Standard" Components.

Standard Components (SC) refer to rooms/spaces that are common to a range of Health Planning Units (eg offices, Dirty Utility Room) and for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by "Y" in the SC column of the Schedule of Accommodation.

There are a number of Standard Components that have been developed for the NSW Health Facility Briefing System that are not (as yet) available in these Guidelines. These are indicated by "B" in the Standard Components column.

Refer to Part B of the Guidelines and to Room Data and Room Layout Sheets.

Non-Standard Components

601251 550 .21.00 SPECIMEN COLLECTION AREA

DESCRIPTION AND FUNCTION

Area for outpatient specimen collection. The area may additionally act as a base for the equipping and storage of specimen collection trolleys/trays used for collection in other areas.

The collection area should be zoned to provide a minimum of 2 screened bed/chair spaces each with sufficient adjacent space for a specimen-collection person, an interpreter for non English speaking patients, a relative and an additional collection person as required. At least one area should accommodate a full-length examination couch. It may also be appropriate to provide a high chair adjacent to a standing-height work bench for simple phlebotomy.

The area will also include storage for necessary supplies, clerical work space, hand hygiene facilities and space for a patient to undress if required.

The area may be two curtained bays or two separate adjoining rooms but note that one large room may not be considered practical where children will use the service or where auditory privacy is required (eg fertility clinics).

Hours of operation are usually 0800 to 1730 hours.

Functions and activities may include:

- patient receipt, instruction and positioning;
- specimen collection;
- disposal of collection equipment;
- labelling and dispatch of specimens to the receiving area;

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- patient recovery/awaiting further collections as required.

NB: Dynamic testing will call for a regular series of samples collected over several hours.

LOCATION AND RELATIONSHIPS

Unless located in an Ambulatory Care Unit, the Specimen Collection Area will normally be located in a peripheral zone of the Pathology Unit convenient to the public entrance, waiting, reception and specimen receiving facilities. It should not be located within a laboratory area.

Direct access will be required to the specimen toilet.

CONSIDERATIONS

Wheelchair and trolley access (including for emergency purposes).
Nurse and emergency call system.

Storage is required for:

- handbasin;
- specimen containers;
- protective/asepsis apparel (eg gowns, gloves);
- linen, as applicable;
- stationery;
- sterile equipment and dressing packs;
- waste disposal containers;
- refrigerated specimens (temporary, as applicable).

A pneumatic tube station may be located in the area.

Oxygen and suction - piped or portable is required as is ready access to resuscitation equipment.

601252 550 .21.05 SPECIMEN RECEPTION / SORTING / STORAGE

DESCRIPTION AND FUNCTION

This space provides for the reception sorting and temporary storage of specimens arriving for analysis.

The space will also be used for the storage of specimens awaiting transfer to other facilities and, possibly, for the packaging of such specimens.

The area will be zoned for receipt and related clerical activities, initial storage, transfer storage and for packaging, if applicable.

Additionally, facility policy may require the area to act as a collection point for replacement specimen containers for other units.

Functions and activities of the area include:

- receipt of specimens from collection area/s, wards and departments and outside agents;
- time-clocking upon receipt;
- initial cataloguing of specimens;
- specimen sorting, by laboratory, with respect to tests requested;
- photocopying requests;
- appropriate temporary storage of specimens e.g. refrigerated distribution of specimens to relevant test areas;
- receipt/holding of specimens for transfer to other facilities under appropriate conditions;
- packaging of specimens for transfer, if applicable;
- odour/fume extraction, as applicable;
- bar coding/computer coding/reading/printing;
- hand hygiene.

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LOCATION AND RELATIONSHIPS

This area should be located adjacent to the testing laboratories, at the same time allow for ease of access for internal and external delivery services.

The space is functionally related to all laboratories and to the Clerical / Reception area.

CONSIDERATIONS

The integrity of specimens, the confidentiality of patient information and the physical security of personnel are essential.

Storage accommodation must be provided as follows:

- reception/clerical requisites (counter, drawers and cupboards);
- shelving / wall fixtures to support specimen baskets, trays, racks;
- insulated boxes;
- hooks for protective clothing;
- refrigerator;
- freezer;
- incubator - small for late specimen delivery for overnight storage;
- fire extinguisher;
- waste bins: paper waste, contaminated waste;
- hand basin;
- sink.

601253 550 .21.10 LABORATORY - GENERAL

DESCRIPTION AND FUNCTION

The laboratory, for the purpose of the schedule of accommodation in this guideline, is described as an open plan area consisting of modular units of equal size that will adapt to future changes of use and technology.

The level 4 laboratory unit would usually include the following areas:

- Haematology;
- Blood Bank;
- Clinical Chemistry;
- Anatomical Pathology.

601254 550 .21.15 HAEMATOLOGY

The Haematology Area will undertake limited investigation of the blood and its disorders.

Number of occupants: 1-2. Hours of operation: 0800-1730.

After hours and on call tests will be undertaken as requested.

Functions and activities include:

- receipt of specimens and request forms;
- centrifuging the specimens;
- testing the specimens by means of manual, mechanical or automated means;
- microscopic examination of specimens;
- staining of specimens;
- reporting on specimens;
- bar code identification of donor blood.

601255 550 .21.20 BLOOD BANK

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This discreet area of the laboratory is concerned with the cross matching and testing of blood for patient transfusion.

The laboratory will maintain a range of testing procedures to effect a safe antenatal, postnatal and general blood transfusion service to the hospital.

Number of occupants: 1-2. Hours of operation: 0800-1730.

After hours access will be required to the blood fridge and the testing area.

The functions and activities include:

- grouping of recipient's blood;
- cross matching recipient and donor blood;
- testing patient blood by manual or automated means;
- requesting supplies of blood and blood products;
- receiving blood supplies and blood products;
- storing cross matched blood (separate from un-crossmatched);
- storing un-crossmatched blood;
- reporting on results (written or verbal).

601256 550 .21.25 CLINICAL CHEMISTRY

- Receipt of specimens, sample tubes and other disposable equipment
- centrifuging specimens;
- blood gas analysis;
- chemical analysis of specimens;
- reporting and dispatching of results from the laboratory computer system.

601257 550 .21.30 ANATOMICAL PATHOLOGY

Macroscopic and microscopic examination of tissue specimens (although microscopy may also be done in the Pathologist's office).

Number of occupants: 1-2. Hours of operation: 0800-1730. It is unlikely that this area will operate out of hours.

Specimens are received, recorded and prepared and reported on following examination.

For hospitals undertaking post mortem examination, the tissue will be forwarded to the main Regional / Area laboratory for processing and reporting.

601258 550 .21.35 LOCATION AND RELATIONSHIPS

Each laboratory zone should be planned so as to allow one person to move freely between each zone or have vision of the complete clinical area. This will ensure that the unit could be managed by minimal staff.

All the zones should be easily accessed from the specimen reception area and be visible from the Senior Scientific Officer's office.

The Haematology and Blood Bank area should be located adjacent to each other with direct access to the blood fridge area.

The Blood Bank area may need to be separated by glass in order to reduce the noise transmission to this area. The nature of the work undertaken in this space requires the staff to concentrate as a mistake could cause future clinical problems.

601259 550 .21.40 CONSIDERATIONS

Storage will be required for:

- blood and blood products in a fridge or freezer to AS 3864 - 1991 and the Red Cross Blood Transfusion Service Standards;
- test reagents - the users will need to identify the types and volumes of all the reagents to be used in the laboratory in particular inflammable liquids. Storage cupboard should be in a central location for ease of access from all laboratory zones. Glass fronted cabinet may be used for this purpose;
- glassware will need to be stored. Some of the containers are 500-600mm tall; Also consider the size of the sink for washing the glass vessels where they need to fit under the tap;
- items of equipment used on a daily basis can be stored on a shelf unit between laboratory benches;
- reference texts should be available for all staff to access within the Laboratory. Shelf units should hold at least A4 ring binders. Many laboratories prefer to store these books in glass fronted shelf units;
- files, stationery and other reference materials will also need to be stored; modular filing units can accommodate this function;
- specimen containers are usually delivered in cartons of various sizes - some laboratories keep an open box intact and accessible in the laboratory while others decant the contents into wire baskets or tote boxes and place on shelves or cupboards under the benches;
- assorted small items need to be stored in drawers. These too can be provided in modular underbench units.

An emergency shower and eyewash should be centrally located and ready access to hand washing facilities in all zones should be provided.

All zones require computer access to pathology and hospital information systems.

601260 550 .21.45 SAMPLE LABORATORY LAYOUT

The following is extracted from DS21 Design Series, Health Building Guideline, Pathology Unit, NSW Health 1999.

601261 550 .21.50 EMERGENCY SHOWER / EYE WASH

DESCRIPTION AND FUNCTION

Deluge shower and eyewash facility will be required in case of blood or chemical spillage or contamination.

To ensure the best utilisation of space, consideration should be given to placing the deluge shower adjacent to a handbasin. Some pathology units are providing a hand held shower for lower risk areas at the hand basin which may be used as an eye wash or to clean away any spillage.

LOCATION AND RELATIONSHIPS

Locate in central easily accessible position or if separate laboratories, one in each laboratory.

CONSIDERATIONS

A large floor waste will be required to remove the water after use. In PC2 or higher laboratories, the floor waste must have a sealed cover.

601262 550 .21.55 AFTER-HOURS BLOOD FRIDGE

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DESCRIPTION AND FUNCTION

This space provides for the secure storage of cross-matched blood and other blood products and is intended for after-hours use by authorised staff only.

1 floor-mounted blood refrigerator.

1 floor-mounted blood freezer.

LOCATION AND RELATIONSHIPS

This area is functionally related to the Blood Bank.

The space should be located within the Pathology Unit outside the test area.

NB: This will need 24 hour access and should not compromise the after hours security of the laboratory.

Ready access is required to the:

- Unit's after-hours access point;
- Corridor/circulation space;
- Blood Bank area;
- Blood delivery point.

CONSIDERATIONS

The selected location should be enclosed and should provide for adequate temperature control and effective ventilation.

- Power failure / temperature control and "unauthorised access" alarms;
- effective light source.

NB: Essential power requirements apply to each refrigerated unit.

APPENDICES

Schedule of Accommodation

601263 550 .22.00 A Schedule of Accommodation follows suitable for a Level 4 satellite service supported by a regional Level 5/6 Area / Regional Service. The Schedule is for guidance only and will need to be adjusted to reflect the services provided and the staff establishment. Given their complexity, specifics for higher level laboratories are beyond the scope of this guidelines.

601264 550 .22.05 PATHOLOGY UNIT - Specimen Collection

Specimen collection may be more effectively located as part of Ambulatory Care / Outpatients.

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
WAITING - SUB	yes					1 x 8	6 chairs
RECEPTION / WORKSTATION	yes					1 x 10	2 staff
STORE - PHOTOCOPY / STATIONERY / FILES	yes					1 x 8	May be shared with adjoining Unit
SPECIMEN COLLECTION ROOM	B					1 x 23	2 collection areas, workspace & storage
STORE - STERILE STOCK	yes					1 x 9	

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TOILET - PATIENT	yes					1 x 4 / 5	Specimen collection. 5 sqm if disabled access required. May have pass-thru hatch.
BAY - MOBILE EQUIPMENT	yes					1 x 4	Ward phlebotomy trolleys

601265 550 .22.10 PATHOLOGY UNIT - Laboratory Areas

24 hour on-site service.

ROOM/SPACE	Standard Component					Qty x Areas	Remarks
RECEPTION / SORTING / FILING						1 x 20	
SPECIMEN STORAGE, PACKING & DISPATCH						1 x 20	For transfer to 5/6 Laboratory
LABORATORY - GENERAL						1 x 72	Haematology, Blood Bank, Clinical Chemistry
LABORATORY - MICROBIOLOGY						1 x 15	Optional if need "cannot be provided in a timely manner by a Level 5 or 6 Laboratory" (Role
WASH-UP AREA						1 x 10	Glassware etc
CLEAN-UP / STERILISATION						1 x 12	
BAY - EMERGENCY SHOWER						2 x 1	1 in each Lab
STORE - FLAMMABLE LIQUIDS						1 x 4	
STORE - EQUIPMENT	yes					1 x 14	
STORE - GENERAL	yes					1 x 9	
CLEANER'S ROOM	yes					1 x 5	
DISPOSAL ROOM	yes					1 x 8	
AFTER-HOURS BLOOD FRIDGE						1 x 3	May be located in/near the Operating Unit

601266 550 .22.15 PATHOLOGY UNIT - Staff Areas

ROOM/SPACE	Standard Component					Qty x Area sqm	Remarks
OFFICE - SINGLE 9M2	yes					1 x 9	Lab Manager
OFFICE - SHARED	yes					1 x 12	Pathologist - number to suit establishment
MEETING ROOM	yes					1 x 12	
BEVERAGE BAY	yes					1 x 3	May be in Meeting Room
PROPERTY BAY - STAFF	yes					1 x 2	
SHOWER - STAFF	yes					1 x 2	Optional
TOILET - STAFF	yes					1 x 3	
DISCOUNTED CIRCULATION %						25	

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Functional Relationships

- 601267 550 .23.00 A diagram of key functional relationships is attached.

Checklists

- 601268 550 .24.00 For planning checklists, refer to Parts A, B, C and D of these Guidelines.

References and Further Reading

- 601269 550 .25.00 Laboratory Design and Construction - Revision of AS/NZS 2982.1:1997 - Currently out for review.

Brian Griffin, Laboratory Design Guide, 3rd Edition, 2005.
Pathology Services - Principles of Funding of NSW Public Health Sector, PD2005_533, 4 March 2005.

Change in Clinical Labs in Hospitals, Implications - A Newsletter by InformeDesign, Vol.03 Issue 09 www.informedesign.umn.edu

Department of Health & Ageing, National Industrial Chemicals Notification & Assessment Scheme (NICNAS). Formaldehyde. Priority Existing Chemical Assessment Report, Draft for Public Comment, September 2005.

"Trends in Lab Design", Daniel Watch, Perkin + Will for Whole Building Design Guide, 2006.

The Planning Brief

- 601270 550 .26.00 THE PLANNING BRIEF

Extract from AS/NZS 2982 - Laboratory Design and Construction (Draft for review).

During the stages of planning a laboratory a written brief should be provided by the building owner to the building designer containing the following information:

- (a) Type and function of the laboratory.
- (b) A detailed description of the work in so far as it may affect building requirements, including its layout and containment levels.
- (c) Details of hazards associated with the work.
- (d) Any proposed operations which may give rise to air contaminants, including:
 - (i) chemical, biological or radioactive operations; and
 - (ii) operations where flammable liquids, hazardous or infectious materials or objectionable odours can contaminate ventilation air, particularly in the event of accidental spillage.
- (e) The types of gases and flammable vapours likely to be produced by particular laboratory processes or to arise from flammable liquid stores or cabinets and the tendency of those gases or vapours to ascend or descend.
- (f) Equipment and apparatus to be installed.
- (g) Degree of flexibility required.
- (h) Staff complement (present and projected).
- (i) Conditions that might necessitate special structural requirements (eg heavy loads).
- (j) Additional loading, anti-vibration or insulation requirements which may result from the location of the laboratory or from the nature of the work to be carried out in it, or other special hazards such as fire, explosion or radiation.
- (k) Types and amount of waste.
- (l) Future extension needs.

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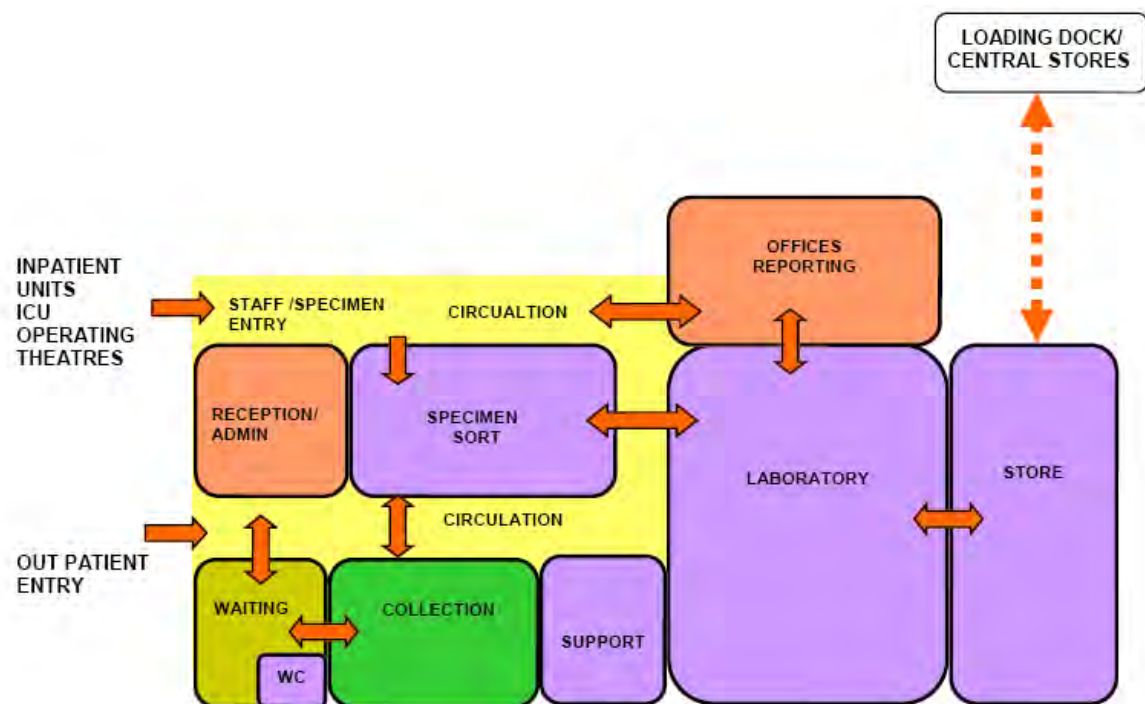
(m) Any other relevant matters.

Through the design, planning and implementation process programmed risk assessments should be undertaken.

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FUNCTIONAL RELATIONSHIP DIAGRAM – PATHOLOGY UNIT

The following diagram sets out the relationships between zones in a Pathology Unit.



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INTRODUCTION

Preamble

- 502164 560 .1.00 In the Guide to the Role Delineation of Health Care Facilities, (Third Edition 2002), Pharmacy is one of the eight Clinical Support Services essential to the successful provision of clinical core services.
- Planners should use this document to determine the service profile and roles of the institution/s in which the Pharmacy Unit occurs to determine the extent of facility needs.
- It is essential to be aware of the impact of:
- Operational Policies
 - Changes to legislation
 - New technologies and
 - Changing role of the Pharmacist
- on the Unit itself and associated facilities in other units.
- In addition, facility design, must, where appropriate, meet all necessary criteria to reach accreditation standards with regard to design and equipment.

Introduction

- 502165 560 .2.00 This Health Planning Unit is a resource to assist in the planning, design and construction of a Pharmacy Unit. It must be read in conjunction with generic planning requirements and Standard Components described in Parts A, B, C, D & E of these Guidelines.

Policy Framework

- 502166 560 .3.00 NSW policies and other legislation and organisations that will/may impact on the establishment and delivery of Pharmacy services include:
- NSW Health PD2005_206, "Policy on the Handling of Medication in NSW Public Hospitals".
- NSW Health PD2005_590, "Principles for the Preparation of Pharmaceuticals in Hospital Pharmacy Departments in NSW".
- Pharmacy Act 1966.
- Poisons and Therapeutic Goods Act 1966.
- "Standard for the Preparation of Pharmaceuticals in Australian Hospital Pharmacy Departments", National Coordinating Committee on Therapeutic Goods (NCCTG) September 1993 (AJHP Volume 24, No 2, 1994182-8).
- Protecting People and Property - NSW Health Policy and Guidelines for Security Risk Management in Health Facilities, Chapter 18, Security in Pharmacies. December 2003.
- Australian Standards particularly Cleanroom Standards.
- 503258 560 .3.01 PHARMACEUTICAL BENEFITS SCHEME (PBS) REFORMS
- Under the current Pharmaceutical Benefits Scheme (PBS) in NSW, most patients are given up to five days of medication free of charge when discharged from public hospitals and need to visit their doctor within those five days for a prescription for ongoing supplies.
- Reforms to the Pharmaceutical Benefits Scheme (PBS) are now being implemented in all states except NSW and under the reforms, eligible

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patients can receive up to a month's supply of each medicine on discharge or when attending a public hospital as an outpatient.

This has implications for storage both bulk and in dispensing areas that need to be considered.

Description of the Unit

502167 560 .4.00

DEFINITION OF HPU

A Hospital Pharmacy provides a facility for the following pharmaceutical services:

- inpatient and outpatient dispensing
- maintenance and monitoring of unit imprest systems
- patient advisory services including discharge planning, counselling and compliance monitoring
- controlled storage, recording and distribution of narcotics and accountable substances
- manufacture/preparation of non-sterile compounds (lotions, ointments etc)
- sterile manufacturing and IV admixture services (including parenteral nutrition)
- utilisation review and adverse drug reactions reporting
- drug monitoring, information and advisory services
- staff education and training
- preparation of drugs for clinical trials.

PLANNING

Operational Models

502168 560 .5.00

HOURS OF OPERATION

In general, the Pharmacy will operate during weekday business hours with a limited service on Saturdays, with an after-hours on call pharmacist service for emergencies and an after-hours drug cupboard accessible to authorised staff.

Level 5 & 6 Units may provide a more extensive service at weekends and on public holidays.

502169 560 .6.00

GENERAL ARRANGEMENT

Pharmacy services may be restricted to a single health care facility, or services may be extended to outlying facilities and the wider community, the latter particularly in remote rural areas. This will create specific requirements for storage, packing and dispatch of goods.

502170 560 .7.00

UNIT DOSE SYSTEMS

If a unit dose system is used, there will need to be additional space and

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equipment for supplies, packaging, labelling and storage, as well as for the carts.

502171 560 .8.00 PRIVATE PHARMACY

If it is proposed to establish a private Pharmacy as part of the Hospital's Retail Precinct, it needs to be determined what, if any, prescription drugs will be supplied by the private Pharmacy and the impact on Main Pharmacy outpatient dispensing.

Operational Policies

502172 560 .9.00 STORAGE OF PHARMACEUTICALS AND DRUGS OF ADDICTION

An early decisions needs to be made regarding the location of the Bulk Store and storage methods and systems bearing in mind the variety of transport containers and cartons in which products will be delivered, stock levels to be maintained and special storage needs.

Pharmaceuticals must not be left on loading docks but transferred immediately to a secure area and for this reason a bulk store directly attached to the Pharmacy is preferred. In particular, drugs of addiction must be transferred immediately to the Pharmacy Drugs of Addiction Store.

502173 560 .10.00 STORAGE OF IV / DIALYSIS FLUIDS

The storage of bulk IV and dialysis fluids do not present the same security concerns as do pharmaceuticals. If space within the Pharmacy Unit is limited, or large quantities are required to be held, a remote Bulk Store may be appropriate. There must be direct access to a loading dock, particularly if pallet storage is required.

In this instance, there will need to be an area within the Pharmacy Unit itself for delivery, unpacking and checking contents and an area for disposal of packing waste.

502174 560 .11.00 CYTOTOXIC PREPARATION

This may occur in-house in a dedicated Cytotoxic Suite or may be by external purchase depending on quantities required.

Isolators may be used in smaller centres.

Facilities must comply with the relevant Australian Cleanroom Standards and NSW Health policies for the preparation and safe handling of cytotoxic drugs.

502175 560 .12.00 IV ADMIXTURE

Individual hospital's Drug (or Drug and Therapeutic) Committee will determine who, other than the pharmacist, may load IV fluids (e.g. Clinical Nurse Specialists, ward nursing staff) and the impact this may have on both Pharmacy space and space in other unit medication areas if any.

PD2005-206 Section 6.4.4.4 states that "It is preferable that all additives to intravenous solutions are made under controlled environmental conditions. Such conditions consist of either cleanroom facilities housing laminar flow clean workstations or pharmaceutical isolators which comply with the

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Australian Standards.”

Para 6.4.4.5 goes on to state that “When not prepared under controlled environmental conditions, as defined above, IV medications must be prepared immediately prior to administration using aseptic techniques.”

502176 560 .13.00 AUTOMATED DISPENSING SYSTEMS

Early consideration needs to be given to the use of these systems with regard to:

- who will stock and check
- impact on pharmacy storage
- impact on layout of unit medication rooms and
- access to necessary power and data outlets
- adequate security.

502177 560 .14.00 PNEUMATIC TRANSPORT SYSTEMS

If installed and used for transport of medications and scripts, location of stations in both the Pharmacy itself and outlying units must be carefully reviewed, particularly in outlying units regarding security. Note that it must NOT be used for transport of cytotoxic drugs.

502178 560 .15.00 PATIENT SELF-MEDICATION PROGRAMMES

Best in non-acute areas.
Bedside lockers.

503259 560 .15.00 PATIENT COUNSELLING

Consideration should be given to utilisation of newer technologies for patient education & as an adjunct to counselling, e.g.CD or web-based self-directed packages. Technology to support this needs to be available in reception and/or counselling areas & be suitable for patients with disabilities. Storage space for patient information resources & counselling aids such as placebo inhalers and written drug information sheets will need to be included.

503260 560 .15.01 QUALITY ASSURANCE

Some hospitals have the practice of having a second check on dispensed goods by a pharmacist before dispatch or giving to a patient. This will require additional space in the Assembly/Dispensing Area of the Pharmacy.

502179 560 .16.00 WASTE MANAGEMENT

Planning teams need to establish disposal techniques and associated storage requirements for all types of waste. The disposal of drugs, particularly drugs of addiction are subject to specific regulations.

“Pharmaceutical waste must be incinerated at a licensed controlled waste facility. Certain pharmaceuticals may only be destroyed by authorised persons under the Poisons and Therapeutic Goods Act 1966. Pharmaceutical waste must not be disposed through a sewerage system.” (NSW Health - Waste Management Guidelines for Health Care Facilities, August 1998)

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Other categories of waste will include:

- sharps
- cytotoxic waste
- packing waste
- general waste
- glass and containers.

Planning Models

502180 560 .17.00 SINGLE UNIT

The Pharmacy Unit should ideally be a single self-contained facility.

502181 560 .18.00 DEDICATED OUTPATIENT PHARMACY

In large facilities it may be necessary to establish a separate Outpatient Pharmacy if it is not possible to locate the main Pharmacy so as to be readily accessible to outpatients. However, this is less than desirable and can create major duplication and inefficiencies and should be avoided if at all possible.

502182 560 .19.00 SATELLITE PHARMACY UNITS

A Pharmacy Satellite Unit is a room or suite of rooms in a hospital that is located remote from the main Pharmacy Unit but is managed by Pharmacy Staff.

Acceptable is a dedicated Cytotoxic Unit in a Cancer Centre, a room with an isolator in a Cancer Day Unit and also applies to the After-Hours Drug Cupboard.

The term "satellite" does not apply to ward medication areas. Under NSW legislation, once medication is supplied from the Pharmacy to the ward/unit, it becomes the responsibility of the nurse in charge of the ward/unit.

502183 560 .20.00 WARD / DEPARTMENT-BASED SATELLITES

Perhaps because of the increased clinical role of the pharmacist, ward-based satellites have proliferated with consequent impact on stock levels, staffing and security.

Functional Areas

502184 560 .21.00 FUNCTIONAL ZONES

The Pharmacy Unit may be divided into "accessible" and "restricted" functional areas.

502185 560 .22.00 ACCESSIBLE AREAS

- Outpatient reception, counselling and waiting areas Waiting may be shared with an adjoining unit. This area will also be designed for access by non-Pharmacy staff and couriers as a drop-off/collection point.

- goods receipt area (direct or from remote bulk store)

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- dispatch exit for ward trolleys etc
- after-hours drug store that may be part of the Pharmacy accessible from outside or located in a 24 hour zone of the hospital

502186 560 .23.00 RESTRICTED AREAS

- inpatient and outpatient dispensing areas
- imprest stock storage, assembly and dispatch areas including trolley parking
- preparation and manufacturing areas - non-sterile
- bulk store & decartoning/unpacking area
- secure storage for accountable drugs
- refrigerated storage
- storage of flammable goods
- drug information area
- staff offices and amenities

502187 560 .24.00 OPTIONAL AREAS

Depending on its Role Delineation and Operational Policy, the Pharmacy may also include:

- sterile manufacturing, which may include sterile and cytotoxic manufacturing cleanroom suites
- facilities for clinical trials including dispensing areas, secured storage and records area and workstations.
- additional space for compounding products.

502188 560 .25.00 STERILE PREPARATION AREA

If sterile products - including cytotoxics - are prepared in the Pharmacy, either cleanroom facilities housing laminar flow clean workstations or pharmaceutical isolators will be required that comply with the relevant Australian standards.

Note: If manufacturing, refer to the NCCTG Standard (refer Section 3)

502190 560 .27.00 WARD / UNIT REQUIREMENTS

Assuming no ward-based satellites, each ward and department should have a dedicated, secure area for drug storage - including refrigeration - preparation and checking, with a computer and space for the pharmacist to work and space to park medication trolleys if used. This area may be part of a Clean Utility Room or a separate Medication Room. Space requirements and fitout may vary from unit to unit depending on unit size and clinical specialty.

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503261 560 .27.00 STORAGE OF DD REGISTERS AND PRESCRIPTIONS

The requirements for storage of old Dangerous Drug (DD) registers have recently increased from 2 years to 7 years and some pharmacies also store ward/department registers. In addition, storage of prescriptions is now between 2 and 7 years thus increasing storage requirements.

Functional Relationships

502191 560 .28.00 EXTERNAL

Access to a loading dock and bulk storage if latter not part of main Pharmacy

502192 560 .29.00 INTERNAL

- Ambulatory Care Units / Outpatient Clinics with quiet areas for counselling.
- Cancer Unit/s if no Cytotoxic Satellite.

Installation of a pneumatic tube transport system and electronically-transmitted prescriptions when available make/will make relationships with inpatient units less critical for drug distribution but ready access is required by the Pharmacists to expedite their clinical role.

DESIGN

Accessibility

502193 560 .30.00 EXTERNAL

From loading dock for delivery of bulk supplies

Access by couriers.

Ready access to lifts for transport of supplies to wards and departments.

502194 560 .31.00 INTERNAL

Points of access required by:

- Pharmacy staff
- Visitors
- Other staff collecting scripts
- Outpatients delivering and collecting scripts
- Supplies delivery

Access to an interview room for outpatients will be dual access and controlled from inside the Unit.

Access for large items of equipment and bulk stores.

Disaster Planning

502195 560 .32.00 Consideration needs to be given to requirements for storage of large volumes of drugs in the event of a major disaster.

Refer to Part C of these Guidelines for further information.

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Infection Control

502196 560 .33.00 Handwashing facilities should be provided in each room/space where products are handled. Scrub facilities will be required in Sterile Suites.

Refer to Part D of these Guidelines for further information.

Environmental Considerations

502197 560 .34.00 GENERAL

Internal temperatures should not rise above 25oC.

Controlled temperature and humidity for drug storage.

502198 560 .35.00 ACOUSTICS

Not applicable.

502199 560 .36.00 NATURAL LIGHT

The Pharmacy Unit should be naturally lit and present external views for the benefit of staff. However, security considerations are of the utmost importance to prevent unauthorised entry and maintain privacy of the operations of the Unit. Windows should not be sited such that public walking past are able to see into the Unit.

502200 560 .37.00 PRIVACY

Required in patient consultation areas.

Space Standards and Components

502201 560 .38.00 ERGONOMICS

Accessible storage systems.

Refer to Part C of these Guidelines for information.

502202 560 .39.00 HUMAN ENGINEERING

Refer to Part C of these Guidelines for information.

502203 560 .40.00 ACCESS AND MOBILITY

Refer to Part C of these Guidelines for information.

502204 560 .41.00 DOORS, WINDOWS AND CORRIDORS

Refer to Part C of these Guidelines for information.

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Safety and Security

502205 560 .42.00 SAFETY

Duress alarms particularly at Outpatient dispensing counter.

502207 560 .43.00 SECURITY

Refer to "Protecting People and Property - NSW Health Policy and Guidelines for Security Risk Management in Health Facilities" Chapter 18 Security in Pharmacies" Also Section 2, Chapters 9 to 14 for further information on access control, key control, alarm systems, lighting and camera surveillance.

Also refer to Part C, Section 790.58 of these guidelines.

Security shutter at outpatient dispensing counter when not in use.

The Accountable Drugs Store/Safe should not be located on an outside wall or stairwell.

Finishes

502208 560 .44.00 WALL PROTECTION

Wall protection will be required to prevent damage from trolleys.

Also refer to Part C of these Guidelines

502209 560 .45.00 FLOOR FINISHES

Refer to Part C of these Guidelines

502210 560 .46.00 CEILING FINISHES

Refer to Part C of these Guidelines

Fixtures, Fittings & Equipment

502211 560 .47.00 Refer to Part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information

Building Service Requirements

502212 560 .48.00 INFORMATION TECHNOLOGY / COMMUNICATIONS

Bar coding

Electronic scripts

502213 560 .49.00 ELECTRONIC PRESCRIBING & TRANSFER OF SCRIPTS

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502214 560 .50.00 BARCODE TECHNOLOGY

For patient identification & tracking

502215 560 .51.00 ALARM SYSTEMS

Duress alarms

Movement sensors

Electronic door controls

COMPONENTS OF THE UNIT

General

502216 560 .52.00 The Pharmacy Unit will consist of a combination of Standard Components and Non-Standard Components.

Standard Components

502217 560 .53.00 Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data and Room Layout Sheets.

Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

502218 560 .54.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

Cleanrooms for sterile and cytotoxic manufacturing are covered by Australian Standards.

503264 560 .55.00 PHARMACY COUNTER

DESCRIPTION & FUNCTION

The "public" face of the Pharmacy Unit. Accessed by outpatients delivering and collecting scripts, staff from other units and first point of call for visitors to the Unit and couriers. Will need bench space for preparation and for computer use.

LOCATION & RELATIONSHIPS

Direct but discreet access to the outpatient dispensing area of the Pharmacy Unit. Direct internal access to the Interview Room for patient medication counselling.

CONSIDERATIONS

"Hatch" with roller shutter for security.
Duress alarm

DESCRIPTION & FUNCTION

The areas where prescription drugs are assembled, packaged and labelled & include quality control procedures. An additional checking area may also be required in those hospitals that have the practice of a second check on dispensed goods by a pharmacist before dispatch or giving to a patient.

The outpatient and inpatient workstations will usually be separately defined and in large units may be two distinct but adjoining areas. Location for pneumatic tube system station if installed.

It will be designed to store commonly used drugs (PBS Reforms will considerably add to storage requirements) and accommodate computers and label printers.

LOCATION & RELATIONSHIPS

The main core of the Unit.

CONSIDERATIONS

Accessible storage space will be required for labels drug information sheets etc.

Infrastructure for increasing use of computers for electronic patient information and script transfers, bar code technology, telephones and faxes.

Ample bench space is critical in these areas.

502220 560 .56.00 NON-STERILE MANUFACTURING AREA

DESCRIPTION & FUNCTION

Manufacture/preparation of lotions, ointments etc that do not require a sterile environment.

LOCATION & RELATIONSHIPS

Away from the general dispensing area. Access to bulk supplies.

CONSIDERATION

Separation of "wet" and "dry" zones.

A sink for washing the equipment used in manufacture of creams, medicines, powders etc is required.

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APPENDICES

Schedule of Accommodation

502239 560 .57.00 A Generic Schedule of Accommodation for a Pharmacy Unit at Levels 3, 4, 5, and 6 follows.

Note: (o) in Qty/x m2 column = Optional

MAIN PHARMACY

ROOM/SPACE	Standard Component		Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
MAIN PHARMACY							
WAITING	yes		1 x 5	1 x 5	1 x 8	1 x 8	Discrete. 4 - 6 seats, some standing room
COUNTER - PHARMACY	yes		1 x 9	1 x 9	1 x 9	1 x 9	Incl. shelving for scripts. Also include dedicated staff entry
MEETING (INTERVIEW) ROOM - SMALL	yes		1 x 9	1 x 9	1 x 9	1 x 9	Interview / counselling. Dual access from Waiting & Pharmacy
AFTER-HOURS DRUG STORE	yes(draft)		0	1 x 4	1 x 4	1 x 4	May be remote or may be at the Pharmacy perimeter with inside/outside access
OFFICE - DRUG INFORMATION	yes		1 x 9	1 x 9	1 x 18	1 x 18	Will require internet access and storage space
OFFICE - SINGLE - DIRECTOR	yes		1 x 9	1 x 9	1 x 12	1 x 12	Near entry for observation & visitor access
STORE - ACCOUNTABLE DRUGS	yes		1 x 4	1 x 4	1 x 8	1 x 8	May be wall-mounted or walk-in safe. Near Assembly & Office for observation.
BAY - HANDWASHING	yes		2 x 1	3 x 1	4 x 1	4 x 1	Minimum
ASSEMBLY / DISPENSING - IP / OP	yes(draft)		1 x 20	6 x 2.2	8x 2.2	10 x 2.2	Base on 2.2m2 per pharmacist station. IP & OP may need to be separate areas. Adjust for
STORE - DISPENSING SUPPLIES				1 x 4	1 x 6	1 x 6	Labels etc
OFFICE - WORKSTATION	yes		0	0	2 x 4.4	2 x 4.4	In Dispensing Area for computers
STORE - ASSEMBLY / DISPENSING	yes		1 x 9	1 x 9	1 x 24	1 x 24	Incl. Ward stock
STORE - REFRIGERATED			1 x 6	1 x 6	1 x 12	1 x 12	Refrigerators & Freezers
DISPATCH / COLLECTION (INPATIENTS)			0	0	1 x 11	1 x 11	Imprest trolleys
PREPARATION ROOM (MANUFACTURING)	yes(draft)		1 x 12 (o)	6 x 2.2	8 x 2.2	10 x 2.2	2.2m2 per person. Preparation of extemporaneous compounds. Adjust for staffing.
DISPENSING - CLINICAL TRIALS			0	0	1 x 12	1 x 12	Optional.
GOODS RECEIPT	yes(draft)		1 x 5	1 x 5	1 x 14	1 x 14	Direct and/or from remote Bulk Store
STORE - BULK	yes		1 x 30	1 x 30	1 x 150	1 x 150	May include pallets. Confirm size. ? In Pharmacy or Stores.
CLEANER'S ROOM	yes		1 x 5	1 x 5	1 x 5	1 x 5	
STORE - OLD DD REGISTERS/PRESCRIPTIONS	yes		1 x 6	1 x 6	1 x 8	1 x 8	
STORE - IV FLUIDS	yes		0	0	1 x 20	1 x 20	May be part of bulk store. Access from sterile manufacturing suite

502240 560 .57.10 STAFF AREAS (will depend on Staff Establishment)

STAFF AREAS							

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STORE - PHOTOCOPY / STATIONERY	yes		0	1 x 8 (o)	1 x 8	1 x 8	
OFFICE - WORKSTATION (PHARMACISTS)	yes		0	5.5	5.5	5.5	As per Staff Establishment. Shared or open plan
PROPERTY BAY - STAFF	yes		1 x 2	1 x 2	1 x 2	1 x 2	
SHOWER - STAFF	yes		0	0	1 x 2	1 x 2	Emergency use
BAY - BEVERAGE	yes		1 x 3	1 x 3	0	0	May be part of Meeting Room
STAFF ROOM	yes		0	0	1 x 15	1 x 15	Includes Beverage Bay
MEETING ROOM	yes		0	1 x 12	1 x 15	1 x 15	

502241 560 .57.20 STERILE MANUFACTURING (2 Rooms - optional)

STERILE MANUFACTURING (2 ROOMS - OPTIONAL)							
AIRLOCK			0	0	2 x 8	2 x 8	
ANTEROOM			0	0	1 x 8	1 x 8	Used for scrubbing & gowning
ASEPTIC ROOM			0	0	1 x 20	1 x 20	
CHANGE ROOM - STAFF			0	0	1 x 8	1 x 8	SC includes shower & toilet. ? Used for scrub & gowning.
CYTOTOXIC PREP ROOM			0	0	1 x 15	1 x 15	
OFFICE - WORKSTATION			0	0	6	6	Number to be determined
STORE - STERILE STOCK			0	0	1 x 7	1 x 7	
DISCOUNTED CIRCULATION %			20%	25%	25%	25%	

Functional Relationships

502242 560 .58.00 A diagram of key functional relationships is attached.

Checklists

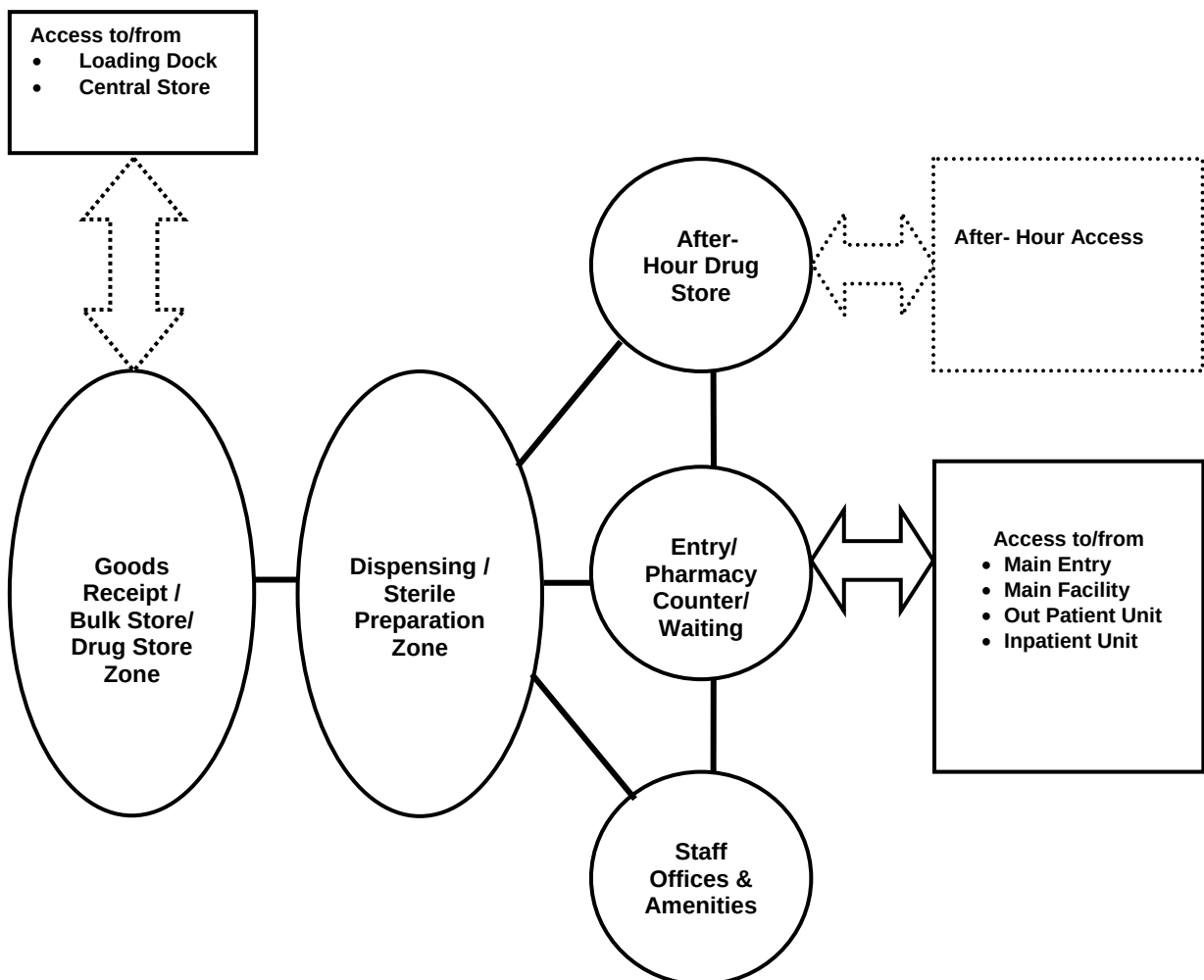
502243 560 .59.00 A Security Checklist is appended to this document. Refer also to Part C of these Guidelines for general requirements.

References and Further Reading

502244 560 .60.00 DS-23 - HBG - Pharmacy Unit, NSW Health, Capital Works Branch, August 1992.

FUNCTIONAL RELATIONSHIP DIAGRAM – PHARMACY UNIT

The following diagram sets out the relationships between zones in a Pharmacy Unit:



SECURITY ISSUES TO BE CONSIDERED IN PHARMACY UNIT

GENERIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Entry for personnel visiting or working within the clinic.	1. CCTV monitoring of entry and exit doorways. 2. Intercom on entry doors. 3. Use of reed switches on all external doors and swipe card entry to staff areas.

SPECIFIC SAFETY AND/OR SECURITY RISKS	POTENTIAL SOLUTIONS
1. Client / Visitor access	1. Client access to secure dispensing counter but not to 'secure' areas utilised to store and dispense drugs.
2. Furniture fittings and equipment including Computers, Office and Medical Equipment	1. Non-removable 'Asset No.' on all equipment above a predetermined value. 2. Keep equipment in lockable area.
3. Hospital personnel safety	1. Staff working in this area to have knowledge of where the fixed duress system is located and/or use a mobile duress pendant. 2. Locked doors between dispensing areas and clients. 3. Dispensing Counter to be constructed to prevent unauthorised client entry/access. 4. Determine risk of hold-up/break-in and design facility to meet risk.
4. Staff personal effects	1. Provision for lockers in staff areas and lockable desk drawer to keep small personal effects.
5. Drugs storage	1. Drugs safe to be located in area that can be monitored by staff. 2. Safes to comply with the Poisons Act in respect of secure storage provisions.

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SECURITY CHECKLIST – PHARMACY UNIT

FACILITY:	DEPARTMENT: Pharmacy Unit	
RISK ISSUE	DESIGN RESPONSE	
1. Has a secure "barrier" been installed between staff and the dispensing area to: (a) monitor the dispensing area; and (b) provide staff contact with patients.		
2. Do staffs have access to both fixed and mobile duress systems?		
3. Is access to patient records restricted to staff entitled to that access?		
4. Is a system implemented to prevent theft of equipment, files, personal possessions, etc?		
5. Are drug safes installed in accordance with current regulations and the Poisons Act?		
6. Is the dispensing area furniture incapable of being utilised as a "weapon"?		
7. How is after hours access provided for staff?		
8. How is this area secured during and after hours?		
9. Are there lockable storage areas available for specialised equipment?		
10. Is lockable furniture provided for storage of staff personal effects?		
11. Has the potential risk of hold-up and/or break-in been addressed in the design?		
DESIGN COMMENTARY / NOTES	DESIGN SIGN-OFF	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	
	Name: Position: Signature: Date:	

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Preamble

601961 600 .1.00

CANCER SERVICES

Cancer services involve the management of complex clinical conditions. Patients with cancer will access a wide range of diagnostic and therapeutic interventions on an inpatient, outpatient, and, increasingly, community basis.

Treatments will usually include one or a combination of the following: surgery, chemotherapy, radiation therapy, pain and symptom control and palliative care. Supportive care such as dietary advice, psychosocial support and education programmes are provided by allied health professionals and, in some cases, community and outreach services.

It is anticipated that well-trained community staff working with the Cancer Centre staff will enable provision of appropriate triage, referral, patient education, and arrangements for follow-up.

601962 600 .1.05 TERMINOLOGY

In the context of this Guideline, Radiation Oncology is used to describe Unit and the clinical discipline. Radiation therapy is the term applied to the treatment.

Introduction

601963 600 .2.00 CLINICAL DISCIPLINES

Four clinical disciplines are involved in the provision of cancer services:

- Medical Oncology;
- Clinical Haematology (as opposed to laboratory Haematology);
- Surgical Oncology;
- Radiation Oncology.

This Guideline is focused on Radiation Oncology but brief mention is made of the other clinical disciplines.

Supplementary services should include:

- Palliative Care;
- Physiotherapy (Lymphoedema management);
- Occupational Therapy;
- Dietetic / Nutrition services;
- Clinical Psychology;
- Social Work Services;
- Complementary therapies (relaxation, stress management, massage etc).

601964 600 .2.05 MEDICAL ONCOLOGY

Medical Oncology involves the treatment of solid tumours using systemic drugs and administration of these therapies to patients who either have localised or metastatic malignancy in need of systemic therapy or whose cancer has potentially been cured by surgery but for whom further adjuvant systemic therapy improves their outlook.

Medical Oncology requires access to a Day Unit. Clinics should be multi-disciplinary and are best conducted in a Clinic Suite in the Cancer Centre. Offices and support facilities should also be incorporated into the Cancer Centre.

601965 600 .2.10 CLINICAL HAEMATOLOGY

Clinical Haematology is the study of blood and the organs involved in blood formation (bone marrow) and treats diseases such as leukaemia and lymphoma. Treatments include bone marrow transplantation, high dose chemotherapy and peripheral stem cell transplantation.

Access to a Day Unit will be required, but as not all haematological conditions are malignant, project staff (designers, planners etc.) will need to determine whether haematologists wish to conduct their clinics in the Cancer Centre or elsewhere and their preferred location for offices and support facilities.

601966 600 .2.15 SURGICAL ONCOLOGY

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Surgical Oncology is the treatment of solid tumours by surgical dissection. Staff will need access to multidisciplinary clinics and patient review as surgery is frequently preceded or followed by radiation therapy and/or chemotherapy, but otherwise no specific facilities will be required in the Cancer Centre.

601967 600 .2.20 RADIATION ONCOLOGY

Radiation Oncology is the medical use of ionising radiation as part of cancer treatment of solid tumours and divides into two main types:

- external beam radiotherapy (EBR) - delivered by linear accelerators (6,000-25,00kV) and which represents the vast majority of services;
- brachytherapy using radioisotopes delivered internally.

Superficial radiation therapy (100-150kV) and orthovoltage radiation therapy (300-350kV) refer to low penetration treatments for skin lesions and tumours just under the skin and require a lower level of shielding.

Radiation therapy may be used for curative or adjuvant cancer treatment and is also used as a palliative treatment with the aim of local disease control or symptom relief.

Radiation therapy has a few applications in non-malignant conditions but its use is limited partly by concerns about the risk of radiation-induced cancers.

In many cases, radiation therapy is used in conjunction with other treatment modalities and it is estimated that around 50 percent of people with cancer will benefit from treatment. In NSW, service planning for radiation oncology is undertaken at a state level.

The precise treatment intent will depend on the tumour type, location, and stage, as well as the general health of the patient. It is also common to combine radiotherapy with surgery and/or chemotherapy and/or hormone therapy.

Specialised services and procedures include:

- Total Body Irradiation (TBI) to prepare the body to receive a bone marrow transplant;
- Paediatric Oncology;
- Stereotactic Radiosurgery and Fractionated Stereotactic Radiation Therapy;
- Brachytherapy: low dose rate brachytherapy for prostate seed implants and high dose rate brachytherapy (refer to Appendix for further details);
- IntraBeam, Intraoperative Radiation Therapy.

These services / procedures are not undertaken by all Units and require review at a state level prior to inclusion.

601968 600 .2.25 TERMINOLOGY

Radiation therapy uses the following terms:

- Course: a planned series of treatment sessions for either new or repeat patients;
- Fraction: a patient treatment session, representing a single visit for treatment;
- Field: an individual dosage of a specific radiation delivered to a specific area from a specific angle. It may also be part of a multi-beam treatment technique.

The process of patient treatment occurs in three phases.

601969 600 .2.30 PHASE 1 - SIMULATION

Simulation is the process of conducting a radiation-free “run-through” of treatment, as well as measuring and “mapping” the treatment field. Special x-ray equipment - a conventional simulator or CT simulator - defines the exact area (or occasionally areas) to be treated.

The field is “mapped out” on the patient’s body using semi-permanent ink or permanent tattoos to define the treatment area. These markings enable the radiation team to correctly position the patient so that the radiation is precisely administered every time.

In addition, immobilisation devices may also be required. These devices conform to the body and inhibit movement during treatment. A variety of immobilisers exist - cushion-like devices that cradle the patient in the optimal position. For those patients being treated for head and neck and brain tumours, a “mask” may be made to keep the head immobilised. Patients may require more than one immobilization device e.g. if a tumour shrinks during the course of treatment.

601970 600 .2.35 PHASE 2 - PLANNING AND DOSIMETRY

Phase 2 involves assessing the information obtained during simulation to plan and calculate the optimal treatment configuration for the patient. A three dimensional planning system is vital to this process to ensure that radiation is delivered to precise parts of the body and that adjacent organs are protected. The planning process may take several days to complete and the patient is not in attendance during this process.

Treatment planning results in the establishment of a treatment plan which determines the dosage, number of treatment sessions, fields required etc. for the “course”.

The amount of dosage, type of delivery and number of treatments will be based upon the nature and location of the tumour, as well as the results from x-rays, scans, pathology, medical history and any other therapies or treatments received.

Most of the work involved in using the three-dimensional planning system is by way of a computer workstation, which is generally larger than a conventional PC. Sufficient workspace for a radiation therapist to perform the dosimetry and for a physicist to perform the quality assurance is vital to the entire process.

601971 600 .2.40 PHASE 3 - TREATMENT

Phase 3 commences once the final treatment plan has been approved by a radiation oncologist. A treatment course may vary from one treatment attendance to a course totalling in the order of thirty-five treatments over six to seven weeks with daily or twice daily attendance. Each daily treatment attendance usually takes between five and twenty minutes.

Policy Framework

601972 600 .3.00 Project staff should familiarise themselves with the following reports:

Planning for Radiotherapy Services in NSW to June 2006. NSW Department of Health, Sydney, June 2003.

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This document reviewed existing service levels of public and private Radiation Oncology Treatment Centres in NSW. It formed the basis of enhancement of funding for radiotherapy to enable the renewal and expansion of services to 2006/07. Statewide Services Development Branch is responsible for the planning of radiotherapy services and is currently undertaking the next five-year planning, in consultation with Area Health Services and clinicians.

Optimising Cancer Management - A Cancer Care Model for NSW, NSW Health Department, Sydney, March 1999.
www.health.nsw.gov.au/public-health/cancer/optccmodel.pdf

601973 600 .3.05 "Optimising Cancer Management: A Cancer Care Model for NSW" describes 2 levels of facility as follows:

"Cancer Units comprising Role Delineation Level 4 medical oncology, radiation oncology and general surgical services, supported by nursing and allied health personnel. This level of service would be located at a district metropolitan or major non-metropolitan referral hospital (Base Hospital);

Comprehensive Cancer Care Centres comprising Role Delineation Level 5 and Level 6 medical oncology, radiation oncology and specialist surgical services, supported by specialist nursing and allied health personnel. This level of service would normally be located with a major metropolitan referral or principal referral hospital."

Specific details of the level of service for each discipline may be found in the NSW Health Guide to Role Delineation of Health Services, 3rd Edition, 2002.

Description of the Unit

601974 600 .4.00 DEFINITION OF HEALTH PLANNING UNIT (HPU)

This Guideline provides the information necessary to plan and design a Radiation Oncology Unit as a component of a Comprehensive Cancer Centre.

Project staff developing integrated Cancer Centres should refer to the Health Planning Unit - Ambulatory Care in Part B of these Guidelines to develop a schedule of accommodation for a Day Unit. The Clinic Suite will need to be reassessed as will offices and support for the other disciplines. The Guideline should also be read in conjunction with generic planning requirements and standard components described in parts A, B, C and D of these Guidelines.

Facility design, must, where appropriate meet all necessary criteria to reach accreditation standards with regards to design, equipment and radiation safety.

601975 600 .4.05 PATIENT CHARACTERISTICS

Patient characteristics:

- adults of all ages and ethnic and cultural backgrounds and children in certain centres;
- patients may be self-conscious as regards their appearance due to hair loss, lesions, disfigurement etc.;
- patients with impaired mobility due to age or condition - or both;
- clinical symptoms such as pain, nausea and vomiting;
- emotional distress - anger, symptoms of loss and grief - in families as well as the patient;
- disruption to normal lifestyle. Patients undergoing radiation therapy attend

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daily often for up to 6-8 weeks and time spent in treatment is a major disruption to their lives. Many patients need to relocate some distance from their homes for treatment. However, the majority of patients continue their daily work and home activities as best they can throughout their treatment.

601976 600 .4.10 PATIENT NEEDS

Recognising the often depleted physical and emotional state of patients, their families and carers, it is important to develop a quality built environment that not only eases patient and carer anxiety but also provides staff with stimulating work environment conducive to the delivery of better patient care. As far as is practicable a non-clinical, restful environment within the radiation treatment area (bunker) and simulator areas should be encouraged by wall paintings, soft colours etc.

Planning must recognize the need for patients and their families to discuss personal matters in a private and confidential environment and to minimise concerns re appearance and loss of self-esteem.

Access is required to the following services:

- support and assistance with regard to affordable accommodation and travel that may be required for the duration of treatment particularly for patients from rural and remote areas;
- nutritional advice, advice on available alternative therapies (massage, stress management etc.) and provision of wigs;
- palliative care assessment;
- patient and family counselling;
- education / information resources - brochures, computer access, support organisations, etc. is provided;
- parking - often highlighted by patients as the main determinant of whether or not to proceed with treatment. The perception of difficulty parking may compromise the utilisation of radiotherapy.

It must be noted that increasing survival due to early diagnosis and constantly improving technology is leading to an increase in chronicity requiring supportive care.

601977 600 .4.15 DESIGN CRITERIA

The building both internally and externally must be accessible, approachable, friendly and non-threatening and must be appropriate to its setting and climate.

As much natural light as possible should be provided, especially into public spaces, waiting areas and those treatment areas that patients and staff occupy for long periods of time.

Room sizes and specifications for the linear accelerators should accommodate the equipment manufacturer's recommendations as space requirements may vary from one machine to another and one manufacturer to another.

Operational Models

601978 600 .5.00 HOURS OF OPERATION

Times will vary but usually 8am to 5pm Monday to Friday. However, where staffing allows, extended hours of operation providing sessions into the evening and on Saturdays may occur. "Down time" for major items of equipment is required for regular maintenance.

Emergency access for radiation therapy may be required after hours (nights and weekends). In addition, access to the R/T machinery over a weekend is often required for hardware upgrades.

601979 600 .5.05 MODEL OF CARE

Optimal clinical management, efficiency and best outcomes are achievable when all cancer services are co-located as a "one-stop shop" within a purpose-built facility. This is not always achievable but good access and communication would be required between all disciplines and services providing cancer care.

Separation of planning and therapy is not recommended.

601980 600 .5.10 FUTURE TRENDS

The Service Plan for the project shall take into account the following trends and the degree to which these trends are to be incorporated into the facility:

- combined modality treatment such as surgery and/or chemotherapy and radiation therapy occurring concurrently;
- increasing multidisciplinary patient-centred clinics and case review (refer to 600.6.60);
- increased formal networking and exchange of clinical data between units and extended into rural and remote communities;
- increasing use of videoconferencing;
- increased use of CT-based planning resulting in an increased amount of information for planning and an increase in time required for 3-dimensional treatment planning;
- increased complexity of individual treatment plans (and number of plans per patient);
- increased requirement for accuracy in treatment. Dose escalation for tumour volumes has required greater accuracy in treatment delivery as critical organ doses may become compromised in the event of an error in field placement. Lower machine tolerances (user defined) which prevent the beam switching on in case of discrepancy between planned and actual set up assist in achieving this level of accuracy and create a significant increase in daily QA;
- technological advances in treatment improving the success rate of radiation therapy and expanding number of cancer cases for which radiation therapy can be beneficial. In NSW, this is determined by Statewide planning parameters and targets;
- capability for medium to long-term inclusion of new technologies (e.g., expansion of radiosurgery to extracranial image guided RT, etc.);
- increase in HDR (High Dose Rate) brachytherapy treatment where designated;
- use of endorectal ultrasound for staging / treatment decision-making for patients with rectal cancers;
- an increase in the number of fields as conformal therapy / Intensity Modulated Radiation Therapy (IMRT) becomes a more common practice.
<http://www.radiologyinfo.org/en/pdf/imrt.pdf>

Operational Policies

601981 600 .6.00 GENERAL

Operational Policies have a major impact on the design requirements and capital and recurrent costs of health facilities and must be established at the earliest stage possible.

Refer to Part B Section 80 of these Guidelines for a list of general operational policies that may apply. The following are examples of policies that may be specific to a Radiation Oncology Unit. Users must be guided by their own policies in their own health facility.

601982 600 .6.05 PATIENT RECEPTION

In smaller Centres a single reception for all outpatients and radiation therapy may suffice. In large Centres, separate reception areas will probably be required for the Clinic Suite and Radiation Therapy Unit.

A separate discreet entry should be provided for inpatients from the main hospital.

601983 600 .6.10 ANAESTHESIA AND RECOVERY

Consideration should be given to the need for general anaesthesia and recovery for all brachytherapy procedures and for paediatric patients undergoing radiation therapy.

601984 600 .6.15 CANCER REGISTRY

Project staff will need to determine whether a Cancer Registry will be incorporated into the Cancer Centre and appropriate office provision made.

601985 600 .6.20 CLINICAL TRIALS

Clinical trials will be conducted in all centres and provision will need to be made for any dedicated staff and for storage of pharmaceuticals and patient files. It will need to be ascertained if patient access is required to the Clinical Trials area as this will affect its location.

601986 600 .6.25 FILM STORAGE

Image management & data storage should ideally be a picture archiving computer system (PACS) with some historical hardcopy images retained. Patients visiting from rural and remote areas should be encouraged to retain their hard copy films once treatment has been completed unless required for research purposes.

X-rays retained for historical purposes need to be kept for 10 years beyond death.

601987 600 .6.30 EDUCATION AND TRAINING

The extent to which the Centre is involved in undergraduate and post-graduate training of all disciplines will need to be established to ensure that

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the necessary teaching spaces and offices are provided.

601988 600 .6.35 FOOD AND NUTRITION SERVICES

Provision of beverages and vending machines for outpatients and visitors is essential.

Light refreshments should be available for patients who may be in the Unit for extended periods when receiving multiple treatments or extended stays in the Day Unit.

Storage may need to be considered for dietary supplements and resource material provided by a Dietitian.

601989 600 .6.40 MAINTENANCE

Each item of treatment and associated equipment should have a programme of planned maintenance following manufacturer's recommendations. Generally each linear accelerator should have an equivalent of one full day per fortnight for service.

Service contracts should be in place, or provided by in-house Medical Physicists and/or Radiation Oncology-trained Biomedical Engineers to undertake adjustments and normal maintenance.

601990 600 .6.45 MANAGEMENT OF CHILDREN

Children will only receive treatment at centres designated in the NSW Radiotherapy Strategic Plan - co-located with or proximate to a Children's Hospital and under the care of clinicians with paediatric expertise.

In Centres where children are treated, consideration should be given to their individual needs and the needs of their carers, in terms of private, discreet waiting areas close to the treatment machines, and suitable distractions (toys etc.) should be provided to reduce their stress. In addition other patients can become visibly distressed where children in pain, or are obviously unwell are forced to wait in the same area as adults.

A small play area should be provided for children accompanying parents, particularly in school vacation times. Teenagers and young adults need access to age-appropriate information.

601991 600 .6.50 MEDICAL EMERGENCIES

Policies and procedures will be in accordance with overall Hospital Policy.

A resuscitation trolley should be readily accessible from the Simulation Area in case of adverse patient reaction to intravenous contrast and a second may be required in the patient assessment / recovery area.

601992 600 .6.55 MEDICAL RECORDS

An electronic record system may be in place, but design should allow for hard copy storage of existing paper records that may need to be accessed for historical reasons and provide the IT infrastructure for an electronic system in the future.

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In NSW, retention / disposal of records shall comply with the State Records Act 1998 and State Records Regulation 2005 as follows:

Depending on the type of hospital (peer group), medical records must be kept for a minimum of 10 or 15 years "after last attendance or official contact or access by or on behalf of the patient, or until patient attains or would have attained the age of 25 years, whichever is the longer, then destroy."

Records documenting radiation dose delivery in respect to patients (admitted and non-admitted) who have undergone radiotherapy treatment. "Retain minimum of 10 years after patient would have attained the age of 70 or after last attendance, whichever is the longer, or - where the service has received notification of the date of death, 10 years after date of death, then destroy." www.records.nsw.gov.au/recordkeeping

Clinical Research files - retained for a minimum of 15 years after date of publication or termination of the study, then destroy.

601993 600 .6.60 MULTIDISCIPLINARY CASE REVIEW

There is an increasing need for rooms in which to conduct case reviews with members of a multidisciplinary team that may include medical, radiation, haematology and surgical oncology clinicians, general physicians, palliative care, allied health, nursing and radiation technicians.

These rooms can double as educational facilities for the teaching of medical students, registrars and other Cancer Centre staff and for video conferences with other Centres and practitioners.

The overall impact of these rooms will be dependent on service scope and therefore will need to be considered in individual site plans.

601994 600 .6.65 PHARMACY

Consideration will need to be given to access to the Pharmacy for outpatients and a satellite Pharmacy Unit may be required if distances are great. Cytotoxic drug management is not addressed in this Guideline.

601995 600 .6.70 TRANSPORT

Patients: project staff should ascertain whether portering staff will be located in the centre or called as required from a central transport office. In the former instance, there should be a trolley / wheelchair holding area near the reception incorporating a small workstation and a means of tracking patient movements. External transport may be provided by volunteers or ambulance personnel.

Pathology specimens and other diagnostic requirements: Ideally, a pneumatic tube system will link into the main Laboratory or other relevant department.

601996 600 .6.75 VIDEOCONFERENCING

There should be facilities for video-conferencing - almost essential for the conduct of modern Radiation Oncology practice due to the strong collaborative links with other units that may not be in the immediate vicinity.

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601997 600 .6.80 VOLUNTEERS

Volunteers will play a considerable role in assisting patients and their families in a range of duties including transport. Consideration should be given to their needs depending on their duties such as an office or workstation for a co-coordinator, small workroom, lockers and access to a pantry.

601998 600 .6.85 WIG AND HEADCOVERINGS - FITTING / PROVISION

A Wig Library should be incorporated into the Cancer Service. Staff must be able to refer patients to an appropriate facility that specialises in hair loss.

601999 600 .6.90 STAFFING

The staff establishment will generally include the following:

- Clinical Director;
- Unit Manager;
- Radiation Oncologists - specialists and registrars;
- Radiation Therapists;
- Nursing Staff including Cancer Nurse Co-ordinators;
- Medical Physicists & Physics Technicians;
- Biomedical Engineer;
- Secretaries and Medical Typists;
- Appliance Fabricator;
- Cancer Registry;
- Administration / Reception staff;
- QA officer;
- IT support staff;
- Clinical trials data manager;
- Research staff;
- Volunteers.

The following personnel may be attached to the unit on a full-time basis or may attend on an ad hoc or sessional basis:

- Pharmacist;
- Therapists (Physiotherapy, Occupational Therapy, Speech Pathology);
- Social Workers;
- Pastoral Care staff;
- Clinical Psychologists;
- Palliative Care staff;
- Educators;
- Dietitian;
- Wig fitters.

Planning Models

602000 600 .7.00 LOCATION

A Radiation Oncology Unit should generally be on ground level due to the weight of the equipment and shielding requirements, and for ease of installation and replacement of specialised equipment.

It should be located with ready access for outpatients, including access for people with disabilities, and ambulances, and for inpatients on beds / trolleys.

If the overall Centre is free-standing, careful consideration must be given to covered links between the Centre and the main hospital - for inpatients on beds / trolleys access, goods and supplies, and access to other departments such as Medical Imaging.

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Site conditions relating to bushfires and access by rural fire services may considerably affect configuration and location of the bunkers.

602001 600 .7.05 BUILDING DESIGN

Linear accelerator rooms require radiation protection that will include concrete walls, floors and ceiling to a specified thickness. The radiation protection needs of the unit shall be assessed by a certified physicist or radiation safety consultant.

Note that the Schedule of Accommodation indicates the bunker size including the maze rather than the actual treatment room size. This is to ensure that sufficient "footprint" is allowed during early planning stages.

Reference should be made to Radiation Licensing Requirements and Regulations administered by the Department of Environment and Climate Change (DECC).
www.environment.nsw.gov.au/radiation/index.htm

Functional Areas

602002 600 .8.00 FUNCTIONAL ZONES

The Radiation Oncology Unit provides for the assessment, planning and treatment of patients, and associated administrative and support functions (i.e. managing and organizing staff, equipment and work processes).

The functional zones can be categorised as follows:

- Entry / Reception / Administration (shared by all disciplines);
- Patient Education, Resource and Wellness Area (shared by all disciplines);
- Clinic Suite (Used by all disciplines);
- Simulation and Planning;
- Radiation Treatment;
- Patient Observation and Nursing Care;
- Medical Physics & Biomedical Engineering;
- Teaching and Research (shared by all disciplines);
- Staff Offices and Amenities (shared by all disciplines).

602003 600 .8.05 ENTRY / RECEPTION / ADMINISTRATION

Ideally there should be one entry to the Cancer Centre leading to the main reception desk and waiting which will then divert to the sub waiting areas of clinic, planning and treatment areas.

A child play area should be incorporated into the main waiting area in a safe, acoustically enclosed environment.

The area should accommodate public and patient amenities.

A dedicated area for patient and family resources / education facilities - including computers for patient education and completing quality of life data for clinical trials.

Facilities for volunteers and transport staff should also be located in this area.

Administrative functions (appointments etc.) may be located in this area.

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602004 600 .8.10 CLINIC SUITE

The Clinic Suite will be designed for multidisciplinary clinics for use by all clinical specialties. Details of anticipated occasions of service and session requirements will need to be established in order to determine the number of consulting rooms required.

A room or rooms will be required for multidisciplinary clinical review of patients.

Procedure room/s large enough to conduct endoscopic examinations such as head and neck examinations, pleural taps, peritoneal drains etc.

Space for Therapy and Dietetic consults and treatment may also be included.

Waiting areas oversighted by Reception or Staff Base.

Blood collection room and specimen toilet.

Access to all nursing support rooms - staff base and clean and dirty utility rooms. These may be shared with the Patient Observation area if travel distances are not too great and staff do not have to cross public areas.

Corridors and at least some rooms must permit trolley access.

The Clinic Suite should be located on the perimeter of the Unit with direct access from the entry for easy access by outpatients and to facilitate any expansion that may be needed to accommodate the requirements of medical oncology and haematology in the future.

602005 600 .8.15 TREATMENT PLANNING

Facility requirements for treatment planning include:

- Simulator / CT suite;
- Resuscitation trolley bay;
- Patient & visitor amenities (change cubicles, toilets, sub-waiting, trolley bay);
- Computer planning room and brachytherapy high dose rate (HDR) planning room with server and tape storage space. Special air-conditioning is required to handle the large number of computers in this area;
- Offices / workstations for radiation therapists (working in dosimetry) and possibly trainees / students;
- QA checking and data transfer office discreet from the busy planning area for the high level of concentration required.

602006 600 .8.20 RADIATION TREATMENT

This treatment area includes all aspects of radiation treatment with associated administration & support function as in other services:

- Bunkers, mazes;
- Control areas;
- Change cubicles;
- Patient toilets. Note that some treatments require a full bladder so toilets need to be immediately available after treatment. Males and females have different issues to deal with so separate toilets are required.
- Sub-Waiting - seats and trolley bay.

602007 600 .8.25 PATIENT OBSERVATION / NURSING AREA

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Patients are assessed weekly by a radiation oncologist throughout the course of their treatment and exam / consult rooms are included in this component for this purpose.

Patient / staff interview / conference rooms are required to review the proposed treatment program with the patient and their family.

This area also includes the requirements for nursing care and care by other disciplines for:

- Education
- Support
- Dressing changes
- Medication delivery
- IV insertion and monitoring.

Curtained bed / trolley bays will be required for patient holding and recovery and each bay will require power, oxygen and suction.

A staff station will oversee the bed / trolley area.

A Clean Utility, Dirty Utility and storage facility will be located in this area.

A resuscitation trolley bay if distance from the bay in the Simulator area is too distant.

602008 600 .8.30 APPLIANCE FABRICATION

Comprises a Fitting / Mark-up room that will accommodate a trolley and the numerous positioning accessories used, and a Workshop.

The Workshop requires special venting for the molten metal used to fabricate photons and electron shielding. Bulky foam cutters and vacuum formers are required to manufacture custom masks.

A separate dirty / noisy room to accommodate drills etc. is also required.

Storage for materials used to manufacture immobilization devices and hold heavy positives used to make the masks for the duration of a patient's treatment.

Workstation for staff in the area.

602009 600 .8.35 MEDICAL PHYSICS AND BIOMEDICAL ENGINEERING

Medical Physics is responsible for the physical aspects of radiation treatment and radiation safety of all staff, patients and others.

Medical physicists provide scientific support for all treatment machines, simulators, CT, MRI and PET imaging, computer planning systems, brachytherapy sources and equipment as well as dosimetry, quality assurance and radiation safety.

Biomedical Engineering services may be provided in-house or by external contractors. The service provides maintenance and service support to an extensive range of treatment and non-treatment equipment in Radiation Oncology.

Biomedical engineers work closely with the Physicists to provide regular calibration and compliance checks of all treatment delivery and diagnostic machines.

Much of the equipment is custom manufactured and not commercially

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available e.g. compensators for individual treatments, planning / design and installation of rigid attachments for patient hoists, calibration jigs for physics, patient positives for appliance room to create masks.

Facility requirements include:

- offices / workstations for physicists, physics assistants, electronics biomedical engineers;
- physics laboratory;
- storage for Medical Physics equipment - bulky water tanks and phantoms;
- technical support (IT office and work area / storage);
- electronic / biomedical engineering workshop;
- dark room x-ray processor for machine commissioning and imaging of special procedures.

602010 600 .8.40 CLINICAL TRIALS / RESEARCH

It is anticipated that all centres will be involved in clinical patient trials. Research may also involve data collection and analysis.

Project staff will need to assess physical requirements for these activities - trial medications storage, offices / workstations, library etc.

Student activity and amenities will need to be assessed.

602011 600 .8.45 STAFF OFFICES

The number of offices and workstations for staff will depend on the envisaged staff establishment when the Centre is fully functional e.g. if a bunker is planned in shell, the additional staffing requirements when commissioned must be factored in to the original plans.

Provision of offices and workstations shall comply with NSW Health Policy Directive PD2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service, April 2005.

602012 600 .8.50 STAFF AMENITIES

Amenities will include:

- staff toilets and showers - depending on the overall size of the Unit / Cancer Centre, toilets may need to be dispersed into the various zones for ease of access;
- staff room with beverage making facilities;
- meeting room/s for multidisciplinary audit and review meetings;
- library of cancer-specific books and journals for staff and students;
- access to secure bicycle storage.

Functional Relationships

602013 600 .9.00 EXTERNAL

The Radiation Oncology Unit, and the Cancer Centre as a whole, has functional relationships with the following units, services and organisations:

- General Practitioners, Surgeons and Physicians;
- Community-based Services;
- other Hospital Cancer Treatment Services;
- External Education and Research Facilities;
- Cancer Registry (if not located in the Centre).

602014 600 .9.05 INTERNAL

- Pharmacy (unless a satellite unit is located in the Centre);
- Pathology (mechanical transport system);
- Medical Imaging (CT and MRI);
- Nuclear Medicine / PET;
- Palliative Care;
- Oncology Inpatient Unit/s.

Accessibility

602015 600 .10.00 EXTERNAL

Level, undercover access is required for outpatients and inpatients in wheelchairs, trolleys and beds.

Ready access from the main hospital for food, linen, supplies etc.

Ready access from the public car park for patients attending on a daily basis to minimise stress (refer to 600.11.00 - Parking).

After-hours access for urgent radiotherapy cases must be easy for inpatients and external (ambulance) patients.

602016 600 .10.05 INTERNAL

Access should be generous and with direct circulation systems in all patient areas to allow for the efficient movement of both ambulatory and wheelchair / stretcher / bed patients. The requirement for bed access should be carefully addressed.

The treatment and planning areas should not be used as thoroughfares. Wherever possible, a separation between patient circulation and staff / materials circulation within the Unit should be attempted.

Some access routes and circulation systems, particularly in the radiation treatment area, must allow delivery paths for large pieces of equipment. Height, width, and floor loads must be considered in the design of these access routes.

The Radiation Oncology Unit should only be accessible to authorised persons and must be locked and an alarm activated once the area is vacated after hours. Care should be taken with wayfinding and signage to discourage accidental entry to these areas.

Parking

602017 600 .11.00 The following areas will be required:

- undercover patient parking adjacent to main entry for patients with minimal mobility;
- ambulance access;
- parking area for volunteer drivers;
- secure storage for staff bicycles.

Patients attending the service as outpatients may do so on consecutive days and/or for up to 7 weeks and may require a space on a short term basis or for up to 5 hours. Patients are often adversely affected by the rigours of the treatment and the provision of subsidised or dedicated 'user friendly' parking facilities reduces the associated stress in attending the centre.

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Parking facilities need to be secure during the hours of darkness as staff, patients and support persons often come and go 24 hours a day.

For staff parking, refer to Part C, Clause 790 of these Guidelines for further information.

Disaster Planning

- 602018 600 .12.00 A disaster plan needs to be in place. Refer to Part B Clause 80 and Part C of these Guidelines for further information.

Infection Control

- 602019 600 .13.00 The infectious status of many patients accessing the Unit may be unknown and many may be in a severely immunocompromised or suppressed state. All body fluids should be treated as potentially infectious and standard precautions should be taken.

Reusable instruments and materials may be re-circulated through the usual channels to the Sterile Services Unit.

It is essential that the unit design contributes to the control of infection by way of the following:

- an appropriate overall layout to minimise cross contamination in work areas;
- efficient work flow design and detailing;
- suitable materials and finishes to facilitate cleaning;
- adequate number and location of hand hygiene facilities;
- appropriate cleaning, waste storage and waste disposal;
- appropriate isolation of space and ventilation systems which present potential hazard (refer to AS/2982).

It is not generally considered necessary to provide separate waiting areas for immunocompromised patients but there shall be single rooms in the Day Unit should they be needed for this purpose.

For further information, refer to Part D of these Guidelines - Infection Prevention and Control and to NSW Health Policy Directive PD2007_36 - Infection Control.

Environmental Considerations

- 602020 600 .14.00 TOXIC WASTE

The following must be addressed:

- safe handling and air exchanges for chemicals in the appliance room, x-ray dark room etc.;
- provision of effective extraction systems to areas such as medical physics laboratory with a fume hood extraction system that complies with Radiation Safety Regulations;
- drainage systems designed to meet the requirements of the relevant sewerage authority and Health Department;
- safe storage and disposal of irradiated material.

- 602021 600 .14.05 ACOUSTICS

Provide for the control of noise associated with activity in the appliance fabrication room so as not to disturb patients or staff.

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All examination, consultation rooms and offices will be acoustically private.

602022 600 .14.10 INTERIOR DESIGN

Normalisation of the environment in looks, operation and functional content whilst not compromising clinical practice or safety.

Treatment areas such as the simulator room and “bunkers” should have soft colours, paintings etc. to detract as much as possible from the isolation during treatment.

602023 600 .14.15 PATIENT PRIVACY

Provide visual and acoustic privacy for patients in all changing, consultation, examination rooms and treatment spaces.

Ideally, changed patients should not have to cross public circulation space in order to access treatment areas from changed waiting areas.

Patients will also require privacy to discuss billing and private health related concerns.

Space Standards and Components

602024 600 .15.00 ERGONOMICS

Radiation Oncology Units shall be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury or radiation hazard.

Badly designed recurring elements such as height, depth and design of workstations and counters, shelving and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff as well as the welfare of patients.

Heights and depths of desks in the radiation treatment area need to take into account the constant up and down nature of the tasks undertaken and the distance to the wall of the emergency stop button.

Refer to Part C Section 730.12 under Access and Mobility of these Guidelines for more details.

602025 600 .15.05 HUMAN ENGINEERING

Human engineering covers aspects of the design that permit effective, appropriate safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practises, FF&E and work environment to the physical and cognitive capabilities of all people

Refer Part C of these Guidelines for information.

602026 600 .15.10 ACCESS AND MOBILITY

Provide controlled access to the instrument storage room for the protection of expensive and sensitive pieces of equipment. Within workshop / appliance room areas, the number of doors between shop areas will be kept to a minimum to facilitate the movement of equipment; double doors will be

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provided to all workshop areas.

Where appropriate, design must comply with AS 1428 - Design for Access and Mobility.

Also refer Part C of these Guidelines for information.

602027 600 .15.15 DOORS AND CORRIDORS

Door and corridors must be wide enough to accommodate large items of equipment and enable calibration equipment and trolleys / beds to pass through with ease.

The need for neutron doors to the maze will depend on overall design of the maze.

Refer Part C of these Guidelines for information.

Safety and Security

602028 600 .16.00 GENERAL

Safety and security involves people and policies as well as physical aspects. Security of the facility must be addressed at each stage of the planning and design process and not superimposed on a completed building. A safety audit via a risk analysis of potential hazards should be undertaken during the design process.

Security may include:

- emergency "stop" buttons in treatment bunkers and control rooms;
- fixed and personal duress alarms;
- controlled staff access after hours;
- CCTV cameras in car parks.

Project staff should refer to the NSW Health Manual - Protecting People and Property, NSW Health Policy and Guidelines for Security Risk Management in Health Facilities.

602029 600 .16.05 RADIATION SAFETY

The Environment Protection Authority (EPA) - part of the NSW Department of Environment and Climate Change - administers the Radiation Control Act 1990 (amended in August 2002) and the Radiation Control Regulation 2003 - responsible for regulation and control of radioactive substances, radioactive sources and radiation apparatus.

Apparatus used for radiotherapy, or planning radiotherapy must be registered and operators licensed.
<http://www.environment.nsw.gov.au/radiation/radiotherapyreg.htm>

602030 600 .16.10 FINISHES, SURFACES AND FITTINGS

Consider the impact of finishes, surfaces and fittings on safety. In particular, consider:

- slippery or wet floors;
- protrusions or sharp edges;
- stability and height of equipment or fittings;
- choice of flooring;

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- adequate drainage facilities;
- adequate protection for workers against infection and any other hazards;
- fittings which should be well above floor level and/or waterproof;
- main drains which should be protected from potential contaminants.

Finishes

602031 600 .17.00 WALL PROTECTION

The wall surfaces in the unit areas should be washable.

Refer to Part C of these Guidelines.

602032 600 .17.05 FLOOR FINISHES

Non-slip flooring is essential for all work areas.

The floor surface should be impervious, easy to clean, sealed with coving at the edges and have adequate drainage.

Refer to Part C of these Guidelines.

602033 600 .17.10 CEILING FINISHES

Ceilings must be washable, impermeable and non porous.

Refer to Part C of these Guidelines.

Fixtures, Fittings & Equipment

602034 600 .18.00 GENERAL

Within the context of the Health Facility Guidelines and the Room Data and Room Layout Sheets contained therein, Fixtures and Fittings can be described as follows:

- Fixtures: Refers to fixed items that require service connection (e.g. electrical, hydraulic, mechanical) and includes basins, light fittings, clocks, medical service panels etc. Not to be confused with "Serviced Equipment" such as the linear accelerators etc.

- Fittings: Refers to fixed items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Also refer to part C of these Guidelines and to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.

602035 600 .18.05 EQUIPMENT - GENERAL

All items of equipment will need to be itemised and larger items measured during the design phase to ensure the following:

- can be suitably housed to provide for its operation and maintenance. In particular, linear accelerator and electronic cabinet room sizes and specifications should accommodate the equipment manufacturer's recommendations, as space requirements may vary from one machine to another and one manufacturer to another. Equipment requiring services

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such as water and special power must be duly noted and passed to project engineers;

- doors are sized to allow passage of equipment;
- heat loads are estimated and catered for;
- weight loads are estimated and checked structurally.

Adequate space for maintenance of major equipment must also be considered. Note that electronic control cabinets are bulky and need special access to three sides.

602036 600 .18.10 SAFETY SHOWERS AND EYE WASHES

Safety shower and eye wash or eye / face wash equipment must be readily accessible where cytotoxic drugs are dispensed and administered. Refer AS/NZS 2982.1 for details.

Building Service Requirements

602037 600 .19.00 GENERAL

High cost engineering areas which should receive careful consideration by design teams include:

- lighting and the impact of deep planning on lighting requirements;
- the number of sanitary fittings and the potential for reducing these by strategic location;
- extent of the required emergency power system;
- extent of provision of emergency doors;
- the need for and the cost benefit / implications of pneumatic transport / communication systems;
- extent of provision of essential back-up systems (e.g. dual generators, chillers, boilers and dual electrical circuits).

602038 600 .19.05 STRUCTURAL

Radiation treatment and simulation bunkers need radiation protection built into the facility. Bunkers need special construction to ensure they meet radiation safety requirements.

Ceiling mounted equipment should have properly designed rigid support structures located above the finished ceiling sufficient to support heavy ceiling-mounted equipment such as frames of data monitors. A lay-in type of ceiling should be considered for ease of installation, service, and remodelling.

Ceiling Height: A minimum 3.0 metre ceiling height in procedure rooms, with a minimum 1 metre space above for heating, ventilating and air conditioning systems.

The flooring for a Radiation Oncology Unit shall be adequate to meet the load requirements for equipment, patient and personnel.

602039 600 .19.10 COMMUNICATIONS AND INFORMATION SYSTEMS

The infrastructure for the following should be considered for the present and future expansion:

- voice / data systems;
- telephone and video conferencing capacity;
- duress call - fixed and personal (if required);

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- CCTV monitoring systems of entry points;
- infrastructure for PACS, electronic records and radiotherapy information management system (RIS);
- server room;
- patient / nurse and emergency call systems (that should be consistent with existing systems);
- alarm systems - drug fridges, medical gases, entries etc. that register in an area manned 24 hours per day;
- patient viewing cameras, treatment delivery computers and intercoms to allow the radiation therapist to monitor and communicate with the patient during treatment when the patient is alone in the treatment room.

602040 600 .19.15 ELECTRICAL SERVICES

Sufficient power for current need and future expansion of service.

An emergency back-up system for the power supply should be available for high priority equipment and illumination.

Provision for cable ducts or conduits should be made in the floors, walls and ceilings as required for specialized equipment.

There should be a maximum distance of 7.5 meters for the cable run between the simulator and the generator, however, minimal distances are preferable to minimize the degradation of cable operation. Cable runs in the radiation treatment control area need careful planning.

602041 600 .19.20 MECHANICAL SERVICES

Appropriate air exchanges and exhausts for chemicals in the appliance workroom.

Sufficient air-conditioning capacity and compressed air in radiation treatment rooms; access for future expansion of service.

Appropriate air-handling systems in computer equipment rooms.

General air conditioning needs to cool equipment but not blow over partially undressed patients on beds.

To maintain a high level of staff concentration and to minimise the possibility of accidents, the temperature of the unit should be maintained within a comfortable range not exceeding 25 °C.

Pneumatic tube system to Pathology, wards and other departments as required.

Smoke detectors in radiation treatment and simulator rooms must be of the type not sensitive to radiation (i.e. photoelectric) and require special consideration.

602042 600 .19.25 MEDICAL GASES

Oxygen, suction will be required in all simulation, treatment and patient bed bays. Nitrous oxide, medical air and scavenging will additionally be required in rooms where general anaesthesia may be administered, particularly where children are treated.

602043 600 .19.30 RADIATION PROTECTION

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Linear accelerator rooms require radiation protection that may include concrete walls, floors and ceiling to a specified thickness. The radiation protection needs of the unit shall be assessed by a certified physicist or accredited consultant to ensure compliance with the requirements of the Radiation Control Act 1990 and Regulation 2003.

This assessment is to specify the type, location and amount of protection to be installed in accordance with final approved department layout and equipment selection. The radiation protection requirements shall be incorporated into the final plans and specifications.

602044 600 .19.35 LIGHTING

Lighting in the Radiation Oncology Unit will need to be of various types and will be dependent on the task.

The main lighting requirements are:

- characteristics of clinical colour rendering;
- even distribution of luminance throughout the non working areas;
- walls that do not show reflections of luminaires, particularly at eye-height of staff when working;
- fully dimmable lighting in bunkers and simulator areas;
- special three level lighting in radiation treatment vaults;
- lasers for patient positioning in bunkers and simulator rooms with high level luminance available for maintenance and repairs.

602045 600 .19.40 HYDRAULIC SERVICES

The trade waste plumbing and drainage system must be designed to meet the requirements of the relevant Sewerage authority and the Department of Health Information of the quality of chemicals to be used / discharged must be provided by the client to the hydraulics engineer.

COMPONENTS OF THE UNIT

Standard Components

602046 600 .20.00 Rooms/spaces are defined as "Standard" and "Non Standard" Components. Standard Components (SC) refer to rooms/spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by "yes" in the SC column of the Schedule of Accommodation.

Refer to Part B, Section 90 of the Guidelines for the text and to separately itemised Room Data and Room Layout Sheets.
www.healthfacilityguidelines.com.au

Non-Standard Components are generally very unit-specific and are described below.

Non-Standard Components

602047 600 .21.00 APPLIANCE FABRICATION - WORKSHOP

DESCRIPTION AND FUNCTION

Manufacture of immobilization devices.

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Storage space is required for the large volumes of material used to create the appliances.

While the shell forming for head and neck patients is predominantly thermoplastic based - there are still patients that require plaster impressions and appliance room specific consult and mark up.

LOCATION AND RELATIONSHIPS

Direct access from the Fitting Room but away from other patient areas due to possible noise and fumes.

CONSIDERATIONS

Surge protection for electrical equipment.
Dust and fume extraction.
Acoustic containment.

FF&E will include:

- plaster dust extraction system and plaster trap;
- fume extraction cabinet;
- large sink and plaster trap;
- heavy duty stainless steel benching;
- shelving and cupboards;
- instruments - drill, hot wire cutter, vacuum former.

602048 600 .21.05 APPLIANCE FITTING ROOM

DESCRIPTION AND FUNCTION

Where patients are measured for immobilization devices, masks etc.

LOCATION AND RELATIONSHIPS

Direct access from the corridor and into the Workroom.

Away from other patient areas due to possible noise and fumes.

CONSIDERATIONS

Patient privacy - screen around doorway.
Bed / trolley access.

FF&E will include:

- handbasin;
- plinth;
- benches & cupboards.

602049 600 .21.10 SIMULATOR / CT ROOM

DESCRIPTION AND FUNCTION

A planning simulator is a specialised x-ray machine. It may be a conventional simulator but will need an adjoining CT Room or ready access to a CT. It is expected however that modern units will install a CT Simulator. The simulator must have image intensification and CT inter-working capability.

Computed tomography (CT) simulator combines the functionality of a conventional simulator with features and image processing and display tools of a three-dimensional radiation treatment planning (3D RTTP) system.

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The diagnostic C-arm mobile unit is used for similar purposes in the planning and verification of high dose rate Brachytherapy.

Fan noise from various computer systems creates significant noise making it difficult to converse with patients. Provide a large cupboard with floor to ceiling access to house x-ray generator and reconstruction computers discreetly within the CT room. The cupboard should have separate air flow for cooling needs.

LOCATION AND RELATIONSHIPS

Adjacent to the Control Room.

Ready access to Change Cubicles, Sub-Waiting and Patient Toilets.

Ready access to a resuscitation trolley (where intravenous contrast is administered).

CONSIDERATIONS

- space for a bed to enter, turn and be placed along either side of the simulator;
- lead glass viewing window to the Control Room;
- radiation screening to Standards;
- temperature and humidity control to manufacturer's specifications;
- dimmable lighting controls;
- emergency "stop" button;
- oxygen & suction on medical services panel;
- emergency / nurse call buttons;
- CCTV camera and intercom system - patient to control room;
- handbasin;
- benches;
- wall and ceiling mounted x-ray laser lights (that require a steel plate mounted to the building stud fixed at the floor and ceiling to ensure stability when mounted);
- x-ray transformer.

602050 600 .21.15 SIMULATOR / CT-SIMULATOR CONTROL ROOM

DESCRIPTION AND FUNCTION

Control area for the Simulator.

LOCATION AND RELATIONSHIPS

Directly adjacent to the Simulator Room.

CONSIDERATIONS

FF&E will include:

- simulator control panel;
- CT control console and computer;
- virtual simulation workstation;
- PACS viewing monitor and x-ray viewing panels for review of mammograms and x-rays of patients from rural areas;
- emergency "stop" button;
- patient viewing monitor and microphone;
- workbenches.

602051 600 .21.20 PLANNING WORKROOM

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DESCRIPTION AND FUNCTION

The area used by the radiation therapists who work individually using light boxes and computer terminals to produce radiation dosage profiles.

LOCATION AND RELATIONSHIPS

Ready access to the Simulator.

Easy access to the Computer Server Data Storage Room for retrieval of archived data.

CONSIDERATIONS

Specialised FF&E will include:

- work benches sized to suit the planning computers;
- planning computers - 1 per staff member;
- light boxes - surface mounted, 2 per workroom;
- plotter;
- printer;
- x-ray viewing panels - 1 per workstation.

602052 600 .21.25 MEDICAL PHYSICS LABORATORY

DESCRIPTION AND FUNCTION

Sufficient space for computers and a work area to carry out IntraBeam dosimetry measurements, dosimetry equipment QA and ultrasound and LDR brachytherapy QA.

LOCATION AND RELATIONSHIPS

Ready access to the Bunkers.

CONSIDERATIONS

Sealed vinyl floor, laminated bench tops.
Hands-free telephone.

FF&E will include:

- workbenches;
- light boxes;
- office furniture.

Note that IntraBeam dosimetry measurements require a shielded space. Several QA procedures may happen at one time, with one or more using radioactive sources. There must be a dedicated radioactive source handling area, including a fume hood extraction system separate from rest of the laboratory that complies with Radiation Safety Regulations.

602053 600 .21.30 ELECTRONICS LABORATORY

DESCRIPTION AND FUNCTION

Maintenance of electrical equipment divided into "clean" and "dirty" zones.

LOCATION AND RELATIONSHIPS

Part of the Medical Physics Zone.

CONSIDERATIONS

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Light-coloured, antistatic flooring.
Electrostatic earthing throughout the area.
Hands-free telephone.

FF&E will include:

- compressed air outlet;
- benches - general and for electronic work in a clean work area;
- sink;
- peg board;
- mobile fume extraction unit;
- drill and lathe in a "dirty" work area;
- general office furniture.

602054 600 .21.35 PHYSICS STORE

DESCRIPTION AND FUNCTION

This room will house very expensive equipment and instruments for use by the physicists in the checking and calibrating of the linacs, including the water phantom machine, approximately 1m x 1m and 1800 high.

LOCATION AND RELATIONSHIPS

Ready access to the Physics Laboratory.

Easy access to a deep sink in the Cleaner's Room for filling and emptying of the water tank.

CONSIDERATIONS

Access for large items of equipment including manoeuvring the water phantom trolley.

Safe for radioactive materials.

Cable storage and heavy duty shelving for numerous phantoms.

602055 600 .21.40 BIOMEDICAL WORKROOM

DESCRIPTION AND FUNCTION

Maintenance and service support to an extensive range of treatment and non-treatment equipment.

LOCATION AND RELATIONSHIPS

Ready access to the Physics Laboratory and Bunkers.

CONSIDERATIONS

++ Power outlets and electrostatic earthing.

Sink with drip tray and spray hose.

Heavy duty benching and storage.

602056 600 .21.45 LINEAR ACCELERATOR TREATMENT ROOM (BUNKER)

DESCRIPTION AND FUNCTION

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Treatment rooms or bunkers are the rooms in which EBR irradiation occurs. They require a maze-like corridor at the entrance of the room for radiation protection.

The maze, entrance and entry to the treatment room must allow access for the treatment machine, service equipment, hospital beds and gantry frames.

Linacs with 18 MV photon beams generally require additional shielding at the maze entrance (i.e. neutron door); however, particular attention should be given to the bunker and maze design in an attempt to avoid the use of a maze shielding door.

LOCATION AND RELATIONSHIPS

Immediately adjacent to the Control Area so that access can be monitored.

The Treatment Rooms should be located with ready access to Patient Amenities (Change Cubicles, Sub-Waiting, Toilets), Treatment Planning and support areas including film processing areas and utility rooms.

CONSIDERATIONS

Layouts shall be designed to prevent radioactive particles from escaping. Openings into the room, including doors, ductwork, vents and electrical raceways and conduits shall be baffled to prevent direct exposure to other areas of the facility.

Services requirements including electrical, hydraulics, and air-conditioning will be according to the equipment manufacturer's specifications.

Provide special cable access to the treatment rooms for physics measurements.

Linear accelerators need special air exchanges and the floor needs protection when machines are installed.

FF&E will include:

- linear accelerator;
- oxygen & suction on medical services panel plus nitrous oxide, scavenging and medical air if GA to be administered;
- emergency "stop" switch;
- handbasin;
- benches and storage cupboards for patient machine accessories;
- laser lights for positioning;
- monitors and audio equipment for patient contact;
- ++ power outlets.

602057 600 .21.50 LINAC CONTROL

DESCRIPTION AND FUNCTION

Radiation therapists will perform all control and patient monitoring functions in the Control Room.

Patient radiation treatment records and planning images may be displayed in the control room area for each treatment unit throughout the course of the therapy. Patient viewing cameras, treatment delivery computers and intercoms allow the radiation therapist to monitor and communicate with the patient during treatment when the patient is alone into the treatment room.

LOCATION AND RELATIONSHIPS

Direct access to Treatment Bunker.

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CONSIDERATIONS

Cable trays must be easily removable for access by maintenance staff.

FF&E will include:

- emergency stop switch;
- intercom;
- patient viewing monitors;
- portal imaging computers;
- workstation for image and chart viewing, access to the scheduling system, and space to store treatment records (if not electronic);
- Linac control console;
- PACS monitor and/or x-ray viewing panels;
- benches / shelving units to suit equipment.

602058 600 .21.55 BRACHYTHERAPY ROOM

DESCRIPTION AND FUNCTION

A radioactive source is delivered internally through a tube or applicators implanted or inserted during surgery. The radiation source is inserted manually or, more commonly, performed by a remote after loading machine.

In centres where LDR brachytherapy seed implantation is performed, the room shall be of similar size to the other bunkers and equipped as an operating room.

LOCATION AND RELATIONSHIPS

Adjacent:

- induction bay;
- scrub room;
- recovery bay;
- seed implant store and loading room;
- other radiation treatment rooms.

CONSIDERATIONS

Radiation safety of radioactive materials.

Oxygen, suction, medical air, nitrous oxide and scavenging.

602059 600 .21.60 PATIENT OBSERVATION & TREATMENT AREA

DESCRIPTION AND FUNCTION

Trolley bays where patients may be observed and assessed and a range of nursing care given such as:

- dressing changes;
- medication delivery;
- IV start and monitoring.

LOCATION AND RELATIONSHIPS

Centrally located to treatment, planning, staff station, clean and dirty utilities.

CONSIDERATIONS

FF&E includes:

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- beds / trolleys;
- resuscitation trolley (in own bay);
- medical gases;
- curtain screens;
- overbed tables;
- data outlets.

APPENDICES

Schedule of Accommodation

602060 600 .22.00 A Schedule of Accommodation follows for a two bunker and a four bunker unit with an optional Brachytherapy bunker for the four bunker unit.

Note: (o) = Optional.

602061 600 .22.05 Main Entry / Reception / Administration

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
ENTRY AIRLOCK					1 x 9	1 x 9	Assumes 2 sets of double automatic doors double 900mm leaf
BEVERAGE BAY	yes				1 x 3	1 x 3	
WAITING	yes				1 x 15	1 x 25	12 & 20 seats
WHEELCHAIR / TROLLEY BAY					1 x 4	1 x 6	1 trolley, 2-5 wheelchairs
TOILET - PUBLIC	yes				2 x 3	2 x 3	Male & Female
TOILET - DISABLED / BABY CHANGE	yes				1 x 5	1 x 5	
BAY - PHONE	yes				1 x 2	1 x 4	1 phone & 2 phones
BAY - VENDING	yes				1 x 3	1 x 3	
RECEPTION	yes				1 x 10	1 x 10	2 staff
OFFICE - CLERICAL / ADMINISTRATION	yes				1 x 12	1 x 15	2 & 3 staff
STORE - PHOTOCOPY / STATIONERY	yes				1 x 8	1 x 8	
STORE - FILES	yes				1 x 12	1 x 15	
RESOURCE / EDUCATION ROOM					1 x 12	1 x 12	
INTERVIEW ROOM	yes				1 x 12	1 x 12	
VOLUNTEERS' WORKROOM					1 x 12	1 x 12	Optional

602062 600 .22.10 Planning Zone

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	

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SUB WAITING	yes				1 x 10	1 x 10	1 wheelchair space, 5 seats
PATIENT TROLLEY BAY	yes				1 x 6	1 x 6	
PATIENT TOILET / CHANGE - ACCESS	yes				1 x 5	1 x 5	
CHANGE CUBICLE	yes				1 x 2	1 x 2	
PATIENT LOCKER BAY					1 x 1	1 x 1	
SIMULATOR / CT ROOM					1 x 44	1 x 44	
CONTROL ROOM					1 x 14	1 x 16	
DARK ROOM	yes				1 x 6	1 x 6	Optional
X-RAY VIEWING / VIRTUAL SIMULATION					1 x 9	1 x 14	Especially if PACS
BAY - RESUSCITATION TROLLEY	yes				1 x 2	1 x 2	
PLANNING ROOM					1 x 50	1 x 90	
OFFICE - MANAGER, RADIATION THERAPY	yes				1 x 12	1 x 12	
OFFICE - RT EDUCATOR	yes				1 x 9 (o)	2 x 9	Offices to be reviewed
OFFICE - RT HEAD OF PLANNING	yes				1 x 9	1 x 9	Offices to be reviewed
OFFICE - RT HEAD OF TREATMENT	yes				1 x 9	1 x 9	Offices to be reviewed
OFFICE - RTS SIGN ON / WORK AREA					1 x 12	1 x 12	
WORKSTATION / OFFICE - BOOKING CLERK	yes				1 x 5.5	1 x 12	1 & 2 staff
EQUIPMENT STORE	yes				1 x 9	1 x 12	
STAFF TOILET - UNISEX	yes				1 x 3	1 x 3	

602063 600 .22.15 Appliance Area

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
FITTING ROOM					1 x 10	1 x 10	
MOULDING / SHELL FORMING WORKSHOP					1 x 20	1 x 20	
"DIRTY" WORKROOM					1 x 9	1 x 9	Noisy
STORE	yes				1 x 6	1 x 6	

602064 600 .22.20 Medical Physics

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	

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OFFICE - CHIEF PHYSICIST	yes				1 x 12	1 x 12	
WORKSTATION - PHYSICISTS	yes				5.5	5.5	Number will depend on Staff Establishment
PHYSICS LABORATORY					1 x 25	1 x 40	
PHYSICS STORE					1 x 12	1 x 20	
BIOMEDICAL ENGINEERING WORKSHOP					1 x 40	1 x 50	
BIOMEDICAL WORKSTATION - "DIRTY"					1 x 5.5	1 x 5.5	

602065 600 .22.25 Radiation Treatment

NOTE 1: 150m2 spatial allocation for one linear accelerator bunker includes maze and radiation shielding wall, bunker size depends on equipment selected and radiation shielding recommendation from radiation safety consultant.

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
SUB WAITING	yes				1 x 6	1 x 12	Family etc.
CHANGE CUBICLES	yes				2 x 2	4 x 2	} Overall, 3 per 2 linacs
CHANGE CUBICLE / WC - ACCESS	yes				1 x 5	2 x 5	
PATIENT TOILET	yes				2 x 3	4 x 3	Male and female
INTERVIEW / CHANGE ROOM					1 x 9	2 x 9	May also provide private waiting
BUNKER WAITING	yes				2 x 2	4 x 2	2 chairs outside each Bunker
LINEAR ACCELERATOR					2 x 150	4 x 150	See Note 1 above
LINAC CONTROL					2 x 22	4 x 22	
OFFICE - SINGLE RT	yes				1 x 9	1 x 9	Deputy Chief in large centres
WORKSTATIONS - SENIOR RTS	yes				2 x 5.5	4 x 5.5	
TROLLEY / WHEELCHAIR PARK	yes				3 x 4	5 x 4	
LINEN TROLLEY BAY	yes				1 x 2	1 x 2	
EQUIPMENT STORE - RT	yes				1 x 9	1 x 12	

602066 600 .22.30 Brachytherapy Suite

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
BRACHYTHERAPY BUNKER					0	1 x 130	Assumes permanent seed implantation
CONTROL BAY					0	1 x 10	

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SCRUB BAY	yes				0	1 x 6	2 sinks
INDUCTION ROOM					0	1 x 14	
BAY - HOLDING / RECOVERY	yes				0	2 x 9	Unless able to use the bed bays in the Patient Observation Area
SEED STORE & LOADING					0	1 x 9	

602067 600 .22.35 Patient Observation & Nursing Care / Clinic Suite

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
STAFF STATION	yes				1 x 12	1 x 12	Open plan with Treatment Bays
PNEUMATIC TUBE STATION					1 x 1	1 x 1	
RESOURCE ROOM	yes				1 x 9	1 x 12	
MEETING / INTERVIEW ROOM	yes				1 x 9	2 x 9	For RNs / RTs / Clinical Trials etc.
TREATMENT BAYS	yes				2 x 9	4 x 9	Open plan with Staff Station
BAY - HANDWASH (TYPE B)	yes				1 x 1	1 x 1	
BAY - PPE	yes				1 x 2	1 x 2	
PATIENT SHOWER / TOILET / BABY CHANGE - ACCESS	yes				1 x 7	1 x 7	
LINEN TROLLEY BAY	yes				1 x 2	1 x 2	Part of open plan area
RESUSCITATION TROLLEY BAY	yes				1 x 2	1 x 2	Part of open plan area
OFFICE - SINGLE - NURSE MANAGER	yes				1 x 9	1 x 9	
CLEAN UTILITY / EQUIPMENT STORE	yes				1 x 12	1 x 14	
DIRTY UTILITY ROOM	yes				1 x 10	1 x 10	
DISPOSAL ROOM	yes				1 x 8	1 x 8	If combined with Dirty Utility, 1 x 14m2
CLEANER'S ROOM	yes				1 x 5	1 x 5	
CLINIC SUITE							
CONSULT / EXAM ROOMS	yes				3 x 12	6 x 12	
CONSULT / EXAM ROOMS	yes				1 x 14	2 x 14	
PROCEDURE ROOM	yes				1 x 16	1 x 16	
SCOPE CLEANING ROOM					1 x 8	1 x 8	
CLINICAL REVIEW ROOM					1 x 14	2 x 14	
SPECIMEN COLLECTION ROOM	yes				1 x 9	1 x 9	

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PATIENT TOILET	yes				1 x 3	1 x 3	Specimen collection
CLINIC WAITING	yes				1 x 16	1 x 32	

602068 600 .22.40 Clinical Trials Area

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
WORKSTATION - DATA MANAGERS	yes				3 x 6.5	6 x 6.5	
STORE - FILES	yes				1 x 12	1 x 14	
MONITORS ROOM					1 x 9	2 x 9	
OFFICE - BIOSTATISTICIAN	yes				1 x 9	1 x 9	
WORKSTATION - NURSE CO-ORDINATOR	yes				1 x 5.5	1 x 5.5	

602069 600 .22.45 Teaching / Research / Staff Offices

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
OFFICE - TEACHING FELLOW	yes				1 x 9 (o)	1 x 9 (o)	
WORKROOM - STUDENTS	yes				1 x 12 (o)	1 x 14 (o)	RTs & Physics - optional
OFFICE - CLINICAL DIRECTOR	yes				1 x 12	1 x 12	
OFFICE - DEPUTY DIRECTOR	yes				1 x 9 (o)	1 x 9	
OFFICES - RADIATION ONCOLOGISTS	yes				9	9	Number will depend on Staff Establishment
WORKSTATION - SECRETARY	yes				5.5	5.5	Number will depend on senior Staff Establishment
OFFICE - REGISTRARS	yes				1 x 12	1 x 20	2 & 4 staff
WORKSTATION - MEDICAL TYPISTS	yes				4.4	4.4	Number will depend on Staff Establishment
OFFICE - DATA MANAGER / CANCER REGISTRY	yes				1 x 9 (o)	1 x 9	
OFFICE - IT MANAGER	yes				1 x 9	1 x 9	
OFFICE - QA	yes				1 x 9	1 x 9	
OFFICE - ALLIED HEALTH	yes				1 x 12	2 x 12	For visiting Allied Health staff
MEETING / LIBRARY ROOM	yes				1 x 20	1 x 30	
MEETING / LIBRARY ROOM					0	1 x 18	
STAFF ROOM	yes				1 x 20	1 x 35	
STAFF LOCKER BAY	yes				2 x 3	2 x 6	

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STAFF TOILET	yes				3 x 3	5 x 3	Male & Female - may be dispersed
STAFF SHOWER	yes				2 x 2	2 x 2	Male & Female
CLEANERS ROOM	yes				1 x 5	1 x 5	

602070 600 .22.50 Optional Specialised Staff Offices / Workstations

ROOM/SPACE	Standard component				Qty x m2	Qty x m2	Remarks
					2 bunkers	4 bunkers	
WORKSTATION - CANCER CARE COORDINATOR	yes				5.5	5.5	1 per 100 patients recognised as needing specialised coordination of care
OFFICE - SINGLE - BREAST NURSE	yes				1 x 9	1 x 9	
WORKSTATION - SPECIALIST CANCER NURSES	yes				5.5	5.5	
WORKSTATION - PALLIATIVE CARE	yes				5.5	5.5	
DISCOUNTED CIRCULATION	35%						

602071 600 .22.55 ISSUES

All offices and workstations will need to be reviewed according to staffing levels.

Functional Relationships

602072 600 .23.00 A diagram of key functional relationships follows.

Checklists

602073 600 .24.00 Refer to the Checklists at the end of Parts A, B, C and D of these Guidelines for general planning checklists.

References and Further Reading

602074 600 .25.00 Mapping Rural and Regional Oncology Services in Australia, March 2006, Clinical Oncological Society of Australia.

NSW Cancer Plan 2004-2006 - Lessening the Impact of Cancer - A Two Year Progress Report, Cancer Institute NSW, September 2006.

The Role of Radiotherapy in Cancer Management, The Royal Australian and New Zealand College of Radiologists, 2004.

Framework for the Provision of Palliative Care Services in NSW, NSW Health, 2001.

Fostering Excellence in Cancer Treatment and Supportive Care, Cancer Institute NSW, 2005.

The following project briefs were referenced:

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- Sir Charles Gairdner Hospital Cancer Centre - Project Brief, 2004;
- Mid North Coast Integrated Cancer Care Service, Project definition Plan, September 2004;
- Wellington Hospital, New Zealand, Cancer Centre Design Brief, July 2002.

Brachytherapy

602075 600 .26.00 BRACHYTHERAPY

Brachytherapy (also called internal radiation therapy) involves placement of radioactive material directly inside the body. It allows a higher total dose of radiation to be administered to treat a smaller area and in a shorter time than is possible with EBT.

Brachytherapy may be used to treat cancers throughout the body, including the prostate, female reproductive organs, head and neck and gallbladder.

Brachytherapy may be either temporary or permanent, low dose rate (LDR) or high dose rate (HDR).

602076 600 .26.05 TEMPORARY BRACHYTHERAPY

In temporary brachytherapy, the radioactive material is placed inside or near a tumour for a specific amount of time and then withdrawn. It can be administered at a low-dose rate (LDR) or high-dose rate (HDR). A delivery device, such as a catheter, needle, or applicator is placed into the tumour using fluoroscopy, ultrasound or CT to help position it. The physician may insert the radioactive material at the same time manually through the delivery device and later remove the material and delivery device.

Alternatively, the patient may be moved to a hospital room where the delivery device is connected to a remote-controlled machine (after-loader), which pushes the radioactive material to the tumour site. After a specified amount of time, the radioactive material is withdrawn back into the machine and disconnected from the delivery device. The delivery device is then removed from the patient.

602077 600 .26.10 PERMANENT BRACHYTHERAPY

Also called seed implantation, permanent LDR brachytherapy involves placing radioactive seeds or pellets in or near the tumour and leaving them there permanently. After several weeks or months, the radioactivity level of the implants eventually diminishes to nothing. The seeds then remain in the body with no lasting effect on the patient.

602078 600 .26.15 HIGH DOSE RATE (HDR) BRACHYTHERAPY

High-dose rate (HDR) brachytherapy is usually an outpatient procedure. A specified dose of radiation is delivered via a remote-controlled machine to the tumour in a short burst, lasting only a few minutes. This may be repeated several times in a day before the delivery device is removed and the patient returns home. Patients may receive up to 12 separate HDR brachytherapy treatments over one or more weeks.

602079 600 .26.20 LOW DOSE RATE (LDR) BRACHYTHERAPY

In a non-permanent LDR brachytherapy procedure, the patient is treated with radiation delivered at a continuous rate over several hours or days.

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This treatment may be delivered using a manually or remotely afterloaded implant. A patient receiving LDR brachytherapy stays overnight at the hospital so the delivery device can remain in place throughout the treatment period.

Cancer Care Nurses

602080 600 .27.00 CANCER NURSE COORDINATORS (CNCS)

Cancer can be incredibly complex for a patient to understand and access the relevant treatment and support services. Patients are often treated by more than one specialist, sometimes in different healthcare settings, over extended periods of time. It is understandable that patients may feel overwhelmed, unsupported and responsible for their own care coordination. To address these patient concerns, the Cancer Institute NSW has established the Cancer Nurse Coordinator program for metropolitan and rural areas.

The role of the CNC is to facilitate the continuity and quality of care for patients diagnosed with cancer, and to deal sympathetically with patient's individual needs, as well as those of the patient's family and carers. The role will vary according to the area in which they are employed, the tumour type (or types) and the complexity of care required based on the needs of the patients for which they care.

The Cancer Nurse Coordinator will also support multidisciplinary care and ensure communication between team members and other health professionals including the GPs involved in the patient's care. CNCs will act as a contact point for patients and carers by providing them with information and addressing their concerns.

Source: Cancer Institute NSW.

602081 600 .27.05 CLINICAL TRIALS NURSES

A major initiative in the Clinical Trials Program is the placement of Cancer Institute NSW Clinical Trials Nurses and Cancer Institute NSW Clinical Trials Data Managers. This Grants scheme places trials nurses and data managers in hospital-based cancer clinical trials units to provide the infrastructure necessary to support cancer clinical trial related activity within NSW.

The Cancer Institute NSW is supporting the placement of trials nurses and/or data managers within cancer clinical trial units enabling a dedicated hospital based resource, supporting patients, their families and cancer specialists participating in clinical trials.

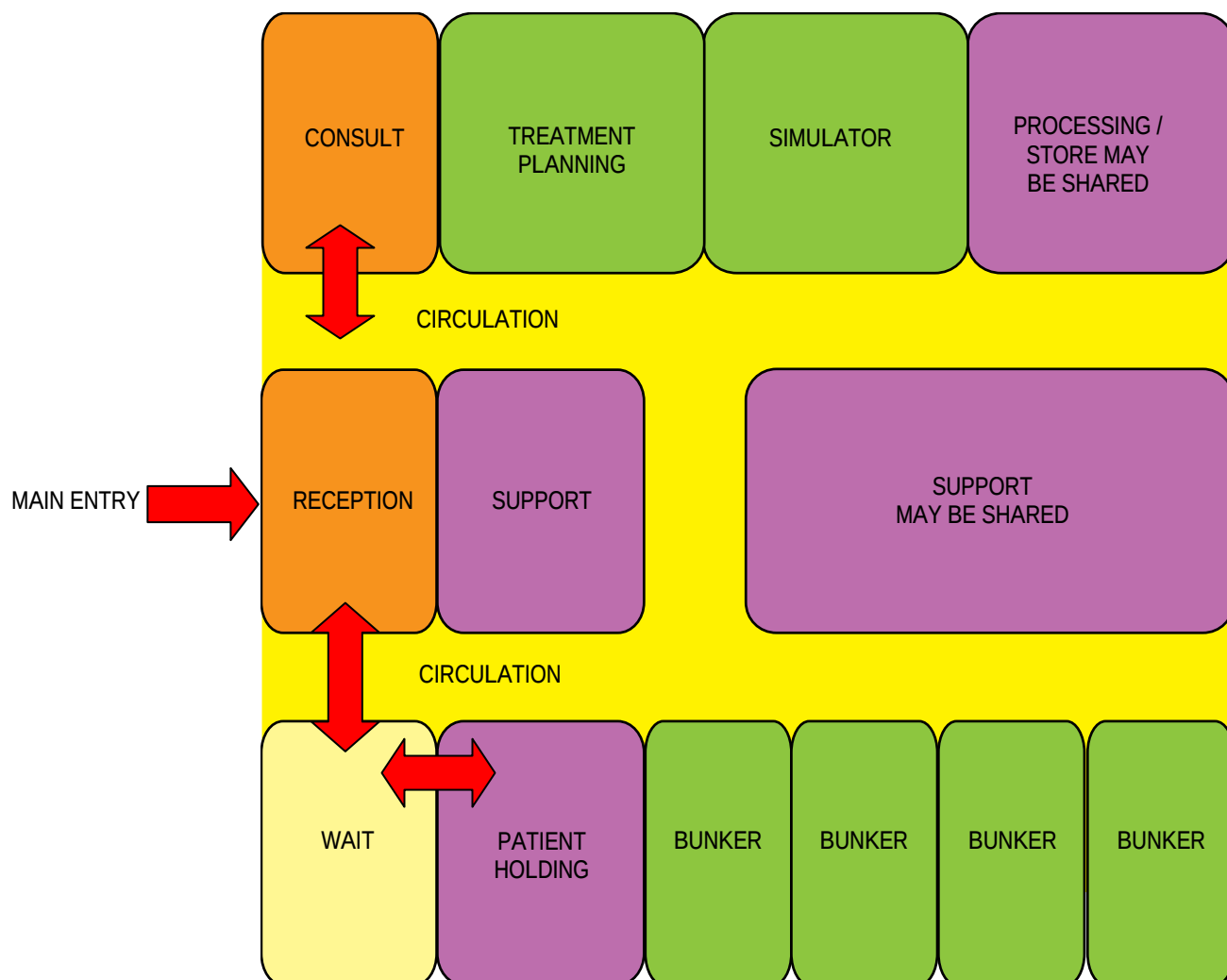
For a person diagnosed with cancer, the possibility of entering into a clinical trial can be frightening. The discussion around clinical trials and what is involved requires time and information to be delivered by the Clinical Trials Nurse in order to allow the individual to make an informed decision about entering or not, into a clinical trial.

Clinical Trials Nurses act as a point of contact and coordinate the various aspects of the trial for patients and carers by providing them with information, support and addressing their concerns. Their role is to facilitate the continuity and quality of care for patients enrolled in a clinical trial and to deal sympathetically with patient's individual needs, as well as those of the patient's family and carers.

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FUNCTIONAL RELATIONSHIP DIAGRAM – RADIATION ONCOLOGY

The following diagram sets out the relationships in a Radiation Oncology zone.



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INTRODUCTION

Preamble

503271	620 .1.00	Renal Dialysis Units (referred to as Unit/s) are used by persons requiring haemodialysis and peritoneal dialysis services. Units may be located in a satellite centre or in a hospital.
		Haemodialysis is a treatment for end stage renal failure where the function of the kidneys to remove substances from the blood is replaced by a machine. Treatment requires the patient to be attached to the machine for 3-6 hours per day on three days of every week. This process may be undertaken in a satellite dialysis centre or hospital, or a dialysis machine may be installed in a patient's home.
		Peritoneal dialysis is an alternative to haemodialysis. Peritoneal dialysis involves the exchange of fluid to and from the abdomen on several occasions each day either manually or with the assistance of a machine. Peritoneal dialysis is usually performed at home but training in technique and problem solving may occur at the satellite dialysis centre or in a hospital.

Purpose

503272	620 .2.00	This guideline has been developed for the use of:

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- health service personnel involved in the planning and design of a Unit;
- architects, engineers and others who have been engaged to plan and design a Unit;
- NSW Health personnel who are assessing the appropriateness of renal dialysis unit capital projects.

The inclusion of standard requirements for all aspects of the Unit is aimed at ensuring a consistent approach to the design of efficient Units which meet all necessary statutory and regulatory requirements. The standards set included in this guideline will be seen as the benchmark. While it is accepted that standards and requirements will change over time, any non-compliance with the guidelines will need to be justified to gain approval to the proposed non-compliant components.

Introduction

503273 620 .3.00 The role of the Unit is to provide an easily accessible, safe and serviced environment in which people can undertake haemodialysis on a regular basis. The Unit must be able to provide a reliable service for regular attendees as well as people who require unusual episodes of care because they are visiting the area or require dialysis while recovering from another illness.

The Unit will also provide treatment to people with infectious diseases including Vancomycin Resistant E Coli (VRE) and Acinetobacter. Every aspect of the design and fit out of the Unit must pay attention to design for infection prevention and control as well as the specific accommodation of persons with infectious diseases.

Policy Framework

503274 620 .4.00 Current NSW Health policy directions advocate the provision of sufficient renal dialysis capacity to meet the current and future needs of the population.

NSW Health is in the process of developing a Statewide Plan for Renal Dialysis to guide the future implementation of renal services across NSW. This guideline may require modification after that plan has been developed and approved.

Reference should also be made to the directions of the State Renal Services Planning Group which has been established by NSW Health to provide advice to the Director General on issues relating to the planning and development of Renal Services.

The Renal Services Network, which is comprised of renal clinicians (medical, nursing and allied health), consumers and NSW Health representatives will also act as an advisory resource to renal services across NSW.

Description of the Unit

503275 620 .5.00 Most units will treat adults only with some specific units designated to treat children. The functions of the Unit are to:

- receive and provide dialysis services to people who have been referred from the community or a hospital inpatient unit;
- provide training for people, family members and/or relevant others in procedures related to haemodialysis and/or peritoneal dialysis (optional);
- act as a resource to the community, other staff and agencies with regards to the requirements of renal health services.

Operational Models

- 503276 620 .6.00 The following issues should be considered in developing the operational model for the Unit, as they will impact on appropriate space provision.
- 503277 620 .7.00 **ROLE DELINEATION OF THE ASSOCIATED HOSPITAL**
- Although the basic nature of the services is the same, there are different requirements for services providing a large tertiary service and those that may provide a satellite service. The role delineation of the associated hospital will influence the level of service provided as will the support systems able to be provided by the associated renal network to which the service belongs.
- 503278 620 .8.00 **METROPOLITAN VS. RURAL LOCATION**
- Whether the service is located in a metropolitan or a rural location will have an effect on factors such as flexibility of the service, security issues, sharing of staff and other resources and the types of patients accepted for treatment.
- The demand for renal services will also influence the size of the unit as will the availability of appropriately qualified clinicians and access to support medical services.
- 503279 620 .9.00 **HOSPITAL-BASED OR SATELLITE UNIT**
- A distinction has been made in this document between a Unit located within a hospital and a 'satellite' or 'stand-alone' Unit which may or may not be located on a hospital site. This distinction has been made for the purposes of determining the extent of support services required e.g. laundry and waste collection, meal delivery, security requirements etc. Operationally this distinction does not infer that 'satellite' Units manage persons of a lesser equity.
- 503280 620 .10.00 **ACADEMIC AND TEACHING ROLES**
- This factor will influence the requirements for meeting rooms, office space and general administrative space.
- 503281 620 .11.00 **STAFF STRUCTURE**
- The staff structure of the Unit will have an impact on the nature, size and location of the Staff Station, office and administrative spaces, staff facilities such as staff rooms, toilets and property bays.
- The staffing structure of the proposed Unit, including academic staff, should be developed prior to planning any new Unit.
- 503282 620 .12.00 **NATURE OF PATIENT ACUITY AND COMPLEXITY**
- A clear understanding of the nature of the patient population to be served should be clearly articulated prior to planning a new unit. Factors that need to be taken into account are:

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- the age mix of the patient group;
- severity of the illness of the proposed patient group (acuity);
- any comorbidity that may be expected in the patient group;
- the rate of infectious diseases to be expected in the patient group.

Operational Policies

503283 620 .13.00 Operational Policies have a major impact on facility requirements and the capital and recurrent costs of the Unit. These policies should be clearly articulated prior to the commencement of capital planning so that the facility design can reinforce the new practices proposed for the service.

While it is not possible to anticipate the full range of operational policies required for all new units, the following are offered as a guide for review and adaptation when a new service is proposed or an existing service is to be redesigned.

503284 620 .14.00 ACCESS - EXTERNAL

The Unit should be easily accessible to the public. A majority of persons requiring regular treatment will arrive at the Unit by vehicle. Easy and convenient access should be provided either horizontally or vertically (lifts, escalators).

Designated parking and covered drop-off areas for persons close to the entry point must also be considered.

Ambulance services may drop off and collect persons in a routine or urgent manner. Adequate covered space and parking needs to be designated for this purpose.

There should be easy access for regular and large amounts of disposable products and supplies to be delivered on pallets to the Unit's main store room by a mechanized pallet lifter.

It should be easy and discreet to deliver food, laundry and other supplies to the Unit and take away general and contaminated waste as well as dirty laundry several times per day without disrupting the operations of the unit.

503285 620 .15.00 ACCESS - INTERNAL

The Unit (if on a hospital site) should be located for easy access to other relevant hospital departments such as inpatient units and clinical support services.

Within the unit, functional relationships should enable the easy execution of all tasks in a safe environment. This includes the provision of two egress points from each consultation/treatment room as stated in other sections of this document.

503286 620 .16.00 ADAPTABILITY AND FLEXIBILITY

While the functions of many of the core spaces within the Unit are set, there should be a high degree of flexibility to alter the function of support areas to meet changing demands. For example, storage areas may become office spaces and vice versa. Consult rooms may be used for training, meeting and interview spaces.

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503287 620 .17.00 AMENITIES - PATIENTS

A full range of necessary amenities should be located within the Unit or in close proximity for the convenience of people receiving treatment.

These should include:

- toilet;
- shower;
- telephone;
- audiovisual entertainment;
- access to food and beverages.

503288 620 .18.00 AMENITIES - STAFF

A range of amenities and services are required by staff so that they can perform their duties at an optimal level. These may be provided within the Unit or may be shared with another area adjacent to the Unit:

- toilet;
- food and beverage preparation area;
- property bay in a secure environment;
- meeting room;
- recording space;
- computer, facsimile and printer access;
- internet/intranet access.

503289 620 .19.00 AMENITIES - VISITORS

People receiving haemodialysis often require the support of family and friends to bring them to, and take them home from, their treatments and to provide them with ongoing support and assistance. Family and friends will need to be provided with amenities including:

- toilet;
- beverage preparation area;
- consultation room access;
- comfortable waiting areas.

503290 620 .20.00 CALL SYSTEM

The following call systems are required in the Unit:

- patient call system back to staff station if all persons are not able to be in full view of staff at all times;
- call buttons in toilets, showers and other areas where patients may need to call for assistance;
- emergency call at the staff station (if the Unit is part of a campus such as a hospital) to a designated responder trained to provide a prompt and appropriate response;
- duress alarm at the staff station to a designated responder trained to provide a prompt and appropriate response.

503291 620 .21.00 CATERING SERVICES/FOOD SAFETY

It is usual to provide a light meal to people receiving treatment and have beverages available. Food will be prepared elsewhere and delivered to the Unit for consumption in accordance with current catering standards.

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An area is to be provided for relatives and friends to prepare light meals and beverages for persons receiving treatment (beverage bay).

Food supply and preparation must meet the requirements of the Food Safety Standards as defined in the Food Production (Safety) Act.

503292 620 .22.00 CLEANING REQUIREMENTS

The Unit requires a high standard of cleanliness to guard against infection:

- high levels of cleaning are conducted in the Unit including daily thorough cleaning of the Unit and 'terminal' cleaning of isolation rooms at least twice per day;
- all surfaces should be easy to clean and be absent from seams and creases which may harbour bacteria;
- vinyl that requires a warm water wash and does not require daily polishing should be included in all treatment areas;
- skirting should be coved to prevent dirt congregating in corners;
- washable paint should be applied to all walls, ceilings and other unsealed surfaces;
- the Unit must be air conditioned and the system must be serviced regularly and filters cleaned or replaced in accordance with the manufacturer's requirements;
- air agitation devices such as vacuum cleaners and air hand dryers should be omitted or used sparingly to prevent the production of air borne particles;
- windows and other glass should be kept clean;
- toilet and shower areas should be lined with vinyl with coving up walls in a seamless manner to enable easy and thorough cleaning.
- kitchen areas should be kept clean including appliances such as microwaves and refrigerators;
- cleaner's paper supplies are to be kept separate from cleaner's wet equipment in separate spaces to prevent contamination.

503293 620 .23.00 DECEASED PERSON MANAGEMENT

Any person becoming deceased in the Unit will be moved to an enclosed space (e.g. consult room, isolation room) until transferred discreetly to the mortuary, a hospital or collected by an undertaker.

503294 620 .24.00 ENERGY EFFICIENCY

The design of the Unit and the engineering systems included to meet service needs must take into consideration the need for efficient energy use to reduce consumption and minimise operating costs.

The Premiers' Memorandum 2003 - 2 High Environmental Performance for Buildings, requires that government agencies incorporate the requirements of the Environmental Performance Guide for Buildings in any asset strategies (including capital planning). This performance guide can be found at <http://asset.gov.com.au/environmentguide/> and should be completed for all new building designs.

503295 620 .25.00 INFECTION CONTROL (ALSO REFER TO CLEANING REQUIREMENTS)

Infection prevention and control involves identification of transmissible agents and intervention to minimise the spread of these infections. The design of all aspects of the Unit should take into account the need to ensure a high level of infection control in all aspects of practice.

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Key factors that should be taken into consideration are:

- All surfaces and fixtures are to be designed to enable easy and thorough cleaning on a regular and repeated basis.
- The design should support high levels of handwashing by staff and other persons by the convenient and adequate placement of suitable hand wash basins at a rate of one per three (3) treatment bays as well as in all separate treatment areas, utility areas, toilets and showers.
- Alcohol hand-rub dispensers should be at the entrance of each treatment room and within each treatment bay for easy access by staff.
- Class S isolation rooms should be provided at the rate of one isolation room to every five (5) treatment bays (in hospital-based and Satellite Units) giving a cluster of six (6) treatment spaces. A Class S room is a single room with a shower/toilet en suite that is not shared. There is no special requirement for the air-conditioning system but a hand basin and a self-closing door is recommended. A Personal Protective Equipment (PPE) Bay should be provided immediately outside the room to hold gloves, goggles, face shield masks, gowns and a waterless alcohol-based hand rub dispenser. A PPE Bay can be shared between two isolation rooms.
- Air-conditioning rather than natural ventilation should be provided to the Unit. All air-conditioning filters for the systems that service the Unit should be changed/cleaned at a rate consistent with the manufacturer's requirements.
- Floors. Coverings must be easy to clean and resistant to disinfection procedures. All treatment areas should not be carpeted. Floors in food preparation areas should be water resistant and greaseproof. No joins or seams that are pervious to moisture should be included.
- Skirting. Wall bases in treatment areas, kitchens, clean and dirty utility rooms and toilets should be made integral to the floor, tightly sealed against the wall and constructed without voids. Skirting in showers should extend all the way up the wall to protect all potentially wet areas from infiltration.
- Walls. Wall finishes must be scrubbable and should be smooth and water-resistant especially in the immediate vicinity of plumbing fixtures.
- Ceilings. All exposed ceilings and ceiling structures must be easy to clean. All areas where dust fallout would present a potential problem must have finished ceilings that cover all conduits, piping, duct work and open construction systems.
- Window furnishings. Washable blinds are preferable to curtains as they retain less dust and are easier to clean.

Further reference should be made to:

NSW Health, Infection Control Policy - Circular 2002/45.

NSW Health, Part D - Infection Prevention and Control, Health Facility Guidelines, 2004.

Standards Australia HB 260 - 2003.

NSW Health, Technical Series 11 - Engineering Services Guidelines, 2003.

503296 620 .26.00 INFORMATION TECHNOLOGY

The following systems should be provided in the Unit:

- telephone, facsimile and computer access;
- intranet and internet access;

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- access to all ordering and recording systems currently utilised by the Area Health Service to supply and collect data;
- teleconferencing and videoconferencing amenities may be useful to either access information or provide information;
- Closed Circuit Television (CCTV) may be required to ensure staff can oversee entry and egress points;
- a decision about the need for other Telehealth technology (such as access to digital radiology or pathology systems) should be made early in the planning process in consultation with the AHS and NSW Health.

503297 620 .27.00 LAUNDRY MANAGEMENT

Suitable areas are to be provided for storing clean laundry in an orderly and easily accessible manner.

A holding area for bagged used laundry is to be provided for safe storage prior to collection. Ideally this holding area should be located on the external perimeter of the Unit so that the collector does not need to enter the Unit.

503298 620 .28.00 MAINTENANCE

The Unit must have a fully developed and documented Asset Maintenance Plan in place to ensure that replacements and upkeep are undertaken on a preventative basis for all equipment and engineering systems. Where the Unit is a part of a larger hospital this plan should be part of the campus-wide strategy.

503299 620 .29.00 MEDICAL RECORDS MANAGEMENT

Medical records for all persons receiving treatment in the Unit are to be kept in a central location that can be appropriately secured.

Where the Unit is part of a hospital the records should be integrated with other medical records for each patient as part of an integrated medical record system.

Once a person is no longer receiving treatment in the Unit the medical records should be returned to the central records management department.

Where an electronic medical records management system is in operation, the Unit's information management system should be designed to participate in this system.

503300 620 .30.00 MEDICATIONS MANAGEMENT

All medications will be held in the locked Pharmacy Store in the Clean Utility Room. Scheduled drugs will be stored in the Pharmacy Store in accordance with the requirements of the Poisons Regulations.

503301 620 .31.00 OPERATING HOURS

Units commonly operate between 7am and 9 pm, per day, allowing two sessions per machine per day.

Units will operate a varying number of days per week from three (3) days in a small rural Unit to six (6) days in a large tertiary Unit depending on demand.

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There will be a wide range of variations to these operating hours depending on the needs of the patient group, staff availability and the demand that needs to be addressed.

503302 620 .32.00 RESUSCITATION

All areas of the Unit accessed by patients must enable the delivery of resuscitation in an appropriate manner. This requires:

- central location (adjacent to the centralised Staff Station) for the Resuscitation Trolley;
- adequate space in each treatment space/room for resuscitation procedures to be performed;
- oxygen and suction sources either piped to each space and room or from mobile units;
- emergency call system to gain a prompt response from extra support resources, as required.

503303 620 .33.00 SAFETY

All aspects of the Unit must ensure the required standards of personal safety for people visiting the Unit and staff. Issues that need to be considered include:

- application of Occupational Health and Safety standards to all components of the Unit;
- sufficient space to enable the required activities to be undertaken in a safe manner;
- recognition of the fact that people using the services may have varying degrees of physical and sensory disability that require consideration during their stay;
- the Unit must be fully accessible for persons in wheelchairs or being moved around the Unit on a patient trolley or patient bed;
- wherever possible, especially in newly designed units, palette lifters will be used to deliver supplies to the Storeroom and this must be achieved in a safe and unobstructed manner;
- fittings and fixtures must be robust and of safe design to prevent injury;
- large pieces of equipment (e.g. haemodialysis units) and furniture (e.g. patient chairs) must be selected for their ease of movement by staff as well as their appropriate design features;
- chemicals and concentrates utilised within the Unit will be handled as per their 'Material Safety Data Sheets'.

Reference should be made to the following policy documents:

NSW Health, Health Facility Guidelines - Safety and Security (PD 2005-293), Working Draft, January 2005.

NSW Health, Protecting People/Property: NSW Health Policy/Guidelines for Security Risk Management in Health Facilities (PD2005_339), January 2005.

503304 620 .34.00 SECURITY

A secure environment needs to be provided which complies with the requirements of the NSW Health Safety and Security Standards Manual.

Key features that need to be included are:

- unit design must facilitate good sight lines for staff to all key areas of the

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Unit;

- controlled access through the clustering of functional spaces or grouping of spaces, as required;
- minimise entry and exit doors and ensure staff areas are optimally placed to oversee entry/exit points;
- provide staff with duress and emergency call capabilities and procedures especially after hours;
- procedures must be in place for management of persons who are aggressive or a threat to patients and staff;
- patient files must be kept in a secure environment that prevents access by unauthorised persons;
- non-removable 'Asset No.' on all equipment above a predetermined value;
- dangerous drug safe in the Clean Utility Room;
- provision of lockers for staff personal effects in a secure environment;
- Closed Circuit Television (CCTV) may be required to provide an adequate view of external areas. This should be considered during the detailed design phase of planning.

503305 620 .35.00 STORAGE

Large quantities of liquid substances, disposable equipment and other supplies are delivered on pallets to the Unit on a regular basis. This activity requires the following:

- provision of an adequately sized main storeroom with sufficient aisle width to enable access by a pallet lifter. A roller door access may be required to provide adequate width to the entry into this space;
- areas designated as wet and dry need to be provided to prevent the contamination of dry sterile stores and meet the requirements of AS/NZS 4187:2003;
- location of the main storeroom on the external perimeter of the Unit with a roller door to facilitate pallet lifter access;
- easy access from a loading dock to the main storeroom;
- heavy duty shelving to hold the large quantities of supplies in an orderly manner;
- additional dispersed storage to enable the Unit to be kept clear of collision obstacles;
- the stability of liquid concentrates (especially those which are glucose-based) is dependent on air temperature. Consideration should be given to the need for air-conditioning in some storage areas if the temperature cannot be maintained within required limits. Reference should be made to the storage requirements of stored items to determine the need for this requirement.

503306 620 .36.00 WASTE MANAGEMENT

Substantial quantities of waste (both general and contaminated) are generated by the Unit. Waste management practices must include:

- application of Universal Precaution Standards in the management of waste;
- provision of suitable receptacles for all waste categories that are convenient to use, service and move;
- provision of adequate storage areas to hold waste (general, contaminated, sharps etc) in an appropriate manner while awaiting collection;
- provision of a disposal room on the external perimeter of the Unit to enable collection of used laundry and waste without intruding into the Unit.

Functional Areas

503307 620 .37.00 The Unit includes clusters of spaces for the following:

- Reception / Waiting;

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- Treatment;
- Staff areas;
- Support areas.

There are various ways in which these components of the service can be configured to ensure efficient and thoughtful management practices that make each day easier for people receiving treatment, their relevant others and staff.

503308 620 .38.00 KEY INTERNAL RELATIONSHIPS

- Staff Station requires an unobtrusive view of all patient treatment areas;
- Reception requires a clear view of entry and exit/egress points of the Unit;
- easy access from the Waiting Area to the Patient Treatment Area for the convenient arrival and departure of patients.

A Functional Relationship Diagram which displays the above associations is included in the Appendices.

503309 620 .39.00 KEY EXTERNAL RELATIONSHIPS

- easy access to the Unit where a high percentage of people will arrive by car on a daily basis. This should include convenient, designated parking spaces close to the entry point with direct horizontal or vertical travel to the Unit;
- easy access to the Unit's Main Storeroom from the loading dock for the regular delivery of stores on a palette lifter.

503310 620 .40.00 SIGNAGE / PATHFINDING

- access to the Unit should be identified from all site access points with clear directions to parking areas and building entry;
- if the Unit is not directly accessible from external areas, clear signage must provide direction to the Unit.

Functional Relationships

503311 620 .41.00 The satellite Unit must be self-sufficient with easy access for walking persons and those arriving by vehicle for treatment. There must be easy access for the delivery of food, clean laundry, equipment, supplies and files and the removal of waste and dirty laundry.

503312 620 .42.00 The hospital-based Unit will ideally require the following:

- Pathology. Easy access for staff to attend the Unit to collect specimens. Inclusion in the pathology results management system to access results in a timely manner.
- Medical Imaging. Easy access to the Medical Imaging Department to allow portable equipment to be brought to the Unit and for persons to travel to the Unit for procedures.
- Medical Records. If a hard copy system is in use, there should be easy access to the Medical Records Unit for the retrieval of files and the return of files after treatment is completed. If an electronic system is in use, the Unit must have the necessary workstations to permit staff the required level of access to patient files.

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- Inpatient Units. The Unit should be closely related to any inpatient unit which refers or accepts patients from the Unit.
- Pharmacy. Easy access for staff to retrieve supplies and for Pharmacy staff to provide inventory and counseling services to the Unit.
- Mortuary. Easy and discreet access to the mortuary for the delivery of persons who may become deceased in the Unit.
- Security. The hospital-based Unit should enjoy the same level of scrutiny from Security Services as all other sections of the hospital to maintain a high level of security integrity. For satellite Units, a standard of security should be in place commensurate with the requirements of the Unit and any untoward factors that may compromise security such as extended operating hours, location on a busy road etc.

DESIGN

General

- 503313 620 .43.00 Reference should be made to NSW Health, Health Facility Guidelines, Part C - Design for Access, Mobility, OHS and Security, 2004, for detailed information on the design features of the Unit.
- 503314 620 .44.00 The following categories are covered in Part C which is of relevance to the Unit:
- corridor widths;
 - ceiling heights;
 - ceiling reinforcement for fitted patient lifters;
 - door types;
 - door widths;
 - door swing;
 - doors in the path of fire egress;
 - doors - security;
 - door openings;
 - door handles;
 - door grilles and undercuts;
 - hold-open devices;
 - locks;
 - self closers;
 - observation glass;
 - handwashing facilities;
 - window types;
 - window sizes;
 - window cleaning;
 - window security;
 - fixtures and fittings with regards to ergonomics, human engineering, safety, security and infection control;
 - ceiling, floor, surface and wall finishes and protection;
 - acoustics.
- 503315 620 .45.00 SAFER BY DESIGN
- Many satellite units are not part of an integrated building and are therefore more susceptible to security breaches. The Design Team should be mindful of this in planning the Unit in a way that promotes a secure environment.
- The Safer by Design Program, promoted by the NSW Police Department, is based upon the principles and practice of Crime Prevention through Environmental Design (CPTED). It is a co-operative initiative involving the NSW Police, local Councils, government departments and key private sector

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organisations. The aim of the program is to ensure police officers and council planners trained in Crime Prevention through Environmental Design (CPTED) assess and minimise crime risk in development applications and plans.

CPTED is a situational crime prevention strategy that focuses on the design, planning and structure of cities and neighbourhoods. It aims to reduce opportunities for crime by employing design and place management principles that minimise the likelihood of essential crime ingredients from intersecting in time and space.

CPTED is primarily accomplished through the work of architects, engineers, builders and landscape gardeners and those who develop purchasing procedures. The four principles of CPTED are:

- territorial reinforcement to stimulate community ownership and policing;
- surveillance through supervision of those who overlook or pass the site;
- access control through physical and symbolic barriers as well as monitoring procedures;
- space management to ensure space is well used and maintained.

Environmental Considerations

503316 620 .46.00 ACOUSTIC

Many functions undertaken in the Unit require consideration of acoustic privacy including:

- discussions/interviews with people and families;
- isolation of noisy areas such as waiting rooms from Treatment Areas;
- staff discussions regarding confidential matters.

Solutions to be considered include:

- selection of sound absorbing materials and finishes;
- use of sound isolating construction;
- planning to separate quiet areas from noisy areas;
- changes to operational management. This may include separate areas for patients with special needs.

503317 620 .47.00 NATURAL LIGHT AND VIEWS

Natural light contributes to a sense of wellbeing, assists orientation to building locations and improves service outcomes. The use of natural light should be maximised throughout the Unit.

Natural light and a view to pleasant and interesting outdoor areas is of particular importance for people who spend long periods of time sitting in dialysis chairs. Every effort should be made to provide a view to all treatment areas either by locating treatment bays adjacent to a window or enabling unobstructed sight lines through areas to an outdoor view.

503318 620 .48.00 PRIVACY

Confidentiality for persons receiving treatment is a highly important consideration to be addressed. The Unit should be designed to:

- ensure confidentiality of personal discussions and medical records;
- provide an adequate number of rooms for discreet discussions and treatments to occur whenever required;
- enable sufficient space within each treatment space to permit curtains to be easily drawn whenever required;

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- appropriately locate windows and doors to ensure privacy.

503319 620 .49.00 DECOR

This includes style of design, furnishings, colour, textures, ambience, perceptions and taste. The décor of the Unit should be of a standard that meets the expectations of people using the services and make every effort to reduce an institutional atmosphere. This is very difficult with the high degree of equipment, services and infection control conditions that are required to deliver the service.

Suggestions to achieve this balance include:

- use of design features such as colours and artworks to distract the sight from clinical areas;
- inclusion of soft furnishings that act as a design feature such as screening, lounges in waiting areas and window treatments;
- elimination of corridors through good design wherever possible;
- inclusion of corridors at the minimum required widths to meet the service need. Wide corridors are a feature that potentiates institutional environments;
- provision of a beverage bay for people to use while waiting;
- background music through a piped system or a centralised unit;
- television systems with head set access.

Building Service Requirements

503320 620 .50.00 CLOCKS

A wall clock should be located in the Reception/Waiting and Treatment Areas in clear view.

503321 620 .51.00 COMMUNICATIONS

The following communications systems will be included in the Unit:

- telephone (fixed and cordless for use by persons on dialysis);
- paging system for staff if part of the campus-wide communications system;
- computer with internet and intranet access;
- Document Centre including facsimile;
- physical transfer systems such as pneumatic tubes and automated trolley systems for hospital-based Units if part of the campus-wide communications system;
- teleconferencing capability in the meeting room;
- videoconferencing capability if there is an identified need as part of the Area-wide strategy or network;
- some other Telemedicine modalities may also be required especially in remote and rural sites. This will be in accordance with NSW Health and Area-wide policies regarding access and service networks. The need for these modalities and how they are expected to operate should be confirmed prior to the commencement of capital planning;
- patient/nurse call system if all persons receiving treatment cannot be visualised at all times;
- emergency and duress systems capability in line with Area-wide policies to ensure patient and staff safety;
- Early Warning Information System (EWIS) for evacuation warnings and public address alerts;
- workspaces, bench design and suspension devices must permit the appropriate accommodation of computer terminals, keyboards, drivers and printers. The centralisation of printers, scanners, facsimile machine and photocopier should facilitate shared use;
- Closed Circuit Television should be considered where the functional design

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of the Unit does not permit staff to oversee all necessary entry and egress points.

503322 620 .52.00 ELECTRICAL SERVICES

Refer to TS 11: Engineering and Sustainable Design, NSW Health, 2003 and Room Data Layout Sheets included in this guideline for details of electrical needs for this Unit.

503323 620 .53.00 WATER TREATMENT SERVICES

A Key component of the Renal Dialysis Unit is the need to treat the water that will be used in the haemodialysis process to remove any contaminants. Different commercial water treatment systems may undertake the water treatment activities in slightly different ways but in general the main phases of water treatment occur in the following sequence:

Phase 1 - Particle filtration to 20 microns.

Phase 2 - Water softening to remove calcium and magnesium carbonate.

Phase 3 - Carbon filtration to remove chlorine. Chlorine is taken out as late as possible in the process so that its disinfection properties are utilised.

Phase 4 - Particle filtration to 5 and 1 micron.

Phase 5 - Reverse Osmosis Process.

Reverse osmosis (RO) is a process where water is demineralised using a semipermeable membrane to encourage mineral salts to pass out of the water to be used in dialysis. Industrial RO uses spiral wound membranes mounted in high pressure containers to activate this process.

The aim of all the above processes is to improve the purity of the water to be used by removal of particulates, salts and bacteria before it comes into contact with the person receiving haemodialysis.

Booster pumps may also be required to ensure a certain speed of water (at least 10 metres/second) and a certain pressure of water (varies dependent on the concentration of the salt solution on the reject side of the membrane) to enable these processes and to limit the ability of tubing contamination by bacteria and moulds. These contamination processes are also reduced by the application of heat (85-90°C), eliminating any right angle bends, ensuring the internal surfaces of tubing have a high level of smoothness and by keeping tubing runs as short as possible.

The Plant Room for water treatment is ideally located as part of the Renal Dialysis Unit to keep tubing runs short and to make it easy for staff to monitor and service the water treatment systems.

The Design Team should gain expert input from the agency that will provide these services early in the Design Process to ensure that all requirements are identified as early as possible in the planning process.

503324 620 .54.00 DRAINAGE SYSTEM

Services that facilitate the drainage of fluids from the haemodialysis machines must be ventilated to prevent condensation and the subsequent growth of mould. This fact should be kept in mind when designing covers or screens for the drainage systems. Commercial models which comply with the relevant Australian Standards are available.

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503325 620 .55.00 DURESS ALARMS

Should be in accordance with NSW Health Policy - refer to Health Facility Guidelines, Part C - Design for Access, Mobility, OHS and Security, 2004.

503326 620 .56.00 EMERGENCY & STAFF CALL

All treatment spaces, clinical areas, bathrooms and toilets should have access to emergency and staff call systems for patients and staff to summon the appropriate level of assistance. The Nurse Call/Emergency Call system is to comply with AS3811.

503327 620 .57.00 LIGHTING

The lighting design needs to provide for both comfort and function and should be inherently flexible. There are different considerations for different areas within the Unit.

It should be possible to vary lighting conditions between individual treatment bays and rooms.

Refer to the Room Data Sheets for the detailed lighting requirements of each specific space.

503328 620 .58.00 MEDICAL GASES

Patient treatment spaces and treatment rooms require access to oxygen and suction. Refer to the Room Data Sheets for the detailed requirements of each space.

COMPONENTS OF THE UNIT

General

503329 620 .59.00 As previously advised the key components or clusters of a Unit are:

- Reception / Waiting;
- Treatment;
- Staff areas;
- Support areas.

Within each of these clusters there will be variable additions to meet the special needs of each service depending on the outcomes of the needs analysis and the approved Service Plan, both of which should be completed before commencing capital planning of the Unit.

This section should be read with reference to the following sections of this Guideline:

- Functional Relationships Diagram;
- Schedules of Accommodation;
- Room Data Sheets.

Standard Components

503330 620 .60.00 The standard components in the Unit must comply with Health Facility

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Guidelines, NSW Health and other policy documents including the Office Accommodation Policy for Public Health Organisations and Ambulance Services, April 2005. Reference should be made to those documents for details of all standard components.

The reference documents used in developing this guideline are listed in the specific sections to which they relate for convenience and at the end of the guideline in alphabetical order.

Non-Standard Components

503331 620 .61.00 MAIN ENTRY/WAITING AREA

This area must be inviting, have comfortable domestic furniture and a beverage pantry for the use of people waiting. The entry doors should be observable from the Reception Area.

Benchmarks Used to Determine Space:

- 1m² per person;
- Two persons per treatment space.

503332 620 .62.00 TRAINING ROOM - OPTIONAL

Units must be able to support people who are using all forms of dialysis. Likely future requirements for services such as Peritoneal Dialysis training and Home Haemodialysis training for people and their family and/or carers should be considered. For larger units where significant numbers of people will require training and support in the Unit on a regular basis that cannot be undertaken in a spare treatment space or room, the inclusion of Training Room should be considered. This space could also be used for minor procedures such as the insertion of catheters.

503333 620 .63.00 TREATMENT AREA

This area should be designed with treatment bays adjacent to each other in sight of a Staff Station. Each Treatment Bay is sized to take a chair or a bed. Optimally an external view should be provided for all persons participating in haemodialysis either through being adjacent to a window or by keeping sight lines to further windows clear of obstruction. This may require the slanting of chairs or beds away from the traditional vertical alignment. Instead of the foot of the chair or bed pointing at a perpendicular angle to the staff station, this could be amended to 225 degrees to facilitate the view.

For larger units several clusters of treatment bays may be designed around smaller sub staff stations for better management. It should be kept in mind that the usual management practice is for one nurse to manage four (4) persons undergoing haemodialysis at any one time. It is estimated that up to 12 treatment bays can be served by a staff station of 10m².

503334 620 .64.00 ISOLATION ROOM

Reference should be made to the following documents for further information:

Infection Control Policy - Circular 2002/45, NSW Health, 2002.

HB260 - 2003. Handbook: Hospital acquired infection - Engineering down the risk, Standards Australia, 2003.

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Health Facility Guidelines, Part D - Infection Prevention and Control, NSW Health, 2004.

AS/NZS 4187:2003 Australian/New Zealand Standard™ Cleaning, disinfection and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities.

The increasing prevalence of infections such as Vancomycin Resistant E Coli (VRE) and others requires the inclusion of isolation rooms to separate infected persons during treatment. Advice on the rates of infection demonstrates that persons with a less acuity who will attend satellite renal haemodialysis units have lower rates of infection than those persons of a higher acuity who will attend a hospital-based unit. Due to this fact the ratio of isolation rooms to open treatment bays has been set as follows:

- Satellite Unit. One isolation room to each five (5) treatment bays (giving a total of six (6) treatment spaces in the cluster);
- Hospital-Based Unit. One isolation room to every five (5) treatment bays (giving a total of six (6) treatment spaces in the cluster).

Class S Isolation Rooms (standard) are required to meet the range of common infections currently encountered. Each isolation room must have access to a dedicated en suite. Each isolation room must contain a general staff hand basin.

Entry to the isolation rooms must be preceded by a Personal Protective Equipment (PPE) Bay. One PPE bay can be shared between two isolation rooms.

No special air-conditioning requirements are associated with Class S Isolation rooms. Self-closing doors are preferred.

Isolation rooms should be located close to open treatment bays.

503335 620 .65.00 EQUIPMENT CLEANING AREA

This room is required for the cleaning and routine maintenance of haemodialysis machines and other equipment.

It must include:

- cupboards for holding commonly used supplies and parts;
- sink with a drainer;
- general staff hand basin.

503336 620 .66.00 WATER TREATMENT PLANT ROOM

This room must be located with easy access to the external perimeter of the Unit while being adjacent to the Treatment Area and requires the following specific attributes:

- space for water treatment components which may include booster pumps (usually two which alternate), particle filters (approximately two), water softener, carbon filter and reverse osmosis system as well as products to keep these units operational;
- there must be workable space around all sides of the units (at least 0.5 metres) to enable routine calibration, servicing and maintenance to be conducted in a safe and easy manner;
- sufficient space to have soft curving of tubing to prevent right angle bends;
- adequate ventilation, air-conditioning and/or exhausting to remove the heat load generated by the equipment;
- noise attenuation is important to prevent any sound disturbance to

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treatment and other areas.

503337 620 .67.00 MAIN STORE ROOM

A space designed hold general stores, fluids and equipment.

This space must be placed on the perimeter of the Unit and have an external door of at least two (2) metres in width to allow access by a palette lifter.

There must be easy access from the loading dock to the Main Store Room either through horizontal or vertical travel.

Shelves must be heavy duty to hold 100 kg in weight and be spaced at 400 mm. Adjustable shelves are preferred.

APPENDICES

Schedule of Accommodation

503338 620 .68.00 The following schedules of accommodation (spaces) demonstrate the range of functional areas required for Units of 6, 12, 18, 24 and 30 treatment spaces. This table assumes that units under 18 spaces are satellite units and that units of 18 spaces and over are hospital-based. In each box the first number denoted the number of spaces and the second number the square metres of each individual space. For example "2 x 12" implies 2 spaces of 12 square metres each (a total of 24 square metres).

MAIN ENTRY/RECEPTION CLUSTER

Note 1: Training/Treatment room
OPTIONAL. Where there is a developed program of training for Home based dialysis as approved in the Service Plan a dedicated space is to be provided. This space could also be used for related procedures such as the insertion of catheters etc.

ROOM/SPACE	Standard Component	6 chairs*	12 chairs*	18 chairs	24 chairs*	30 chairs*	Remarks
MAIN ENTRY/RECEPTION CLUSTER							
MAIN ENTRY/WAITING AREA	yes	1 x 12	1 x 24	1 x 36	1 x 48	1 x 60	Public phone may be located here. Small beverage bay to be located here.
RECEPTION/CLERICAL	yes	1 x 6	1 x 8	1 x 10	1 x 12	1 x 14	
STORE/DOCUMENT PRODUCTION AREA	yes	1 x 6	1 x 8	1 x 10	1 x 12	1 x 15	Adjacent to the reception/clerical area to hold printers, facsimile, printer functions as well as
OFFICE - NURSE UNIT MANAGER	yes	1 x 9	1 x 9	1 x 9	1 x 9	1 x 9	
MEETING ROOM	yes	1 x 12	1 x 24	1 x 30	1 x 40	1 x 45	For staff meetings, community training and other functions. Should be fitted with teleconferencing
CONSULTATION/INTERVIEW ROOM	yes	1 x 12	1 x 12	2 x 12	2 x 12	3 x 12	
TRAINING/TREATMENT ROOM	yes	1 x 14	1 x 14	1 x 14	1 x 14	1 x 14	See note 1.
TOILET - PUBLIC	yes	No	1 x 3	2 x 3	2 x 3	2 x 3	Directly access from the waiting room. Door location should not permit a view into the toilet
TOILET - PUBLIC (DISABLED ACCESS)	yes	1 x 5	1 x 5	1 x 5	1 x 5	1 x 5	Directly access from the waiting room. Door location should not permit a view into the toilet
DISCOUNTED CIRCULATION		30%	30%	30%	30%	30%	

503339 620 .69.00 TREATMENT CLUSTER

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Note 2 : Treatment Bays

Bay size need to be 9 square metres with a clear width of 3 metres along the back of the bay to ensure appropriate service placement, machine accommodation and curtain track placement.

Spaces of 12m² will need to be considered where more than 50% of patients are receiving dialysis in the unit in patient beds rather than chairs or trolleys. This is of particular relevance for Level 5 and Level 6 renal services located in tertiary referral hospitals.

* It is proposed that the Unit may utilise chairs or beds, or a combination of both.

TREATMENT CLUSTER							
STAFF STATION	yes	1 x 10	1 x 12	1 x 14	2x 10	2 x 12	May need to be subdivided in larger units
TREATMENT BAYS		6 x 9	12 x 9	18 x 9	24 x 9	30 x 9	See note 2
TOILET – PUBLIC (DISABLED ACCESS)	yes	1 x 5	1 x 5	2 x 5	2 x 5	2 x 5	For use by persons in open treatment bays
SHOWER - PUBLIC (DISABLED ACCESS)	yes	1 x 5	1 x 5	2 x 5	2 x 5	2 x 5	For use by persons in open treatment bays
ISOLATION ROOMS	yes	1 X 12	2X 12	3 X 12	4 X 12	5 X 12	Must be designed as a Class S (standard isolation) room.
PPE BAY	yes	1 x 2	1 x 2	2 x 2	2 x 2	3 x 2	A Personal Protective Equipment Bay (one shared between two rooms) outside the isolation
TOILET/SHOWER FOR ISOLATION ROOMS	yes	1 x 5	2 x 5	3 x 5	4 x 5	5x 5	One toilet/shower for the dedicated use of each isolation room
HANDWASHING BAYS	yes	2 x 1	4x 1	6 x 1	8 x 1	10 x 1	One handwashing basin per three (3) bays or part thereof is required.
KITCHENETTE/MEAL TROLLEY HOLDING	yes	1 x 4	1 x 4	1 x 5	1 x 6	1 x 6	To receive and issue meals and beverages to persons receiving treatment
DISCOUNTED CIRCULATION		35%	35%	35%	35%	35%	

503340 620 .70.00 STAFF AREAS

STAFF AREAS							
STAFF RESOURCE ROOM	yes	1 x 12	1 x 12	1 x 15	1 x 15	1 x 15	Discreet section of the Unit. May be shared if an easily accessible facility is available
TOILET - STAFF	yes	1 x 3	1 x 3	1 x 3	2 x 3	2x 3	Discreet location . Adjacent to Staff Resource Room if provided in the Unit .
PROPERTY BAY - STAFF	yes	1 x 2	1 x 2	1 x 2	1 x 2	1 x 2	Discreet and secure location. Adjacent to Staff Resource Rm.
DISCOUNTED CIRCULATION		25%	25%	25%	25%	25%	

503341 620 .71.00 SUPPORT AREAS

SUPPORT AREAS							
CLEAN UTILITY ROOM	yes	1 X 12	1 X 12	1 X 14	1 X 16	1 X 18	
EQUIPMENT CLEANING AREA		1 x 6	1 x8	1 x 10	1 x 12	1 x 14	For the cleaning and servicing of haemodialysis and other machinery
DIRTY UTILITY ROOM	yes	1 x 10	1 x 10	1 x 10	1 x 10	1 x 10	
WATER TREATMENT PLANT ROOM		1 x 12	1 x 15	1 x 18	1 x 20	1 x 24	Close to treatment areas to reduce piping runs.

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DISCOUNTED CIRCULATION		15%	15%	15%	15%	15%	

503342 620 .72.00 STORAGE AREAS

Note 3 : Main Store Room

To hold general stores, fluids and equipment. Must be placed on the perimeter of the Unit and accessible by a palette lifter. Shelving must have 100 kg weight capacity and shelves need to be at least 400 mm apart and adjustable. A benchmark of 1m² for each treatment bay and isolation room has been determined by assessing operational units.

Note 4 : Disposal Area

Area to hold receptacles for general and contaminated waste and dirty laundry. May be an open bay with receptacles or an enclosed room.

Note 5 : Bay - equipment holding

May be subdivided to place in convenient locations to keep wheelchairs, trolleys etc out of corridors and work areas.

Note 6 : Cleaner's Wet Store

To hold cleaning liquids, mopping, scrubbing and other equipment. Will include a cleaner's sink.

Note 7 : Cleaner's Dry Store

Cupboard to hold paper supplies and other goods that must be kept dry to eliminate potential water contamination.

Note 8 : Dialysis Fluid Bay

To hold dialysis fluid in a convenient location close to treatment bays. May be subdivided to enhance staff access. Temperature is important for some dialysate and this area may require air-conditioning.

STORAGE AREAS							
BAY - RESUSCITATION TROLLEY	yes	1 x 2	1 x 2	1 x 2	1 x 2	1 x 2	Adjacent to staff station.
MAIN STORE ROOM	yes	1 x 7	1 x 21	1 x 32	1 x 42	1 x 53	See note 3.
BAY - CLEAN LAUNDRY	yes	1 x 2	1 x 2	1 x 2	2 x 2	2 x 2	Cupboard or trolley bay to hold clean laundry
DISPOSAL AREA	yes	1 x 2	1 x 3	1 x 4	1 x 6	1 x 8	See note 4.
BAY - EQUIPMENT HOLDING	yes	1 x 2	1 x 3	1 x 4	1 x 5	1 x 6	See note 5.
CLEANER'S WET STORE	yes	1 x 5	1 x 5	1 x 5	1 x 5	1 x 5	See note 6.
CLEANER'S DRY STORE		1 x 1	1 x 1	1 x 1	1 x 1	1 x 1	See note 7.
DIALYSIS FLUID BAY		1 x 1	1 x 1	1 x 2	1 x 3	1 x 4	See note 8.
DIALYSATE PREPARATION AREA		1 x 1	1 x 1	1 x 1.5	1 x 1.5	1 x 2	Space adjacent to Dialysis Fluid Bay. May be subdivided to enhance staff access.
DISCOUNTED CIRCULATION		25%	25%	25%	25%	25%	

Functional Relationships Diagram/s

503343 620 .73.00 A diagram of key functional relationships is attached.

References and Further Reading

503344 620 .74.00

Reference has been made to the following documents to inform these guidelines. A full review of the following documents should be taken by persons embarking on the planning and design of a Renal Dialysis Unit.

AS/NZS 4187:2003 Australian/New Zealand Standard™ Cleaning, disinfection and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities.

HB260 - 2003. Handbook: Hospital acquired infection - Engineering down the risk, Standards Australia, 2003.

Health Facility Guidelines, Part D - Infection Prevention and Control, NSW Health, 2004.

NSW Health, Health Facility Guidelines - Safety and Security (PD 2005-293), Working Draft, January 2005.

NSW Health, Health Facility Guidelines, Part C - Design for Access, Mobility, OHS and Security, 2004.

NSW Health, Infection Control Policy - Circular 2002/45.

NSW Health, NSW Health Facility Guidelines, Standard Components, 2005.

NSW Health, NSW Standard Project, Room Data Sheets, 2005.

NSW Health, Part A - Introduction and Instructions for Use, NSW Health Facility Guidelines, 2004.

NSW Health, Part B - Health Facility Briefing and Planning, NSW Health Facility Guidelines, 2004.

NSW Health, Part D - Infection Prevention and Control, Health Facility Guidelines, 2004.

NSW Health, Protecting People/Property: NSW Health Policy/Guidelines for Security Risk Management in Health Facilities (PD2005_339), January 2005.

NSW Health, Technical Series 11 - Engineering Services Guidelines, 2003.

Office Accommodation Policy for Public Health Organisations and Ambulance Services, April 2005.

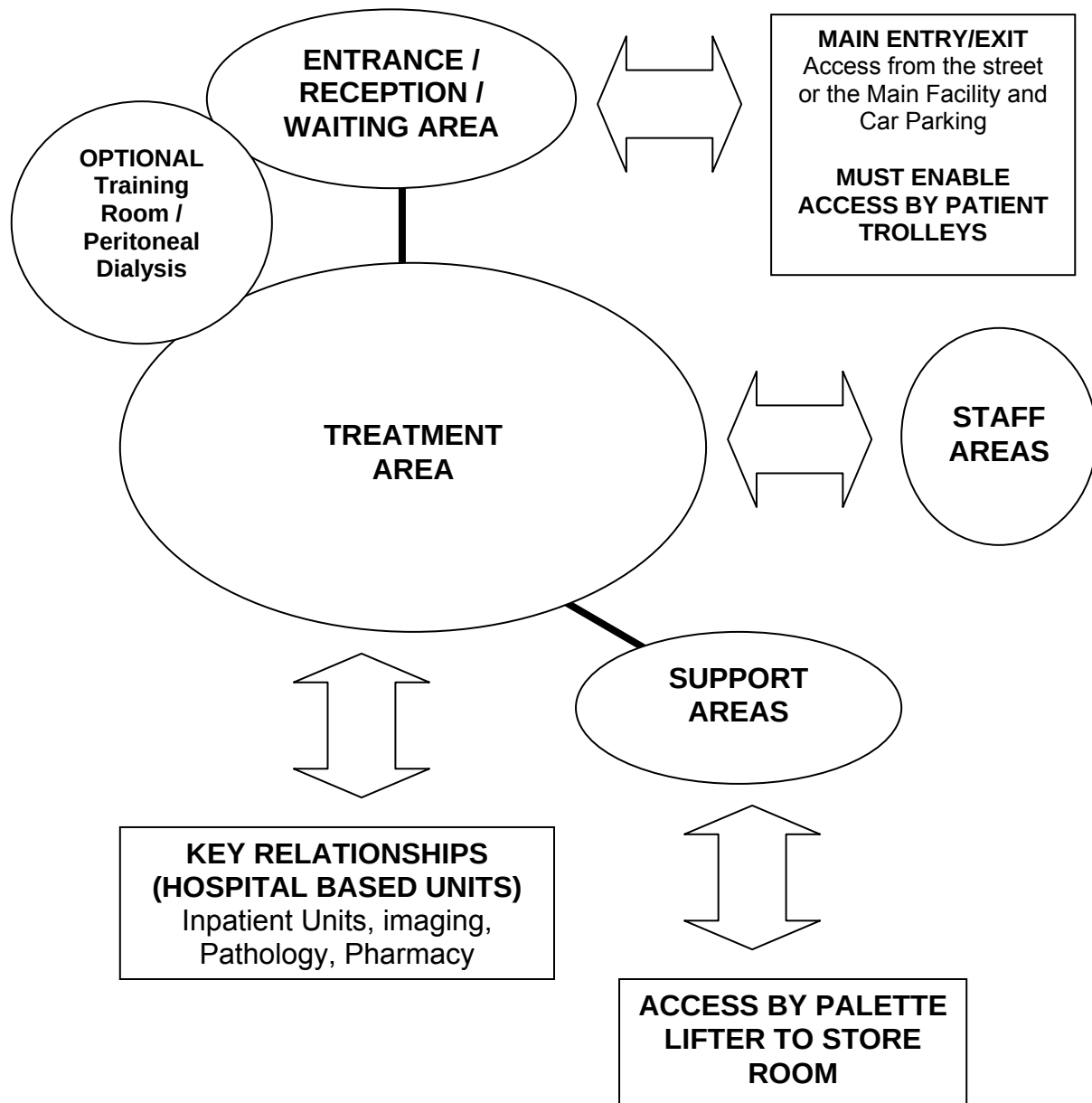
Poisons Regulations.

Standards Australia HB 260 - 2003.

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FUNCTIONAL RELATIONSHIP DIAGRAM – RENAL DIALYSIS UNIT

The following diagram sets out the relationships between zones in a Renal Dialysis Unit:



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CHECKLIST

Name of HPU: _____ (Print and complete one per HPU)

Agreed Role Delineation Level: _____

No	Item	Yes	No
1.0	Planning:		
1.1	Have all Mandatory Functional Areas of the Unit been provided?	☐	☐
1.2	Have Functional Relationships been considered?	☐	☐
2.0	Design:		
2.1	Have the required Finishes been provided (if specified)?	☐	☐
2.2	Have the required minimum Fixtures and Fittings been provided?	☐	☐
2.3	Have Infection Control Issues been addressed?	☐	☐
2.4	Have Access, Mobility & OH&S Issues been addressed?	☐	☐
2.5	Space Standards and Components: Have Minimum Room Dimensions been provided (if specified)? Have Minimum Room sizes been provided as specified? Have sufficient clearances been provided (if specified)?	☐ ☐ ☐	☐ ☐ ☐
2.6	Have Safety and Security Issues addressed: Patient Area Staff Areas Drug Storage Areas	☐ ☐ ☐	☐ ☐ ☐
2.7	Does the Design Brief comply with the nominated Standards and Codes?	☐	☐
2.8	Has the Health Planning Unit provided a Schedule of Accommodation?	☐	☐
3.0	Components of the Unit		
3.1	Have all mandatory Components been included?	☐	☐

Checked and certified by:

Name: _____ Date: _____

Company: _____

Position: _____

Signature: _____

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INTRODUCTION AND GENERAL REQUIREMENTS

Purpose

- 603701 10 .1.00 Part B covers the briefing and planning issues that result from the translation of health service delivery requirements into a brief for a physical facility. The framework of authority requirements is recognised and includes industry standards, codes and manuals that commonly apply to every project.

This section of the guidelines draws together a range of issues that guide the detailed planning of healthcare facilities, and looks in more detail at specific issues guiding the development of the detailed physical design for a facility. It begins by setting out a range of planning issues that are applicable to the physical design of any healthcare facility.

The information is presented so that it may be used as a benchmark for the designer, as information for the users involved in a project, and as a checklist for assessment of design and functionality. It is intended to support the professional skill, knowledge and judgement of an experienced designer in the development of a healthcare facility and educate those who aspire to be proficient in this complex field of endeavour.

Content

- 603702 10 .2.00 This part contains information regarding physical planning models and policies that are believed to contribute to the procurement of well-designed healthcare facilities.

It includes space standards and dimensions for commonly occurring building elements where these are not covered in the room layout sheets as standard components. Guidelines for designing facilities for people with a disability and an outline of wayfinding recommendations for healthcare facilities are provided.

Occupational Health, Safety and Welfare issues are addressed in terms of avoiding or minimising design practices that often contribute to hazardous or harmful features in the built environment.

Finally, design practices that enhance the security of people, premises and property are outlined in Section 790.

- 603703 10 .3.00 To avoid undue complexity, building regulation references are restricted to the Building Code of Australia (BCA). This approach has been adopted due to the similarity in approach and format between the BCA and the NZ Building Regulations in space standards and dimensions. Many of the cited Standards in the BCA are AS/NZS thus common to both jurisdictions or have a corresponding ISO or NZ Standard.

The requirement to comply with the relevant legislation, regulations, codes and policies for each jurisdiction is usually stated at the beginning of each section of this guideline to avoid undue repetition. This applies to any matter relating to the construction, use, operation and management of healthcare facilities where such compliance may be required.

For convenience Part C is available for download in separate Sections. These Sections are not stand alone and frequently each will cover a different aspect of one topic. Therefore Part C should be regarded as a complete document and not used without access to all Sections whether these are or are not referenced.

In many cases a concise generic term or title has been used in the text e.g. OHS. The correct terminologies and sources are acknowledged under

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references with abbreviations listed in Appendix A - Glossary and Abbreviations.

PHYSICAL PLANNING

Planning

603704 705 .1.00 Planning of healthcare facilities requires an understanding of the appropriate relationships between the various service areas as well as an understanding of site constraints, and the need for conformity with a range of codes and guidelines.

A thorough assessment of the service planning requirements for the proposed project should be made prior to commencing capital planning.

Comply with the relevant legislation, regulations, codes and policies for each jurisdiction.

603705 705 .2.00 Good planning relationships can:

- increase the efficiency of operation
- promote good practice and safe health care delivery
- reduce risk to staff and patients
- minimise recurrent costs
- improve privacy, dignity and comfort
- minimise travel distances
- support a variety of good operational policy models
- allow for growth and change over time
- maximise accessibility, safety, security, OHS and infection control
- incorporate environmentally sustainable design (ESD) principles and policy.

Planning Models

603706 705 .3.00 The design of healthcare facilities has evolved around a number of workable planning models. These can be seen as templates, prototypes or patterns for the design of new facilities. Typically each model will best suit a certain facility size and site condition.

None of these models overrides the need for compliance with Commonwealth State and Territory legislation and Departmental policy guidelines as applicable.

603707 705 .4.00 It is essential that the planning team defines a clear model of operation for the facility. This should be readily described in a simple and clear flow diagram. Planning teams are encouraged to seek planning relationships that can satisfy more than one operational model rather than satisfy limited, unusual or temporary operational policies.

603708 705 .5.00 Appropriate staff consultation should occur at all stages of the planning process as required by the relevant State and Territory legislation particularly where this covers the subject of employee's contribution in decision making that may affect their health, safety and welfare at work. For each AHIA jurisdiction see References and Further Reading.

603709 705 .6.00 Requirements for proximity to other components or for independent access to a unit will govern the planning relationships for each facility. The need for future expansion or change of function should also be reasonably anticipated in all designs.

- 603710 705 .7.00 The following general planning models and design notes are used to promote good planning, efficiency and flexibility for the design of healthcare facilities.

Planning Principles

603711 705 .8.00 FLEXIBLE DESIGN

In healthcare, operational policies change frequently. The average cycle may be as little as five years. This may be the result of management change, government policy, and turnover of key staff or change in the market place. By contrast, major healthcare facilities are typically designed for 30 years, but may remain in use for more than 50 years.

If a major hospital is designed very tightly around the operational policies of the day, or the opinion of a few individuals, who may leave at any time, then a significant investment may be at risk of early obsolescence.

Flexible design refers to planning models that can not only adequately respond to contemporary operational policies but also have the inherent flexibility to adapt to a range of alternative, proven and forward looking policies.

Further, flexible design should address future trends and changes in patient profiles, e.g. cultural background and the increase in the number of bariatric patients.

At the macro level, many of the commonly adopted planning models have proved flexible in dealing with multiple operational policies.

At the micro level, designers should consider simple, well proportioned, rectangular rooms with good access to simple circulation networks. Interior features should not be achieved by creating unnecessary complexity.

603712 705 .9.00 ROOMS SHARED BETWEEN UNITS

This concept refers to models that allow for changes in operating mode as a function of management rather than physical building change. For example, two inpatient units can be designed back to back so that a range of rooms can be shared. The shared section may be capable of isolation from one or the other Inpatient Unit by a set of doors. This type of sharing is commonly referred to as 'swing beds'. It represents a change to the size of one Inpatient Unit without any need to expand the unit or make any physical changes. This is also an example of flexible design.

Designers should consider issues such as compatibility of use, access to treatment rooms, utility rooms, storage, etc and the supervision of patients when using swing beds or rooms, and in particular, the ability to switch nurse call systems to the new Staff Station.

The same concept can be applied to a range of Health Planning Units (HPU) to achieve greater flexibility for the management of these units.

603713 705 .10.00 OVERFLOW DESIGN

Some functions can be designed to serve as overflow for other areas that are subject to fluctuating demand. For example:

- waiting areas for different services can be collocated
- procedure rooms can be equipped to provide capacity for emergency

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operating needs

- day and ambulatory care areas can be adapted for overnight use in emergencies such as those relating to natural disasters.

603714 705 .11.00 STAGED USAGE

Healthcare facilities of all sizes may be subject to fluctuating demand. It is desirable to implement a staged usage policy to close off certain sections when they are not in use. This allows for savings in energy, maintenance and staff costs. It also concentrates the staff around patients and improves communication. In designing for staged usage or progressive shutdown ensure that:

- none of the requirements of these guidelines is compromised in the sections that remain open
- the open sections comply with other statutory requirements such as fire egress
- the open patient care sections maintain the level of observation required by these guidelines
- two clinical areas are not separated by an area such as Administration with shorter opening times thus creating a potential security risk (isolation), and that the Medical Records Unit (24/7) is similarly not isolated from clinical areas
- in the closed sections, lights and air conditioning can be turned off independently of other areas
- the closed sections are not required as a thoroughfare for access to other functions
- nurse call and other communication systems can adapt appropriately to the shutdown mode
- the shutdown strategy allows access to items requiring routine maintenance
- a section can be isolated to facilitate the management of an outbreak of infectious diseases.

603715 705 .12.00 ZONING FOR HOURS OF OPERATION

The design should collocate units with similar operating hours where appropriate, to allow easy shutdown of larger floor areas or even whole floors after hours. This can bring significant benefits in operating costs, particularly in the areas of light and power, airconditioning and security.

603716 705 .12.50 ZONING - SECURITY

Create and maintain safe transit routes through the facility and ensure that it is not necessary for staff to traverse closed areas after hours.

Planning teams should take particular care to avoid the isolation of staff after hours. This can occur if 24 hr zones are located within, or between, eight hour zones e.g. clinical areas operating 24 hrs are separated by an administration unit that operates for eight hours each week day.

Note: ensure that medical records sections (often 24 hrs) are not isolated from clinical areas.

603717 705 .13.00 OPEN ENDED PLANNING

A healthcare facility designed within a finite shape, where various departments and functions are located with correct internal relationships may look and function very well at first. However, any expansion will be difficult. Some expansion requirements can be accommodated in new

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external buildings with covered links. But over time the site will become complicated with random buildings and long walkways.

The opposite of this scenario is to use planning models and architectural shapes that have the capability to grow, change and develop additional wings - horizontally or vertically - in a controlled way.

The configuration of the circulation system, both vertical and horizontal, on which all functions depend, is critical to the success of Open Ended Planning. Some of the concepts involved in Open Ended Planning policies include the following:

- major corridors located so that they can be extended outside the building
- as far as possible, Health Planning Units (HPU) to have one side exposed to the outside to permit possible expansion
- where the internal location of a critical care HPU 'hard' area is unavoidable, it should be adjacent to other 'soft' areas that can be relocated, such as large stores or administration areas
- avoid HPU that are totally land-locked between corridors
- external shapes should not be finite
- external shapes should be capable of expansion
- finite shapes may be reserved for one-off feature elements such as Main Entrance Foyer
- roof design should consider expansion in a variety of directions
- stairs should not be designed to block the end of major corridors
- the overall facility flow diagram should be capable of linear or radial expansion whilst keeping all the desirable relationships intact
- fixed internal services such as plant rooms, risers, service cupboards should be placed along major corridors rather than in the centre of HPU.

Note: Open Ended Planning policies can be applied to entire facilities as well as an individual HPU.

603718 705 .14.00 MODULAR DESIGN

This is the concept of designing a facility by combining well designed standard components. For example a designer may create a range of patient bedrooms, a range of utility rooms and other common rooms that are based on a regular grid such as 300 or 600mm. These rooms can then be combined to create larger units such as an inpatient unit. The inpatient unit can then be used as a module and repeated a number of times as required.

This approach has many benefits. Modules can be designed only once to work very well. No redesign is necessary to adjust to different planning configurations. Instead the plan is assembled to adapt to the modules. Errors in both design and construction can therefore be minimised.

Modular design should not necessarily be seen as a limitation to the designer's creativity but a tool to achieve better results. Designers are encouraged to consult with clients and user groups to agree on ideal modules and then adopt them across all HPU.

In practice, especially in refurbished facilities, it is common for the ideal module to be adjusted to suit the particular circumstances.

Determination of materials and dimensional coordination that may reduce construction material waste may offer cost efficiencies.

603719 705 .15.00 SINGLE HANDING

On plan the option exists to use single (same) handed or mirror-image (mirror-reverse, handed) layouts for identical rooms and room modules such as suites. Typical examples include operating rooms and patient bedrooms

with ensuite.

Single handing refers to situations where the room plan is repeated, the term is also used for the layout of furniture and fittings e.g. medical services panels.

Mirror-image, (mirror-reverse, handed) as the name implies refers to a reversal of (inverting) the image on one axis.

By standardising rooms, single handing may provide benefits such as enhanced patient safety, a reduced rate of errors, and more intuitive use by staff and patients

In areas requiring a high level of staff training, such as in the Operating Unit, it may be more appropriate to hand all key rooms in identical manner. This makes the task of staff training easier.

For example, a staff member entering any operating room, regardless of its location and approach from corridor, will find the service panel on the left, x-ray viewer on the right, etc.

At a micro level, medical gases may always be located to the left side of patient's bedhead regardless of the direction of approach. A similar situation may apply to the layout of consult/exam rooms to allow for right-handed examination of a patient.

It has been common practice in healthcare to use back to back room in pairs or module combinations. This use of mirror image planning can provide cost and planning efficiencies e.g. sharing of plumbing services and circulation spaces.

The issue of sound transmission from one room to another e.g. back to back patient bedrooms is usually attributed to common service penetrations or back to back recessed service panels and can be simply prevented with careful design and adequate construction methods or layout offsets.

Planning teams should consider and evaluate the benefits of single handing and mirror image design options on a case by case basis.

Planning Policies

603720 705 .16.00 STANDARDISED DESIGN

This concept is similar to modular design. Standardised design refers to modules, or standard components, designed to perform multiple functions by management choice.

For example, a typical patient single bedroom can be designed to suit a variety of disciplines including medical / surgical / maternity and orthopaedics. Such a room can be standardised across all compatible inpatient units. This will permit a change of use between departments should the need arise.

Standardised design takes into account and allows for all requirements of compatible uses. The opposite of this policy is to specialise the design of each component to the point of inflexibility. The aim of this approach is to resist unnecessary variation between similar components, and to accommodate changes in functionality with one standard design.

Other examples of standardised design are:

- standardised operating rooms which suit a range of operations
- bed cubicles in Day Surgery which suit both preoperative and postoperative care
- offices that are standardised into only a limited number of types for

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example 9m2 and 12m2.

- toilets that may all be designed for accessibility (access for people with disabilities), bariatric or unisex.

Note: In previous editions of Part C the term 'universal design' was used for the principles covered by this sub-section. The term 'standardised design' has been substituted since 'universal design' has been adopted in many countries to represent 'accessible design' and the use of the term in this way is now widespread.

Efficiency Guidelines

603721 705 .17.00 GENERAL

The concept of efficiency refers to the ratio between net functional area and circulation space. Over simplistic guidelines for efficiency will be misleading and not appropriate for different functional briefs.

Different circulation percentages should be provided for different generic types of planning units. Such a guide has been provided under the Schedule of Circulation Areas in this section.

Inadequate intra-unit circulation and travel allowances in briefing documents are not recommended as these can lead to undue pressure on designers to reduce sizes and therefore functionality. It should be noted that the circulation percentages are a guide only and apply to the HPU included in these guidelines under Generic Schedules of Accommodation.

Refer to Area Measurement Methodology in Appendix B.

603722 705 .18.00 NET FUNCTIONAL AREAS

In briefing documents, net functional areas represent the sum of individual room areas exclusive of any corridors.

If areas are measured off the plans, then the following measurement method will apply:

- external wall thickness is excluded
- internal wall thicknesses and columns are included
- wall thickness is divided equally between adjoining rooms
- corridor walls are allocated to adjoining rooms
- passing service risers and service cupboard are excluded.

603723 705 .19.00 GROSS DEPARTMENTAL AREAS

Gross Floor Area (GFA) on a departmental basis is calculated by adding the net functional areas and intra-departmental corridors. These are corridors that are entirely within one department (HPU).

In calculating the departmental corridors the following should be taken into account:

- columns are included
- service cupboards and passing risers are excluded
- corridor wall thicknesses are excluded as these are included in room areas
- fire stairs are excluded
- lifts and lift shafts are excluded.

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603724 705 .20.00 TRAVEL

Travel represents arterial corridors that connect HPUs. Travel is required to allow passage from one HPU to another without going through the internal corridors of another unit. A target of 10-12.5% is appropriate for travel in a hospital of one to three storeys.

In calculating travel, the following should be considered:

- fire stairs are included once for each floor to floor connection
- external wall thicknesses are included
- lift shafts are excluded
- service cupboards are excluded
- wall thicknesses are excluded as these are part of the Departmental GFA.

603725 705 .21.00 ENGINEERING

Engineering refers to the area of plant rooms and other service areas. In calculating the engineering allowance the following areas should be included:

- service cupboards
- lift motor rooms
- service shafts and risers.

Lift shafts should be excluded.

The target of 10-12.5% applied to Gross Departmental Areas may be used for a typical one to three storey hospital building.

603726 705 .22.00 DEPARTMENT SIZES

The actual size for a department will depend upon its role as set out in the Service Plan and supporting Operational Policies and the organisation of services within the hospital. Some functions may be combined or shared provided that the layout does not compromise safety standards and medical and nursing practices.

If a function is to be combined or shared, the size will need to be adjusted to meet the combined needs of staff/units.

Note: Departmental sizes also depend on design efficiency. For guidelines on this subject refer to Schedule of Circulation Areas in this section.

603727 705 .23.00 ROOM SIZES

Room sizes may require adjustment in response to current or predicted usage and for Furniture, Fittings and Equipment requirements. The size of equipment for example, may change over time or for use, and this will need to be considered in determining room sizes for specific purposes e.g. bariatric equipment.

Ensure that consideration is given to the need to provide services to bariatric patients.

The recommended room / space areas given in the AusHFG represent a nominal area and not the actual or clear room area measured between finished wall surfaces. This nominal area is based on the principle of measurement from the centre lines of walls - in this case a wall thickness of 100mm. The convention of using a nominal area acknowledges that the actual area is proportionally less.

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Refer to Appendices - Area Measurement Methodology Diagrams for examples.

From the user's perspective a nominal 9m² Office (100mm thick walls) translates to an actual floor area of approximately 8.4m², i.e. for every 1m of wall length, 0.05m² of area should be deducted. Note: room shape will make no appreciable difference, but area reduction decreases proportionally as room size increases.

For wall thicknesses of 120mm and over, the actual room area should be increased to maintain the area which would have been produced if standard 100mm walls had been used. For example, a 9m² room with 150mm walls will result in an actual area of 8.1m² (difference of 0.3m²), this should be added back, to give an adjusted nominal area of 9.3m².

Wall thicknesses are determined by function and construction, e.g. acoustic, recessed service panels, fire or smoke construction, masonry or hollow partition, or a combination of any of these. In some cases an estimate of wall thicknesses can be made using evidentially based information, known user requirements and/or standard rooms. In other cases wall thicknesses may be difficult to determine accurately until the detailed planning stage. An adjustment to compensate for wall thicknesses over 100mm should be made appropriate to the planning stage and information available.

The use of nominal areas and the measurement method set out above should be clearly communicated to user groups in the early stages of a project. Design decisions made with a clear understanding of this principle will assist in managing risk.

603728 705 .24.00 SCHEDULE OF CIRCULATION AREAS

The following Circulation Areas are recommended as a starting point for briefing typical Health Planning Units (HPU). Clearly circulation percentages will vary as a result of the configuration of the unit, including the use of a racetrack arrangement or double loaded corridors.

The figures given are a guide only and the Schedules of Accommodation provided within each HPU should be consulted for more detailed and accurate allowances. The actual spatial allocation will depend on the role delineation of the service, the re-use of existing buildings and the skill of the individual designer.

The provision of appropriate areas for circulation requirements will be tested during the preliminary design phases. Both under and over provision of circulation space should be avoided.

HPU	CIRC'N - %	PROPOSED %					REMARKS
ADMINISTRATION	20						Depending on size of Unit
REHABILITATION / ALLIED HEALTH	25						
AMBULATORY CARE	32						
BIOMEDICAL ENGINEERING	20						
CATERING UNIT	25						
CHAPEL	10						
CHILD CARE	20						

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CLEANING / HOUSEKEEPING	10						
CLINICAL INFORMATION	15						
CORONARY CARE	35						as a component of Cardiac Services Unit
DAY ONCOLOGY	30	35					as a component of Cancer Centre
DAY SURGERY / PROCEDURES UNIT	35						
ORAL HEALTH UNIT	20						
EDUCATION & TRAINING	15						
EMERGENCY UNIT	40						
ENDOSCOPY UNIT (REFER DPU ABOVE)	35						
ENGINEERING & MAINTENANCE	15						
INPATIENT UNITS	32						
INTENSIVE CARE	40						
LAUNDRY	10						
LINEN SERVICE	10						
LONG TERM CARE (NOT PART OF HFG)	32						
MEDICAL IMAGING	35						
MORTUARY	20						
NEONATAL ICU / SCC							
NUCLEAR MEDICINE / PET	30						
MATERNITY UNIT	35						
OPERATING UNIT	35-40						
OUTPATIENT UNIT	20						BCA Class 5
OUTPATIENT UNIT	25						BCA Class 9A
PAEDIATRIC / ADOLESCENT	32						
PATHOLOGY	25						
PHARMACY	25						
MENTAL HEALTH UNIT-ADULT ACUTE	32						
MHU-CHILD & ADOLESCENT							
MHU-AMBULATORY CARE							
PECC							
PUBLIC AMENITIES	10						

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RADIATION THERAPY	32						
REHABILITATION INPATIENT	40						
RENAL DIALYSIS	32						
STAFF ACCOMMODATION	10						
STAFF AMENITIES	10						
STERILE SUPPLY SERVICES	20						
SUPPLY UNIT	10						
WASTE MANAGEMENT UNIT	20						

603729 705 .25.00 SCHEDULE OF ALLOWANCES FOR TRAVEL AND ENGINEERING

Refer to: NSW Health Standard Facility Cost Planning Guidelines (NSW Health 2004b).

The allowance for travel and engineering should be determined in conjunction with the planning team to take account of the requirements of the specific project.

Where no other information is available the allowance for combined travel and engineering should generally be as follows:

TRAVEL & ENGINEERING		AREA %					
ONE STOREY		20					
TWO STOREY		23					
THREE STOREY		25					
FOUR STOREY		28					

References and Further Reading

603730 705 .95.00 GENERAL

This Section should be read in conjunction with current versions of the following documents or web references. The list is not inclusive and additional references are provided within the text.

References for OHS, etc, that may impact on the subject of this Section are provided in the appropriate sections that follow.

AUSTRALASIAN

Australian Institute of Quantity Surveyors 1990, Australian Standard Method of Measurement of Building Works 5th Edition.

INDIVIDUAL JURISDICTIONS

NSW

NSW Health 2004a, Policy Directive 2005_060: Facility Planning Manual (The Process of), NSW Health.

NSW Health 2004b, Standard Facility Cost Planning Guidelines, NSW

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Health.

NSW Department of Services n.d., Total Asset Management System, NSW DSTA, www.tams.nsw.gov.au/home.asp

State Government of New South Wales 2000, Occupational Health and Safety Act 2000, updated 2009, Clause 13, NSW Government, www.legislation.nsw.gov.au/fullhtml/inforce/act+40+2000+FIRST+0+N

State Government of New South Wales 2010, Occupational Health and Safety Regulation 2001, updated 2010, NSW Government, www.legislation.nsw.gov.au/fullhtml/inforce/subordleg+648+2001+FIRST+0+N

QUEENSLAND

Queensland Department of Public Works 2009, Strategic Asset Management Guidelines, Queensland Government.

Queensland Health 1998, Planning and Design Guidelines, Section 1, Queensland Health.

VICTORIA

Victorian Office of Building 1996, Assessing the Condition of Constructed Assets: An Asset Management Guideline for the Victorian Public Sector, Office of Building Victoria.

FURTHER READING

DEGW 2006, NHS Research and Development Project B(01)16: Rethinking Hospital Design, London, UK.

Guenther, R & Vittori, G 2008, Sustainable healthcare architecture, John Wiley and Sons, Hoboken, NJ.

NHS Estates 2002, SDC Healthcare Planning - Design Brief Guidance, NHS Estates.

Verderber, S & Fine, DJ 2000, Healthcare Architecture in an Era of Radical Transformation, Yale University Press.

BUILDING ELEMENTS

Corridors

603731 710 .1.00 PERFORMANCE REQUIREMENTS

The requirements set out in this section for corridor clear widths represent the recommended minimum required. These requirements take into account the need to allow for the safe movement of trolleys, beds, wheelchairs and other mobile equipment including the passing of such equipment.

In addition, provision should be made for situations where oversized additional equipment such as bed extensions or bariatric beds is in use. This may be provided for in a number of ways such as by increasing corridor clear width, including passing bays etc.

Refer to:

Section - 710 Doors - for the relationship between door clear width, corridor clear width and door openings in recessed bays.

Section - 730 Human Engineering - Access and Mobility, for accessibility issues.

Section - 790 Safety - Patient Handling and Lifting.

Draft Disability (Access to Premises - Buildings) Standards 2009
Australian Government Department of Health and Ageing.

603732 710 .1.20 INTER-DEPARTMENTAL CORRIDORS

The clear width of major inter-departmental corridors and public corridors generally should be as wide as is deemed necessary for the proposed traffic flow with a recommended minimum clear width of 2200mm. Where physical constraints exist, major inter-departmental corridors and public corridors should not be less than 2100mm.

The provision of wider sections of corridor will allow for the passing of trolleys / beds travelling in opposite directions.

Note: Allow a nominal overall width of up to 1650mm for an attended trolley bed.

603733 710 .1.50 GENERAL

The overriding principle in setting the minimum corridor clear width is the need to allow for a workable width that does not impede egress in the event of an emergency evacuation procedure.

Designers should note that the BCA specifies minimum corridor clear widths for Patient Care Areas. The requirements for certain areas may be higher than the BCA as fire safety and accessibility are not the sole focus of these guidelines.

Most large hospital HPU includes a range of patient and staff-only corridors. If staff-only areas are clearly designated by planning and are not required for patient access, then the guidelines for patient corridors do not apply.

Note 1: All stated corridor clear widths are measured clear of handrails, crashrails and obstructions. For design purposes and considering construction tolerances, allocate 100mm for each handrail.

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Note 2: A healthcare facility complex may contain multiple parts with varying BCA classifications - or comprise a United Building. This Part covers Health-care Buildings (BCA classification 9a), containing patient care areas, adopting those definitions and their specific requirements (Australian Building Codes Board 2009).

603734 710 .2.00 FREQUENT PATIENT TRANSPORTATION

In areas where patient beds, trolleys and stretchers will be moved frequently or regularly, such as inpatient units, operating units, birthing units and intensive care units, a 2200mm minimum clear corridor width is recommended. This dimension will accommodate the safe turning of trolleys and beds to ensure staff and patient safety, including situations where additional equipment such as bed extensions are in use or when other equipment is attached.

Even at this dimension, consider increasing the clear width of doorways into adjacent rooms and widening corridors at the entries to the affected rooms to accommodate turning trolleys and beds.

Corridor clear widths in the above areas may be considered at lesser dimensions when utilizing an existing building but special design and planning detail should be incorporated to overcome the problems of congestion and the potential risk to patients and staff in an emergency evacuation.

Note 1: In any event, the corridors may not be narrower than that required by the BCA for patient care areas. BCA Section D Access and Egress covers provision for escape, construction of exits and access for people with disabilities. See 710.6.05 regarding dispensation.

Note 2: For bed or patient trolley access into a bed lift from a corridor or lobby, allowance should be made for turning through 90° e.g. for a 2350mm long bed without extensions, allow a minimum turning circle of 2500mm (attendant at side of bed) or 2950mm with attendant at head of bed - a lift door recess excluded. Attachments and bed-lifters will increase this dimension. For double orthopaedic beams add 300mm.

603735 710 .3.00 INFREQUENT PATIENT TRANSPORTATION

In areas where infrequent trolley or bed movement is expected, corridor clear widths may be reduced to 1800mm in compliance with BCA clause D1.6.

Ensure that door clear widths do not restrict the movement of trolleys or beds from corridor to adjacent rooms including oversize or additional equipment e.g. bariatric, bed extensions, or other attached equipment.

603736 710 .4.00 MINIMAL PATIENT TRANSPORTATION

In outpatient units and areas not routinely used for patient transportation on trolleys or stretchers, the corridor clear widths may be reduced to 1200mm. Note: BCA clause D 1.6 requires 1000mm minimum.

Note 1: The provisions of the BCA Part D and requirements of AS1428.1: Design for access and mobility, Section 7 (Std Aust 2010) when applied to doorways into or within a path of travel may determine the minimum corridor clear width.

Note 2: Consider the application of AS1428.2 (Std Aust 2010) as a

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minimum to provide more universal accessibility and better protection against disability discrimination complaint.

603737 710 .5.00 NO PATIENT TRANSPORTATION

In areas where there is no patient transportation requirement, corridors with a minimum clear width of 1200mm are acceptable - providing they satisfy BCA exit travel distances and are in accordance with AS1428.1 covering accessways and circulation space at doorways. Refer to AS1428.2 for minimum guidelines for the passing of wheelchairs in corridors (Std Aust 2010).

603738 710 .5.05 RECOMMENDED MINIMUM CLEAR WIDTH

In patient care areas corridors should have a minimum clear width of not less than 1200mm except where part of an existing facility or subject to a dispensation from BCA compliance.

603739 710 .6.00 FIRE DOORS

Fire compartment doors can, where necessary, be held open by magnetic hold-open devices connected to the fire alarm system. This ensures that these doors will not impede travel, create manual handling risks or create line of sight risks under normal circumstances.

Ensure minimum height clearances are provided to the underside of the closers and magnetic locks where these are fitted to the underside of door frames.

603740 710 .7.00 INTER-DEPARTMENTAL CORRIDORS

In these guidelines, inter-departmental corridors are referred to as travel. Refer to Section 705 Schedule Of Allowances for Travel and Engineering.

603741 710 .8.00 TABLE OF CORRIDORS

The minimum and recommended requirements for healthcare facility corridors are summarised in the following table:

Note 1: Consider door clear widths into adjacent rooms, wider corridors at entry points for turning trolleys / beds.

Note 2: Door clear widths to ensure movement of trolleys / beds from corridors to adjacent rooms is not restricted.

LOCATION	BCA CLASS	Trolley Movement	Min Clear Width	Recomm Clear	Hand Rails	Wall Protection	REMARKS
PATIENT CARE AREAS (EXAMPLES)							
OPERATING, EMERGENCY, INPATIENT, BIRTHING, ICU	9a	Patients - Freq/reg	2100	2200	Yes	Yes	Refer Note 1 above.
MEDICAL IMAGING, AMBULATORY CARE	9a	Patients - Occas/reg	1800	2100	Yes	Yes	Refer Note 2 above.
AMBULATORY CARE / OUTPATIENTS	9a	Patients - Rarely/Ne	1800	1800	Yes	Yes	Part of Acute Care facility.
OUTPATIENTS / COMMUNITY HEALTH / CONSULTING ROOMS	5	Patients - Never	1200	1200	Yes	Yes	Separated in accordance with BCA requirements for an acute facility, or stand.

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STAFF AREAS			1200	1000	No	No	
OFFICES	5	None	1200	1200	No	No	
AMENITIES	5	None	1200	1200	No	No	
OTHER AREAS							
INTER-DEPARTMENTAL CORRIDORS	9a	Services & Patients	2100	2200 *	Yes	Yes	* Clear width to suit traffic type, volume and passing widths.
HOTEL SERVICES E.G. KITCHEN, LAUNDRY, STORES		Services	1800	2100 *	No	Yes	* Major e.g. connecting to other units, large traffic flow.
HOTEL SERVICES E.G. KITCHEN, LAUNDRY, STORE		None	1200	1500 *	No	Yes	* Minor - within unit.

603742 710 .9.00 Notes:

1. Minimum clear widths are set by the BCA for fire egress and accessibility purposes. The minimum clear width recommended will generally exceed that set by the BCA for other reasons, including the safe movement of patients on trolleys and safe staff work practices.
2. Install handrails as required by the BCA Clause 2.17 (Australian Building Codes Board 2009) and AS1428.1 (Stds Aust 2010).
3. Wall and corner protection should be provided to suit the type and frequency of traffic.
4. 'Clear width' means a clear, unobstructed width where items such as handrails, drinking fountains, hand basins, telephone booths, vending machines, furniture or portable / mobile equipment of any sort, do not reduce the minimum clear width or impede traffic flow.
5. Comply with the BCA Section D Access and Egress (Australian Building Codes Board 2009) for maximum travel distances for egress and other requirements.
6. Where corridors are to minimum clearances or below, consider providing robust wall protection / material to suit usage.
7. These guidelines are intended to suit functional purposes, not to be used for the minimisation of recurrent costs or maintenance minimisation.

Ramps

603743 710 .10.00 PERFORMANCE REQUIREMENTS

Ramps may be required as part of general facility circulation. Ramps for access by people with a disability are frequently used for general access and for moving beds, ambulance trolleys and other equipment between different levels.

Where there is a requirement for bed or patient trolley circulation, provide ramps with the required slope, clear width and turning circles based on the size and weight of an occupied bed including a bed mover. These should consider larger turning circles and lower gradients than those needed for wheelchairs. As a guide, more appropriate dimensions would be slope 1:20, with rise of 750mm max between landings and 2500mm landing length.

Meet all OHS requirements for the movement of beds and equipment through risk analysis in consultation with end users. See Section 790 Safety - Patient Handling and Lifting.

The slip-resistance rating for materials used on slopes and ramps may vary

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from those used on horizontal surfaces, and should be selected for the incline and specific conditions of use. Refer to AS4586 Slip resistance classification of new pedestrian surface materials (Stds Aust 2004), and AS Handbook 197 An introductory guide to the slip resistance of pedestrian surface materials (Stds Aust 1999a).

Note 1: The minimum requirements for gradients and spacing of landings for ramps and walkways for egress and accessibility in class 9a and patient care areas are covered by BCA Section D which references AS1428.1 (Stds Aust 2010).

Note 2: Application of AS1428.2 (Stds Aust 2010) as a recommended minimum provides more universal accessibility and better protection against disability discrimination complaint.

Ceiling Heights

603744 710 .11.00 PERFORMANCE REQUIREMENTS

A minimum ceiling height of 2400mm is recommended for corridors, passages, recesses and non-treatment and non-activity areas e.g. offices.

603745 710 .11.50 A minimum ceiling height of 2700mm is recommended for treatment and activity areas e.g. therapy rooms, conference rooms, Intensive Care (open plan), kitchens, etc.

For bariatric patient care the use of high beds, high mattresses, and large slings should be identified. The resulting clearance above the bed may require an increase in standard ceiling heights if some types of bariatric manual handling equipment and lifting devices are used.

Aesthetic and other considerations may also lead to variations such as increasing standard ceiling profiles and heights.

603746 710 .11.60 Generally, a minimum ceiling height of 2700mm is recommended for mental health units with 3000mm for seclusion rooms.

603747 710 .12.00 In portions of remodelled existing facilities, the corridor ceiling height may be reduced to 2250mm but only over limited areas such as where a services duct crosses a corridor.

Note: Within egress routes the BCA Clause D 1.6 (Australian Building Codes Board 2009) provides a minimum unobstructed ceiling height of 2000mm, and door height of 1980mm. For class 9a health-care buildings ceiling heights are to be not less than 2400mm generally with exceptions as noted in clause F 3.1.

603748 710 .13.00 In areas where access is restricted e.g. drinking fountain recess, a minimum ceiling height of 2250mm is acceptable.

603749 710 .14.00 In rooms with ceiling-mounted equipment such as x-ray rooms, ceiling-mounted patient lifting devices may require increased ceiling heights and supporting structure. Ensure that heights reflect the equipment manufacturers' recommendations and are not less than the minimum BCA

requirements.

In areas where bariatric manual handling equipment and lifting devices are to be used (both mobile or ceiling mounted), the minimum ceiling height required should be referred to the Project Control Group or appropriate user body for determination.

Equipment should be selected to avoid increasing existing ceiling heights or affecting overhead services e.g. airconditioning ducts and hydraulics, where possible.

- 603750 710 .15.00 For external areas such as entry canopies, ambulance entries and delivery dock canopies ensure that ceiling (soffit) heights provide adequate clearance for the vehicles expected to use them, and for the vehicle function e.g. overhead skip removal. Give special consideration to the impact of whip aerials fitted to emergency vehicles, or specialist emergency vehicles designed and fitted to transport bariatric patients which may result in increased vehicle height and width.

A risk assessment analysis should be conducted and include provision for such items as tour coaches and fire fighting vehicles at the main entry.

- 603751 710 .16.00 Provide plant rooms with adequate ceiling and door height clearance for equipment and allow safe access for service, maintenance and future replacement of equipment. A minimum ceiling height of 2400mm is recommended, with 2000mm clear below intermittent ductwork. Provide safety markings as required.

- 603752 710 .17.00 Reinforce the ceiling support structure or mount independently of the ceiling support structure where overhead patient hoists are to be installed. This should be noted in the project brief.

Where an increase in bariatric patient intake is predicted, in particular in acute patient care areas, the provision of adequate support for ceiling mounted equipment should be considered in terms of location (flexibility), method and timing (pre or post occupancy).

In addition, review the information provided by equipment manufacturers in terms of the needs of particular items of equipment for passage through full height door openings e.g. to ensuite bathrooms or that may affect the positioning of bed screen tracks or other such fixtures in multi-bed rooms.

Doors

- 603753 710 .18.00 PERFORMANCE REQUIREMENTS

Comply with the requirements of the BCA and AS1428.1 as applicable for the provision of doorways, including all related ancillary requirements such as construction, clearances, glazing, operation, hardware and signage.

Consider the application of AS1428.2 to door opening widths and circulation space as a minimum as this Standard provides more universal accessibility and better protection against disability discrimination complaint (Stds Aust 2010).

For areas occupied by patients with cognitive deficits and scheduled mental health patients, all necessary dispensations to the regulations should be sought and obtained.

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603754 710 .18.50 AUTOMATIC DOORS

Automatic sliding doors may be used in high traffic areas and routes, including entry doors to facilities and departments. They may also be used successfully in areas where hands-off access is necessary, such as in access routes for critical care, ambulance and helicopter cases, entries to Operating Unit, etc.

Satisfy the requirements for emergency egress and fit automatic doors with sensors to activate opening that ensures safe use by infants, people with a disability, frail patients and visitors. Consider the use of electronic drop bolt locking where lock down security is required.

Note 1. Requirements for power operated doors are covered in Part D of the BCA.

Note 2. Automatic swing doors are not recommended on the grounds of safety, OHS, high maintenance and problems with wind gusts and air pressure differentials.

603755 710 .19.00 SLIDING DOORS

Sliding doors (single, dual, telescopic etc) may be used subject to compliance with the BCA (Australian Building Codes Board 2009) and AS1428.1 or AS1428.2 if adopted (Stds Aust 2010).

These guidelines recommend careful consideration when using sliding doors in healthcare facilities due to hygiene concerns, poor acoustic performance, maintenance problems and potential for locking in place.

Do not use cavity sliders in the following areas:

- HPU containing Patient Care Areas or Treatment Areas
- HPU containing sterile equipment
- HPU containing patient diagnostic equipment
- catering facilities
- laboratory areas
- mental health facilities.

Surface mounted sliding doors may be used subject to the requirements of accessibility, egress and access in emergency situations.

If used, sliding doors should resist warping or twisting. Top or bottom roller mechanisms, guides and channels should be fit for purpose and ensure safety of operation.

Note: BCA clause D 2.19 covers manually and power operated sliding doors in required exits in class 9a buildings.

603756 710 .20.00 DOOR SWING

Ensure that doors do not open into a zone which impedes the manoeuvring of patients / residents nor swing out into a circulation area in a manner that might obstruct traffic flow or reduce the required corridor recommended minimum clear width.

Some doors may be required to swing out or in both directions for reasons of patient safety e.g. patient bedrooms in mental health units, for reasons of staff safety such as in consultation rooms, or where they form part of an escape route.

In consultation rooms ensure that privacy, door seals and acoustic

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performance are not compromised.

Automatic swing doors are not recommended for the reasons as noted in Section 710 Automatic Doors.

603757 710 .21.00 DOORS IN THE PATH OF FIRE EGRESS

All doors on the path of fire egress are subject to the requirements of the BCA, whether single or double swinging leaves except where sliding doors (with conditions) are permitted for exits.

Note: Doors forming part of a fire or smoke compartment enclosure, should when in the closed position, maintain the integrity of the enclosing structure.

Wherever possible use hold-open devices controlled by smoke detectors to assist the safe movement of patients, staff and equipment through doorways. Refer: Section 790 Safety - References and Further Reading.

Note: BCA sections D1 and D2 cover doorways in or forming part of a required exit in class 9a buildings (Australian Building Codes Board 2009).

603758 710 .21.20 LOCKING TO DOORS IN THE PATH OF TRAVEL

Written approval from the local Regulatory Authority (Fire Service / Building Authority) is mandatory before any exit doors in the path of egress travel are locked. Such written building approvals are to be kept for the life of the building.

The fire and evacuation plan for the building should also include appropriate operational procedures / training requirements for the opening of locked fire exit doors in emergency situations.

The operation of a fire alarm and manual override devices, including the fail-safe design of electronically locked exit doors in a path of egress travel, (automatically unlocked upon the operation of a fire alarm), are not to be configured / interfaced through, or be dependent upon the operational status of the fire alarm panel door switch.

Locked exit doors that are electronically locked and automatically unlocked upon the operation of a fire alarm are to have fail-safe manual override devices installed at the exit door including signage instruction for exit door unlocking.

In secure locations e.g. patients with cognitive deficits and scheduled mental health patients where patients / clients could be subject to harm if they operated the manual override device, manual overrides should be provided in secure locations such as at nurse stations or within / near the Fire Indicator Panel.

603759 710 .21.50 MENTAL HEALTH FACILITIES FIRE EGRESS

Latch and locking operation for doors associated with a required exit or path of travel are covered by the BCA clause D 2.21. Provisions are required for immediate unlocking by a fail-safe control switch or by hand. Dispensation should be sought for any variation of this provision.

603760 710 .22.00 DOORS - SECURITY

As a risk management measure all perimeter doors should be provided with

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locks to prevent unauthorized entry or exit. In the case of openings into a secure area or courtyard, security may still be breached in a variety of ways. Any decision to omit locks should be formally recorded.

The use of alarms to indicate the unauthorised use of perimeter doors not used for public access and the use of secure hinges (non-removable pins, etc) to doors identified by risk assessment should be considered.

Entry and exit points into a facility or department should be reduced to a minimum and provided with monitoring / access control as applicable. Provision should be made for use after hours and after dark.

The provision of electronic locks on access and cupboard doors to Pharmacies and to clean utility / medication rooms should be considered to provide both security and a record of access.

Do not implement security measures that adversely affect BCA egress and fire safety requirements.

For design standards refer to Section 790 Security - Building Elements - Doors.

603761 710 .23.00 DOORS USED BY PATIENTS

Use swinging single or double doors to rooms likely to be used by patients without staff assistance. See previous clause Sliding Doors.

Swinging doors will generally open from corridors and distribution spaces into rooms for safety, egress, etc. However, examples of some doors that may need to open out are:

- doors to small patient ensuites
- doors to accessible toilets and showers
- doors to small change cubicles
- doors in areas accessed by mental health patients to prevent patients locking / barricading themselves in the room.

Ensure that doors are easy to open and close (door weight) particularly where patients are using mobility aids such as walkers. A full height or a wide single leaf solid core door can be relatively heavy and can cause injury. Other lighter door leaf constructions that meet the required performance are recommended.

Doors required for emergency access to patients / occupants e.g. toilets, should open out or use special purpose hardware to enable an open out over-ride option for emergencies. Refer to Section 710 Emergency Access.

Locksets and door handles should address risks such as opportunities for self harm in areas where patients are assessed and treated as being at risk of suicide e.g. Emergency Departments, Mental Health Units.

For design standards refer to Section 790 Safety, and to Security - Building Elements - Doors.

Note 1: BCA Part D3 covering access for people with disabilities in 9a buildings applies to all areas normally used by the public, patients or staff, and references AS1428.1 (Stds Aust 2010) for these areas.

Note 2: The interpretation and implementation of the relevant parts of The Disability Discrimination Act (Commonwealth of Australia 1992) may require expert advice.

603762 710 .24.00 DOOR OPENINGS

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Doors within separating corridors are covered by the BCA for doors in the path of fire egress. For the purpose of these guidelines all corridors are on the path of egress.

Note: The BCA clause D 1.6 (Australian Building Codes Board 2009) specifies minimum door clear widths on the path of travel to an exit within a Patient Care Area. Clauses D 2.19 and D 2.20 cover requirements for doors and hardware in required exits.

- 603763 710 .25.00 Provide the recommended minimum dimensions of 1200mm wide and 2030mm high for doors as clear openings to inpatient bedrooms in new areas to ensure clearance for the movement of beds.

In patient care areas and acute care areas in particular, the minimum clear opening dimensions may need to be increased for large sized beds and equipment e.g. bariatric beds exceeding 1200mm width.

For issues with large / heavy door leaves refer to Section 790 Safety. Door closers and hold open devices are dealt with later in this section.

This issue and provision for future trends, including cost benefit analysis, should be referred to the Project Control Group for a directive on policy.

Existing doors of lesser dimensions may be considered acceptable in some instances where function is not adversely affected and replacement is impractical e.g. Adult Mental Health Inpatient Units.

Note: Within a treatment or ward area the BCA. Clause D 1.6 specifies door clear widths relating to corridor clear widths.

- 603764 710 .26.00 To allow access for equipment expected to be used such as IV poles, fracture frames and electric beds, generally a door clear opening height of 2030mm high is adequate. Where necessary this may be increased to 2330mm high e.g. for bariatric equipment and other special circumstances.

Note: Satisfy all provisions for smoke capture at openings where applicable.

Ensure that doors are easy to open and close (door weight), as a full height or wide single leaf solid core door can be relatively heavy or require supplementary hinges and can cause injury. Choose a lighter durable alternative where possible. Special attention should be given to Seclusion Room doors.

A minimum opening clear width of 1200mm is recommended for doors into Seclusion Rooms such as in Emergency and Mental Health Units.

Refer: Section 790 Safety - References and Further Reading.

- 603765 710 .27.00 In general, clear door opening widths to rooms that may be accessed by stretchers, wheeled bed stretchers excluding beds, wheelchairs or persons with disabilities or using assistive devices should be a recommended minimum of 900mm. To allow access for hoists and shower trolleys, increase the clear door opening width to a recommended minimum of 1000mm. For clear door widths for bed access refer to the previous clause.

Manufacturers' recommendations for the equipment selected should be followed, and opening tolerances for new equipment, future use profiles, etc, should be considered.

Note 1: The BCA references AS1428.1 (Stds Aust 2010), where section 7 covers accessibility requirements and correlation between doors and

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circulation space at doorways.

Note 2: New South Wales Health PD 077 recommends doorway clear widths relating to traffic and room type (NSW Health 2005).

- 603766 710 .28.00 While these guidelines are intended to facilitate access by personnel and mobile equipment, consideration should be given to the size of furniture and special equipment that is to be delivered via these access ways.

Allow for egress, safe access for maintenance, service and replacement of equipment in all door openings and circulation routes to Plant Rooms.

603767 710 .29.00 EMERGENCY ACCESS

Provide doors and hardware that permit emergency access from outside the room to rooms identified through risk assessment. These may be defined as rooms that:

- are used independently by patients
- have only one door
- are smaller than 6m²
- have less than 2.5m of clear space behind the single door
- form patient bedrooms, bathrooms and ensuites in mental health facilities
- form secure rooms in mental health facilities.

Note: Similar areas used by visitors and staff should be considered for emergency access as a part of risk assessment.

603768 710 .30.00 MENTAL HEALTH SECLUSION ROOMS

In Mental Health Seclusion Rooms for OHS, patient safety and security, provide the following:

- two single leaf doors opening outwards and wide enough to accommodate a patient with two or more escorts. Ensure a suitable distance between doors and external locks.
- electronic locks connected to a non-interruptible power supply and with at least two locking points should be considered. Do not provide internal handles.

Doors and frames should be solid construction with multiple hinges and multiple locking points. Viewing panels should be constructed from non-breakable material with concealed fixings and designed to prevent removal from within the room.

603769 710 .31.00 DOOR HANDLES

PERFORMANCE REQUIREMENTS

Ensure that all door hardware is fit for purpose and complies with all relevant regulations, standards and policies including those applying within each jurisdiction. This includes all matters of OHS, user and patient safety, DDA (Commonwealth of Australia 1992) and accessibility, security, special requirements, durability, function, etc.

GENERAL

Lever handles are recommended for most hinged doors and pull handles for

sliding doors.

Install handles between 900mm and 1100mm above the floor to BCA, D3 referencing AS1428.1 (Stds Aust 2010), and where applicable at an appropriate height to enable staff to easily open doors whilst supporting or manoeuvring patients or residents.

In areas with frequent staff movement by or through doorways, door handles should be selected with a shape that minimises the risk of snagging clothing or other items. Lever handles with a full return are recommended.

See AS1428.2 (Stds Aust 2010) for additional information on accessible door handles and hardware.

MENTAL HEALTH

In mental health facilities ensure that door hardware will not provide a support point for self-harm, staff-only areas excepted. Use only tested and approved anti ligature products specifically designed to prevent self harm.

Note: Typical hardware consists of recessed, concealed, flush door handles, and tapered doorknobs.

PAEDIATRIC ROOMS

In paediatric rooms where no latching is required consider providing two sets of push plate / pull handles - one at high level and one at low level. Door controls should meet AS1428.3 (Stds Aust 2010) as applicable to paediatric units.

LOCKS

Door handles may incorporate locks, snib latches, push buttons and indicators. Consider the use of flexible hardware systems where the functionality of the door may be changed without changing the hardware.

The type of locking function should be appropriate for the use of the room and prevent a person becoming inadvertently locked in a room.

Keyless entry systems may be required for controlled access areas.

PUSH PLATES / PULL HANDLES

In many instances a door latch is not necessary. Rooms that do not require latching may work well with only a push plate / pull handle and a self closer. Push plates / pull handles should be used in rooms that are used frequently by staff carrying objects e.g. Dirty Utility Rooms.

603770 710 .32.00 DOOR GRILLES AND UNDERCUTS

The heating, ventilation and airconditioning (HVAC) design may require door grilles or undercuts. These are usually required for return air, makeup air or pressure relief.

Door grilles or undercuts may be used in areas that do not compromise the requirements of the BCA and other requirements of these guidelines.

Do not use door grilles or undercuts in the following locations:

- areas with a particular air-pressurisation scheme, e.g. isolation.
- rooms requiring acoustic isolation and privacy
- rooms requiring radiation shielding
- Fire Doors and Smoke Doors.

Do not use door grilles in any patient accessible areas within mental health

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facilities due to the potential for door grilles to suffer impact and damage, be used for self-harm or used as a weapon.

The following requirements and recommendations also apply to grilles and undercuts:

- door grilles should be positioned (above 290mm) to avoid damage by wheelchair footrests in areas used by people in wheelchairs, refer AS1428.1 fig 35 (Stds Aust 2010)
- door grilles are not recommended for bathrooms or ensuites
- large undercuts close to bathroom showers should not be used as they can result in water leaking or splashing into adjoining rooms.

As an alternative to a door undercut consider:

- an inward sloping door slot approximately 200mm above the floor to reduce water egress whilst providing the same functionality as a door undercut for bathroom showers
- ceiling grilles connected via flexible duct within the ceiling space.

603771 710 .33.00 HOLD-OPEN DEVICE

Door hold-open devices should be considered for doors that may need to remain open, such as doors on main traffic routes and delivery doors. Devices should meet the following recommendations:

- hold-open devices should be capable of activation and de-activation without any need for the staff to bend down, reach upwards or reach behind the door
- hold-open devices should not be fitted to doors where this compromises doors that are required to achieve a specific air pressurisation or isolation scheme by these guidelines
- hold-open devices should not be fitted to the side of a door that may permit a disturbed patient to lock the door from inside or where they may provide a potential hanging point for patients who are at high risk of self harm
- in areas frequently used by staff holding objects or pushing trolleys, the use of delayed action combined self closer / hold-open device is recommended
- hold-open devices used for fire doors should comply with the BCA and be controlled either by smoke detectors or by activated fire alarms.

603772 710 .34.00 SELF CLOSERS

Self closers required for fire and smoke doors are covered under the BCA. This section deals with other door types.

Self closers should be provided for the following doors and rooms:

- doors required to achieve a certain airflow or air pressurisation scheme required by these guidelines
- entrance doors to any area nominated as a restricted area by these guidelines including:
 - operating unit
 - CSSU
 - kitchen
 - sterile stock room
 - isolation rooms
 - birthing rooms.

603773 710 .35.00 Apart from the previous recommendation, the over-provision of self closers can lead to unnecessary capital expenditure and maintenance costs. Door closers should not be fitted where they exacerbate or create manual

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handling risks, where they impede the movement of patients or where they reduce the independence of patients.

- 603774 710 .36.00 The use of door closers to utility and other high use rooms should be referred to the Project Control Group. The use of delayed action closers is an option where there is a high incidence of staff carrying objects or wheeling trolleys.

Note 1. Refer to AS1428.1 clause 11.1.1 (Stds Aust 2010) for permissible maximum opening forces.

603775 710 .37.00 HARDWARE

Door hardware is a specialist subject covering a wide range of products and product options. The selection of hardware for healthcare is particularly complex. The services and advice of experienced industry support staff is recommended.

Interior Glazing

603776 710 .38.00 PERFORMANCE REQUIREMENTS

Interior glazing in the form of glazed panels within partitions or doors is often required for the safe and efficient operation of the door or space. When provided in this context it should be fit for purpose and comply with the relevant regulations, guidelines and standards, in particular:

- AS1288 Glass in Buildings - Selection and Installation (Stds Aust 2006)
- AS1905.1: Components for the Protection of Openings in Fire Resistant Walls - Part 1 - Fire Resistant Door Sets (e.g. glazing in fire doors) (Stds Aust 2005a).

603777 710 .38.05 GENERAL

Apart from aesthetic considerations interior glazing is used for a number of purposes, some of which include:

- OHS (employee safety)
- safety of patients, public and others
- clinical observation of patients
- security e.g. checking room occupation in emergency departments
- work practices
- visual communication.

Glazed panels for both doors and partitions should be sized, positioned vertically and located to enable use by the majority of occupants i.e. 90% of the population when seated (eye height 685 - 845mm*), and standing (eye height 1405 - 1745mm*) and for persons in wheelchairs assume a seated eye height.

*From Table 1 in AS Handbook 59 - Ergonomics - The human factor - A practical approach to work systems design (Stds Aust 1994a).

Note: A variety of terms are used for interior glazing that include 'viewing panels', 'observation panels', 'glazed doors', etc.

- 603778 710 .39.00 The use of glazing in doors is similar to partition glazing in that it provides for all of the functional categories above, however the use and operation of

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doors present a separate OHS risk to staff and safety risk to occupants. Glazing is typically used in the following areas and situations:

- entry / exit to operating rooms or procedure rooms
- scrub room to operating room
- airlocks
- clean and dirty utility
- work rooms frequently used by staff
- kitchens and pantries
- entry doors and doors across corridors.

603779 710 .39.05 Where glazing is required to areas for the functional purposes listed previously, it is usually provided in the form of glazed panels in partitions. The instances where these occur are too numerous to list however the following should be noted:

- rooms used to interview mental health or disturbed patients (mandatory in WA) including Mental Health Secure Rooms
- waiting rooms and other public areas - not in a direct line of sight.

Where adjustable venetian blinds are provided these should be incorporated between glazing - integral assembly - for protection against damage and dust collection. Controls should be located to avoid misuse.

In cases where partition glazing is required as above but cannot be included due to room layout, furniture or fittings, glazed door panels can be used provided that any required obscuration can be achieved.

603780 710 .40.00 Interior glazing is not recommended in the following areas:

- rooms requiring acoustic isolation unless the panel can be designed to achieve the required rating
- where patient or staff privacy is required although safety requirements may need to be balanced against this in some situations.

Glazed panels should have a mechanism, device or material to obscure the glazing in the following areas:

- patient bedrooms to facilitate privacy
- staff areas when privacy is required.

Glazed panels should have the means (mechanism, device, material) to maintain the integrity of the level of protection or security required in the following and other similar areas:

- Operating Rooms and Procedure Rooms where a laser may be in use
- rooms requiring x-ray or other radiation shielding
- rooms requiring electromagnetic shielding e.g. a Faraday Cage.

603781 710 .41.00 Door observation panels may be obscured glazing (varying grades) in areas where a clear vision of the room is not required. This type of glass or applied film may suit rooms where the primary concern is OHS, patient, staff or functional privacy. Obscured glass is usually adequate and is recommended in doors to the following rooms:

- Clean Utility
- Dirty Utility
- Operating and Procedure Rooms
- Examination / Treatment Rooms.

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- 603782 710 .41.05 The type and grade of safety glazing should be fit for purpose e.g. avoiding potential risks for security, violence or self-harm in addition to complying with any the BCA requirements. Refer Section 790 Safety - Glazing and 790 Security - Building Elements, References and Further Reading.

Windows

603783 710 .42.00 PERFORMANCE REQUIREMENTS

Comply with the requirements of the BCA Part F4 Natural light and ventilation as applicable to class 9a buildings (Australian Building Codes Board 2009).

In addition to the BCA requirements it is recommended that all rooms occupied by patients or staff on a regular basis have glazed windows or doors to achieve external views and/or make use of direct or borrowed natural light where practical.

The external windows of all patient bedrooms should overlook external areas defined as the perimeter space around a building as well as naturally ventilated and lit atriums and courtyards.

- 603784 710 .43.00 The requirement for windows to provide natural light to patient areas is summarised in the following schedule:

ROOM/SPACE	External Window	Alternatives	Alternatives	Required			REMARKS
BEDROOM	Yes			Yes			BCA F4.1 (c) Natural light
BIRTHING ROOM	Yes			Yes			BCA F4.1 (c) Natural light
PATIENT BAY - CRITICAL	Yes	Skylight	Internal				CCU/ICU Bed Cubicle, Pre-op Cubicle
PATIENT BAY - NON ACUTE	Yes	Skylight		No			
PATIENT BAY - ACUTE	Yes	Skylight		No			
NURSERY	Yes			Yes			BCA F4.1 (c) Natural light
PATIENT LOUNGE	Yes	Skylight		Yes			
PATIENT ACTIVITY ROOM	Yes	Skylight	Internal	Yes			
PATIENT DINING				Yes			

- 603785 710 .44.00 To allow a view of the outside environment, the height of window sills should be level or lower than the sight line of patients in their beds or in a chair. See IEQ below.

Note 1: BCA clause F4.1 requires the provision of natural light to all rooms used for sleeping purposes in a class 9a building. This does not apply to the Operating Unit, Emergency Unit and similar areas.

Note 2: Where possible, the provision of external windows to ICU and CCU bed areas is required by these guidelines.

Note 3: For the purpose of this clause an internal atrium with artificial ventilation will be accepted if it complies with BCA requirements.

External Views

603786 710 .45.00 Windows and skylights can provide natural light, natural ventilation and views. These functions are often undifferentiated but each is separate and should be accessed separately.

Requirements covering natural and artificial light, and natural and mechanical ventilation - including airconditioning, are dealt with separately under the BCA under Part F4.

The provision of an external view as required by this guideline is not directly covered by the BCA which covers only the location and size of windows providing natural light under clause F4.2.

603787 710 .46.00 INDOOR ENVIRONMENT QUALITY (IEQ)

Access to external views and natural light is a part of optimising Indoor Environment Quality (IEQ) designed to assist in the healing process for patients, and to improve the working conditions for staff. See Further Reading below.

In addition to improving IEQ in general use areas, access to external views can be particularly beneficial for areas such as:

- trauma, critical, acute or long term care
- general and intensive medical procedures
- repetitive technical and clerical work processes
- deep plan clerical and work areas.

In all the above examples, and in similar areas, every opportunity should be sought to provide an external view. The need for external views is in direct proportion to restriction experienced by patients, the repetitive nature or intensity of a task, and some desk-bound clerical or technical tasks.

IEQ requirements are usually covered by jurisdictions under Ecologically Sustainable Development (ESD) Guidelines.

The importance of external views is reflected by the growth in research and evidenced-based literature on the subject.

Note: Some ESD Rating Tools and systems award credit points to External Views or Daylight and Views under IEQ.

Window Types

603788 710 .47.00 PERFORMANCE REQUIREMENTS

In multi-level hospitals with ducted airconditioning systems and in buildings in cyclone prone areas, it is not always possible or desirable to utilise operable (opening) windows. In these circumstances, fixed windows are acceptable with access for external window cleaning where required that complies with OHS regulations.

For Mechanical Services refer to Part E of these guidelines and the policies within each jurisdiction e.g. for the use of mixed mode airconditioning to utilise natural ventilation to minimise energy usage.

Note: Other factors affecting Indoor Environment Quality (IEQ) include external pollutant sources such as vehicle and building emissions, bushfires, and naturally occurring allergens or pollutants.

Provide operable windows as necessary to allow for ventilation in case of breakdown of mechanical ventilation systems e.g. airconditioning. The use of operable windows for this purpose should be regulated by the

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use of key operated sashes managed by staff.

- 603789 710 .48.00 Provide operable windows with hardware to control / restrict the degree of opening. Windows, fittings and hardware should be fit for purpose and comply with all relevant regulations and standards.

Refer to Window Security below and Section 790 Security - Windows.

- 603790 710 .49.00 Top hung awning windows may act as smoke / heat scoops from fires in storeys below and should not be used in multi-storey buildings.

- 603791 710 .50.00 If it is considered undesirable to allow patients to open windows for reasons such as avoiding potential problems with the central airconditioning then the opening section of the windows should be operated with a lock or 'Allen key' held by the staff. See previous clause.

Note 1: Fly screens should be fitted to the opening sections of a window or door as described above.

Note 2: The provision of opening windows also facilitates energy efficiency as artificial lighting and airconditioning systems may not be necessary at certain times of the day and year. However, Infection Control requirements may override this. Refer to Part D.

Note 3: To prevent unauthorised access through windows a restriction device should be used. This applies particularly to areas that may accommodate children or persons with dementia or confusion or mental illness.

Refer: AS2047 Windows in Buildings - Selection and installation (Stds Aust 1999b).

Window Size

- 603792 710 .51.00 PERFORMANCE REQUIREMENTS

Comply with the requirements of the BCA Part F4 (Australian Building Codes Board 2009) covering natural light and natural ventilation.

- 603793 710 .51.50 Window design and solar shading devices should incorporate ESD principles and comply with applicable ESD guidelines and regulations.

Privacy or shading where required should be provided without affecting the requirements of the BCA.

Window Cleaning

- 603794 710 .52.00 PERFORMANCE REQUIREMENTS

Make appropriate provision for window cleaning in accordance with the local regulations and guidelines.

- 603795 710 .52.50 GENERAL

The selection of methods used to clean the exterior window pane and facades is dependent on a number of factors such as roof types, balconies, shading devices, ledges, etc.

Windows and their opening function for cleaning may be influenced by the room use and interior fittings or furniture e.g. workstations.

Facade cleaning and maintenance methods should be designed to prevent people or other objects falling from heights and can be classified as:

- passive
- active
- personal protective equipment.

The following are methods of cleaning used. However comply in each case with the relevant safety regulations.

- inward opening or pivoting sashes allow for the cleaning of the exterior surface in a safe manner from inside the building. Room use, fixtures and layout may prevent this option.
- with alternate fixed and opening sashes it is possible to open one sash to clean the next fixed sash - for this, provide anchorage points
- a window cleaning ledge or balcony may be provided specifically for window cleaning (no patient access). For this provide anchorage points
- cleaning by using an extension (tucker) pole may be used for windows that are one level above the ground or accessible from a terrace or roof. For this water supply points should be provided.

Note: Refer to the relevant OHS legislation in each jurisdiction including:

State Government of New South Wales 2001, Occupational Health and Safety Regulation 2001, updated 2010.

State Government of Queensland 2009, Workplace Health and Safety Act 2008, Office of the Queensland Parliamentary Counsel.

Workplace Health and Safety Queensland 2007, Guide to the workplace health and safety obligations of designers of structures, Queensland Department of Employment and Industrial Relations.

WorkCover NSW 2000, Guidelines for Building Facade Access Systems, WorkCover NSW.

Workplace Health and Safety Queensland 2007, Guide to the workplace health and safety obligations of designers of structures, Queensland Department of Employment and Industrial Relations.

Workplace Health and Safety, Queensland, 2009, Work at Heights, Department of Employment and Industrial Relations.

See also: Section 790 Safety - References and Further Reading.

Windows - Security

603796 710 .53.00 PERFORMANCE REQUIREMENTS

Conduct a security risk assessment and provide security risk mitigation treatments such as bars, security screens, security glazing, electronic security, locks, restrictors, etc, to external perimeter windows as appropriate to minimise unauthorised entry.

Where physical barriers are provided to windows in the form of non-removable bars, security screens, etc, ensure that fire safety including emergency evacuation is not compromised.

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For building design standards refer Section 790 Security - Building Elements - Windows.

603797 710 .54.00 SUMMARY

Fixtures and Fittings refer to items that are generally factory made or otherwise manufactured off-site then installed in the building - see Glossary. Some fixtures and fittings may be present at the time of the completion of the construction or renovation. Others may be installed at a later date.

For the purpose of these guidelines all fixtures and fittings that are installed, that is fixed to the building, are part of the building and subject to the requirements of these guidelines. As such the relevant requirements of all parts of the AusHFG apply, in particular:

- ergonomics
- human engineering
- safety precautions
- fire safety
- security
- infection control.

Selection of Fixtures and Fittings is covered in detail in Part F of these guidelines.

Note: Consult with employees and identify, assess and control risks when selecting, purchasing and installing FF&E. Refer to OHS legislation and regulations in each jurisdiction.

Refer to:

Section 705 Planning Models for OHS consultation.

Section 790 Safety and Security for Precautions.

AS4145.3 Mechanical locksets for windows in buildings (Std Aust 2001).

AS5039 Security screen doors and security window grilles (Std Aust 2008).

AS5040 Installation of security screen doors and window grilles (Std Aust 2003c).

Ceilings and Ceiling Finishes

603798 710 .55.00 PERFORMANCE REQUIREMENTS

Ensure ceiling types and finishes meet all relevant regulatory requirements, in particular the BCA criteria (Australian Building Codes Board 2009) for acceptable Fire Hazard Properties. Meet specific indices for flammability, spread-of-flame and smoke-developed, ensure fitness for purpose, and satisfy aesthetic, sustainability and life cycle requirements.

Ensure that suspended ceiling systems meet the structural requirements of the BCA including air pressure and earthquake resistance, and that any accessories e.g. acoustic pillows and acoustic flexible sheet materials used over perforated materials meet the required Fire Hazard Properties indices.

603799 710 .55.50 GENERAL

Ceiling type and finish have an impact on the aesthetics, acoustics and general atmosphere of a room. Ensure that the effect of the ceiling finish and

colour do not adversely affect the level of lighting in a room.

603800 710 .56.00 SELECTING CEILING SYSTEMS AND FINISHES

Consider the following issues when selecting a ceiling finish.

Surface durability and soil resistance are key considerations where ceilings may be damaged or need to be kept clean. Other factors may include the need for effective noise reduction, light reflection, moisture resistance or the need to accommodate the support of heavy equipment such as medical imaging or other screening machines, patient lifters and other devices.

Ceilings should be easy to maintain and repair. Locally available standard systems are recommended to ensure continuity for replacement of damaged parts.

Ceilings will generally be subjected to the cleaning protocols documented in the Operational Policies for the facility or for the specific unit.

Access panels should be fit for purpose, minimise the ingress of dust and be secure i.e. accessed only with a special key tool to prevent unauthorised access.

Ceilings should comply with applicable ESD regulations and guidelines.

603801 710 .57.00 RESISTANCE TO SURFACE DAMAGE

Ceilings in corridors, emergency receiving areas and mental health units may need to withstand surface impact or other forms of abuse.

In any areas where inlaid ceiling panels frequently need to be removed for access, resistance to surface scratching and breakage is recommended.

The specification for the proposed finish should be adequate for the particular requirements for each location including resistance to impact and fracture, surface scratching, mould and air diffuser soiling.

603802 710 .58.00 INFECTION CONTROL

Each area within a facility will require a different degree of infection control management or standard of hygiene. Collaboration with the facility infection control representative and compliance with the current infection control policy in each jurisdiction is a required part of the risk management process.

Select and design ceilings to support the level of infection control management required in each space.

Ceilings are covered by AS Handbook 260 Hospital acquired infections - Engineering down the risk (Stds Aust 2003a) as follows. In Section 5 - Rooms suitable for Infection Control purposes - recommendations for ceilings for Type 4 and 5 rooms (standard isolation and respiratory isolation) include:

- ease of cleaning and suitability for cleaning methods to be used
- continuous, impervious and durable finishes
- elimination of joints, gaps and features supporting microbial growth
- ability to withstand disinfecting and cleaning agents without deterioration
- sealed penetrations for fittings in walls and ceilings e.g. pipes, light fittings, for Type 5 rooms for respiratory isolation.

In areas requiring a pressure differential for infection control, ceilings and

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support systems should meet the individual performance criteria including structural soundness and stability e.g. air pressure change and earthquake forces.

Although ceilings rarely become soiled with any hazardous matter, use a smooth washable finish in areas where splash or spillage might occur e.g. Resuscitation Rooms in Emergency Departments, Operating Rooms or where routine washdown or isolation is required.

For further information regarding Infection Control refer to Part D.

603803 710 .59.00 USE OF ACOUSTIC FINISHES

Ceilings can be used independently or together with floor and wall finishes and furnishings to control the acoustic environment in occupied spaces.

For recommended sound levels refer to AS/NZS 2107: Recommended design sound levels and reverberation times for building interiors (Std Aust 2000), in particular Table 1: Recommended design sound levels for different areas of occupancy in buildings. For OHS issues refer to Section 790 - Noise Reduction.

Materials should be selected to achieve the recommendations of AS/NZS 2107 while not compromising the medical or functional performance required in each area e.g. infection control, hygiene, OHS, cleaning, maintenance, etc.

Sound control includes reducing the transmission of air-borne sound from space to space, using the mass of the material layer e.g. solid plasterboard, fibre cement and/or reducing the reverberation time or reflected sound within a space by absorption e.g. using mineral fibre, perforated surfaces, etc. The industry label 'acoustic' is generally used to indicate low-mass, sound absorbent products.

Most acoustic ceiling tile products consist of absorbent materials with a porous surface and are generally used with a suspended grid system either exposed or concealed. Both of these factors usually exclude their use in areas where infection control or hygienic conditions are required.

Acoustic products specifically produced for use in clean areas should be assessed on their tested performance. Do not use acoustic and/or tiled ceilings where particulate matter may interfere with hygienic environmental control. The use of acoustic tiles should be avoided in areas where splash spillage can occur.

603804 710 .60.00 ACCESS TO SERVICES

Provide access to services and ceiling voids through ceilings as required except in areas such as Operating and Procedure Rooms, isolation and controlled environments. If access panels are used in procedural areas, they should be provided with an effective air pressure seal.

Suspended modular ceiling systems may be used where access to services is required and a smooth seamless finish is not required.

Access panels should be opened only with a special key tool to prevent unauthorised access.

Ceilings to patient areas in mental health units should be designed to prevent patients from accessing ceiling spaces.

In areas requiring security or restricted access e.g. cash holding, pharmacy, stores, medication / clean utility rooms and stores, suspended ceilings or partitions should incorporate measures to prevent unauthorised entry e.g.

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steel mesh, or locked access panels. In mental health units compressed fibre cement sheet may be required to reduce damage and prevent access.

603805 710 .61.00 AVOIDANCE OF DEFORMATION AND SAGGING

Sagging ceilings are often the result of moisture exposure in high humidity areas such as laboratories, kitchens, laundries, locker rooms, shower areas and indoor pools.

Ensure that exhaust and fan systems are appropriate e.g. dedicated, single use systems and adequate for processes and occupancy. Provide remote alarm indication of fan failure where required.

By avoiding where possible the following situations, the incidence of ceilings sagging may be reduced or removed:

- intermittent, seasonal use of facilities or long refurbishment where heating, ventilation, and airconditioning (HVAC) systems might be shut down for extended periods
- installation of ceiling systems prior to the activation of the HVAC system in new construction or renovation projects
- attempted refreshment of indoor air quality by increasing the percentage of outside air that is circulating through a ventilation system.

603806 710 .61.50 For airconditioning equipment installed within the ceiling space provide condensate pans and drains as necessary. Refrigerant and chilled water piping should have appropriate lagging and be supported along its length to prevent moisture from pooling and damaging the ceiling. Penetrations above the ceiling should be appropriately sealed to prevent the ingress of moisture and to maintain the integrity of fire / smoke compartments.

603807 710 .62.00 SUSPENDED AND EXPOSED GRID SYSTEMS

The design of suspended exposed grid ceiling systems should have adequate resistance to corrosion, fire and sagging, and be dimensionally stable.

Exterior soffit linings and support systems in adverse environments such as coastal locations and indoor hydrotherapy pools require special consideration.

Floor Finishes

603808 710 .63.00 PERFORMANCE REQUIREMENTS

Ensure that floor finishes meet all relevant regulatory requirements, standards and policy guidelines within each jurisdiction. They should adequately address the following issues:

- staff safety - OHS and manual handling
- patient and visitor safety - slips, trips and falls
- area function, sustainability and life cycle cost efficiency
- infection and odour control
- the needs of special user groups
- acoustic and aesthetic considerations.

Ensure that interior floor finishes meet the criteria for acceptable Fire Hazard Properties required by the BCA for class 9a buildings (Australian Building Codes Board 2009) specifically flammability, spread-of-flame and smoke-developed indices.

603809 710 .64.00 GENERAL

Floor finishes have an impact on various requirements within the AusHFG. Part D covers matters that affect management of infection prevention and control. This section of Part C covers aspects that affect access, mobility, OHS, manual handling and known floor safety issues e.g. slips, trips and falls (STF), maintenance, sustainability, etc. Ensure that floor finishes support the aims and requirements of the other parts of the AusHFG.

603810 710 .65.00 The selection of floor coverings can impact on staff work practices in the following ways:

- cleaning / maintenance procedures e.g. too rough a surface may lead to arm and shoulder injuries when using a mop
- manoeuvrability of wheeled equipment relating to the degree of resistance to push / pull and turning forces
- risk of slipping or tripping, and injury from falls
- fatigue on feet and legs from standing and walking - in this instance, the types of shoes worn by staff should also be considered.

Refer: Section 790 Safety - References and Further Reading for OHS regulations and guidelines in each jurisdiction.

Fire safety compliance is also a special consideration. A duty of care exists where professionals such as architects and interior designers are involved in the selection of products and purchasing officers and retailers / agents purchase replacement products.

Floor finishes also have a direct impact on the whole of life costs of any building where cleaning and maintenance is concerned. This is especially true in a healthcare facility. Lower initial capital cost may result in higher whole of life costs.

603811 710 .66.00 SELECTING FLOOR FINISHES

SUMMARY

Selection of floor finishes requires consideration of multiple factors, often calling for balance or compromise. Investigate alternative materials, arrange for realistic on-site testing, and check other existing installations with clinical, housekeeping and maintenance staff before selection. The following clauses set out the issues to be considered.

Also refer to TS-7 (NSW Health & CHAA, UNSW 2009).

603812 710 .67.00 MOVEMENT OF OBJECTS

Floor finishes should be selected to provide minimum rolling friction to wheeled equipment including beds, all trolleys, wheelchairs, etc to minimise the OHS risks to employees and others from manual handling and to allow independent mobilisation for persons using manual wheelchairs. This is particularly relevant to acute, rehabilitation, and other areas or situations where there is frequent use of wheeled equipment, hoists, etc. The movement of bariatric patients should be considered in all areas.

Consider the following when selecting floor finishes:

- wheels on equipment should be appropriate for the floor finish

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- rubber tread wheels (softer) suit smooth hard or resilient finishes, polyurethane (harder) suit softer textile finishes.

- if both carpet and vinyl is to be used in clinical areas, the wheeled equipment should be selected for the highest friction surface i.e. carpet.

- equipment is generally supplied with a standard wheel diameter and tread material. While tread materials may be varied, the diameter cannot usually be varied.

Standard vinyl and similar resilient sheet products are the easiest materials for the movement of beds, hoists, trolleys and wheelchairs.

Carpet should be level short pile thickness, tufted loop pile construction, direct stick, dense (high 'Pile Weight Density Factor'), heavy duty commercial grade or above. See limitations to use.

Bonded (flocked and needle punched) budget carpet has poor whole of life performance and now has limited use e.g. external, back of house, etc. The one-way pile characteristic can cause tracking problems with wheeled equipment.

For areas subject to heavy wheeled traffic foam-backed acoustic vinyl may be unsuitable as the resilience can provide resistance to movement and may deform or delaminate. A resilient backed vinyl with a heavy gauge wear layer should be used if this product type is sought.

Note: Fibres from carpet can collect in the wheel mechanism and increase maintenance and manual handling risks.

603813 710 .68.00 NOISE GENERATION AND SOUND ABSORPTION

Textile floor finishes reduce both impact sound (footfalls) and airborne sound. Although carpet is effective in corridor areas outside patient bedrooms where a great deal of noise can be generated, its use is circumscribed by resistance to wheeled equipment, OHS concerns and reduced infection control and cleaning efficiency. Improved sound reduction should not be implemented in a manner that adversely affects employee OHS (manual handling) or patient safety e.g. slips, trips and falls.

Cushion backed acoustic vinyl, rubber and linoleum are also effective in minimising sound generation but are less effective than carpet. Ceramic tiles, terrazzo and similar hard surfaces generate sound from impact and reflect airborne sound. They also generate additional risk to safety from falls.

Sound level reduction data tests should be compared to determine if claimed advantages are beneficial.

603814 710 .69.00 EASY ON THE FOOT

Surfaces such as vinyl - standard and cushioned, rubber and linoleum and thin dense carpet are considered easy to stand on for long periods of time. Most OHS research indicates that surfaces such as ceramic tiles and terrazzo are too hard to stand on for more than a few hours. However this may be alleviated by suitable shock absorbent footwear. Hard surfaces are therefore not generally recommended in healthcare facility work areas and should be used with caution due to potential injury from falls with appropriate slip resistance coefficients where contamination is expected, especially in food preparation / servery, wet areas, etc.

603815 710 .70.00 INFECTION CONTROL

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Each area within a facility will require a different degree of infection control management or standard of hygiene. Collaboration with the facility infection control representative and compliance with the current infection control policy in each jurisdiction is a required part of the risk management process.

Floor finish selection should support the level of infection control management required for each space. Selection should also satisfy any other specific functional or environmental criteria e.g. acoustic.

Carpet - tile and broadloom - with a good maintenance regime is acceptable for general use in patient care areas. Carpet is less easily cleaned than resilient or hard finishes and should not be used where there is a high rate of spillage or soiling or where smooth, impervious, seamless surfaces are required for infection control.

For further information refer to:

Part D Infection Prevention and Control 880 - Surfaces and Finishes.

Infection control policies within each jurisdiction.

AS Handbook 260: Hospital acquired infections - Engineering down the risk, when endorsed (Stds Aust 2003a).

TS-7 Floor Coverings in Healthcare Buildings (NSW Health & CHAA, UNSW 2009).

603816 710 .71.00 EASE OF CLEANING

Floor materials should be easy to clean and have wear resistance appropriate for the location involved. See Infection Control above.

603817 710 .72.00 WET AREAS

In areas subject to running water and regular wetting e.g. ensuites / showers, floor finishes should satisfy all relevant regulations and standards for safety. Installations should be durable and waterproof.

603818 710 .73.00 CONDUCTIVE FLOORING

Static conductive or anti static 'Astatic' flooring may be required in some areas e.g. areas with electro-medical equipment use or testing / repair facilities. Static control floors are categorised as 'Static Dissipative' and 'Static Conductive'.

The degree of electrical resistance or conductivity required should be accurately briefed to ensure that the correct grade of anti static flooring and associated construction are selected.

Special grades of flooring are available for specific conditions. However for some applications standard flooring may be adequate.

603819 710 .73.50 Flammable anaesthetic agents such as ether, cyclopropane or ethyl chloride are no longer used for the treatment of humans. Previous anti static flooring requirements for these agents in theatres and gas storage areas are therefore no longer applicable except to veterinary procedures.

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603820 710 .74.00 SELECTION AND INSTALLATION

ROOM	FACILITY						FLOOR FINISH
BEDROOMS	Acute						Cushioned Vinyl
	Aged Care						Cushioned Vinyl or Carpet*
	Rehabilitation						Cushioned Vinyl or Carpet*
BATHROOM / ENSUITES	All						Non slip vinyl, tile*, or resin*
CORRIDORS	Acute						Vinyl or Cushioned Vinyl
	AgedCare / Rehabilitation						Cushioned Vinyl or Carpet*
DINING ROOMS	All						Vinyl or Carpet*
LOUNGE ROOMS	All						Cushioned Vinyl or Carpet*

603821 710 .75.00 Note: 'vinyl' and 'cushioned vinyl' includes 'resilient sheet materials' e.g. Rubber (incl. natural and synthetic) and linoleum (except for wet areas). 'Carpet' includes 'Textile floor finishes' in both sheet and tile form.

* indicates 'subject to careful consideration'.

Note 1: The junction of different floor finishes e.g. vinyl / carpet can create a safety hazard. Consider low profile junction / diminishing strips, to reduce risk of slips, trips and falls (STFs) and OHS manual handling with wheeled equipment.

Note 2: The use of different types of floor finishes in the one room e.g. carpet and vinyl should be avoided as it often results in varying floor levels due to need to use diminishing strips and can create a feeling of unsure footing. Non slip finishes are required at basin locations and may affect general floor finish selection.

Note 3: Unexpected changes in floor friction may create a greater risk of slips, trips and falls (STFs). To prevent tripping any changes in floor surface and slip resistance should be indicated by a visual cue such as a change of colour.

Note 4: Carpet; thin, dense and level pile, direct stick carpet is recommended as this provides less rolling resistance for the movement of equipment, less fatigue in walking and standing for staff and less potential for tripping.

Note 5: The use of cushioned vinyl or underlay should be assessed for OHS manual handling risks and for suitability for independent manual wheelchair mobility.

Note 6: In aged care and rehabilitation environments the selection of floor finishes should address the continence of patients. Carpet tiles, specifically designed for this environment, may be considered if used in conjunction with a sealed sub floor surface and where maintenance regimes permit its use. However carpet is less easily cleaned than resilient finishes and should not be used where there is a high rate of spills or soiling.

Note 7: Construct floor movement / construction joints to resist the passage of fire / smoke, as required by the BCA.

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- 603822 710 .76.00 Provide the slip resistance required and appropriate for different conditions. The following may be used as a guide:
- Standard vinyl is suitable for dry areas where patients, public and staff are expected to wear shoes.
 - Safety vinyl is similar to standard vinyl and provides greater slip resistance for dry use and spills but may cause tripping for some users e.g. aged care, gait / mobility problems, etc.
 - Enhanced safety flooring with raised profile vinyl flooring balances slip resistance with ease of cleaning and is suitable for barefoot use in wet areas such as patient showers where water, soap and body fat are present.
 - Enhanced safety vinyl flooring suits non barefoot wet areas where trolley movement is also expected, such as Dirty Utility and CSSU Decontamination Areas.
 - Stone and terrazzo are sometimes used in entrance foyer areas. However, when wet, worn or poorly maintained these finishes may present a danger to staff and visitors from STF. To increase slip resistance only proven proprietary non-slip chemical or other treatments should be used.

- 603823 710 .77.00 Select floor finishes capable of maintaining slip resistant for areas such as showers and bathrooms, kitchens and similar work areas that are subject to traffic whilst wet.

Note: Floor finishes should be slip resistant where the presence of fine powder such as talcum powder on a smooth dry floor will constitute a slip hazard.

Refer to:

AS/NZS 3003: Electrical installations - Patient treatment areas of hospitals and medical and dental practices (Std Aust 2003b).

AS/NZS 3661: Slip Resistance of Pedestrian Surfaces (Std Aust 1994b).

AS/NZS 4586: Slip resistance classification of new pedestrian surface materials (Std Aust 2004).

BRANZ Bulletin 370: Slip Resistant Floors (BRANZ 1998).

BRANZ 018-2000: Selecting Flooring (BRANZ 2000).

Centre for Health Assets Australasia 2007, Wall and Floor Finishes for Wet Areas, University of New South Wales, Sydney (CHAA 2007).

CIRIA 2006: C652: Safer surfaces to walk on, reducing the risk of slipping (CIRIA 2006).

NSW Health & CHAA UNSW 2009, TS-7: Floor Coverings in Healthcare Buildings V1.1, NSW Health.

The Center for Health Design: Sound Control for Improved Outcomes in Healthcare Settings (Joseph & Ulrich 2007).

Std Aust 1999, AS Handbook 197: An introductory guide to the slip resistance of pedestrian surface materials (Std Aust 1999a).

WorkSafe Victoria 2007, A Guide to Designing Workplaces for Safer Handling of People (For Health, Aged Care, Rehabilitation and Disability Facilities), 3rd, edn, WorkSafe Victoria.

Wall Finishes

603824 710 .78.00 PERFORMANCE REQUIREMENTS

Ensure that wall finishes meet all relevant regulatory requirements, standards and policy guidelines within each jurisdiction. Also ensure that they are fit for purpose and adequately address requirements for safety, OHS, sustainability, life cycle cost efficiency, indoor environment quality (IEQ) e.g. acoustic and aesthetic value, and indoor air quality (IAQ).

Ensure that interior wall finishes meet the criteria for acceptable Fire Hazard Properties required by the BCA for class 9a buildings specifically indices for flammability, spread-of-flame and smoke-developed.

603825 710 .78.50 GENERAL

Wall finishes are often the largest visual element in an area and thus can have an impact on the aesthetic appeal of the space. Selection of appropriate wall finishes may help create a non-institutional atmosphere and assist in the healing process. Other aspects such as the ease of cleaning, infection control, fire safety and patient care requirements may need to be considered in the finish selection.

See Part D for infection control issues.

603826 710 .79.00 SELECTING WALL FINISHES

In addition to the performance requirements above select wall finishes to adequately address the following issues:

- durability and resistance to impact from furniture, trolleys, aggressive patients, etc
- ease of cleaning and retention of appearance over time
- fire hazard properties
- requirements for infection control.

Ceramic tiles are not generally recommended as a wall finish due to their potential to compromise infection control. They are also susceptible to damage, and if cracked or broken, individual tiles may be difficult to replace.

603827 710 .80.00 WALL PROTECTION

Wall protection is recommended to improve the longevity and retain appearance of most wall finishes particularly in patient care areas, service corridors and other areas where beds, trolleys and other mobile equipment are used.

603828 710 .81.00 SKIRTINGS

Skirting can perform a number of different functions by providing:

- vital protection from scuffing and marking by wheeled equipment, cleaning appliances and feet
- a barrier against bacterial penetration and the build up of contaminants
- effective and easy cleaning
- accessible ducting for cable services
- skirting heating.

Skirting may be:

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- a manufactured item in various materials profiles and sizes either separate or welded to the flooring, or
- coved and integral with the floor, formed on-site by dressing the flooring material up the wall.

Pre-formed vinyl skirting is available as flat, feather edge or as ducted skirting for services. Flat and ducted skirting is also available in metal. Flat is commonly used with textile flooring with a feather edge for resilient floors. Other factors influence skirting type e.g. sequence of trades, new or retro-fit work, protection of wall or integrity of skirting during carpet laying operations.

Integral coved, on-site formed, skirting involves dressing the floor material up the wall over a preformed coving fillet usually 20-38mm radius.

Coved skirting should be a minimum of 150mm high. The skirting can either be tapered at the top to provide a minimal horizontal dust catching edge or finished with a capping seal profile.

603829 710 .81.50 The combination of sheet resilient flooring with welded seams and integral coved skirtings, as described above, is generally recommended for all patient care, clinical, wet and other areas where hygiene, infection control, ease of cleaning and decontamination are desirable or required.

For semi industrial and food process / waste handling areas, seamless coatings, ceramic tiling, etc may be used as appropriate to function.

Where used for wet, clean or similar applications, vinyl wall finishes may be welded to the vinyl floor finish provided that both finishes are homogeneous with a matching or 2mm minimum thickness.

Note: The use of vinyl wall sheet products of 1mm thickness carried down over the skirting and glued with an overlap is not recommended for healthcare use.

603830 710 .82.00 CORNER GUARDS AND CRASHRAILS

Provide corner guards and crashrails to protect wall linings and finishes against damage from impact in:

- inpatient, outpatient and public circulation corridors
- support services corridors, storage bays, equipment rooms
- any areas with trolley, mobile equipment or bed traffic.

Crashrail design should be appropriate for differing functional requirements e.g. inpatient units, back of house, loading docks.

Crashrail function is frequently incorporated in a dual purpose handrail / crashrail design. Ensure that the handrail and crashrail functions comply with AS1428 (Stds Aust 2010) and meet specific user requirements e.g. aged care.

Note: Additional lower crashrail or wall protection may be required for a particular damage pattern.

603831 710 .82.50 HANDRAILS

Provide handrails as required to provide assistance and support for patients and visitors, as required by the BCA and as a result of risk assessment. Each department should also be assessed individually for the requirements of staff and visitors with disabilities.

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Free ends should be returned as these constitute a potentially serious head injury risk to children. Design should ensure no pinch points or grip obstructions from fixing brackets.

Refer to Section 730 - Grab Rails for additional detail, and to Section 790 - Safety for self harm issues.

603832 710 .83.00 SPLASH PROTECTION

Apply splash protection to walls in areas such as laboratories, Formula Rooms, Beverage Bays, Kitchens, Bathrooms, Showers, and Dirty Utility Rooms in addition to handbasins, scrub troughs, cleaners' and laundry sinks.

603833 710 .84.00 RADIATION PROTECTION

Radiation protection will depend on individual room requirements. Material used and the extent of radiation shielding should be determined by a Radiation Services consultancy in accordance with the governing regulations and guidelines.

For example: In Western Australia, The Radiation Safety Act - 1975 (State Government of Western Australia 1975); and The Radiation Safety Regulations - 1983 (State Government of Western Australia 1983) - as administered by The Radiological Council of Western Australia.

603834 710 .85.00 BENCH TOPS

Bench tops should have a smooth, impervious and durable finish and be resistant to stains. Joins should be avoided where possible for ease of cleaning. The design and the materials used should adequately meet all functional, sustainable and life cycle requirements. A range of products are suitable e.g. laminates, synthetics and stainless steel.

The junction between wall and bench top work surface may be sealed, provided with an upstand and/or wall protection, or designed with an upstand and/or cleanable gap, as required by function e.g. cleaning, infection control.

Handwash Facilities

603835 710 .86.00 PERFORMANCE REQUIREMENTS

Comply with the recommendations of Part D Infection Prevention and Control and the Standard Components for standard clinical and non-clinical basin types, fittings and locations.

In addition to the recommendations of Part D, and for any other special basin types, handbasins should be:

- large enough and taps and spouts positioned in such a manner to prevent splashing from the waste trap or from the bowl onto the floor creating a safety hazard
- fixed at a height, including fittings, to suit the particular function, such as paediatric, accessible, and standard
- securely supported with basins fixed to withstand an applied vertical load of not less than 115 kg on the front of the fixture
- located, including fittings, to permit their proper use and operation. Liquid soap dispensers should be located over the basin wherever possible.

Note: For accessible mirrors the BCA requires that these be located within

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900mm of the floor. Since the preferred location of mirrors is over the basin some compromise is required.

603836 710 .87.00 TAPWARE

Particular care should be given to the clearances required for elbow lever action handles.

Standard handles with effective finger grips and non-thermal transmitting are preferred.

603837 710 .88.00 NO TOUCH TAPWARE

Decisions regarding the provision of 'no touch' basin tapware should be referred to the project control group for resolution. Issues to be considered include installed and maintenance costs, jurisdiction and area / district health service infection control policies, tapware type and function. The types of 'no-touch' tapware include:

- sensor operated with wave on / wave off
- sensor operated - on demand
- timed flow - touch operated
- foot or knee operated, etc.

Tapware should comply with AS/NZS 3718: Water supply - Tap ware (Std Aust 2005b).

References and Further Reading

603838 710 .90.00 GENERAL

Further references are provided below. Ensure that current versions of the following documents or web references are consulted. The list is not exhaustive and additional references are provided above within the text.

AUSTRALASIAN

For Accessibility and Disability issues. Refer Section 730 and Further Reading.

Australian Human Rights Commission 2009, Australian Human Rights Commission homepage, Human Rights and Equal Opportunities Commission, www.humanrights.gov.au

INDIVIDUAL JURISDICTIONS

AusHFG Part B - Access for each jurisdiction.

AusHFG Part D Infection Prevention and Control.

603839 710 .90.10 FURTHER READING AND REFERENCES

Centre for Health Assets Australasia 2007, Wall and Floor Finishes for Wet Areas, University of New South Wales, Sydney.

Commonwealth of Australia 1992, Disability Discrimination Act 1992, Office of Legislative Drafting and Publishing, Canberra.

Department of the Environment and Heritage 2006, ESD Design Guide for Australian Government Buildings, 2nd edn, Australian Government.

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Green Building Council Australia 2006, Healthcare V1, Green Star.

Green Guide for Health Care 2005, Green Guide for Health Care V 2.1, GGHC.

Joseph, A 2006, The Impact of Light on Outcomes in Healthcare Settings Issue Paper 2, Centre for Health Design, Concord, CA.

Joseph, A. and Ulrich, R. 2007, Sound Control for Improved Outcomes in Healthcare Settings, The Center for Health Design.

NSW Health 2005, PD 2005-077: Improved Access to Health Care Facilities, NSW Health.

603840 710 .90.20 STANDARDS AND REGULATIONS

Australian Building Codes Board 2009, The Building Code of Australia, Australian Government, State and Territory Governments of Australia.

BRANZ 1998, Bulletin 370: Slip Resistant Floors: Building Research Association of New Zealand.

BRANZ 2000, BRANZ 018-2000: Selecting Flooring, Building Research Association of New Zealand.

CIRIA 2006, C652: Safer surfaces to walk on - reducing the risk of slipping, CIRIA, UK.

NSW Health & CHAA, UNSW, 2009, TS-7: Floor Coverings in Healthcare Buildings V1.1, NSW Health.

State Government of New South Wales 2010, Occupational Health and Safety Regulation 2001 (updated 2010), NSW Government.

State Government of Queensland 2009, Workplace Health and Safety Act 2008, Office of the Queensland Parliamentary Counsel.

State Government of Western Australia 1975, Radiation Safety Act 1975.

State Government of Western Australia 1983, Radiation Safety (Attorney-General's Department) Regulations 1983.

Std Aust 1994a, AS Handbook 59: Ergonomics - The human factor - A practical approach to work systems design, SAI Global.

Std Aust 1994b, AS/NZS 3661: Slip Resistance of Pedestrian Surfaces, SAI Global.

Std Aust 1999a, AS Handbook 197: An introductory guide to the slip resistance of pedestrian surface materials, SAI Global.

Std Aust 1999b, AS 2047/Amdt. 1-2001: Windows in buildings - Selection and installation, SAI Global.

Std Aust 2000, AS/NZS 2107: Acoustics - Recommended design sound levels and reverberation times for building interiors, SAI Global.

Std Aust 2001, AS 4145.3: Mechanical locksets for windows in Buildings, SAI Global.

Std Aust 2003a, AS Handbook 260: Hospital acquired infections - Engineering down the risk., Sydney, Australia, SAI Global.

Std Aust 2003b, AS/NZS 3003: Electrical installations - Patient treatment

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areas of hospitals and medical, dental practices and dialyzing locations, SAI Global.

Stds Aust 2003c, AS 5040: Installation of security screen doors and window grilles, SAI Global.

Stds Aust 2004, AS/NZS 4586: Slip resistance classification of new pedestrian surface materials, SAI Global.

Stds Aust 2005a, AS 1905.1: Components for the protection of openings in fire-resistant walls - Fire-resistant doorsets, SAI Global.

Stds Aust 2005b, AS 3718: Water Supply - Tap ware, SAI Global.

Stds Aust 2006, AS 1288: Glass in buildings - Selection and installation, SAI Global.

Stds Aust 2008, AS 5039: Security screen doors and security window grilles, SAI Global.

Stds Aust 2010, AS 1428.(Set): Design for Access and Mobility, SAI Global.

WorkCover NSW 2000, Guidelines for Building Facade Access Systems, WorkCover NSW.

Workplace Health and Safety Queensland 2007, Guide to the workplace health and safety obligations of designers of structures, Queensland Department of Employment and Industrial Relations.

Workplace Health and Safety, Queensland, 2009, Work at Heights, Department of Employment and Industrial Relations.

WorkSafe Victoria 2007, A Guide to Designing Workplaces for Safer Handling of People (For Health, Aged Care, Rehabilitation and Disability Facilities) 3rd edn, WorkSafe Victoria,

ACCESS AND MOBILITY

General

603841 730 .1.00 PERFORMANCE REQUIREMENTS

Comply with the relevant legislation, regulations, codes and policies for each jurisdiction, including:

- BCA - Building Code of Australia (including amendments)
- OHS - Occupational Health and Safety Acts and Regulations
- DDA - Disability Discrimination Act
- State or Territory jurisdiction level anti-discrimination legislation as applicable.

Note 1: The BCA requires access to and through a healthcare facility to meet AS1428.1 (Stds Aust 2010) unless provision of access is considered to be inappropriate to the particular use. Disability discrimination legislation reinforces this requirement but may reference or advise a preferred compliance with AS1428.2 (Stds Aust 2010).

Note 2: Exclusions are conventional sanitary facilities. There are particular requirements for accessible facilities and for areas where people with relevant disabilities are excluded usually for OHS reasons.

603842 730 .1.50 GENERAL

The subject of Human Engineering covers aspects of the design that permit effective, appropriate, safe and dignified use by all people including those with disabilities. It includes occupational ergonomics which aims to fit the work practices, FF&E and work environment to the physical and cognitive capabilities of all people.

As the requirements of Occupational Health and Safety (OHS) and anti-discrimination legislation will apply, this section needs to be read in conjunction with the section on Safety and Security in these guidelines in addition to OHS related guidelines.

The Building Code of Australia Part D covers some aspects of access for persons with disabilities. The Disability Discrimination Act unlike the BCA is a complaint based instrument. Section 23 covers discrimination in relation to means of access to, and within, premises (Commonwealth of Australia 1992).

Where the BCA or any other law and the DDA cover the same issue, the more demanding requirement or broader interpretation will apply in addition to the mandatory requirement [AHRC]. Seeking expert advice is advised for interpretation of the DDA in relation to accessibility matters.

AS1428 Design for Access and Mobility covers various aspects of design for people with disabilities. AS1428 is often referred to in these guidelines and should be followed in relevant areas. Human Engineering for able bodied persons also requires careful consideration. Some of the common issues are covered in this section.

603843 730 .2.00

There is increased public awareness of barriers that make reasonable utilisation of facilities difficult or impossible for the physically impaired. A healthcare facility will have a high proportion of occupants, patients and visitors who are unable to function without some form of assistance. Some staff may also be impaired. To ensure minimum patient dependence on staff and others, consideration should be given to designing for optimum patient

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independence and enhanced staff productivity.

Consideration should be given to the wide range of disabilities including:

- mobility impairment
- visual impairment
- hearing impairment
- cognitive impairment e.g. patients with brain injury or dementia
- mental illness.

In addition, cultural and literacy issues should be considered as they can impact on access and safety.

603844 730 .3.00 Design buildings and services to acknowledge and address the needs of a wide range of users including:

- able bodied people
- bariatric visitors and patients
- clients being assisted by one or more people e.g. a reluctant mental health patient
- clients and visitors with baby prams, carrying or walking with young children
- staff pushing beds, patient trolleys, other wheeled equipment
- clients and visitors with a walking frame or other mobility aid such as a stick or using a wheelchair independently
- clients and visitors with impaired vision
- clients and visitors with literacy issues
- staff who may have a permanent or temporary disability
- maintenance staff needing access to engineering plant.

Planning

603845 730 .4.00 To minimise overall costs and to avoid the need for expensive modification of finished work, initial designs should include specific consideration of the needs of the physically, visually, hearing and mentally impaired. The majority of requirements can be easily accommodated during the planning stage at little or no additional cost. Modifications required at a later time may be prohibitively expensive or impractical.

Australian Standard 1428

603846 730 .5.00 AS1428: Design for Access and Mobility parts 1 to 4, covers the issues of access for people with disabilities, and particular attention is given to access ways and circulation (Stds Aust 2010). Continuous traffic paths are required for use by people using wheelchairs. Provide facilities for people with ambulatory disabilities and for people with sensory and cognitive disabilities.

The sections of AS1428 (parts 1 and 4) referenced by the BCA are mandatory. AS1428.2 contains more inclusive provisions and extends to elements beyond the compass of the BCA including furniture and fittings. AS1428.3 is seldom referenced being reserved for facilities designed exclusively for children and adolescents with disabilities.

Consider omitting on-ground tactile indicators in certain situations as these may cause tripping for users with walking frames, sticks, impaired gait, etc and an adverse affect on patients with spinal problems transported by trolley over these raised indicators.

These guidelines require that a minimum number of rooms be sized and designed for use by people with disabilities regardless of the anticipated number of patients with disabilities. These are covered in the relevant sections of the HPU in Part B.

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Note: AS1428 parts 1 and 2 address identical building elements but nominate different criteria for them. The latter is more inclusive and may be preferred as a basis for design to suit the widest number of people with disabilities. Compliance with AS1428.2 will also achieve compliance with AS1428.1. The differences apply to:

- width of path of travel
- distance between landings at ramps
- range of handrail heights
- clear width of doorway openings
- circulation space at doorways and sanitary facilities.

603847 730 .6.00 DEPENDENT PATIENTS

AS1428 primarily considers access by people with disabilities who are independent. Give consideration to access by people who are physically dependent and who may be assisted by one, two or more people and/or who may be transported on a bed or trolley. These considerations will have significant implications for the slope, clear width and turning circles on ramps, clear width of doors and corridors, size of lifts and vehicle access.

Handrails and Grabrails

603848 730 .7.00 Provide grabrails and handrails as required by the BCA as a minimum. In addition provide these for the purposes of patient / visitor safety and assistance in mobility. Locations and layout in patient care and public areas should be determined by risk analysis.

The design, sizing and fixing of grabrails and handrails should comply with AS1428 parts 1 and 2 as applicable e.g. withstanding applied forces of 1100 N, clearances, etc.

Care should be taken to ensure the elimination of hand obstruction, and free ends that may snag clothing, equipment or cause head injuries to children.

603849 730 .8.00 Grabrails, handrails, vertical adjustable shower supports, towel rails, soap holders, footrests and any other fixture that may be used for support should have sufficient anchorage and strength to resist the sustained concentrated load of a falling and heavy person.

603850 730 .9.00 Consider the design of grabrails in areas such as emergency departments and mental health units where patients may self-harm, and where aged patients and comorbidity are issues. Only approved anti-ligature fittings should be fitted.

Refer to Section 710 - Corner guards and crashrails.

Ramps

603851 730 .10.00 The minimum requirements for pedestrian ramps for egress and accessibility in class 9a, patient care areas and other classifications are covered by the provisions of the BCA section D, and in AS1428 parts 1 and 2. The intent and objectives of The Disability Discrimination Act should also be considered with regard to routes affected by the location of ramps (Commonwealth of Australia 1992).

Pedestrian ramps may be required for general facility circulation activities such as moving beds, ambulance trolleys and other equipment between

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different levels. The design should also satisfy OHS and manual handling requirements e.g. wider ramps, longer landings and reduced gradients. Refer to Section 710 - Ramps.

Ramps in other areas such as service vehicle, goods handling and loading areas should comply with good design and safety practices, Australian Standards (where applicable) and be fit for purpose e.g. use by pallet movers, tugs, trolley trains, fork lift, etc. Where these ramps also serve an egress or accessibility function the BCA, AS1428, as referenced by the BCA, and DDA intent and objectives will apply.

Note 1: To avoid possible disability discrimination issues consider locating ramps as closely as possible to stairways and/or lifts serving the same levels and not using ramps to connect levels greater than 3.5 metres apart.

Note 2: Consider designing ramps providing pedestrian access to meet AS1428.2 enhanced / additional requirements.

Vehicle ramps including curbs, crash barriers / rails, signage, etc should comply with the relevant Australian Standards and other relevant traffic or local authority regulations. Vehicle ramps should not be relied upon for pedestrian movement.

Staircases and Balconies

603852 730 .11.00 All open staircases, balconies, mezzanines, suspended walkways, etc pose a risk of injury from falling to patients, children and others, including patients intending self harm. Address this issue and also design to prevent objects falling or being thrown which may injure people at lower levels.

Stair design is governed by the BCA. However, ensure ease of use for patients and visitors by appropriate selection of tread and riser dimensions within the formula provided.

Treads should be slip resistant without causing tripping. Any non-slip inset or applied strips or nosings should not cause a trip hazard. Luminance contrast for tread edges should comply with AS1428.1 and stairs should be adequately lit.

Consideration should be given to passive security measures such as the removal of concealment spaces through the use of natural light and providing increased visibility for users.

Note 1: The BCA distinguishes between 'required' stairs e.g. for egress and 'non-required' stairs, ramps, etc with differing requirements.

Note 2: Consider designing to AS1428.2 to enhance accessibility.

603853 730 .11.50 BALUSTRADES AND HANDRAILS

Provide balustrades and handrails as required by the BCA, and to meet the objectives and intent of the DDA. In addition to BCA requirements, all stairs for use by patients and visitors should be provided with continuous handrails to both sides of the stairs.

In addition the design should incorporate the relevant requirements for risk factors identified through risk assessment analysis under AS/NZS ISO 31000:2009 (Std Aust 2009).

Note: It may be considered necessary to increase the minimum BCA heights for balustrades and barriers.

Overview

603854 730 .12.00

Design and built facilities to minimize negative risk to patients, staff, visitors and maintenance personnel in accordance with AS/NZS ISO 31000: Risk Management (Stds Aust 2009).

Badly designed recurring elements such as workstations and the layout of critical rooms have a great impact on the Occupational Health and Safety (OHS) of staff and the welfare of patients.

Designers should be vigilant to ensure that designing out one risk doesn't result in the introduction of another e.g. in designing out a security risk do not create creating a manual handling risk.

The field of Ergonomics covers some aspects of the design of objects for common use. Research indicates that there is disagreement on some aspects of ergonomic standards such as the best sitting posture or angle of view for monitors but on most ergonomics issues there is broad agreement.

It is not appropriate for any standard to be regarded as ideal for every person. It is also unreasonable to expect all items to be designed in such a way that they can be adjusted for all users.

Given these limitations, the role of ergonomics standards is to provide a reasonable and common base for design. It is strongly recommended that the actual design allows for modification or provides a choice of amenity.

The recommendations included in these guidelines are those commonly required in healthcare facilities and apply generally to purpose made and built-in furniture items. Purchased items will be subject to the purchasing policies of each jurisdiction.

For items covered and not covered in these guidelines, it is highly recommended that reference is made to the following as appropriate:

- AS Handbook 59: Ergonomics - The human factor, A practical approach to work systems design (Stds Aust 1994a)
- AS1428: Design for Access and Mobility - Part 2: Enhanced and Additional Requirements - Buildings and Facilities (Stds Aust 2010)
- AS3590.2: Screen-based Workstations - Part 2: Workstation Furniture (Stds Aust 1990)
- AS/NZS4443: Office Panel Systems: Workstations (Stds Aust, 1997b).

A workplace occupied by a single user for extended periods of time should be capable of adjustment or modification to suit that user.

Facilities used more casually by a variety of users should be designed to anticipate their various needs. The opinion of specialist ergonomists or OHS professionals may be necessary in particular cases.

Conventional work surface heights for seated users are not suitable for people who use wheelchairs and in this case dual-height surfaces should be provided. In addition to the references nominated above, see AS1428.2 Section 24 Furniture and Fitments (Stds Aust 2010).

Bench heights and widths in laboratory and similar work areas should be designed taking into account the type of work to be performed. Refer to AS/NZS2243: Safety in laboratories, Part 1: Planning and operational aspects (Stds Aust 2005).

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Standards Table

603855 730 .13.00 The table below lists recommended dimensional standards for typical items of furniture and fittings. Where not covered by Australian Standards the guidelines and recommendations from other jurisdictions and recognised sources have been used.

Note: Furniture or fittings sourced under Government contract may vary marginally from these Standards.

Note 1: Work bench and writing bench require clear knee space under.

Note 2: Provide additional writing bench 850mm high to all but individual work stations.

ITEM	CONDITION	DEPTH	HEIGHT	THICKNESSmm	REQUIRE D	REMARKS
WORK BENCH	Utility	600	900*	32	No	No computer.
WRITING BENCH	Keyboard use	750 600 min	730* 700-850	max 50	No	Flat screen monitor.
TOP COUNTER	Over bench	250	1150*	20-32	No	750 reach.
SHELVING	Over 900h bench	350	1520-1820	20	No	2 shelves.
SHELVING	Over 720h bench	350	1370*	20	No	2 shelves.
SHELVING UNIT	Full height	350-400	150-1820	20	No	7 shelves.
						* Bench heights may be raised or lowered to suit equipment or use.

Staff Station

603856 730 .14.00 GENERAL

A Staff Station may be used for a variety of purposes:

- a clerical workstation
- reception
- staff base
- reporting station or sub-station
- clinical observation with a level floor.

Part of a typical Staff Station may be used as a workbench or workstation. For ergonomic recommendations, refer to the appropriate sections of this guideline.

603857 730 .14.10 DESIGN

Staff stations with high and low counters serve a number of different and often conflicting functions. For example:

- separation of public and staff for staff safety, security of information and desktop items, etc - provided by a front panel and top counter overhang
- enabling of communication, passing of items depending upon overall counter depth/reach, a surface for patients to write, including use by persons with disabilities including staff and others.

Some of these multiple functions are often solved by varying parts of the staff station to suit particular functions such as wheelchair usage.

Typically, the height of the front panel, the depth and projection of the top counter, and the worktop depth compete for the different functions. The

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ergonomic and OHS requirements for keyboard and screen use will dictate worktop depth and top counter projection back over the worktop. The use of flat screens overcomes excessive overall depth and cross counter reach problems caused in the past by CRT displays units. See Screen Based Equipment.

Note: Attention should be paid to the placement of overhead high-intensity down-lighting especially in reception areas as these may be reflected in the rear surface of eyewear worn by counter staff causing an OHS problem.

603858 730 .14.20 RISK MANAGEMENT

OHS risk assessment should be undertaken with respect to the staff station design and the placement of equipment within the zone of frequent use e.g. paging computer, reception switchboard, nurse call and other frequently used equipment, items and actions.

Testing using existing units or informal, temporary mock-ups is recommended to avoid the inconvenience and cost of rectification.

The recommendations that follow are within the dimensional ranges recommended in AS3590.2: Screen-based workstations - workstation furniture (Stds Aust 1990). It should be noted that the latter are based on the use of CRT type monitors - now generally replaced by LCD flat-panel display units with a shallower average depth.

High Counter

603859 730 .15.00 DESIGN

A high counter is used to shield objects, equipment and records from inappropriate viewing. A high counter may also provide a convenient writing surface for visitors and staff, and may be referred to as a parcel shelf or service counter. A high counter used for direct interaction between staff and visitors or patients should be designed to allow for the transfer of objects across the work surface without excessive reaching becoming necessary.

Flat panel displays should be used with an effective work surface width of 750mm. The use of CRT displays is not recommended as these require excessive width.

In conjunction with a work surface designed at 720mm above the floor, the recommended height of the top counter is 1150mm above the floor. This height will allow a seated person sufficient privacy to work whilst being able to see visitors who are standing or sitting. According to AS 3590.2, the recommended maximum height to the top counter above floor level is 1200mm above the floor level (Stds Aust 1990).

Take care when determining the counter design as high counters can make it difficult for staff and clients to communicate, especially where the client is of short stature, a child, in a wheelchair or if the client or staff member is hearing impaired. This can exacerbate the risks of frustration and aggression. High and wide counters can also create risk and difficulties for staff who do not fit into the average percentile design range for height and reach.

Security risk assessments to AS/NZS ISO 31000 should form the basis on which to determine the type of mitigation works / security treatments required e.g. whether to have barriers or the type of barrier (Stds Aust 2009).

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Wheelchair Access

- 603860 730 .16.00 Apply the requirements of AS1428.2 clause 24 to the public / patient side of the Staff Station and reception counters by providing dual surfaces 730mm and 850mm high. Finished tops, heights and clearance beneath for adjustable, single and double unit instances in addition to knee and foot clearances and limits of reach are also covered.

Low Counter

- 603861 730 .17.00 In some situations, a lower counter at which staff and patients sit may be considered. These have the advantage of creating a more intimate situation.

They are easily accessed by people of all heights and those who may be in a wheelchair. It has also been stated that people are less likely to become aggressive and physically threatening when they are seated.

Security Barriers

- 603862 730 .18.00 PERFORMANCE REQUIREMENTS

All counters provided for public / staff interaction should be subject to a security risk assessment to AS/NZS ISO 31000: Risk Management (Std Aust 2009). Ensure appropriate security / risk mitigation treatments are implemented.

- 603863 730 .18.50 Where it is necessary to provide a security barrier at a counter, the design including associated access doors should allow for the type of interaction required including:

- the transfer of small objects and speech
- accessibility standards e.g. ergonomic, hearing / vision impairment
- the needs of special user groups e.g. mental health, cognitive impairment
- OHS and security requirements
- passing large or special objects e.g. pharmacy
- transfer of mobile transfer equipment/containers e.g. goods, cash.

The barrier may be an open grille, glazed, or some other material / method e.g. monitor / intercom. If an operable security grille or similar device is provided, ensure that the function and operation complies with OHS and duty of care requirements.

The design of the barrier should be fit for purpose e.g. protects counter-staff from thrown objects / liquids or attack with an object or weapon. Glazed screens should comply with AS2208: Safety glazing materials in buildings (Std Aust 1996) and AS/NZS2343: Bullet resistant panels and elements, as required (Std Aust 1997a).

Refer: Section 790 - Safety - Screens and Grilles.

Workbench

- 603864 730 .19.00 GENERAL

Workbenches may be designed for two typical work practices - sitting position or standing position. For example, some nursing staff may prefer the workbench in a Staff Station to be used in the standing position or high sitting position, whilst some staff prefer the lower sitting position. Both options are equally valid and acceptable, however the ergonomic standards for the two will vary.

603865 730 .20.00 SITTING POSITION

A workbench surface used in the sitting position should be 730mm above the floor. See options under AS1428.2 clause 24 (Stds Aust 2010). With a recommended minimum depth of 750mm, this will accommodate the use of a keyboard with a flat panel display, other desktop equipment and provide for future changes in use.

Note: A minimum depth of 600mm is adequate for casual use of notebook computers e.g. write-up bays, lounge areas, etc.

603866 730 .21.00 STANDING POSITION

This position suggests that the primary use of the workbench will be in the standing position. However allowance may be made for the use of this type of workbench while sitting.

If the bench is almost exclusively used in the standing position with a requirement for occasional typing, the bench height of 1000mm above the floor is recommended. If the bench is mostly used in the standing position with occasional typing in the sitting position, a bench top height of 900mm is recommended. The first option is most often requested for staff stations, reporting stations and smaller reception counters. The second option - 900mm - is most often used in utility rooms, laboratories, beverage bays, kitchens and similar areas.

603867 730 .22.00 FOOT SUPPORT

The use of footrests in the sitting position is recommended as required. Chairs used at workbenches used in the standing position should have foot support rings and be height adjustable.

603868 730 .23.00 BENCH SUPPORT

A workbench should be able to support the weight of persons sitting or standing on it, in addition to any equipment located there.

Screen Based Equipment

603869 730 .24.00 GENERAL

Screen based equipment (SBE) and personal computers are used in a variety of ways. It is difficult to dictate a particular position to suit all people. The following guidelines represent the most typical preferences and standards.

Design of SBE workstations should be considered in conjunction with planning for FF&E. Reused computers may differ from new equipment and the design of the workplace should respond to the actual equipment used.

603870 730 .25.00 COMPUTER SCREENS/MONITORS

The term VDU (visual display unit) used in AS3590.2 relates to CRT (Cathode Ray Tube technology). CRT displays have now generally been replaced by flat panel display units, also referred to as screens or monitors (Stds Aust 1990).

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Older CRT VDUs require a deeper worktop with a consequent reduction of work surface depth. In most cases these units have now been replaced by newer technology.

603871 730 .26.00 SCREEN POSITION

The exact horizontal location of the screen should be adjustable to suit different users. The vertical position of the screen will depend on the height of the user. For recommended location and viewing angles refer to AS3590.2 (Stds Aust 1990).

603872 730 .27.00 LAPTOP / NOTEBOOK COMPUTERS

Worktops should generally be designed to accommodate a separate keyboard and flat panel display. Although the use of laptops is common, any proposed reduction in design standards should be carefully considered.

It is recommended that laptops used for frequent or prolonged typing should be used with a separate keyboard and mouse, and preferably connection to a normal size screen. Local area network (LAN) access may be wireless or by connection to a data outlet.

Security issues should be considered in the selection of laptops. Their use in areas accessible to the public should be carefully considered with locking cables and devices provided.

Workstation - Typical

603873 730 .28.00 These guidelines apply to the typical L-shaped workstation as well as desks with or without a return.

Workstations for screen based equipment are covered by AS3590.2: Screen-based workstations - Workstation furniture. However, AS1428.2 clause 24 should take precedence for user accessibility. Reduce the worktop depths as required by AS3590.2 if flat screen displays are to be used - see below.

A median height of 730mm is recommended for a fixed height work surface. For screen based work while in a seated position, AS3590.2 provides for 680mm - 720mm. For adjustable worktops the height range can vary from 660mm - 840mm, and 610mm to 1010mm depending on the product. One height will not suit all users. It is strongly recommended that flexibility be built into the construction if adjustable-height units are not installed.

To accommodate a keyboard and flat panel display a 750mm deep work top is recommended. If a CRT monitor is required (non standard) increase the work top depth to 900mm.

The depth of the return to the main work surface may be between 450mm and 750mm with 600mm as a general standard to accommodate under bench storage and file / drawer units.

A standard recommended configuration for a workstation includes one work surface of 750mm wide and one work surface of 600mm wide. The use of 750mm for both work surfaces should be considered to allow for flexibility in use and the accommodation of computer peripheral equipment. It is important to allow a computer position that does not require a person to sit with their back to the door, especially where this may be a security risk.

If a computer is positioned in the corner, angle the corner with a minimum dimension of 400mm wide. Refer to AusHFG Standard Components: Office - workstation.

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Design workstations with adequate knee space to allow for turning without obstruction. A modesty panel should be included in some locations. Round edges if one end of the workstation forms a meeting table.

Provide workstations with a safe cable management system. The simplest will involve an open tray under the work surface. In proprietary workstations, electrical and data wiring may be internally run with outlets above the work surface. Alternatively these outlets may be on the adjoining wall at a height of 550mm above the floor level with access to the work surface via the cable tray and a cable access cap.

Comply with the relevant regulations and Australian Standards for all services and connections built in or connecting to workstations. Adequate power and data connections should be provided to avoid the use of adaptors, etc. Surge protection should be provided to distribution boards supplying computer and associated equipment.

Shelving

603874 730 .29.00 GENERAL

Shelving should be fit for purpose and adequately address all issues of depth, reach, spacing, strength and cleaning. See General Performance requirements.

Shelving described in this section may be in the form of joinery shelf units, adjustable wall strip systems, upright medical record and filing systems, metal racking products, pharmacy systems or similar devices and shelves within a cupboard.

The location of shelving should not adversely affect any other functions e.g. clearances over work surfaces, use of wheeled bins (lid opening), door swings, effective cleaning, etc. Shelving includes the provision of adequate support structures within partitions for wall-hung systems.

603875 730 .30.00 DESIGN CRITERIA

DEPTH (front to back)

The recommended depth for shelves below a workbench is the approximate full width of the bench. The recommended average depth for wall-mounted shelves is 350mm. This will suit wall cupboards in utility rooms or over workstations. If a door is provided over the shelf unit, 350mm should be the total depth.

Shelf height will affect a functional shelf depth. 1250mm is a recommended maximum height for full reach into a shelf for men and women, whereas below 700mm high the reach into a shelf becomes increasingly difficult. 550mm is the maximum reach depth for women and 600mm for men.

The recommended depth of shelves for medical records shelving units is 400mm. This depth allows for metal dividers.

REACH AND SPACING

The maximum shelf height should not exceed 1700mm for women/combined use, increasing to 1850mm for men. Library stools will improve reach and approved steps are recommended for heights over 1950mm. However, this is for long term storage only. A minimum shelf height of 300mm is recommended although 150mm is usual in shelving units. However, a minimum height of 300mm is recommended for handles, etc on items stored below this height.

The recommended starting point for wall mounted shelves above a work

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surface designed at 720mm above the floor is 1370mm above the floor. This brings the underside of the shelf to 650mm above the desk.

The recommended starting point of wall mounted shelves above a work surface designed at 900 - 1000mm above the floor is 1520 - 1600mm above the floor. This brings the underside of the shelf to 1500 - 1580mm above the floor.

Shelves above a workbench should be a minimum of 600mm clear above the bench to accommodate computer monitors that should be set at an appropriate ergonomic height for users.

A typical Medical Records storage unit will be a joinery or standard metal adjustable shelving unit approximately 2100mm high with seven shelves starting from 150mm above the floor. Note: Files are generally 305 x 240mm stored horizontally. A library stool, not a step ladder, should be used to improve reach.

The recommended depth for wall shelves used for the storage of linen is 450mm spaced 400mm apart vertically.

Where possible and practical, all shelving should be adjustable. Typically, the first and last shelf in a joinery unit will be fixed.

Note: Only use an adjustable shelf support or fixed shelf connecting system adequate for the intended loading and use. Standard metal support pins used with drilled holes may be inadequate and recessed metal strip support systems may compromise infection control.

STRENGTH

Shelves should be designed to suit the weight of the objects most likely to be stored upon them. It should be noted that adjustable shelves are not as strong as fixed shelves. Additional strength may be gained by using thicker and/or stronger material or by providing an edge downturn.

ACCESS CLEARANCES

Adequate clear access space should be provided in front of shelves to ensure effective and safe use such as removal of items, stepping back, bending, squatting, turning or as required by:

- OHS regulations and guidelines
- use of equipment e.g. steps, fork lift, etc
- wheelchair access - as applicable to area function - unusual for engineering or central stores
- BCA for egress if applicable for medical record stacks, etc.

ACCESS FOR PEOPLE WITH DISABILITIES

The height range of shelving suitable for use by people with disabilities is nominated in AS1428.2 (Stds Aust 2010). The design of any shelving should recognise this range.

Note: For shelves in sanitary facilities refer AS1428.1 section 10 (Stds Aust 2010) and BCA clause F2.4 (Australian Building Codes Board 2009). All accessible toilets should be provided with a shelf.

References and Further Reading

603876 730 .31.00 Australasian

Commonwealth of Australia 1992, Disability Discrimination Act 1992, Office of Legislative Drafting and Publishing, Canberra:
www.comlaw.gov.au/ComLaw/Legislation/ActCompilation1.nsf/0/31452800B6

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Australian Government Department of Health and Ageing 2009, Disability (Access to Premises - Buildings) Standards 2009, Attorney-General's Department, Australia, www.ag.gov.au/premisesstandards

603877 730 .32.00 Individual Jurisdictions

NSW

NSW Department of Commerce State Procurement 2005, Contract 308: Workstations.

NSW Department of Commerce State Procurement 2006a, Contract 123: Office Furniture.

NSW Department of Commerce State Procurement 2006b, Contract 247 - Executive Furniture.

NSW Health 2005, PD 2005-077: Improved Access to Health Care Facilities, NSW Health.

QLD

Queensland Health 1998, Planning and Design Guidelines, Section 1, Queensland Health.

SA

Department for Transport Energy and Infrastructure 2006, Disability Access Guide, Government of South Australia.

Government of South Australia 2004, Compliance Obligations of Building Asset Owners, Government of South Australia.

Tasmania

Department of Premier & Cabinet, Tasmania 2005, Disability Framework for Action 2005 - 2010: a whole-of-government framework for Tasmanians with disabilities, Department of Premier and Cabinet.

State Government of Tasmania 1992, Disability Services Act 1992, www.austlii.edu.au/au/legis/tas/consol_act/dsa1992213/

Victoria

State Government of Victoria 2006, Disability Act 2006, Victoria, www.legislation.vic.gov.au/

WA

Disability Services Commission 1999, Buildings - A Guide to Access Requirements, Disability Services Commission.

Disability Services Commission n.d., Disability Access and Inclusion Plans for Local Government, Disability WA.

Disability WA 2009, Disability Services Commission, www.disability.wa.gov.au/index.html

State Government of Western Australia, 1993, Disability Services Act 1993, www.austlii.edu.au/au/legis/wa/consol_act/dsa1993213

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603878 730 .33.00 Standards

Std Aust 1990, AS 3590.2: Screen-based workstations - Workstation furniture, SAI Global.

Std Aust 1994a, AS Handbook 59: Ergonomics - The human factor - A practical approach to work systems design, SAI Global.

Std Aust 1994b, AS 1735.12: Lifts, escalators and moving walks - Facilities for persons with disabilities, SAI Global.

Std Aust 1996, AS/NZS 2208: Safety glazing materials in buildings, SAI Global.

Std Aust 1997a, AS/NZS 2343: Bullet resistant panels and elements, SAI Global.

Std Aust 1997b, AS/NZS 4443: Office Panel Systems - Workstations, SAI Global.

Std Aust 2005, AS/NZS 2243.1: Safety in laboratories - Planning and operational aspects, SAI Global.

Std Aust 2009, AS/NZS ISO 31000: Risk Management, SAI Global.

Std Aust 2010, AS 1428 (Set): Design for Access and Mobility, SAI Global.

603879 730 .34.00 Further Reading

Australian Human Rights Commission 1998, Advisory Notes on Access to Premises, Human Rights and Equal Opportunities Commission, www.hreoc.gov.au/disability_rights/standards/Access_to_premises/premises_advisory.html

Goldsmith S., 2000, Universal Design, Architectural Press, Woburn.

Littlefield D., 2001, Metric Handbook: Planning and Design Data, 3rd ed., Elsevier Science & Technology Books.

NHS Estates 1995, Health Building Note 40: Common Activity Spaces, NHS Estates.

Sawyer A., & Bright, K 2007, The Access Manual: Auditing and Managing Inclusive Built Environments, Blackwell Publishing, Oxford.

The Centre for Accessible Environments n.d., Centre for Accessible Environments, www.cae.org.uk

Vision Australia 2007, Fact Sheet: Accessible Design For Public Buildings, Vision Australia, www.visionaustralia.org.au/info.aspx?page=721

WAYFINDING

General

603880 750 .1.00 PERFORMANCE REQUIREMENTS

Provide appropriate and comprehensive wayfinding for all healthcare facilities. Signage should clearly identify staff, patient and visitor areas and clearly identify restricted areas.

Comply with the requirements of the BCA and DDA, and with all relevant legislation, regulations, codes and policies including those within each jurisdiction. Comply with the requirements for relevant Statutory Authorities e.g. roads, aviation, local authorities, utility providers, etc.

Comply with the relevant security acts and regulations within each jurisdiction, and all policies governing the function and use of healthcare facilities e.g. access, safety, processes, building services / components and maintenance.

Design wayfinding to assist and enable patients and visitors to navigate around the facility with ease, and adequately address the needs of persons with disabilities.

603881 750 .1.50 Wayfinding develops and expands upon previous concepts of providing signage. Corporate identity requirements may in turn have an impact on the wayfinding strategy employed.

Wayfinding and corporate identity have become highly specialized subjects. Any system developed or adopted should be evidence based. At site level an approved documented system is essential and a method of developing a comprehensive strategy should be followed rather than the use of a prescriptive signage manual.

This section provides general guidance where no comprehensive wayfinding policy or guideline exists. However, in such cases, it is recommended that a policy be developed with specialist assistance.

603882 750 .1.60 Signage should be used to define those areas where public access is allowed or restricted, providing a first line of defence against intruders.

603883 750 .2.00 TYPEFACE

The Helvetica typeface has been in general use for public and healthcare signage since the 1970's, with sign making and engraving equipment set up for this typeface. It was adopted by the National Health Service (NHS) in the UK and by NSW Health in the TS-2 signposting guide in 1974 (NSW Health & CHAA 2009).

The introduction of CAD and CAD/CAM expanded the choice of typeface and materials. A sans serif lettering style is still recommended for general healthcare signage. Frutiger Bold provides improved recognition and comprehension to Helvetica Medium, and there are other alternatives such as Meta and Arial.

The use of Title case or Capitalized text - upper case for the first letter and lower case for the rest of the word - is recommended for legibility and for general signage, while upper case is recommended for the Main Entry sign.

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Note: The BCA, some Australian Standards and other regulatory signage may require or recommend the use of Helvetica as a typeface.

603884 750 .3.00 PICTOGRAMS

Pictograms aid comprehension, help overcome language difficulties and provide a means to rapidly identify services.

Australian and International Standards symbols or pictograms should generally be used in preference to custom designs to avoid ambiguity. The use of accompanying text with pictograms aids comprehension and is often required.

Refer to:

AS1428: Design for access and mobility, parts 1 and 2 (Stds Aust 2010).

ISO 7001: Graphical symbols - Public information symbols (ISO 2007).

603885 750 .4.00 Size of letters in relation to reading distances, mounting heights, etc, should comply with the relevant signage standards and include Braille and tactile requirements.

Compliance with the intent of the DDA requires consideration of lighting, lettering and symbol size, tactile, auditory and visual safety information. Ensure that signs do not reflect light and are not affected by glare e.g. in front of bright backgrounds.

603886 750 .4.50 SIGNAGE MATERIALS

Selection will be influenced by a number of factors including fitness for purpose, life cycle costs and flexibility requirements.

Many of the traditional signage systems employed powder-coated aluminium planking with screen-printed lettering. New products and processes now offer greater design flexibility and more cost effective solutions.

Vinyl-cut self-adhesive lettering has proved to be a practical and economical option for internal and external signage, and can be changed easily over time. However it is vulnerable to vandalism in public areas and removal can damage some surfaces.

The use of direct stick lettering on door surfaces should be assessed against the difficulty in repainting and the incurred cost penalty.

Signs using removable slats may require a locking device to prevent unauthorized removal.

Acrylic, synthetic and composite boards are increasingly used, as is computerized laser cutting of most materials. Sandblasting, in lieu of engraving, is now common and older machinery with limited fonts / pictograms is being replaced by more versatile modern equipment.

External Signs

603887 750 .5.00 PERFORMANCE REQUIREMENTS

HELIPADS

Ensure that the marking and signage for Helicopter Landing Areas complies

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with the requirements of the Regulating Authority.

Refer to:

CAAP 92-2 (1) - Guidelines for the establishment and use of helicopter landing sites (Civil Aviation Safety Authority Australia 1996).

DHS Victoria - Capital Development Guidelines. 6.7: Air Ambulance Helipads (DHS Victoria 2003).

CASR 133 - Commercial Air Transport Operations - Rotorcraft (Civil Aviation Safety Authority Australia 2000).

603888 750 .5.50 GENERAL

External directional signs should have reflective letters on a contrasting background. A gloss finish that reflects light may be difficult to read. The signs should preferably be steel or aluminium construction with a durable finish.

603889 750 .6.00 EXTERNAL ILLUMINATED SIGNS

External illuminated signs are used for Emergency Department, the Main Entry and Night Entry.

Note: Emergency Department or Emergency Unit is referred to in these guidelines. The sign however should read 'EMERGENCY'.

603890 750 .7.00 ROAD MARKINGS

Road markings such as parking bays, arrows, symbols and instructions should follow the relevant Road Authority policies and applicable Australian Standards. Refer to AS 2890: Parking facilities, parts 1 and 6 (Std Aust 2009c).

603891 750 .8.00 ROAD SIGNS

Accreditation standards may require that the facility has directional road signs sufficient to enable it to be easily located from the major access roads in the area.

The entry to the Emergency Unit should be clearly signposted by an illuminated sign that is visible from the main entry points to the Hospital site.

For ease of comprehension, all on-site road signage should continue the use of public road signage that complies with the requirements of the local council and/or the roads and traffic authority for each jurisdiction.

Internal Signs

603892 750 .9.00 PERFORMANCE REQUIREMENTS

Comply with the relevant Acts, regulations and policies of the authorities for safety symbols and symbolic signs including all referenced Australian Standards, Occupational Health and Safety and Disability Discrimination requirements, and the policies within each jurisdiction.

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603893 750 .9.50 BED NUMBERING

Bed numbering should be shown outside the patient bedroom with one number per bed.

In bedrooms with more than one bed, all bed numbers or the range of numbers should be shown on the sign outside the room. For example:

- Beds 78 & 79 or
- Beds 78 to 81.

In bedrooms with more than one bed, display the bed number at the bedhead.

Bed numbers outside the room should be clearly visible from the corridor and not be obscured by other objects or wall returns.

The provision of a room number is optional. When provided it should not visually compete with the bed numbers.

603894 750 .10.00 PATIENT INFORMATION

It is no longer recommended that signs display information about a patient such as patient details, doctor identification and special instructions at the patient bedhead or in a visible place within the patient bedroom.

This is considered inappropriate due to the requirement for the privacy of patient records. Designers and managers wishing to install patient information holders in the rooms are advised to fully consider the impact on patient privacy.

603895 750 .11.00 DOOR IDENTIFICATION

Door / frame numbering or tags may be required as part of an asset management and maintenance system / register. This constitutes a separate labelling system and should not be confused with standard room signage. Unlike room signs, door labels are generally small, unobtrusive and may use a simple bar code.

603896 750 .12.00 IDENTIFICATION SIGNAGE

Identification signs located on doors or preferably on walls adjacent to doors require the following considerations:

- the format used should allow easy replacement of the sign or sign message when the room function changes
- it may be appropriate to deliberately omit identification on certain doors used only by staff.

603897 750 .13.00 DIRECTIONAL SIGNAGE

Non-illuminated directional and area identification signs should be as follows:

- ceiling or wall mounted
- text on contrasting background - dark lettering on light background preferred
- a guide for the patient or visitor until they reach a room or door sign for the intended destination
- not obscure other critical ceiling fixtures such as emergency lighting or fire

exit signs.

Serious consideration should be given to the provision of alternative / additional low level signs in Braille in hospital entrance foyers leading to major departments and lifts. Although this is not a mandatory requirement, it may become a requirement of the Disability Discrimination Act (Commonwealth of Australia 1992) in the future. It is recommended that such signs be installed immediately above the handrail required by AS1428: Design for access and mobility (Stds Aust 2010).

Fire Services Signs

603898 750 .14.00 PERFORMANCE REQUIREMENTS

Install fire services and exit signs in accordance with the following as applicable:

- Building Code of Australia (Australian Building Codes Board 2009).
- AS2444: Portable fire extinguishers and fire blankets - Selection and location, SAI Global (Stds Aust 2001).
- AS2293.3: Emergency escape lighting and exit signs for buildings, SAI Global (Stds Aust 2005a).
- AS2419.1: Fire hydrant installations - System design, installation and commissioning, SAI Global (Stds Aust 2005b).
- AS2441: Installation of fire hose reels, SAI Global (Stds Aust 2005c).

Note: Cantilevered wall signs in preference to wall or ceiling signs are recommended for the ready identification of Fire Service equipment under emergency conditions.

Miscellaneous Signs

603899 750 .15.00 GENERAL

Miscellaneous signs, illuminated and non-illuminated, are to be provided as required. The signs and colours used should meet the requirements of the relevant legislation, regulations and standards.

Refer to Part B for signs, symbols or marking required for individual HPU including security, hazard and safety signage.

In addressing specific location requirements, multi lingual signs and symbols should also comply with relevant disability discrimination and associated regulations and policies.

Signage identifying the presence of CCTV monitoring is recommended in public areas as a deterrent to antisocial, violent or criminal activities. Refer to Section 790 - Security.

References and Further Reading

603900 750 .90.00 Individual Jurisdictions

NSW

NSW Health & CHAA, UNSW, 2009, TS-2: Wayfinding for Health Facilities, NSW Health.

Queensland

Part C - Design for Access, Mobility, OHS and Security

Wayfinding design guidelines, CRC for Construction Innovation, compiled by Apelt, R., Crawford, J., Hogan, D., n.d., 18 May 2010, supported by Queensland Government Disability Services, <http://www.construction-innovation.info/index.php?id=1097>

Victoria

DHS Victoria 2003, Capital development guidelines 6.7: Air Ambulance Helipads, Department of Human Services, Victoria.

603901 750 .90.50 Further Reading

Australian Building Codes Board 2009, The Building Code of Australia, Australian Government, State and Territory Governments of Australia.

Barker, P & Fraser, J 2000, Sign Design Guide, JMU Access Partnership and Sign Design Society, London.

Civil Aviation Safety Authority Australia 1996, CAAP 92-2: Guidelines for the establishment and use of helicopter landing sites, Civil Aviation Safety Authority Australia.

Civil Aviation Safety Authority Australia 2000, CASR 133: Commercial Air Transport Operations - Rotorcraft, Civil Aviation Safety Authority Australia.

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ISO 7010 2003, Graphical symbols - Safety colours and safety signs - Safety signs used in workplaces and public areas, International Organisation for Standardisation.

ISO 7001 2007, Graphical symbols - Public information symbols, International Organisation for Standardisation.

Miller, C, et al. 1999, Wayfinding: Effective Wayfinding and Signing Systems; Guidance for Healthcare Facilities, The Stationary Office, London.

Stds Aust 2001, AS 2444: Portable fire extinguishers and fire blankets - Selection and location, SAI Global.

Stds Aust 2005a, AS2293.3: Emergency escape lighting and exit signs for buildings, SAI Global.

Stds Aust 2005b, AS2419.1: Fire hydrant installations - System design, installation and commissioning, SAI Global.

Stds Aust 2005c, AS2441: Installation of fire hose reels, SAI Global.

Stds Aust 2009c, AS/NZS 2890 (Set): Parking facilities, SAI Global.

Stds Aust 2010, AS1428 (set): Design for Access and Mobility, SAI Global.

Uebele, A 2007, Signage Systems and Information Graphics, Thames & Hudson, New York.

SAFETY

Introduction

603902 790 .1.00 PERFORMANCE REQUIREMENTS

Comply with the relevant Occupational Health and Safety (OHS) legislation, regulations, codes and policies within each jurisdiction, and with relevant safety regulations issued by individual Regulatory Authorities.

603903 790 .1.50 GENERAL

Safety and security issues are of prime importance as their neglect can generate considerable, yet avoidable, costs to healthcare facilities if patients, staff / contractors or visitors are injured or property is damaged or stolen. This section provides advice on the design of facilities to facilitate safety and security, and to minimise capital and recurrent costs related to these. It also provides references to assist in accessing specific information e.g. in regard to the selection of duress alarms.

603904 790 .2.00 Refer to Part B - General Requirements, for further detailed information on OHS and sources of information. See also References and Further Reading in this section.

603905 790 .3.00 The focus on OHS legislation is the safety of all people in the workplace. Other safety aspects of the built environment are covered separately and may be found within general regulations such as the BCA and utility supply authorities.

Specific HPU processes, activities or materials are covered by regulations and may require specific design input, consultations, documentation and approvals regarding access, security, and labelling, warning alarm and communications systems. These may include:

- building maintenance, fixed walkways, ladders, hatches, window cleaning, roof safety, etc
- plant rooms, substations, liquid gas storage, etc
- electromagnetic interference, radiation, toxic materials, etc
- helicopter landing areas, Police, Fire Brigade, etc
- building services
- laboratories, radiotherapy, etc.

603906 790 .4.00 DESIGN ASPECTS

Design of a project may impact on the OHS of employees and the health and safety of others in the workplace including patients and visitors. These design issues are discussed in more detail in Part B under each HPU.

603907 790 .4.10 Design spaces so that manual handling risks are minimised giving particular attention to the following:

- slope / gradient of ramps
- turning circles for equipment
- size of rooms
- placement of fittings e.g. toilets to ensure nurse access / assistance to

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patients

- location of services and fittings
- height and widths of doorways
- floor coverings and changes in floor levels
- location, size and configuration of storage spaces
- fitting of door closers and door holders.

Note 1: Where subject to regulation, it may be necessary to increase minimum dimensions or to decrease slopes in specific cases e.g. turning circles and ramps.

Note 2: Ramps, if required for general use by BCA or DDA, can constitute a potential OHS manual handling risk for transporting patients or goods. Minimum required gradients should be reduced where assistive devices such as bed movers or tugs are used. Alternatively provide a lift. See Section 710 - Ramps.

Note 3: Refer to Section 790 - Patient Handling and Lifting and Section 790 - Goods Handling.

603908 790 .4.20 Ergonomics requires matching the workplace design and layout to the human form including its physical and cognitive capabilities. Examples of this include:

- height, depth and width of counters and workbenches including taking into account any equipment that may be used on the bench
- positioning of bedpan racks
- positioning of viewing panels in doors
- positioning of light switches, door handles and handrails / grabrails
- ensuring correct height of monitors
- push / pull forces for doors and similar items
- ability to accommodate bariatric patients who may need oversized equipment
- overhead head hoist facilities for bariatric patients including positioning
- design of units for people with dementia
- clarity of signage and directional cues in accordance with BCA and Standards.

Refer: to Section 730 - Ergonomics.

603909 790 .4.30 Selection of furniture, fittings and equipment (FF&E) should reduce risks to employees and others. Consider the compatibility of different types of FF&E with each other. Examples of these considerations include:

- drop down grab rails in ensuites / bathrooms to allow staff access to patient
- infill grabrails in mental health units
- compatibility of hoists with beds
- emergency access to bathrooms / toilets / ensuites
- tamper proof airconditioning outlets and light fittings in mental health units.

603910 790 .4.40 When designing public access throughout the facility, issues to be addressed include control methods for access / egress, restrictions signage and monitoring.

Further detailed security issues include:

- ability to observe waiting areas
- application of Crime Prevention Through Environmental Design (CPTED) principles
- location of car parks, pathways to and from car parks, and staff entries including provision of parking for afternoon and night staff

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- lighting
- organisation of HPUs so that staff are not working in isolation, especially when 8-hour operational areas close down for the day
- design of reception counters
- choice of glazing
- location of security office
- location and installation of duress alarms so staff can effectively summon assistance
- location and installation of CCTV systems
- location and installation of intercom systems and call buttons
- design of waiting rooms and risk free furniture
- provision of escape routes

603911 790 .4.50

Ensuring patient and visitor safety may require designing the facility to minimise risks for patients who may be confused, disoriented or have cognitive or sensory impairment. It may also require consideration of patients who may be behaviourally disturbed or at risk of attempting self harm. Examples include:

- design of stairwells and balustrades to reduce risk of accidental or deliberate falls e.g. avoid open vertical shafts between stair flights, bridge walkways, etc
- design of rooms to accommodate bariatric patients and the equipment needed to provide them with healthcare
- design of doors including hinges in mental health unit and dementia / aged care unit patient rooms
- choice of glazing methods and materials
- choice of light fittings and the provision of dimmed direction lighting between bed and ensuite
- consideration of infection control issues
- choice of flooring type for the elderly to reduce slips, trips, and injury from falls
- design of floor finish junctions, borders, patterns and colours to avoid causing frustration and confusion
- design of signage.

Floor Finishes

603912 790 .5.00

Safety Issues to be considered in the selection of floor finishes are covered above and in Section 710 - Finishes - Floor Safety.

Refer also to TS-7 Floor Coverings in Healthcare Building (NSW Health & CHAA, UNSW 2009)

Glazing

603913 790 .6.00

PERFORMANCE REQUIREMENTS

Comply with the requirements of the BCA, with the relevant security Acts and regulations within each jurisdiction and with the recommendations of AS/NZS ISO 31000 (Std Aust 2009).

Based on the security risk assessment and risk mitigation plan, particularly for sites listed under the national CI (critical infrastructure) listing. Consider blast rated external glazing for Emergency Departments and ICU.

603914 790 .7.00

Design glazing in accordance with AS1288 (Std Aust 2006a) as applicable to public buildings including glazing in balustrades, windows, doors, partitions, screens, etc.

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- 603915 790 .8.00 For all internal and external glazed panels subject to possible breakage including doors, sidelights, windows, balustrades, etc, comply with the following standards:
- AS/NZS2208: Safety Glazing Materials in Buildings (Std Aust 1999a).
 - AS1288: Glass in buildings-Selection and installation (Std Aust 2006a).
 - AS Handbook 125: The glass and glazing handbook (Std Aust 2007).
 - AS2047: Windows in buildings - Selection and installation (Std Aust 1999).

As entrance areas can be the site for aggressive incidents, provide all of these with safety glazing.

Glazing including mirrors in emergency departments, drug and alcohol units, mental health units and community mental health facilities or other high risk departments should be safety glazing or an equivalent product such as a custodial care product. This should be selected to meet the specific user requirements e.g. holding rooms, seclusion rooms. Refer to individual HPU for details.

- 603916 790 .9.00 Safety glazing should also be used for wall openings in activity areas such as recreation and exercise rooms and for shower screens, internal doors and full height windows, including glazing in paediatric, acute mental health, emergency units, community health and other high risk departments.

Glazing should be selected to prevent the following risks:

- patients accessing out of bounds areas
- patients absconding
- patients self harming e.g. cutting or ingesting fragments
- preventing staff from reaching a safe place.

Safety glazing materials include toughened, laminated, wired glass, or combinations of these (bullet resistant), plastic materials (polycarbonates), films, etc. Some of these are defined in AS/NZS2208 (Std Aust 1999a). Mirrors, lights, etc for custodial use are available where a similar risk is identified.

Refer to: Section 710 - Interior Glazing and Windows.

Hazardous Substances, Dangerous Goods, and Glutaraldehyde

- 603917 790 .10.00 PERFORMANCE REQUIREMENTS

Comply with the relevant legislation within each jurisdiction, with the relevant regulations and policies of each regulating authority and with the appropriate industry guidelines.

- 603918 790 .10.20 HAZARDOUS SUBSTANCES AND DANGEROUS GOODS

This section does not extend to the management issues relating to these materials except where the built environment or management practices affect each other. Materials that form part of the building fabric, fit-out or come under general household categories are also outside the scope. Other parts of the AusHFG cover specific materials as they relate to specific departments, materials or processes e.g. radiotherapy, pathology, laboratory processes, medical gas storage, waste holding, etc.

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- 603919 790 .10.30 Hazardous substances comprise radiological sources, harmful biological materials, and hazardous chemicals. The number and types of materials applicable to healthcare facilities are extensive and are covered only in general terms and by the provision of appropriate reference to primary sources.
- 603920 790 .10.40 Dangerous goods are covered by The Dangerous Goods (Storage and Handling) Handling Regulations and are subject to a United Nations international classification system with nine classes. They may be corrosive, flammable, explosive, oxidizing or reactive with water and are subject to the HAZCHEM code and identification for emergency personnel.
- Hazardous Materials and Dangerous Goods are covered by individual industry material safety data sheets (MSDS). These include information on characteristics and safe handling.
- The management of these materials in healthcare facilities, involves transportation, storage, use and disposal of hazardous materials and controlled waste. This includes the security aspects of fire, accident, and unauthorized removal / misuse. These issues are all comprehensively covered by legislation, standards and Codes of Practice available from the relevant Safety Authority.

Noise Reduction

603921 790 .11.00 PERFORMANCE REQUIREMENTS

Comply with the relevant legislation within each jurisdiction.

- 603922 790 .11.50 Design and construction should address 'hearing conservation' aspects of the work environment. The occupied floor area (OFA) should be designed to maintain internal noise levels at an appropriate level in accordance with Indoor Environment Quality (IEQ) requirements or recommendations.

The major design issues to consider include:

- design workplaces to minimise the occupants' exposure to noise. Noisy machines and activities should be remote or isolated from other work areas
- provide acoustic enclosures to noisy equipment where practicable
- provide noisy work areas such as workshops with acoustically absorbent ceilings or other means to reduce the amount of noise impacting on other staff working nearby
- ensure that checking noise levels of equipment is an integral part of equipment selection/purchasing procedures
- consider the impact of ultrasonic noise generation, and provide effective solutions. Refer to AS/NZS 2243.5 (Stds Aust 2006c).

- 603923 790 .12.00 Note 1: Acoustic separation for privacy reasons is a different subject covered separately in these guidelines.

Note 2: Nuisance noise is also an issue as it can degrade patient comfort and impair staff function even though it may not be of a sufficient level to cause hearing loss.

Note 3: The building and mechanical services design should achieve ambient internal noise levels in accordance with Table 1 of AS/NZS 2107 (Stds Aust 2000b).

Note 4: Noisy environments can exacerbate the risk of client aggression,

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anxiety and cause discomfort. Quiet, low stimulus areas should be provided in emergency departments and in mental health, aged care, maternity and in paediatric units.

Refer also to Section 710 - Floor, Wall and Floor Finishes, and to Sound Control for Improved Outcomes in Healthcare Settings (Joseph & Ulrich 2007).

Insect Control

- 603924 790 .13.00 External doors that open directly into food preparation areas and that are used for service deliveries or regular access should be fitted with air curtains, flexible doors or an equal control system to restrict the ingress of insects. Flyscreen doors which can be propped open, and electronic insect traps within the kitchen, should not be used as the only means of insect control.

For flyscreen requirements to door and window openings refer to Section 710 Building Elements - Doors, and Windows. Flyscreens are generally required to all opening windows used for ventilation.

Patient Handling and Lifting

- 603925 790 .14.00 PERFORMANCE REQUIREMENTS

Comply with the relevant sections of OHS legislation within each jurisdiction and with the relevant regulations and policies of each regulating authority.

- 603926 790 .14.50 Poor workplace and FF&E design are major contributing factors to staff and patient injuries especially in patient rooms, toilets, bathing areas and corridors. These injuries are costly and preventable. Poor design may also increase patient dependency and negatively impact on productivity.

Restricted space may lead to constrained and awkward postures during handling tasks and poor workplace design may lead to unnecessary or double handling of patients / residents. The design and selection of FF&E including beds should be addressed.

Particular attention should be given to OHS risk reduction in the manual handling issues relating to bariatric patients and to adequately provide for the needs of these patients.

The BCA addresses questions of access for people with disabilities but it does not consider the extra needs of access for people with disabilities who require assistance or for the accompanying carers.

- 603927 790 .15.00 Given the requirements of OHS legislation to provide safe premises and plant and to identify, assess and eliminate / control risks, design facilities to:
- facilitate the implementation of operational and other policy procedures that effectively eliminate or reduce the need for patient handling and double handling e.g. door and corridor widths should allow for a patient's bed to travel with them rather than require repeated transfers from bed to trolley.
 - accommodate the storage and safe use of manual handling aids including patient hoists, commodes, wheelchairs, walking belts, slide sheets and patient scales. The quantity and size of equipment, functional space for use of equipment and storage close to proximity of use should be considered including space requirements for the use and storage of bariatric equipment.

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-adequately provide for the accommodation, movement and treatment of bariatric patients.

- 603928 790 .16.00 To comply with OHS legislative requirements, manual handling decisions should be taken in consultation with employees e.g. direct care staff and business unit managers in order to achieve the best risk management solutions and a unity of commitment.

Consider manual handling needs during the design phase for bedrooms and ensuites designed for the use and treatment of bariatric patients including the installation of overhead hoists and storage for bariatric equipment.

- 603929 790 .17.00 Refer to:

National Code of Practice for the Prevention of Musculoskeletal Disorders from Performing Manual Tasks at Work (Australian Safety and Compensation Council, 2007a).

Also refer to References and Further Reading for regulation and policy within each jurisdiction and to Part F - Project Implementation for FF&E.

Soft Furnishings

- 603930 790 .18.00 PERFORMANCE REQUIREMENTS

Ensure that soft furnishings comply with the relevant safety and environmental legislation and other relevant policies within each jurisdiction, including infection control, hygiene, cleaning, procurement, whole of life costs and risk management policies.

- 603931 790 .18.50 Soft furnishings in the internal built environment include mattresses, curtains, bed, cubicle and shower screens, upholstery, finishes, and wall and floor coverings including tracks, fittings, sealants or adhesives.

Certain materials emit internal air pollutants in the form of Volatile Organic Compounds (VOC). To reduce the detrimental impact on occupant health select only materials that meet recommended benchmarks for low VOC content or emissions.

- 603932 790 .18.60 The BCA Section C Fire Resistance covers fire hazard properties including floor materials, floor coverings, wall or ceiling lining materials. Soft furnishings are only covered under this context. They are not included under Non-Combustible Materials which deals with sheet lining materials.

Consider the special safety risk factors and duty of care issues associated with acute mental health and aged care behavioural units. Consult with appropriate staff representatives.

Fabric should be capable of withstanding standard healthcare laundry treatment without losing its inherent properties.

Goods Handling

- 603933 790 .19.00 LOADING DOCKS

Loading docks should be designed to provide a level surface for loading /

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unloading. Match average tailgate heights and allow for vehicles with both end and side goods access. Proprietary lift / platforms whether built-in or mobile may overcome problems with extreme vehicle cargo floor height disparities.

Canopy clearance heights including services and projections should allow for maximum vehicle heights and for overhead dumpster operations. Vehicle height warning notices and overhead horizontal swing bars should be provided.

References and Further Reading

603934 790 .19.20 GENERAL

This Section should be read in conjunction with current versions of the following documents or web documents. The list is not inclusive and additional references are provided within the text and by the core reference document. It includes references for Safety.

603935 790 .19.25 AUSTRALASIAN

ARPANSA 2008, Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) - Legislative Framework, Australian Radiation Protection and Nuclear Safety Agency. Plus various recommendations and Codes of Practice available from: www.arpansa.gov.au

Australian Building Codes Board 2009, The Building Code of Australia, Australian Government, State and Territory Governments of Australia.

Australian Council for Safety and Quality in Health Care (ACSQHC) 2005, Preventing falls and harm from falls in older people: Best practice guidelines for Australian hospitals and residential aged care facilities, ACSQHC.

Australian Safety and Compensation Council ASCC (formerly NOHSC), www.ascc.gov.au

Australian Safety and Compensation Council 2007a, National Code of Practice for the Prevention of Musculoskeletal Disorders from Performing Manual Tasks at Work, Commonwealth of Australia.

Australian Safety and Compensation Council 2007b, National Standard for Manual Tasks, Commonwealth of Australia.

Australian Safety and Compensation Council 2009, Hazardous Substances Information System, Safework Australia.

CSIRO 2009, Management of Chemical Hazards, CSIRO2009.

Department of the Environment and Heritage 2004, Chemical Information Gateway Department of the Environment and Heritage.

NOHSC 1994a, NOHSC 1008: Approved Criteria for Classifying Hazardous Substances, National Occupational Health and Safety Commission, Commonwealth of Australia.

NOHSC 1994b, List of Designated Hazardous Substances [NOHSC: 10005 1994], 2nd ed., National Occupational Health and Safety Commission, Commonwealth of Australia.

NOHSC 1994c, National Code of Practice for the Control of Workplace Hazardous Substances: National Occupational Health and Safety Commission, Commonwealth of Australia.

New Zealand Department of Labour 2005, Workplace Health and Safety

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Strategy for New Zealand to 2015, Department of Labour.

Parliament of New Zealand 1992, Health and Safety in Employment, Act 1992 (HSE Act).

Safe Work Australia 2009, Safe Work Australia.

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603936 790 .19.30 INDIVIDUAL JURISDICTION

ACT

ACT Parliamentary Council 2004, Occupational Health and Safety Regulation 1991, Government of the Australian Capital Territory.

ACT Parliamentary Council 2009, Occupational Health and Safety Act 1989, Canberra.

ACT Workcover 2000, Guidance on the Safe Moving of Clients, Occupational Health and Safety Council.

ACT Workcover 2004, Occupational Health and Safety Act 1989: A Guide for Users, Government of the Australian Capital Territory.

TAMS n.d., Waste Management and Hazardous Materials, Department of Territory and Municipal Services, Canberra

NEW SOUTH WALES

NSW Health 2001, Policy Directive 2005_224: NSW Public Health Services - Policy and Best Practice Guidelines for the Prevention of Manual Handling Incidents, NSW Health.

NSW Health 2005a, Guideline 2005_070: Occupational Health & Safety Issues Associated with Management Bariatric (Severely Obese) Patients, NSW Health.

NSW Health 2005b, Policy Directive 2005_351: Provision of First Aid Facilities and Personnel, NSW Health.

NSW Health 2005c, Policy Directive 2005_409: Workplace Health and Safety: Policy and Better Practice Guide, NSW Health.

NSW Health 2006, Policy Directive 2006_010: Guidelines for the Safe Use of Hazardous Substances and Dangerous Goods, NSW Health.

NSW Health 2009, Personnel / Workforce - Occupational Health and Safety, NSW Health.

State Government of New South Wales 2000, Occupational Health and Safety Act 2000.

WorkCover NSW 2003, Codes of Practice - Hazardous Substances List, WorkCover Authority of NSW.

NORTHERN TERRITORY

Northern Territory Department of Justice 2007, Workplace Health and Safety Act 2007, Northern Territory of Australia.

Northern Territory Department of Justice 2008, Workplace Health and Safety

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Regulations, Northern Territory of Australia.

QUEENSLAND

State Government of Queensland 2008, Workplace Health and Safety Regulation 2008, Office of the Queensland Parliamentary Counsel.

State Government of Queensland 2009, Workplace Health and Safety Act 2008, Office of the Queensland Parliamentary Counsel.

Workplace Health and Safety Queensland 2001, Manual Tasks Involving the Handling of People Code of Practice 2001, Queensland Department of Justice and Attorney-General.

Workplace Health and Safety Queensland 2007, Guide to the workplace health and safety obligations of designers of structures, Queensland Department of Employment and Industrial Relations.

Workplace Health and Safety, Queensland 2010a, Manual Tasks Code of Practice 2010, Queensland Department of Justice and Attorney-General.

Workplace Health and Safety, Queensland, 2010b, Hazardous materials, Queensland Department of Justice and Attorney-General.

SOUTH AUSTRALIA

SafeWork SA n.d., Safework SA, Government of South Australia.

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TASMANIA

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VICTORIA

State Government of Victoria, Occupational Health and Safety (Manual Handling) Regulations 1999.

Worksafe Victoria 2000, Manual Handling (Code of Practice No 25), Worksafe Victoria.

Worksafe Victoria 2005a, Designing Safer Buildings and Structures, Worksafe Victoria.

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Worksafe Victoria 2007, Designing Workplaces for Safer Handling of People, Worksafe Victoria.

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WESTERN AUSTRALIA

State Government of Western Australia 1984, Occupational Safety and Health Act 1984, West Australian Department of Commerce.

State Government of Western Australia 1996, Occupational Safety and Health Regulations 1996, Department of Commerce.

State Government of Western Australia 2006, Code of practice: Violence, Aggression and Bullying at Work, Commission for Occupational Safety and Health, Department of Commerce.

WA Health 1991, OP 0111/91: Control of Workplace Hazardous Substances - National Model Regulations, Western Australia Department of Health.

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WA Health 2007a, Guidelines for Engineering Services, Western Australia Department of Health.

WA Health 2007b, Western Australia Health Facility Guidelines for Infection Control, Government of Western Australia.

Worksafe WA 2000, Code of Practice: Manual Handling, Commission for Occupational Safety and Health.

Worksafe WA Commission 2003, General duty of care in Western Australian workplaces, Commission for Occupational Safety and Health.

603937 790 .19.35 STANDARDS

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Stds Aust 1999, AS 2047/Amdt 2-2001: Windows in Buildings - Selection and installation, SAI Global.

Stds Aust 1999a, AS/NZS 2208:1996/Amdt1:1999: Safety glazing materials in buildings, SAI Global.

Stds Aust 2000a, AS2021: Acoustics - Aircraft noise intrusion - Building siting and construction, SAI Global.

Stds Aust 2000b, AS/NZS 2107: Acoustics - Recommended design sound levels and reverberation times for building interiors, SAI Global.

Stds Aust 2001, AS/NZS 4801: Occupational health and safety management systems - Specification with guidance for use, SAI Global.

Stds Aust 2003, AS/NZS 4187: Cleaning, disinfecting and sterilizing reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities, SAI Global.

Stds Aust 2004a, AS 1940/Amdt 2-2006: The storage and handling of flammable and combustible liquids, SAI Global.

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Stds Aust 2004c, AS 2430.3: Classification of hazardous areas - Examples of area classification, SAI Global.

- AS 2430.3.1: General
- AS 2430.3.3/Amdt 1-2007: Flammable Liquids

Stds Aust 2004d, AS 4332/Amdt 1-2005: The Storage and Handling of Gascylinders, SAI Global.

Stds Aust 2005, AS/NZS 1269: Occupational Noise Management, SAI Global.

Stds Aust 2006a, AS 1288/Amdt 1-2008: Glass in buildings - Selection and installation, SAI Global.

Stds Aust 2006b, AS 1216: Class labels for dangerous goods, SAI Global.

Stds Aust 2006c, AS/NZS 2243: Safety in Laboratories Set, SAI Global.

- AS/NZS 2243.3-2002/Amdt 1-2003: Safety in Laboratories - Microbiological aspects and containment facilities.

- AS/NZS 2243.4-1998: Safety in Laboratories - Ionizing Radiations.

- AS/NZS 2243.5-2004: Safety in laboratories - Non-ionizing radiations - Electromagnetic, sound and ultrasound.

- AS/NZS 2243.8-2006: Safety in Laboratories - Fume cupboards.

- AS/NZS 2243.9-2009: Safety in Laboratories - Recirculating fume cabinets.

Stds Aust 2007, AS Handbook 125: The glass and glazing handbook, SAI Global.

Stds Aust 2008, AS/NZS 1596: Storage and Handling of LP Gas, SAI Global.

Stds Aust 2009, AS/NZS ISO 31000: Risk Management, SAI Global.

Stds Aust 2010, AS 2436: Guide to noise and vibration control on construction, demolition and maintenance sites: SAI Global

Stds Aust 2010a, AS 1428 (Set): Design for Access and Mobility, SAI Global.

Stds Aust 2010b, AS 2436: Guide to noise and vibration control on construction, demolition and maintenance sites, SAI Global.

603938 790 .19.40 GLUTARALDEHYDE

For detailed design and ventilation requirements for the use of glutaraldehyde in health care settings, refer to:

Department of Labour 1992, The Safe Occupational Use of Glutaraldehyde in the Health Industries, Health and Technical Services, Department of Labour, New Zealand.

Ecospecifier 2009, Ecospecifier: Products, Knowledge, Solutions, www.ecospecifier.org/

Green Building Council Australia 2009, Healthcare V1, Green Star, www.gbca.org.au/rating-tools/green-star-healthcare-v1/1936.htm

NSW Health 2005, Policy Directive 2005_108: Policy and Guidelines for Safe Use of Safe Handling of Glutaraldehyde in NSW Public Health Care Facilities, NSW Health.

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State Government of Queensland 2000, Environmental Protection (Waste Management) Policy, Office of the Queensland Parliamentary Counsel.

603939 790 .19.45 OTHER

Joseph, A & Ulrich, R 2007, Sound Control for Improved Outcomes in Healthcare Settings, The Center for Health Design, www.healthdesign.org/research/reports/documents/CHD_Issue_Paper4.pdf

SECURITY

Definition

603940 790 .20.00 PERFORMANCE REQUIREMENTS

Conduct security risk assessments in accordance with:

- the legislation, policies, and guidelines of each jurisdiction or agency
- AS/NZS ISO 31000: Risk Management (Std Aust 2009a).
- AS4485.1: Security for healthcare facilities - General requirements (Std Aust 1997c).

The following are recommended for use as required - subject to the approval of each jurisdiction or agency:

- AS/NZS Handbook 167: Security Risk Management (Std Aust 2006a).

603941 790 .20.05 GENERAL

Complete a security risk assessment with subsequent corrective action prior to the occupation of new, renovated or refurbished facilities.

603942 790 .20.10 INTRODUCTION

This section is limited to physical design and infrastructure. Content relating to security management procedures is generally excluded except where these subjects interrelate.

Security risks can arise from two main sources:

- internal risks - human and non-human
- external risks - human and non-human.

Ensure that 'design for terrorism' strategies are followed for all buildings subject to this classification. Refer to the relevant legislation, regulations, codes and policies within each jurisdiction.

603943 790 .20.15 OHS legislation demands that all risks of violence be identified, assessed and eliminated / controlled. It also makes good financial sense to address security risks.

The impact of security incidents can be considerable in human and financial terms and include:

- workers' compensation claims
- public liability claims
- adverse publicity and reputation

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- personal costs to staff and visitors from theft and vandalism
- recruitment and retention costs
- high maintenance costs e.g. from vandalism of security lighting, CCTV and graffiti
- high insurance costs and cost of replacing or replacing stolen or damaged facility property.

603944 790 .20.20 PURPOSE AND SCOPE

Minimise and, where possible, eliminate foreseeable risks associated with the facility design.

Identification of potential areas of risk and options for risk control should be addressed during the planning, design and construction phases of a healthcare facility project in order to achieve a safe, functional and affordable solution.

Adopt the planning and design standards outlined in the clauses that follow as the recommended standard to be achieved.

However it is recognised that in a number of circumstances, departure from these requirements will be necessary to meet operational requirements or to manage any unusual risks that might be specific to a particular circumstance or location. As for other departures from these guidelines, these will normally be subject to subsequent departmental approval process within each jurisdiction.

Within each jurisdiction the relevant legislation including Protective Security Manuals (PSM), take precedence over these guidelines. Note: PSM define the base level of security for all government buildings.

It should be noted that government departments cannot exempt facility capital developments from legislative requirements such as planning, environmental protection, OHS and discrimination laws.

Recurrent Costs

603945 790 .21.00 Consider the issue of recurrent costs in the context of the provision of an appropriately designed and constructed safe working environment in a healthcare facility. Safety and security issues should be addressed during the planning process and security risk assessment, and incorporated into the design of the facility.

If the planning and design process follows the requirements of this guideline and an appropriate level of consideration of safety and security issues is undertaken, there should be no significant increase in recurrent costs. In fact, addressing and minimising security risks should be expected to reduce costs.

Recurrent costs are also increased by injuries to staff, patients or other persons, or damage to property that may arise from poor design. In the case of safety and security issues, this includes the direct and indirect costs associated with crime and violence.

Crime Prevention through Environmental Design

603946 790 .22.00 Crime Prevention Through Environmental Design (CPTED) is a situational crime prevention strategy that focuses on the design, planning, structure and use of a built environment or space. CPTED has benefits beyond crime prevention.

It aims to influence the behaviours of people to improve the desired use of a

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place whilst minimising the undesired use or the undesired behaviours of a person within that place.

By employing appropriate design and place management principles, the opportunity and consequences of unwanted behaviours may be eliminated or reduced.

603947 790 .22.05 To implement CPTED principles on a project, refer to the specific policies applicable within that jurisdiction.

603948 790 .22.10 CPTED is primarily accomplished through the work of architects, engineers, builders, landscape gardeners and those who develop purchasing procedures.

The four main CPTED principles are:

- Territorial Reinforcement - stimulates community ownership and policing. It includes maintaining the space so that it has a clean and well cared for appearance, using actual and symbolic territorial markers such as signage and site maps and the location of activities to avoid conflict.

- Surveillance - through supervision by those who overlook or pass through spaces. It includes effective sightlines between public and private space, effective use of lighting and paths to group people, landscaping, strategic positioning of buildings and activities, and use of CCTV.

- Access Control - through physical and symbolic barriers that attract, channel or restrict pedestrian and vehicle movement e.g. paths, roads, fences, lines of lighting, signs, gardens, gates, locks and doors. This should make it clear where people can and can't go, and more difficult for criminals to reach potential victims and targets.

- Space Management - is linked to territorial reinforcement. It ensures that space is well used and maintained e.g. by coordination of activity and rapidly repairing vandalism or graffiti.

Note: The application of CPTED and other situational crime prevention strategies is a cost effective strategy in reducing unwanted behaviour and improving the desired behaviour and use of the space.

603949 790 .22.15 The Police Local Area Command where a new / refurbished facility is located should be consulted on the CPTED implications of the proposed design in all stages of planning.

Note: Some jurisdictions may mandate or recommend the use of government security risk assessors for design assessments.

Internal Security Risks

603950 790 .23.00 PERFORMANCE REQUIREMENTS

Conduct security risk assessments in accordance with:

- the legislation, policies, and guidelines of each jurisdiction or agency
- AS/NZS ISO 31000: Risk Management (Std Aust 2009a)
- AS4485.1: Security for health care facilities - General requirements (Std Aust 1997c).

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The following are recommended for use as required - subject to the approval of each jurisdiction or agency:

- AS4485.2: Security for health care facilities - Procedures guide (Std Aust 1997c)
- AS/NZS Handbook 167: Security Risk Management (Std Aust 2006a).

603951 790 .23.05 CLIENT RELATED VIOLENCE

Design is a key factor in the prevention and management of client related violence. It is particularly relevant for high risk areas such as:

- mental health inpatient units
- community mental health centres
- emergency departments / units, including prisoner holding facilities
- drug and alcohol units / methadone clinics
- aged care units
- brain injury and rehabilitation units
- any location where staff may work alone in isolation or for extended hours
- any area where child protection or domestic violence may be an issue e.g. paediatric inpatient, maternity and birthing units.

603952 790 .23.10 The prevention and management of client related security risks has implications for the design of units and the selection of FF&E. For example consider:

- perimeter security - doors and windows, entrances, the property perimeter including fences and access control
- controlling access to the buildings, individual HPU and rooms
- ensuring rooms can be locked where utensils, tools, surgical instruments, etc are kept - especially if these may be taken and used as a weapon.

In kitchen / beverage, utility and staff rooms, and in departments such as emergency, consider:

- cash handling and transit routes - see note 1 below
- location of shops, vending machines and banking facilities
- avoiding areas where staff work alone, in isolation or for extended hours - see note 2 below
- location and design of car parks - see note 3 below
- location, design and lighting of access routes to car parks, bus stops, and between entrances and the street
- provision of duress alarms, intruder alarms, proximity alarms and CCTV
- design of reception areas
- design of consultation rooms, treatment rooms, triage areas and staff stations to avoid entrapment points
- design and location of staff stations
- glazing - see note 4 below
- visibility and lines of sight
- cultural requirements influencing the size of personal space, privacy of groups or the need for a patient to have an escort. The use of a facility by some cultural groups may have implications for the size and design of waiting rooms, consultation rooms, palliative care units, mortuary viewing rooms and similar areas.

Notes:

1. Cash handling should be treated according to the outcome of the security risk assessment and treatment plan e.g. use of cash collection agencies to reduce the security risk.

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2. State and agency specific guidelines cover staff working in isolation.
3. Car park design around the precinct of the emergency and ICU departments should be considered in relation to terrorism related risks.
4. Obscuring e.g. sand blasting treatments may be required for glazing where determined by the security risk assessment.

603953 790 .23.15 Fittings, fixtures, furnishings and furniture should not facilitate attempts at self harm - hanging, asphyxia, ingestion, cutting - or as a weapon against others.

Risk items may include: picture frames with glass face or sharp edges, IV poles, furniture / door handles, hooks, hydraulic fixtures / fittings, curtains / blinds including cords / tracks, building trim or similar items.

In high risk mental health and custodial areas, light fitting types and performance ratings should be fit for purpose. Properties include resistance to impact and tamper / weather proofing. Fittings that appear less institutional plus anti-ligature and custodial grade fittings are available as required.

603954 790 .23.20 INTERIOR ENVIRONMENT

In addition to functional design principles there are a number of other design strategies that should be considered for high risk areas. These include the use of:

- calming colours and soft furnishings
- diversion opportunities e.g. TV, paintings, water features, views
- use of calming textures and lighting
- appropriate placement of seating in accordance with personal space requirements.

The methods employed should be based on professional and evidentially based advice applicable to the specific user group.

603955 790 .23.25 Advice on risk control strategies is included in each specific HPU. However the specific requirements for projects within each jurisdiction should be followed.

Security Risk Management

603956 790 .24.00 PERFORMANCE REQUIREMENTS

Conduct security risk assessments in accordance with:

- the legislation, policies, and guidelines of each jurisdiction or agency
- AS/NZS ISO 31000: Risk Management (Stds Aust 2009a).
- AS4485.1: Security for health care facilities - General requirements (Stds Aust 1997c).

The following are recommended for use as required subject to the approval of each jurisdiction or agency:

- AS4485.2: Security for health care facilities - Procedures guide (Stds Aust, 1997c)

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- AS/NZS Handbook 167: Security Risk Management (Std Aust 2006a).

- 603957 790 .24.05 Areas of potential threat should be identified by consulting with employees and user groups, managers, the OHS committee, security personnel and the Police Local Area Command Crime Prevention Officer.

This coordination should occur during all stages of the planning, design, construction and occupation phases to ensure that all issues are adequately addressed and funded.

Known high risk areas have been listed above. However there is a potential for violence in any part of the facility including indoor or outdoor environments.

- 603958 790 .24.10 The planning process, having identified and documented the relevant risks, should then eliminate or minimise those risks through suitable planning and design solutions.

It is not intended that these guidelines will identify all risks in all facilities. Planners, designers and managers are expected to undertake a detailed risk analysis of their facility, taking into account its location and all of the circumstances that are appropriate to that facility. This process should include consultation with a wide range of stakeholders.

- 603959 790 .24.15 In undertaking the risk analysis and the risk management process, consider the differences between remote / rural facilities and metropolitan facilities.

Issues such as response times to violent events should be addressed not only by the facility design but also by operational policies.

In some rural and remote areas lengthy Police response times may directly influence the design and safe minimum size of a facility. The minimum number of staff required for patient restraint can only be provided if adequate staffing levels are available and this is determined by bed numbers or other measures of facility size and throughput.

Patient safety is similarly dependant on adequate staffing in terms of the capacity for rapidly responding to medical emergencies and multiple high triage level presentations.

Design for Security

- 603960 790 .25.00 PLANNING AND DESIGN

The issue of security is raised throughout the guidelines in areas such as hardware and external lighting. However, give consideration to the overall solution. For example facility size should be sufficient to warrant safe minimum staffing levels that require a minimum of four staff and no staff working alone or in isolation.

Good initial planning and detailed design are needed to overcome the main problems. To be avoided are opportunities for concealment and unauthorised access. To be managed appropriately are the containment and management of certain categories of patients and incidents.

Ensure that safe circulation is provided within the facility including external circulation, circulation within and connecting departments, and links between buildings, preferably enclosed, for the safe transit of patients and staff.

This can only be achieved if the security coordinator is consulted at all

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stages of the project including planning, design, pre-occupation and post occupation. It is difficult and costly to design-out or rectify security risks if security has not been thoroughly considered in the planning, design and occupation phases.

Note: Occupational violence prevention, emergency response, fire safety, ergonomics, health and safety, etc, are covered in other sections of this document. These should be included in an integrated assessment / review process.

603961 790 .25.05 SECURITY PROCEDURES

A healthcare facility, even without an emergency department, is often functioning for 24 hrs per day. Visitors and staff enter and leave the building at all times often on an informal and unscheduled basis. After hours or at night there is greater potential for unauthorised entry into the building. At these times, attacks on visitors and staff are more likely to occur especially when they are walking to and from car parks, bus stops or other transport.

603962 790 .25.10 The work environment may increase or decrease the risks associated with occupational violence and aggression depending on a range of issues, which are set out in the next clause.

603963 790 .25.15 Address the following issues with respect to security in every healthcare facility:

ENTRY / EXIT ISSUES

Manage access to various areas and departments including:

- by relatives / visitors
- by clients / patients
- entry of personnel visiting or working within the hospital

Manage movement of staff between various areas and departments including:

- recording access to sensitive areas such as pharmacies, mortuaries and medication/clean utility rooms.

Manage entry to facility grounds e.g. as appropriate prevent after hours access to and through the grounds by pedestrians and vehicles to minimise unauthorised entry and vandalism.

603964 790 .25.20 PATIENT SAFETY AND SECURITY

Address issues of patient safety and security by:

- reducing triggers for conflict with patients and relatives e.g. through design of waiting rooms, reception areas, signage
- minimising the risk of illegal removal of babies and children from maternity and paediatric units
- managing wandering and/or absconding patients from emergency departments, aged care, paediatric and mental health units
- management and supervision of hydrotherapy pools
- management of mental health and other behaviourally disturbed patients - provide safe areas for containment and observation, adequate personal space, prevention of patients absconding e.g. proximity alarms and low stimulus environments

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- managing risks associated with the security of Police and Corrections Officer weapons and equipment
- managing the security of prisoners
- managing the risk of contraband such as drugs, alcohol or cigarette lighters being brought into high risk units such as acute mental health units
- management of the security of acute mental health units in accordance with the recommendations and policies within each jurisdiction - e.g. in NSW - Mental Health Sentinel Events Review Committee.

603965 790 .25.25 STAFF SAFETY AND SECURITY

Address issues of staff safety and security associated with:

- admission of patients especially where close contact occurs with the patients being admitted and their relatives, and where conflict may occur
- the risk of violence from non-custodial, alcohol or drug affected parents / visitors
- working after hours
- working in isolation
- movement of staff between various areas and departments especially after hours
- staff movement around hospital sites e.g. to and from public transport, car parks, staff accommodation and movement between buildings
- clinical state of patients
- access to assistance and support from colleagues
- ability to observe patients and others, and provide early intervention
- access to alarms and the provision of personal duress alarms or fixed alarms as appropriate.

603966 790 .25.30 SECURITY OF PROPERTY

In terms of security of property, address the following issues:

- location of public telephones in retail areas
- cash handling
- furniture, fittings and equipment
- furniture in waiting areas
- computer, high tech, AV equipment, etc
- personal effects - staff
- personal effects - patients
- access control
- intruder / door alarms
- car park security
- CCTV with digital recording.

603967 790 .25.35 SECURITY AND CONFIDENTIALITY OF RECORDS AND FILES

Address security and confidentiality in regard to:

- medical records
- financial records
- employee files
- medico-legal files
- computer networks, infrastructure, systems, and hardware.

603968 790 .25.40 SECURITY OF DRUGS AND OTHER SUPPLIES

Address the security of drugs and other supplies especially in regard to:

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- dangerous drugs and drugs of addiction
- radioactive substances
- storage and bulk storage of hazardous materials
- other supplies / stores
- electronic access to pharmacies and other drug storage areas / cupboards to enable access monitoring
- CCTV surveillance with digital recording of sensitive areas.

These issues are addressed on a unit specific basis within the relevant sections of these guidelines. A checklist is also provided for each unit to assess the response of the building brief to each issue listed.

603969 790 .25.45 In determining specific requirements and design, the impact of new technology and clinical work practices should be reviewed in relation to safety and security prior to adoption.

603970 790 .25.50 Give consideration to any additional facility requirements that result in a secure and safe environment for staff, patients and visitors.

Building Elements

603971 790 .26.00 PERFORMANCE REQUIREMENT

Conduct security risk assessments for building elements with reference to:

- the legislation, policies, and guidelines of each jurisdiction or agency
- AS/NZS ISO 31000: Risk Management (Stds Aust 2009a)
- AS4485.1: Security for health care facilities - General requirements (Stds Aust 1997c).

The following are recommended for use as required - subject to the approval of each jurisdiction or agency:

- AS4485.2: Security for health care facilities - Procedures guide (Stds Aust, 1997c)
- AS/NZS Handbook 167: Security Risk Management (Stds Aust 2006a).

603972 790 .26.05 ACCESS CONTROL

In consultation with staff and key stakeholders, all Health Services should ensure that all reasonably foreseeable security risks associated with access to workplaces are identified and assessed. These should be eliminated where reasonably practicable, or effectively controlled.

603973 790 .26.10 Effective access control measures include:

- securing perimeters, including doors, windows, rooflights, access hatches, etc
- controlling access to the land on which the facility is situated e.g. fences, roads, traffic and pedestrian access and flow
- providing safe access and exit especially after hours and during emergencies
- controlling access to vulnerable areas
- ensuring accessible building envelope elements are not readily removable

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or breakable

- provision of electronic access control and monitoring as applicable, in preference to traditional locking systems.

603974 790 .26.15 Specific access control measures include:

- instituting staff identification systems that allow members of the organisation to be identified and combining this with card key entry systems
- access system head end software and hardware for user administration
- restricted keying system to prevent duplication with protocols to manage keys
- restricted keying systems to defined areas on a need to access assessment basis, to avoid multiple area access
- clear signage.

Note: Budget mechanical keypad locks are not regarded as providing adequate security as combination codes can be passed on and are not secure.

603975 790 .26.20 DOORS

Ensure that all opening external building perimeter doors are lockable.

Perimeter doors should meet the following building design standards:

- be fitted with a quality single cylinder lockset that complies with fire regulations. Refer: AS4145.2 - Locksets and hardware for doors and windows - Mechanical locksets for doors and windows in buildings (Stds Aust 2008b).
- have a metal frame or have a strip of metal securely mounted to the frame from the top to the bottom of the lock-side with allowance for the lock tongue to be inserted
- have protected hinge pins in order to resist removal by either replacing the existing hinges with fixed pin or security butt hinges or having dog bolts installed to prevent pins being removed.
- have entry alarms or warning buzzers fitted to doors that need to remain unlocked or open, or fail to close properly, 'door open too long' (DOTL), or to indicate that someone has entered the area
- have alarms fitted to doors that are normally externally locked to signal when the doors are chocked open or fail to close properly.
- electronic locks on staff only access doors
- electronic access to sensitive areas e.g. pharmacies and other drug storage areas / cupboards
- CCTV and adequately lighting to all after hours public entries and exits
- video / CCTV intercoms to all after hours restricted entries to allow screening of members of the public presenting at the door.

Fire isolated exit doors should meet the requirements of the BCA.

The glazing in doors and door screens should comply with AS/NZS 2208/Amdt 1 - Safety Glazing Materials in Buildings (Stds Aust 1999a) for safety; and for security be designed to prevent the breakage and removal of glazing to obtain entry. See also Section 710 - Window Security and 790 - Glazing.

603976 790 .26.25 WINDOWS

Openable windows create security problems. These include the need to address glazing requirements, appropriate locking, the ability of people outside looking in to private areas and the potential to facilitate break-ins.

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All opening windows and doors to the building envelope should be provided with key operated locks either mechanical or electronic.

Minimise entry through perimeter windows by the use of options such as:

- reinforcing windows to resist unauthorised entry
- using heavy gauge glass bricks or laminated glass panels in areas which require natural light but no ventilation that are securely mounted in the frame
- permanently closing unused windows by fixing with bolts or screws
- fitting key operated locks to all other windows
- fitting security grilles provided fire evacuation is not compromised.

Ensure that glazing, in addition to complying with AS 1288 - Glass in Buildings - Selection and Installation (Stds Aust 2006c):

- for safety, complies with AS/NZS2208/Amdt 1 - Safety Glazing Materials in Buildings (Stds Aust 1999a)
- for security, is designed to prevent the breakage and removal of glazing to obtain entry.

See also Section 710 - Window Security and 790 - Glazing.

Note: The application of security film is not recommended as a durable or effective solution.

Note: Sites identified as Critical Infrastructure (CI) sites may need to use blast resistant glass.

603977 790 .26.30 SCREENS AND GRILLES

Generally, operable external windows, vents and doors should be fitted with flyscreens. Doorways that are used on a regular basis such as service and main entrances need not be flyscreened but should be fitted with a self-closing device.

Other exceptions to the above are windows in multi-storey or fully air-conditioned buildings that are used for service access or that pivot / swing / tilt for cleaning purposes.

603978 790 .26.35 Security grilles, and appropriate impact resistant glass and/or an electronic security system, as indicated by a risk assessment, should be installed wherever high security areas have external windows. This includes pharmacy stores and workrooms, medical records stores and other areas that are not occupied 24/7.

603979 790 .26.40 Special consideration should be given to the design of counters in areas where the protection of staff from violence or criminal acts is required.

Design issues should include the provision of glazed screens, pass through documents / currency trays, and communication systems. Consider the design of doors / hardware, viewing panels and partitions / ceilings adjacent to counters.

The design should respond to the anticipated types, levels and sources of violence including projectiles such as liquids, objects and firearms. It may be necessary to seek advice from the Police or an independent security consultant.

Refer to:

- AS/NZS 2208/Amdt 1: Safety Glazing Materials in Buildings (Stds Aust

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1999a)

- AS/NZS 2343: Bullet-Resistant Panels and Elements (Stds Aust 1997a).

- 603980 790 .26.45 Security screens to doors should be locked so as to prevent unauthorised entry from outside the building or facility. Where security screen doors are used in clinical or residential aged care areas, a risk assessment should be carried out to determine if these should be locked to prevent patients absconding, with fire exits controlled electronically or by staff. Security screens should not compromise an emergency exit.

Key Areas for Security Provision

- 603981 790 .27.00 The following notes are supplemented by a detailed risk analysis and response in the individual HPU in Part B.

Comply with:

- the legislation, policies, and guidelines of each jurisdiction or agency
- AS/NZS ISO 31000: Risk Management (Stds Aust 2009a)
- AS4485.1: Security for health care facilities - General requirements (Stds Aust 1997c).

The following are recommended for use as required - subject to the approval of each jurisdiction or agency:

- AS4485.2: Security for health care facilities - Procedures guide (Stds Aust, 1997c)
- AS/NZS Handbook 167: Security Risk Management (Stds Aust 2006a).

- 603982 790 .27.05 ENTRY / EXIT

Minimise public access points and control access to all areas of the workplace.

Ideally visitors should have access to one main entrance. Security should be placed at this entrance if necessary, in particular for after hours use.

The use of bollards should be considered to prevent criminal access by vehicles (ram-raids) or other malicious use in locations identified through the process of risk assessment e.g. emergency department, entry foyer ATMs. The provision of bollards should not create OHS or other issues.

However, support services such as emergency response teams should have maximum access to all areas of the workplace to assist their intervention in emergency incidents. This should be facilitated by the keying system. The use of electronic card key access is preferable to manual key systems.

Staff should also have ready access to exits as escape routes if an aggressive incident occurs.

All staff, including sessional specialists and casual staff, should be provided with training on aggression minimisation and emergency response procedures.

In aged care, behavioural, paediatric and acute mental health units, locking to doors in egress routes for patient safety considerations such as prevention of absconding should be subject to risk assessment to determine the method to be used. Refer to Section 710 - Mental Health Facilities Fire

603983 790 .27.10 EMERGENCY DEPARTMENT

Provide an additional security office adjacent to the Emergency Department.

Ensure secure separation of treatment areas from public areas and that utility rooms are secure including storage of sharps, etc. There should be secure / restricted access to adjacent staff areas.

Security barriers may include glass fronted counters and access doors with card or keypad access.

Provide CCTV with DVR at entrances and waiting areas, and notices advising, or displays indicating that CCTV is operating.

Provide an ambulance entrance with the same or higher level of security protection as the main public entrance.

Provided duress alarms in the form of fixed alarms for counter staff and mobile location finding alarms for staff who do not work in a fixed location e.g. clinicians, wards-persons, cleaners, security officers.

Note 1: A secure, quiet, low stimulus, sound attenuated area for the management of patients who may be behaviourally disturbed, noisy or at risk of absconding should be provided. As patients can remain in this area for a long period of time, a securely located TV monitor that can be controlled by staff should be considered.

Note 2: A gun safe located in a private room off the ambulance entry should be provided for police use. Provide for four weapons with one separately lockable compartment for each weapon. Consult with local area commander regarding specifications and requirements.

Refer to Emergency Dept Security, Section 5 in AS4485.2: Security for health care facilities (Stds Aust 1997c).

603984 790 .27.15 RECEPTION / WAITING AREAS

Reception and waiting areas should be easily identifiable and accessible to patients and visitors. The design and layout should provide reception staff with a clear view of all persons in the waiting area. The activities of clinical staff should not be visible from the waiting room or reception area.

603985 790 .27.20 Personal space is especially important in waiting areas particularly in emergency departments where clients are more stressed. Cultural differences are also an issue for consideration - consider local demographics.

Persons experiencing high levels of tension may need greater interpersonal distance between themselves and others.

Reception areas should be spacious and quiet with comfortable seating. Seating should be either individual or bench type with the option of floor attachment - see following clause.

To reduce boredom, activities such as television, toys, books and games should be provided. Public telephones should be provided to enable ready communication with friends, relatives and employers.

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603986 790 .27.25 In areas identified by risk assessment, furniture should be attractive and comfortable, but should be selected with regard to safety (injury from design features), and security (possible use as a weapon). Seating, whether bench, individual chair or combined unit, should be attached to the floor.

Colour is an important factor and should be selected for its calming rather than stimulating qualities.

Climate control will help maintain a comfortable and calming environment.

Easy access to amenities such as phones, water and snack dispensers, and public toilets is important to enhance comfort and reduce stress levels.

Seating should be spaced to allow room for baby strollers, wheelchairs and mobility aids. It should be selected and spaced to allow for bariatric people to sit comfortably.

To reduce the incidence of vandalism or client frustration, waiting areas should be clean and well maintained with all fittings in working order.

All waiting rooms should be provided with CCTV with DVR and have clear anti-violence signage.

603987 790 .27.30 Unless a glass barrier is provided, Emergency Department counters should be high enough to discourage an adult climbing over them. They should also be wide enough to make it difficult for a client to strike a staff member.

The design should be ergonomically sound so desks or counters do not introduce new risks. For example, while inquiry desks can be designed to be wide enough to make it difficult for a client to strike a staff member or high enough to make it difficult to climb over, this will not protect a staff member from thrown objects or liquids, and may introduce manual handling risks as a result of the staff member constantly having to lean forward.

It should be noted that high counters can also increase client frustration as they can make communication more difficult especially where a client is of short stature or in a wheelchair.

Use risk analysis to determine the most appropriate design strategies to control security risks.

Provide vertical partitions to the extent required, to allow for some privacy when people are discussing private matters with staff, and provide each counter with a duress alarm system.

A well designed screen that does not impede communication should be installed in high risk areas such as emergency departments, drug and alcohol units and mental health areas. Provide appropriately placed openings or document transfer trays for communication or passage of documents.

603988 790 .27.35 The ends of the reception counter should be closed to prevent client entry into staff areas. Entry doors should be full height and fitted with security access. A one-way viewing panel or the provision of a video intercom with remote door unlocking from reception and/or the staff station will enhance security of these doors.

603989 790 .27.40 TREATMENT / INTERVIEW AREAS

Separate sound insulated rooms should be provided to isolate distraught or emotionally disturbed patients, families or friends, people with acute

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behavioural disturbance, and intoxicated or very noisy people.

- 603990 790 .27.45 Treatment, interview, meeting and consultation rooms that are likely to be used by clients should be fitted with two doors on different walls to allow easy escape by staff in the event of an incidence. The rooms should be designed so that the client is not positioned in a way that obstructs staff access to a door.

One door should lead in from the public area and the other from a corridor, staff or public area. Where possible, ensure that doors open outwards to assist staff to exit quickly.

- 603991 790 .27.50 Treatment and interview rooms that may be used by patients at risk of violent or aggressive behaviour should be subject to a risk assessment to determine the best system for duress alarms according to the clinical need. Fixed duress alarms may be out of reach when an incident occurs or interfered with by patients or others. Connection to a location finding mobile duress alarm system eliminates this risk. Provide glass viewing panels to doors, or to at least one door to a room, to allow observation by colleagues.

603992 790 .27.55 PHARMACY

As part of the risk management process for the Pharmacy Area, consider the following risk control strategies and implement as required:

- construct walls, floor and ceilings of the pharmacy out of solid material, or reinforce partitions or ceilings with security mesh
- provide as few windows as possible
- extend walls, where practicable, to the underside of the floor slab above to prevent any intrusion over the wall
- reinforce windows on the perimeter walls to prevent entry; existing windows may be reinforced with shatter resistant film or by replacing the glass with laminated glass
- incorporate laminated glass windows into the design of the front of the pharmacy to enable staff to carry out transfer operations with safety, while maintaining communication with staff and patients
- design a two door entry approach i.e. one door for the public and hospital staff to access glass transaction windows and a separate door for the entry of pharmacy staff to the pharmacy.
- provide the ability to secure open areas at the front of the pharmacy after hours e.g. by a locked door from the corridor or locked shutter door.
- fit doors to the pharmacy with quality single cylinder dead locks to comply with fire regulations; where practicable locks should be key code or card operated externally, and fitted with either a turn snib or handle internally to enable occupants to escape in emergencies.
- ensure doors are kept closed and locked to restrict entry
- install an intruder alarm system that complies with Australian Standards and incorporates a duress alarm/s to enable staff to activate the alarm in the event of an emergency.

Restrict access to the pharmacy to authorised staff only and control this by:

- fitting single cylinder key, code or card operated dead locks to perimeter doors
- fitting a restricted keying system to the locks in order to prevent duplication of keys
- strictly regulating the issue of keys, codes or cards at all times including provision for after hours access
- keeping doors closed and locked to restrict entry
- installing closed circuit television monitors at access doors to screen entry of personnel and record any access to the pharmacy after hours

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- fitting key card electronic locks on drugs cupboards containing dangerous or addictive drugs.

Refer to AS4485.2: Security for health care facilities - Section 12 Pharmacy and Pharmaceuticals Security (Stds Aust 1997c).

603993 790 .27.60 CAR PARKING

Where staff parking is provided under or within close range of the workplace, this area should be well lit and protected from the elements where possible. In high-risk areas monitor car parks using security personnel or cameras.

603994 790 .27.65 RISK CONTROL STRATEGIES

Implement the following security measures as identified by risk analysis, or as standard security measures where applicable:

- provide, where practicable, afternoon and night shift staff with designated, controlled parking spaces as close as possible to the facility with direct line of sight to the building, and connected to the facility by well lit paths.
- ensure entry to designated staff parking areas in dual purpose car parks is controlled by gates in the afternoon and night e.g. boom gate could be left up in the morning and put down about 1-2 hours before afternoon shift commences so they are operated by staff pass cards. Exit boom gates should operate automatically i.e. after a certain time a card is needed to enter but exit can occur any time.
- ensure vehicle entry to car parks is by automated gates or doors, via camera and intercom, or by passing through an entry / exit gate staffed by security personnel.
- provide CCTV or CCTV/DVR surveillance.
- display signs in car parks reinforcing theft awareness e.g. park smarter, lock it or lose it.
- display signs that advise that regular patrols are undertaken and CCTV monitoring is in place.
- landscape design should eliminate elements that provide concealment for intruders and provide maximum visibility, particularly near routes and entries.
- ensure single and multi-storey car parks have good lighting, emergency telephone or intercoms direct to security staff or switchboard. Refer to AS 1158: Lighting for roads and public spaces (Stds Aust 2010).
- ensure as few dark corners and support columns in the design as possible
- allow flexibility to close some sections, entrances and exits during low traffic periods
- provide approved locks on exits intended for emergency exit only
- ensure frequent patrols by security staff
- restrict parking of delivery vehicles restricted to designated spaces only
- ensure a secure overnight car park with good lighting and regular security patrols is provided for facility vehicles. A fenced compound or lock-up garage is preferable.
- provide security for bicycles and motorcycles e.g. lockers or storage areas, a stationary rack that secures the frame and both wheels without a chain, or a stationary object the user can lock the frame and wheels to with their own cable chain and lock.

Refer to AS4485.2: Security for health care facilities, Section 5 Car Park Security and Control (Stds Aust 1997c).

603995 790 .27.70 LOADING DOCKS

Goods delivery, loading and unloading areas and entries / exits should be well lit. Security provisions such as CCTV and controlled access should

prevent unauthorised entry to the facility through these areas.

Building Services

603996 790 .28.00 PERFORMANCE REQUIREMENTS

Ensure that security risk assessment for building services comply with:

- the legislation, policies, and guidelines of each jurisdiction or agency
- AS/NZS ISO 31000: Risk Management (Stds Aust 2009a)
- AS4485.1: Security for health care facilities - General requirements (Stds Aust 1997c).

The following are recommended for use as required - subject to the approval of each jurisdiction or agency:

- AS4485.2: Security for health care facilities - Procedures guide (Stds Aust 1997c)
- AS/NZS Handbook 167: Security Risk Management (Stds Aust 2006a).

Note: Building services in general should comply with Part E or the engineering services policies and guidelines issued by individual jurisdictions as applicable.

603997 790 .28.05 SECURITY EQUIPMENT AND SYSTEMS

The provision of systems should consider the following:

- closed circuit television (CCTV)
- digital video recording (DVR)
- pan tilt zoom cameras programmed by the DVR to carry out surveillance rounds
- head end PC for interface into security system and regularly backed up
- files for software restore functions
- easily upgradeable security hardware / software
- serviceability of hardware - availability of replacement equipment and access to technicians
- central monitoring with response protocols
- adequately sized flat screen monitors
- dedicated monitoring room or staffed location for monitoring purposes
- uninterrupted power supply (UPS) for security system.

603998 790 .28.10 SECURITY LIGHTING

As part of the facility security risk management process ensure that internal and external lighting is sufficient to eliminate, where reasonably practicable, or control security related risks and meet the relevant Australian Standards.

Security lighting should be appropriate for the intended purpose. Where CCTV cameras are installed, white light may be required to achieve correct colour rendering and improve ability to identify persons and activities, while sodium discharge (yellow) lamps may be used to reduce incidence of graffiti.

603999 790 .28.15 Provide security lighting (internal and external) to improve security in the vicinity of the light, and to assist CCTV functionality.

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604000 790 .28.20 External security lighting should be vandal resistant and mounted to restrict tampering.

604001 790 .28.25 Design posts for security lights so that they do not provide a ladder or foothold to allow access to the light fitting.

604002 790 .28.30 Ensure security and safety lights are connected to the essential services supply.

604003 790 .28.35 Locate lights to gain the maximum benefit and coverage, while complying with the relevant requirements of AS4282: Control of the obtrusive effects of outdoor lighting (Stds Aust 1997b).

604004 790 .28.40 For external security and safety lighting provide lighting levels to AS4485.1 (Stds Aust, 1997c) to ensure safe access / egress from the workplace including footpaths / accessways and car parking areas.

Install lighting to eliminate dark spots, and ensure light levels that will deter criminal acts, allow facial recognition and assist in preventing slips, trips and falls. Where the facility does not have dedicated on-site parking, consultation regarding street lighting should occur with the relevant authority.

604005 790 .28.45 Ensure lighting used meets the relevant parts of AS1680 series (Stds Aust 1998b), AS1158 series (Stds Aust 2010), AS4485.1 (Stds Aust 1997c) and AS2890 (Stds Aust 2009c) where applicable.

604006 790 .28.50 Determine the needs of areas requiring special lighting treatment e.g. entrance foyers, emergency departments, staff entry and exit points, pharmacies and car parks and any area where CCTV is used.

604007 790 .28.55 ALARM SYSTEMS

As part of the facility security risk management process, health services should establish their requirements for alarm systems e.g. duress and intruder alarms to ensure that staff members, patients and health service assets are secure. This should include a formal commissioning process with documentation e.g. points lists, functional descriptions and operational manuals provided at handover.

Ensure that a regular review of all alarm systems occurs as part of the risk management process. This should include a formal and documented testing and maintenance regime.

604008 790 .28.60 In assessing the requirement for alarms, health services should consider the following issues:

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- potential for violence against staff
- the type of work being carried out by staff
- staff working in isolation
- cash handling
- goods and equipment stored in the area
- level of external security risks
- level of internal security risks
- exits that may be left open by staff or patients
- the security needs of 'at risk' patients such as wandering elderly patients in wards, mental health patients, or children at risk of unauthorised removal from the facility
- potential for use of emergency exits e.g. fire escapes by thieves to remove assets
- potential for break in via doors and/or windows to remove assets
- potential for break into and theft of vehicles.

Ensure alarm systems are connected to uninterrupted power supply (UPS) circuits/battery backup, with alarm system back up capability.

604009 790 .28.65 In assessing the requirement for alarms health services should consult with staff working in or using relevant areas or facilities such as:

- mental health services
- emergency departments
- pharmacy and other drug storage areas
- women's health and maternity units
- youth health units
- sexual assault units
- cash handling and storage areas
- isolated facilities / units
- car parks and grounds
- vehicles e.g. ambulances
- alcohol and other drugs services
- aged care wards / dementia units / brain injury units / rehabilitation units
- community services.

604010 790 .28.70 INTRUDER ALARM

Intruder alarm systems are highly recommended for parts of healthcare facilities that are closed after hours.

The provision of intruder alarm systems should be based on security risk assessments to AS/NZS ISO 31000 (Std Aust 2009a) and are required in the following areas:

- pharmacy units where dangerous drugs (schedule 8) are kept
- all satellite pharmacy rooms where dangerous drugs (schedule 8) are kept
- all drug safes where dangerous drugs (schedule 8) are kept
- mortuary areas where bodies are stored
- external doors or windows to baby nurseries including NICU and paediatric units
- Clinical Records Unit and any remote archival areas.

604011 790 .28.75 Many different intruder alarm systems are available. The required intruder alarm systems have at least the following provisions, in terms of coverage and functionality:

- reed switches for doors and windows
- movement detectors to cover spaces that can be used for access.

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- 604012 790 .28.80 A required intruder alarm should adequately indicate the location where security has been breached. Acceptable systems may indicate the location by:
- a local audible alarm subject to loudness having no adverse effect on patients, or increasing intruder aggression
 - a remote indicator panel with a readout
 - a security signal sent to a 24 hour monitoring base or Security Room, or to Staff Station computers
 - a general audible alarm and security pager signal indicating the location on pagers carried by nominated staff
 - another system with equal or better functionality
 - one or more of the above in combination, especially where 24 hour security offices or staff stations are not available.

- 604013 790 .28.85 The integration of nurse call systems with security systems including the intruder alarm, duress alarm and video with the nurse call system, is recommended for both large and smaller facilities e.g. Multi Purpose Service (MPS) units.

Nurse call and pager systems should generate a different noise and signal for different events.

Ideally the alarms will transmit the location of the duress / intrusion to alphanumeric pagers / alarm transceivers carried by staff. In a small facility such as a MPS, this may be transmitted to all staff. In a larger facility, the signal would be transmitted to response staff and managers in charge of the facility / shift.

Alternatively, the system will send a security signal to a dedicated Security Office or the 24 hour Staff Station(s). The signal as well as video surveillance images may be seen on standard computer monitors that also pinpoint the location of the intrusion.

Both intruder alarm activated CCTV/ DVR and internet capability for central monitoring should be considered for inclusion as necessary. It should be noted that staff should never investigate an intruder alert alone.

- 604014 790 .28.90 The relevant requirements from the Australian Cabling Regulations, Australian Standards and International Electro-Technical Commission standards should be incorporated into all aspects of commissioning, installing, activating and maintaining intruder alarms.

- 604015 790 .28.95 **DURESS ALARM**

A duress alarm system is a signal for assistance sent by persons who are under attack or threatened by the situation they face. The main purpose of the alarm will be:

- to seek assistance for staff who may be directly exposed to a threat of violence
- to indicate inappropriate or aggressive behaviours by visitors or patients.

Systems should notify a 24 hr central processing unit and directly notify response staff (minimum of three recommended) with the location of the alarm, and locate the call source to within 5m (indoors) and 10m (outdoors).

Duress alarms may be integrated into a combined communications system, as previously noted. This is particularly valuable in smaller facilities where staffing levels are comparatively low and staff may occasionally work alone.

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The effectiveness of the duress alarm system will depend on the adequacy of the installation, adequate training, policies, procedures, testing and maintenance programs and the capacity for response.

- 604016 790 .29.00 Conduct a security risk assessment to AS/NZS ISO 31000: Risk Management (Stds Aust 2009a) to determine the need for and type of duress alarm systems to be installed, including higher risk areas such as:
- all staff stations
 - all reception counters
 - consultation and treatment rooms where there is a risk of aggression from behaviourally disturbed patients
 - pharmacies, cash handling and other areas determined as being high risk
 - mental health inpatient units and community health centres
 - emergency departments / units
 - confused and disturbed elderly (CADE) and aged care units
 - drug and alcohol units
 - brain injury units
 - anywhere that staff work alone or in isolation
 - areas where child protection may be an issue
 - car parks and grounds
 - areas presenting a target for robbery e.g. pharmacy, cash handling, ATMs, etc.

- 604017 790 .29.05 There are two generic types of duress alarms recommended for use:

FIXED

This type of duress alarm is intended to call for discreet assistance without causing local alarm to the aggressor or others who may be present. The signal is sent to a Remote Security Office or 24 hr Staff Station and to pagers carried by response staff.

Fixed alarms may be used in well defined areas where there is no or little opportunity for an aggressor to get between a staff member and the alarm button, and the person works from a static position e.g. where staff are behind a screen such as a pharmacy distribution window or behind a counter. Fixed alarms may not be appropriate for areas accessible to patients and the public e.g. corridors as mischievous tampering with alarms may occur.

Call button or pendant locations should be standardized for use by different staff members and visiting staff and should acknowledge possible changes in room layout.

Where applicable buttons should be placed out of sight to avoid aggressive behaviour caused when staff are seen to activate the alarm. For safe operation call buttons, wall and concealed, should be raised and not be flush with the plate or surrounding surface.

Note: AS/NZS 3811: Hard wired patient alarm systems (Stds Aust 1998a) provides for incorporation of a patient activated duress function.

- 604018 790 .29.10 MOBILE

Mobile duress alarms may be used where the staff member is mobile in the course of their work in areas such as inpatient units or emergency departments where there is a risk of being confronted by aggressive behaviour.

Mobile duress alarms should be worn attached to the clothing e.g. clipped to

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a pocket or belt. They should not be worn around the neck.

Ensure that mobile duress alarms for use within a facility and the immediate area comply with AS4607: Personal response systems (Std Aust 1999c). This standard references other legal, regulating and insurance requirements.

The device should send a signal to a Remote Security Office or 24 hr Staff Station, and to pagers carried by at least three response staff. The device is automatically activated if the staff member collapses to the floor (man down capability). The system should indicate the location of the staff member at the time of the signal activation.

Provide location finding mobile alarms to all staff who work in medium to high risk environments and who do not work in a fixed position e.g. nurses, medical officers.

For detailed information refer to the guidelines and policies within each jurisdiction or agency e.g. NSW Health: Protecting People and Property (NSW Health 2005c).

604019 790 .29.15 CLOSED CIRCUIT TELEVISION (CCTV)

PERFORMANCE REQUIREMENTS

Provide CCTV and DVR capability on the basis of security risk assessments to AS/NZS ISO 31000 (Std Aust 2009a), and comply with the legislation and policies of each jurisdiction or agency.

Refer to AS/NZS 4806 Closed Circuit Television (CCTV) (Std Aust 2008c) for information relating to the installation and use of systems for remote monitoring and security surveillance.

This standard references AS2201 (Std Aust 2008a) and ISO standards covering control centres and other related legislation guidelines covering broadcasting, evidence, privacy and OHS.

604020 790 .29.20 VIDEO SECURITY

Video security should be considered for all areas that may be used after hours. Video security is required in the following areas:

- Emergency Unit after hours patient entrance
- Ambulance Bay after hours entrance
- any entrance used for access to a birthing unit after hours
- any other entrance that is used for the above purposes after hours
- any locked area where access is granted by a staff member without the ability to view the person requesting access
- other areas identified by a risk assessment as requiring a duress alarm
- corridors, courtyards and secure rooms in the Acute Mental Health Unit which cannot be adequately observed from a staff station
- other units where access control is desirable e.g. Intensive Care Unit, Paediatric Inpatient Unit and Maternity Inpatient Unit.

604021 790 .29.25 The video security system provided at entrance points should have the following features:

- show those who intend to enter with their facial features being recognisable
- include an intercom system to communicate with those who intend to enter
- provide a remote signal to open the door.

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- 604022 790 .29.30 The video security system provided in mental health units should have the following features:
- adequately cover hidden areas
 - camera protected and discreet
 - the direction of the camera should not be obvious
 - required signage to indicate use of surveillance.
- 604023 790 .29.35 The monitoring point for video security may be a dedicated Security Office or a 24 hr Staff Station complying with legislative requirements. The duress response should be discussed with staff working in the vicinity of video security.
- 604024 790 .29.40 The need to escort the person seeking entry to their destination should be considered in the implementation and operation of a video / intercom entry system.
- 604025 790 .29.45 Note: The provision of video security at the main entrance of a health facility is highly recommended.
- 604026 790 .29.50 System specifications should be based on a security risk assessment to AS/NZS Handbook 167 (Std Aust 2006a) and should consider:
- colour
 - digital video recording capability (8 channel minimum) linked via LAN to interface with computers in identified areas
 - protection of individual rights with the use of CCTV / DVR used for monitoring / recording patients e.g. in acute mental health units
 - lighting and clarity of picture.
- Note 1: Consider also new communication technologies e.g. leaky wire/aerial, locally operated networks and interchange ability with other systems.

Property

604027 790 .30.00 PERFORMANCE REQUIREMENT

Ensure that security risk assessments comply with:

- the legislation, policies, and guidelines of each Jurisdiction or Agency
- AS/NZS ISO 31000: Risk Management (Std Aust 2009a)
- AS 4485.1: Security for health care facilities - General requirements (Std Aust 1997c).

The following are recommended for use as required - subject to the approval of each jurisdiction or agency:

- AS4485.2: Security for healthcare facilities - Procedures guide (Std Aust 1997c)
- AS/NZS Handbook 167: Security Risk Management (Std Aust 2006a).

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To minimise the risk to property, all attractive portable items such as calculator, cameras, tape recorders, laptop computers, PDA, etc should be stored separately in locked areas. Only designated staff should have access to these areas.

The following areas require specific attention.

604029 790 .30.10 CATERING

Ensure that external doors can be locked at all times, with only one exit point that can be visually monitored by the Catering Officer. Fire Exit doors should only be opened from the inside, and should have an audible alarm.

604030 790 .30.15 STORES

Locate, as far as practical, the Stores away from public areas, change and lunch room areas.

Restrict entry / exit to the Store to only one door that can be visually monitored from the Supply Officer's office. Fire exit doors should only be opened from the inside and should have an alarm that activates when opened.

Ensure that stocks held in other areas are securely stored and not easily accessible to patients and unauthorised staff. Where possible, inpatient unit stores should be locked and accessible only to the nurse or unit manager or their delegate.

Consider providing CCTV surveillance.

604031 790 .30.20 PATIENTS' PROPERTY

Provide a means of securing individual wardrobe lockers or closets for clothing where these are provided.

604032 790 .30.25 STAFF PROPERTY

Provide staff with a lockable storage area e.g. locker or cupboard for safe keeping of their property.

Ensure car parks have good lighting and CCTV coverage to deter assault, theft and vandalism.

Medical Gases

604033 790 .31.00 Ensure access to any storage areas is restricted by use of doors, barriers and signs. Sources are to be secured against unauthorised removal, tampering, vandalism and misuse. Design should comply with relevant Australian Standards and the regulations and policy of the regulating authority e.g. bulk oxygen storage.

The requirements of the Dangerous Goods Act and Regulations may apply to the design of locked areas and the provision of signage. Ensure adequate ventilation and relevant OHS provisions as required.

Refer to AS 1940: The storage and handling of flammable and combustible liquids (Std Aust 2004), and to AS 2030 (Std Aust 2009b) Parts 1 - 5 covering the storage and transport of compressed gases.

Radioactive Substances

604034 790 .32.00 Ensure stores including waste stores are properly marked with approved warning signs and that regulations regarding their use are posted at access points.

Ensure access to all storage areas is restricted by use of doors, locks, barriers and signs. Signs should be secured against unauthorised removal and tampering.

Security equipment required to protect Irradiator rooms should be endorsed by Security Construction and Equipment Committee, ASIO (SCEC) e.g. Type 1 alarm system (Australian Security Intelligence Organisation 2006).

Comply with Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Code of Practice for Security of Radioactive Sources (ARPANSA 2007).

Mail and Other Deliveries

604035 790 .33.00 Health services should screen all incoming mail at a central processing point for the workplace. The point at which mail passes through this central point between arrival and delivery to the relevant officer will vary according to the size and function of the workplace.

Access to mail should be controlled to prevent theft, unauthorised access to, or removal of mail, confidential or sensitive documents, or valuables.

Consider the training / testing of mail room staff and conduct a security risk assessment to address possible threat from handling and opening articles of mail e.g. contaminant control in mechanical ventilation systems.

Note: Specific mail screening and security risk treatments will apply to Critical Infrastructure (CI) listed sites.

Refer also to AS4485.2: Security of healthcare facilities - Section 4 Protection of Information (Stds Aust 1997c).

References and Further Reading

604036 790 .34.00 GENERAL

This Section should be read in conjunction with current versions of the following documents or web references. The list is not inclusive and additional references are provided within the text.

Subject matter is restricted to physical design and infrastructure, with engineering services covered separately.

604037 790 .34.05 AUSTRALASIAN

ARPANSA 2007, Security of Radioactive Sources: Code of Practice, Australian Radiation Protection and Nuclear Safety Agency.

Attorney-General's Department 2006, Australian Government Protective Security Manual, Attorney-General's Department.

Australian Council on Healthcare Standards 2006, EQUIP 4, Australian Council on Health Care Standards.

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Australian Government Protective Security Manual 2006, (modified 2009), Attorney-General's Department.

Australian Security Intelligence Organisation 2006, Security Information Catalogue, ASIO.

Emergency Management Australia 2003, Handbook: Critical Infrastructure Emergency Risk Management and Assurance, Commonwealth of Australia.

Mayhew, C 2000a, Preventing Armed Robbery: A Practical Handbook, Violence in the Workplace, Australian Institute of Criminology, Canberra.

Mayhew, C 2000b, Preventing Client-Initiated Violence: A Practical Handbook, vol. 30, Research and Public Policy Series, Australian Institute of Criminology, Canberra.

Mayhew, C 2003, Preventing Violence against Health Workers, paper presented to WorkSafe Victoria Seminar on 13 May 2003.

604038 790 .34.10 INDIVIDUAL JURISDICTIONS

ACT

ACT Health 2006, Preventing and Managing Aggression and Violence in ACT Health: Quick Reference Guide, ACT Health, Canberra.

NSW

CHAA UNSW 2007, Wall and Floor Finishes for Wet Areas, Sydney: Centre for Health Assets Australasia, University of New South Wales.

NSW Health 2003, Design Series 36: NSW Health Guidelines Safety and Security, NSW Health.

NSW Health 2005a, Policy Directive 2005_234: Effective Incident Response Framework for Prevention & Management in the Health Workplace, NSW Health.

NSW Health 2005b, Policy Directive 2005_315: Zero Tolerance Response to Violence in the NSW Health Workplace, NSW Health.

NSW Health 2005c, Policy Directive 2005_339: Protecting People & Property: NSW Health Policy / Guidelines for Security Risk Management in Health Facilities, NSW Health.

NSW Health 2009, Personnel / Workforce - Occupational Health and Safety - NSW Department of Health, NSW Health.

NSW Health & CHAA UNSW, 2009, TS-7: Floor Coverings in Healthcare Buildings V1.1, NSW Health.

QUEENSLAND

Queensland Health 2004, Safety and Security Policy, Queensland Health.

SA

South Australia Health 2009, Security, South Australia Health.

State Government of South Australia 2002, Dangerous Substances Regulations, Attorney-General's Department.

VICTORIA

DHS Victoria 2008, Design Guidelines for Hospitals and Day Procedure

Part C - Design for Access, Mobility, OHS and Security

Centres (DGHDP), Part E - Building Services and Environmental Design, Department of Human Services, Victoria.

WESTERN AUSTRALIA

WA Health 2007a, Guidelines for Engineering Services, WA Department of Health.

WA Health 2007b, Western Australia Health Facility Guidelines for Infection Control, Government of Western Australia.

604039 790 .34.15 STANDARDS

For the following standards, check for the most recent version prior to use. Dates shown were current at date of preparation of this document.

Std Aust 1995, AS 4400: Personal privacy protection in health care information systems, SAI Global.

Std Aust 1997a, AS 2343: Bullet Resistant Panels and Elements, SAI Global.

Std Aust 1997b, AS 4282: Control of the obtrusive effects of outdoor lighting, SAI Global.

Std Aust 1997c, AS 4485: Security for health care facilities, SAI Global.

- AS4485.1: General requirements
- AS4485.2: Procedures guide

Std Aust 1998a, AS/NZS 3811: Hard-wired patient alarm systems, SAI Global.

Std Aust 1998b, AS 1680: Interior lighting, SAI Global.

- AS 1680.1-1990: Interior lighting
- AS 1680.2.0-1990: Recommendations for specific tasks and interiors
- AS 1680.2.1-2008: Circulation spaces and other general areas

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Part C - Design for Access, Mobility, OHS and Security

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Stds Aust 2010, AS/NZS 1158 (Set): Lighting for roads and public spaces, SAI Global.

Glossary and Abbreviations

604040 E+03 .35.00 This Document adopts the terms and meanings used in the BCA and Australian Standards, in addition to the following abbreviations. Common abbreviations for NZ, States and Territories and Government Agencies are used without additional explanation.

Refer also to Part A Section 50 - Glossary of Terms.

ABBREVIATIONS

AHRC Australian Human Rights Commission (formerly HREOC)

AS Australian Standard

AS/NZS Australian and New Zealand Standard

AushFG Australasian Health Facility Guidelines (this document is a part of these)

BCA Building Code of Australia

CCTV Closed Circuit Television

CI Critical infrastructure

CPTED Crime Prevention Through Environmental Design

DDA The Disability Discrimination Act

ERM Emergency Risk Management

ESD Ecologically Sustainable Development

FF&E Furniture, Fittings and Equipment (see Glossary) includes Fixtures and Fittings

HFG Health Facility Guideline

HPU Health Planning Unit

HREOC Human Rights and Equal Opportunity Commission, see AHRC

HVAC Heating, ventilation, and Air-conditioning

IEQ Indoor Environment Quality

ISO International Standards Organization

OHS, OHSW Occupational Health and Safety (and Welfare)

PCG Project Control Group

SA. HB Standards Australia. Hand Book

AS/NZS Standards Australia/Standards New Zealand

SDC Sustainable Development Commission, UK

VOC Volatile Organic Compound

ORGANISATIONS

ABCB Australian Building Code Board

Part C - Design for Access, Mobility, OHS and Security

AIQS Australian Institute of Quantity Surveyors

ASCC Australian Safety and Compensation Council (formerly NOHSC)

CAE The Centre for Accessible Environments (UK)

CASA Civil Aviation Safety Authority Australia

GBCAUS Green Building Council of Australia

NHS Estates National Health Service Estates (UK)

NOHSC See ASCC

AS/NZS Standards Australia/Standards New Zealand

GLOSSARY

Accessible

Accessible by people with disabilities.

Critical infrastructure

A service, facility or a group of services or facilities, the loss of which will have severe adverse effects on the physical, social, economic or environmental well being or safety of the community.

Designated Hazardous Substance

A substance listed in the Hazardous Substances Information System (HSIS) provided by the Australian Safety and Compensation Council (formerly NOHSC) as a designated hazardous substance.

Equipment*

Refer 'Fixtures', term used for kitchen, laundry, sterilising equipment etc.

Emergency Risk Management

A systematic process that produces a range of risk treatments that reduce the likelihood or consequences of events.

Fixtures*

Fixed items that require service connection e.g. electrical, hydraulic, mechanical and includes basins, light fittings, clocks, medical service panels etc.

Fittings*

Fixed items attached to walls, floors or ceilings that do not require services such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Furniture*

Loose furniture e.g. desks, joinery, beds, etc.

Hazardous Substance

Identified on an MSDS as having an exposure standard or being a hazard to health in the 'health hazard information' section of the MSDS. See also Designated Hazardous Substance.

Vinyl

PVC (polyvinylchloride).

Visitor

Any person visiting the facility including contractors, public, medical and services staff, etc.

Sustainable/sustainability

General term for ESD

Wayfinding

Strategy to assist people in finding their way.

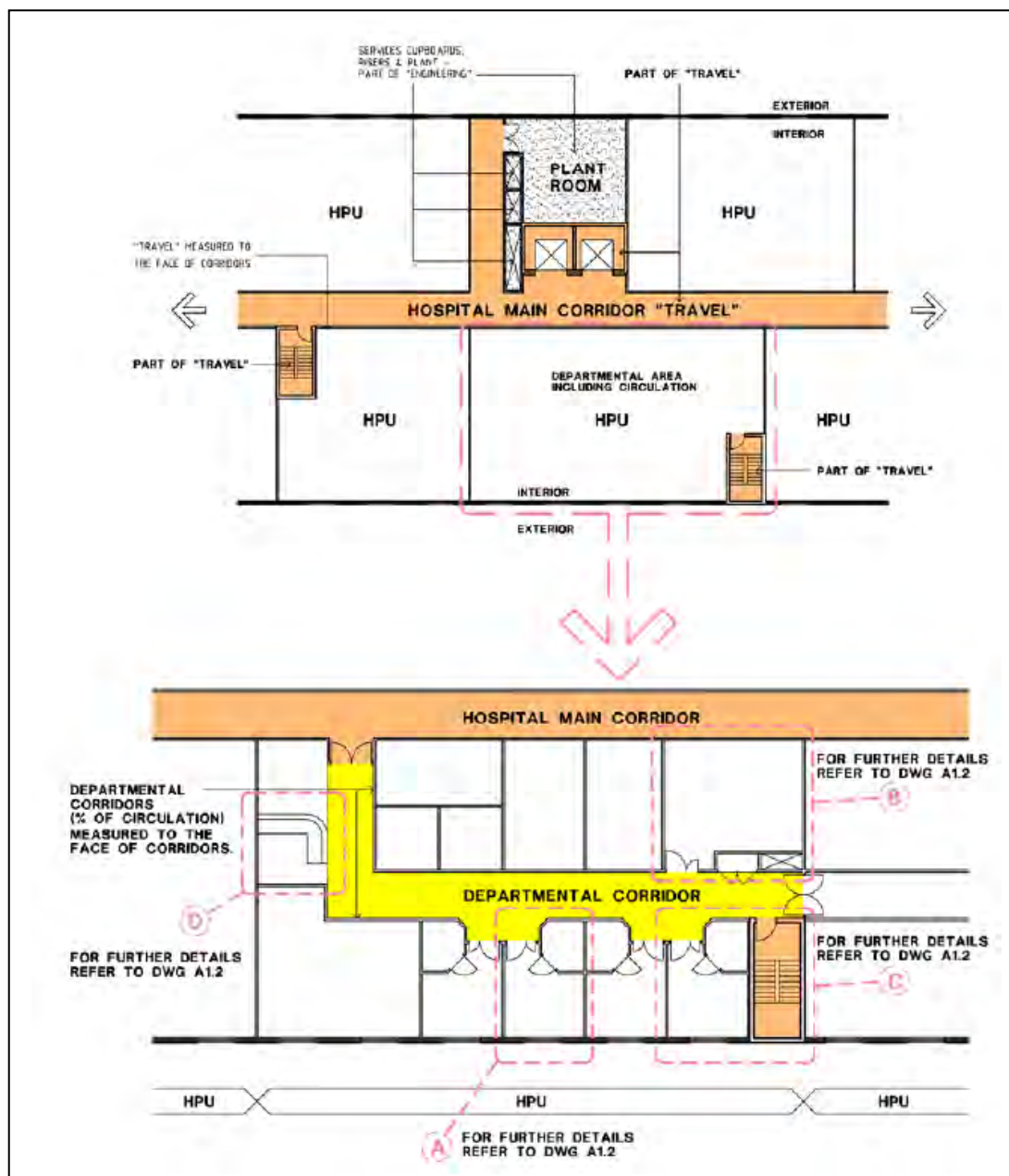
Part C - Design for Access, Mobility, OHS and Security

* For further information on FF&E and Fixtures and Fittings refer to the Standard Components Room Data Sheets (RDS) 'How to use'.

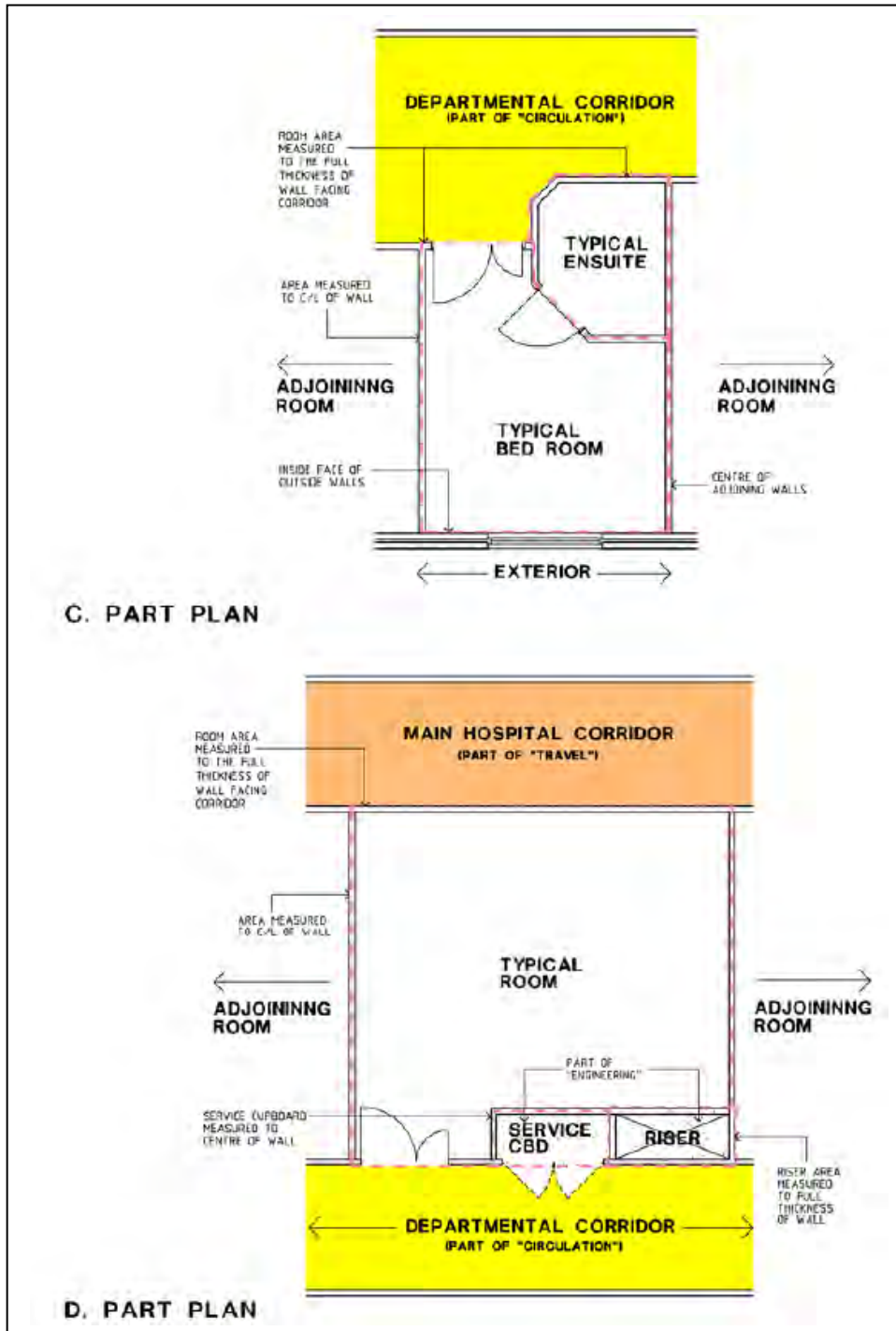
APPENDIX B

Area Measurement Methodology

Diagrams referred to in 705 Planning Policies - Room Sizes.

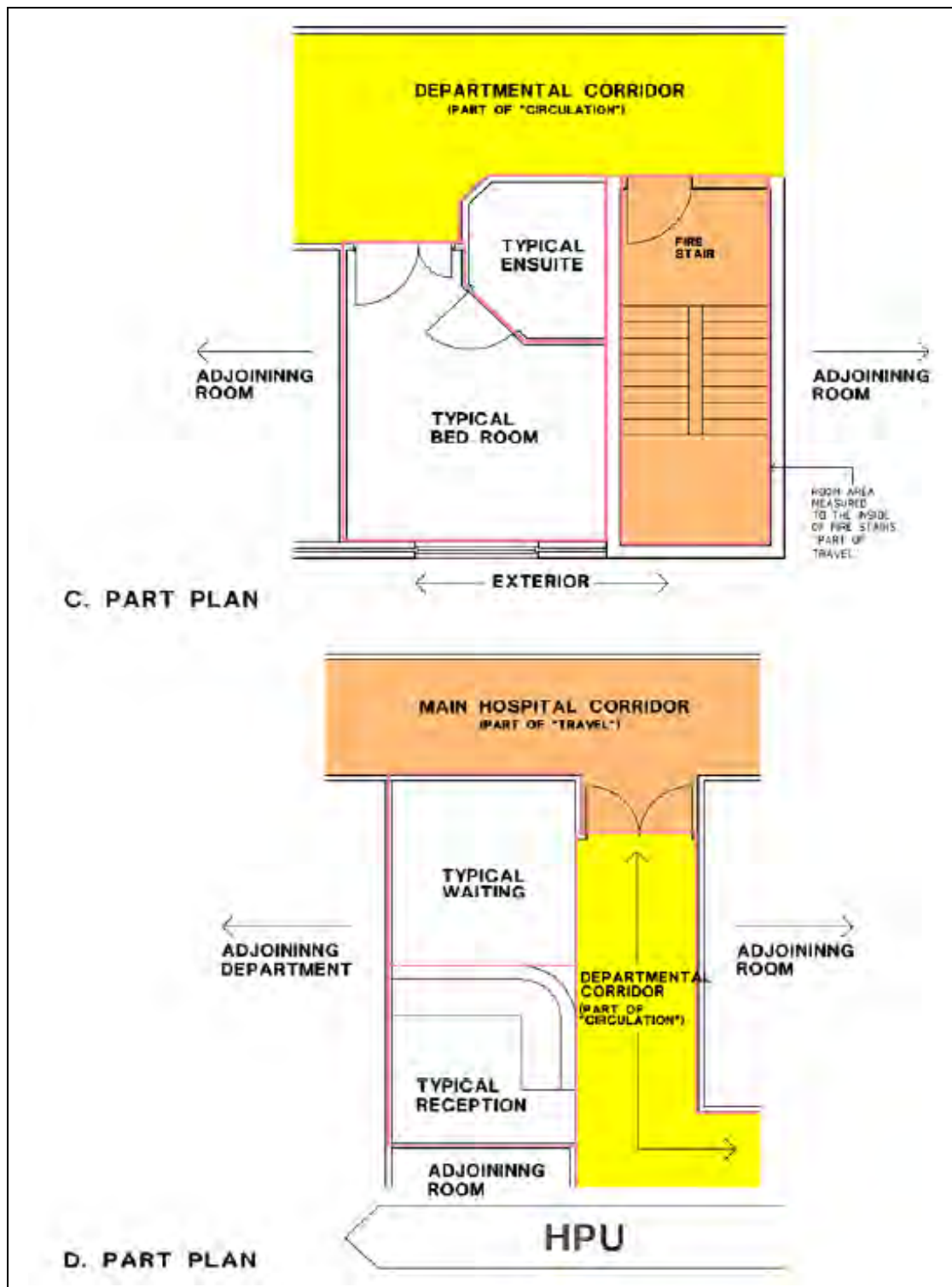


DWG A1.1 (Drawing reproduced from DHS Victoria, 2004, Design Guidelines for Hospitals and Day Procedure Centres, Department of Human Services, Victoria).



DWG A1.2 part

(Drawing reproduced from DHS Victoria, 2004, Design Guidelines for Hospitals and Day Procedure Centres, Department of Human Services, Victoria).



Part C - Design for Access, Mobility, OHS and Security

APPENDIX C

Checklists

Name of HPU: _____ (Print and sign one per HPU)

Agreed Role Delineation Level: _____

No	Item		

	Corridors:	Yes	No
	Do corridors comply with the relevant legislation, regulations and AusHFG recommendations?	☐	☐
	Are the minimum 'required' widths adequate and 'fit for purpose' e.g. bed transport, passing, etc.?	☐	☐
	Do corridor widths comply with AS1428.1 'Circulation spaces at doorways in a continuous accessible path of travel'?	☐	☐
	In patient care areas do corridor widths and clear door widths comply with BCA Part D (door/corridor width) correlation requirements?	☐	☐
	Are ramps and stairs designed to comply with all requirements, e.g. BCA, OHS, patient emergency evacuation procedures?	☐	☐
	Has provision been made for areas where bariatric equipment may be stored or used?	☐	☐

	Ceilings	Yes	No
	Do ceiling heights comply with the relevant regulations, Aust HGF recommendations, are they 'fit for purpose'?	☐	☐
	For ceiling mounted items of equipment, are space requirements adequate and support provided for?	☐	☐
	Are ceiling systems, access and finishes 'fit for purpose' and in compliance with relevant regulations and AusHFG recommendations?	☐	☐
	Are ceilings secure in pharmacies, other areas where drugs are stored and other areas assessed as having a safety / security risk?	☐	☐

	Doors	Yes	No
	Do door swings and clear opening widths / heights comply with the relevant regulations, AusHFG recommendations? (refer corridors)	☐	☐
	Are doorset clear opening heights / widths and hardware 'fit for purpose'?	☐	☐
	Are appropriate and adequate door protection, and viewing panels provided?	☐	☐
	Do doorsets, seals, ventilation undercuts or grilles provide the minimum required and briefed acoustic ratings?	☐	☐

	Windows	Yes	No
	Have all patient rooms used for overnight stay been provided with external windows?	☐	☐
	Do all external windows have restricted access?	☐	☐
	Do all external windows have access for cleaning, do room layouts permit cleaning from within the building where this is designed for?	☐	☐
	Do sill heights allow horizontal views when seated or from beds?	☐	☐
	Does glass type allow adequate daylight transmission or affect colour rendition?	☐	☐
	Do glazed assemblies and installation details satisfy all OHS, safety and security requirements, including cleaning, occupancy and use?	☐	☐

	Floor finishes	Yes	No
	Are the floor finishes, and skirtings for each room and corridor 'fit for purpose' for each area?	☐	☐
	Do the floor finishes selected comply with AS1428.1 for 'surface on a continuous accessible path of travel'?	☐	☐
	Do the floor finishes selected comply with ESD, OHS employee and occupant safety, and 'slip resistance' rating requirements?	☐	☐
	Do opening thresholds comply and are they 'fit for purpose' for weather, acoustics, air pressure, OHS, safety, fire rating etc.?	☐	☐
	Do junctions between different floor finishes reduce the risk of STF identify changes in slip resistance and gradient?	☐	☐
	Are the requirements of AS1428.4 for tactile ground surface indicators met?	☐	☐
	Do selections satisfy infection control criteria and policy?	☐	☐
	Do material and design at external openings and entry / exit ways comply with regulatory and safety criteria?	☐	V

	Wall finishes, Wall protection	Yes	No
	Do wall finishes satisfy BCA fire hazard indices, ESD and 'fit for purpose' requirements i.e. impact damage, smooth / hygienic, cleaning regimes?	☐	☐
	Are the wall and corner protection and the location adequate and 'fit for purpose'?	☐	☐
	Are junctions with floor finishes / skirtings 'fit for purpose', e.g. wet areas, infection control?	☐	☐

	Signage	Yes	No
	Does signage comply with relevant legislation and regulations?	☐	☐
	Is the wayfinding and signage specified consistent, appropriate, and sufficient and provided in accordance with prescribed policies and/or AusHFG?	☐	☐
	Do ceiling mounted or building elements / equipment conflict / obscure signs. Do ceiling mounted signs conflict / obscure other statutory signs?	☐	☐

	Noise reduction, Acoustics	Yes	No
	Does the planning and building design meet the AusHFG recommendations, acoustic brief, Standards or other requirements?	☐	☐
	Have special needs been met, including provision of quiet, low stimulus rooms in mental health units and emergency departments?	☐	☐
	Do the selected finishes support/fixings provide the required acoustic ratings and meet regulatory and functional requirements?	☐	☐
	Does the facility and site design address adequately external noise sources? e.g. helicopter movement, vehicles and plant?	☐	☐

	Occupational Health and Safety	Yes	No
	Have mechanisms been established for consultation with employees on the OHS, security and welfare aspects of the design?	☐	☐
	Has proactive hazard identification been initiated and risk assessments carried out where potential hazards are identified?	☐	☐
	Have risk elimination/control strategies been incorporated into the design?	☐	☐

	Security	Yes	No
	Has a security risk assessment of the facility and site been conducted, completed and implemented as applicable e.g. To AS4485, with AS4485.2, Appendix B, 'Security Checklist' or to individual jurisdiction or other adopted Security Checklists?	☐	☐
	Does the facility and site comply with the relevant requirements of AS4485.1 and/or with the relevant legislation, security policies and guidelines within each jurisdiction and with AusHFG recommendations?	☐	☐
	Does the facility and site comply with CPTED principles?	☐	☐
	Have adequate CCTV surveillance and recording (DVR) capacity and coverage been provided?	☐	☐
	Risk elimination/control strategies incorporated into design?	☐	☐

	Has the security of car parking facilities been adequately addressed including access routes to and from car parking?	☐	☐
	Has the security of loading docks, stores, mail rooms and other Back of House and service areas been addressed?	☐	☐
	Has the security of all engineering services including supply, plant, plant rooms, intakes/exhausts, systems and distribution elements been addressed?	☐	☐

Checked and certified by:

Name: _____

Date:

Company: _____

Position _____

Signature: _____

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General

- 501929 820 .1.00 Infection prevention and control involves identification of transmissible agents and intervention to minimise the spread of these infections.
- 300606 820 .2.00 A number of strategies contribute to the control of infection, such as handwashing, careful aseptic technique and the observance of 'standard precautions'. Isolation rooms to separate immunocompromised or infectious patients from other patients are also a vital part of infection control. These rooms may be standard rooms or special rooms with positive or negative pressure.
- 300607 820 .3.00 Infection prevention and control requirements are critical to the planning of a Health Care Facility and need to be incorporated into plans and specifications.
- 501930 820 .4.00 All areas of the facility should be designed, constructed, furnished and equipped in keeping with the principles of infection control.
- 300609 820 .5.00 By far the most important of the infection control strategies is effective handwashing. Handwashing facilities should be installed in all patient care areas, and in all areas where careful attention to hygiene is essential, such as Kitchens, Laundries, Pharmacies, Laboratories, etc, and staff amenities areas, such as Bathrooms, Toilets and Change Rooms. Refer to detailed requirements for staff hand-basins, later in this document.
- 300610 820 .6.00 Facets of construction and fit-out that contribute to effective infection control are covered in various sections of these Guidelines. They include ventilation, floor coverings, waste management, provision for ease of cleaning, provision for sterilisation and disinfection of equipment and instruments, and provision for the isolation of infectious patients as required.

Handwashing - Staff

- 501931 820 .7.00 Staff should be encouraged to wash their hands before and after every patient contact. In all Health Care Facilities the following handwashing facilities should be available:
- hand basins with warm and cold water supplies;
 - taps with hands-free operation;
 - supplies of soap or detergent;
 - disposable paper towels or single use cloth towels.
- Handwashing facilities should comply with appropriate Australian Standards. Refer References and Further Reading.
- 501932 820 .8.00 Taps should be fitted with an anti-splash-back device, and should ideally be operated without hand contact, that is, by elbow, knee, foot or an infra-red or similar 'no-touch' mechanism. Where filters are fitted to taps in place of anti-

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splash devices, they should be cleaned REGULARLY - a cleaning regime should be in place.

- 501933 820 .9.00 Mirrors should not be installed at handwashing facilities in food preparation areas, nurseries, clean and sterile supply areas, scrub sinks or other areas where aseptic control would be lessened by touching hair.
- 300097 820 .10.00 Provision for 'hands off' liquid soap dispensing should be included at all handwashing facilities. All standard basins should be fitted with 'hand cleanser' liquid soap and all scrub-up basins (clinical handwashing) with 'antimicrobial' liquid soap. Soap dispensers are to be the non-refillable type.
- 300098 820 .11.00 Provision for hand drying should be included at all hand washing facilities, except Operating Unit scrub-up troughs.
- 300099 820 .12.00 Hand drying facilities should be single use, separate and individual linen/paper units enclosed in such a way as to provide protection against dust or soil and ensure single unit dispensing.
- 501934 820 .13.00 Hot air hand dryers are not recommended in Class 9a buildings or in sterile stock areas and should not be installed in staff or visitor toilet areas.
- 501935 820 .14.00 A disposable glove dispenser, sufficient to hold all glove sizes, should be located in close proximity to hand basins. The dispenser should allow re-stocking without the need to touch new gloves.

Handwash Basin Types and Uses

501936 820 .15.00 TYPE A - CLINICAL SCRUB BASIN

This is used in areas requiring clinical handwashing for sterile procedures, for example ICU Rooms, Treatment Rooms and Cardiac Catheterisation areas, Clinics and Day Procedure Rooms.

The hand basin type is a large clinical type. The taps are wall mounted, hands-free operation (elbow, foot or electronic).

501937 820 .16.00 TYPE B - GENERAL STAFF HAND BASIN

This is used in areas requiring general staff handwashing, for example inpatient unit corridors, and 1 Bed Rooms.

The basin type is a medium wall mounted basin. The taps are either wall mounted or basin mounted with hands-free operation (elbow or wrist).

501938 820 .17.00 TYPE C - SMALL STAFF/PATIENT/VISITOR HAND BASIN

This is used in areas requiring general staff and patient handwashing, for

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example patient and staff Amenities and toilet areas.

The basin type is a small wall mounted basin. The taps are either wall mounted or basin mounted.

501939 820 .18.00 SCRUB SINK

Refers to a long sink that can accommodate one or more staff scrubbing for a sterile procedure at the one time. Refer to Part C, Ergonomics for the heights, width of space per person and type of taps.

Handwash Basin Types - Schedule

501940 820 .19.00 The following indicates recommended basin and tap combinations for particular rooms. For rooms not listed refer to a similar area.

The waterspout should be positioned so that the water flow does not flow directly into the drain and cause a splashback to the hands of the user. It should be positioned in a way to ensure that the water flow hits the basin in/on the front (splashback) to avoid contamination from the down pipe on to the hands of the user.

Note that a domestic style one lever operation is considered an appropriate substitute for a wrist operated tap.

ROOM/SPACE	BASIN TYPE	WALL TAP	BASIN TAP	WRIST/ LEVER	ELBOW	INFRA- RED	NOTES
BIRTHING ROOMS, PROCEDURE ROOMS	A	yes			yes	optional	
INTENSIVE CARE - ENCL ROOMS/ OPEN BAYS	A	yes			yes	optional	
CLEAN UTILITY, EXAMINATION, POST MORTEM	B	yes	Optional		yes		
ACUTE INPATIENT BEDS INCL 1 BED RMS	B	yes			yes		
HANDWASH BAYS - CORRIDOR	B	yes			yes		
ISOLATION/ANTEROOM/AIRLOCK	B	yes			yes		
RECOVERY AREAS	B	yes			yes		
PATIENT BAYS - RESUC, TRAUMA IN EMERGENCY	B	yes			yes		
CONSULT, TREATMENT, FORMULA ROOMS	B	yes	optional	yes	optional		
BATHROOMS, CLEAN-UP ROOMS, DIRTY UTILITY	B		yes	yes			
PARENTING ROOMS, BABYCHANGE ROOMS	B		yes	yes			
BEVERAGE PANTRY, FOOD SERVERY, PATIENT DINING	B		yes				
ADL KITCHEN	B		yes				
STAFF TOILET, PUBLIC/VISITOR TOILET, PATIENT ENSUITES	C		yes				
OPERATING ROOM, PROCEDURES, SCRUB-UP	Sink/trough	yes				yes	

Handwash Basins - Placement

501941 820 .20.00 Handwash Bays should be provided in the following ratios:

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- ICU - one per enclosed room, one per two open bays;
- Emergency - one per four open bays;
- Ambulatory Care - one per four open bays;
- Inpatient Unit - as per the following tables;
- other patient treatment areas - generally staff should not be more than 10-12 metres from a Handwash Bay.

ROOM	PURPOSE	TYPE	LOCATION
4 BED ROOM	Patient ablutions	C	Ensuite bathroom
	Staff hand hygiene	B	Room Entry
	Surgical Scrub	Not required	Not required
ISOLATION ROOMS (ALL TYPES), 2 BED ROOM	Patient Ablutions	C	Ensuite or bathroom
	Staff hand hygiene	B	Room Entry
	Surgical Scrub	Not required	Not required
CORRIDOR HANDWASH BASINS	Staff hand hygiene	B	Within 5m of PPE Bay
INTENSIVE CARE UNIT	Staff hand hygiene	A	Adj pat bays, 1 per encl
EMERGENCY & AMBULATORY CARE	Staff hand hygiene	B	Adj pat bays, 1 per encl
OTHER PATIENT TREATMENT AREAS	Staff hand hygiene	B	Staff should not be >10-

Isolation Room/s

501942 820 .21.00 INTRODUCTION

This Guideline describes and identifies facility spatial requirements that are appropriate for the isolation of patients with known or suspected infectious conditions and to assist the project planning teams with the planning and design of Isolation Rooms. It does not however address Isolation Rooms for the care of patients with implanted isotopes.

It has been prepared with input from stakeholders experienced in Infection Control, Microbiology, Facility Planning, Disaster Planning, Tuberculosis and Paediatrics.

Isolation Rooms when not required for the care of infectious patients can have multipurpose functions once the room is vacated and cleaned as per the Infection Control Policy of the facility/organisation.

It is critical that Operational Policies and the Functional Relationships between the Isolation Room/s within the Health Planning Unit, and the Health Planning Units within the Health Care Facility support the planning of the Isolation Rooms.

Details of engineering requirements and services for Isolation Rooms will form part of TS11, Engineering and Sustainable Services. Details of Infection Control practices and education are available in the NSW Health Infection Control Policy (Circular 2002/45, NSW Health 2002) and are not contained within these Guidelines.

501943 820 .22.00 TYPES

Four types of Isolation Rooms are required:

Class S	Standard
Class N	Negative Pressure
Class P	Positive Pressure

These types of room and their uses are described in more detail below.

501944 820 .23.00 CLASS S : STANDARD ISOLATION ROOMS

Class S or Standard Isolation Room is a single room with a shower/toilet ensuite that is not shared.

There are no specific requirements for airconditioning. A hand basin and self-closing door are recommended. A PPE Bay should be provided outside the door.

A Class S room can be used for patients who require contact or droplet isolation, to minimise the potential for such infections being transmitted to other patients and staff.

501945 820 .24.00 CLASS N : NEGATIVE PRESSURE ISOLATION ROOMS

Class N or Negative Pressure room is a single room with a shower/toilet ensuite that is not shared.

Sufficient and appropriate storage space should be provided for linen and waste inside the room, and for storage of gowns, gloves and masks outside in the alcove, Anteroom or Personal Protective Equipment Bay.

A Class N room can be used for patients who require airborne droplet nuclei isolation (eg varicella, measles, pulmonary or laryngeal tuberculosis) to reduce transmission of disease via the airborne route.

Negative pressure rooms operate at a lower pressure with respect to adjacent areas such as the corridor. Air in negative pressure rooms will be exhausted to the outside in accordance with AS 1668-1991 Part 2 6, to prevent air recirculation. The discharge points should be located as far as possible from air intakes, persons and animals. If external exhaust is not possible, air should be recirculated through high-efficiency particulate air (HEPA) filters. A separate exhaust system dedicated to each room must be provided. This must be separate to the building's common exhaust air system to reduce the risk of contamination.

A communication system should be provided so that staff can communicate with people outside the room without leaving the room.

Further detail is provided in Room Data Sheets and TS11.

501946 820 .25.00 CLASS P : POSITIVE PRESSURE ISOLATION ROOMS

Class P or Positive Pressure room is a single room with a shower/toilet ensuite that is not shared.

Positive pressure rooms operate at a higher pressure with respect to adjacent areas. Air exhausted from these rooms is not infectious and therefore does not require filtration.

Patients with airborne transmitted infections such as varicella, measles, pulmonary or laryngeal tuberculosis are not to be accommodated in positive pressure rooms.

Class P rooms may be used to reduce the risk of airborne transmission of infection to susceptible patients such as allogenic bone marrow transplant recipients. These rooms will only be required for transplants and oncology patients.

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Patients requiring precautions to prevent the transmission of pathogens by the airborne route will not be accommodated in Class P Isolation Rooms.

Evidence for a protective effect from positive pressure is largely limited to studies of patients at high risk of nosocomial aspergillosis, where laminar airflow at ultra-high airflow rates was used to create a positive pressure. Evidence for use of such rooms for other purposes is lacking. Further difficulties arise when the patient requiring protective isolation is also infectious to others, particularly with airborne-spread infections (eg renal transplant patient with varicella zoster). In these instances, consideration of placement in positive or negative pressure isolation rooms will depend on the patient's neutrophil count and should be made following consultation with infectious diseases, infection control and microbiology staff.

Further detail is provided in Room Data Sheets and TS11.

501947 820 .26.00 CLASS Q - QUARANTINE ISOLATION ROOMS

Class Q or Quarantine Isolation Room is a single room with an ensuite not to be shared and includes all design requirements as noted in the negative pressure rooms. In addition, the Quarantine Isolation Room will require an Anteroom designed to function as an airlock.

Consideration or incorporation of good electronic communication systems (intercoms) between the isolation room and outside may assist in eliminating or reducing unnecessary traffic into the room.

One hospital in each Australian capital city will have designated Class Q rooms. Westmead Hospital is designated with the quarantine status within New South Wales, and provides facilities for patients with highly infectious pathogens such as haemorrhagic fevers, Hantavirus pulmonary syndrome. These patients require a further level of containment over and above the standard negative pressure isolation room.

501948 820 .27.00 ANTEROOMS

Anterooms are required for staff and visitors to change and dispose of personal protective gear used on entering and leaving these rooms when caring for infectious patients.

Anterooms increase the effectiveness of the Isolation Room by minimising the potential escape of airborne nuclei into the corridor when the door is opened.

Anterooms should be provided for Class N rooms in ICU, Emergency Departments, Infectious Diseases Units, and for an agreed number of patient bedrooms within Inpatient Units accommodating Respiratory patients. The need for Anterooms for Class N rooms in other Health Planning Units should be considered on a case by case basis.

The Anteroom should not be shared between rooms. The Anteroom will not need to function as an airlock for Class N rooms with the exception of ICU.

The Class Q rooms will require an Anteroom to function as an airlock with interlocking doors (ie the two doors cannot be opened simultaneously). Anterooms in Class Q rooms will need to be large enough to incorporate additional disposal facilities as well as allowing bed movement with doors interlocked.

501949 820 .28.00 See attached table for the functional classification of Isolation Rooms

501950 820 .29.00 COMBINED ALTERNATING PRESSURE ISOLATION ROOMS

Combined alternating pressure rooms (enabling the room to have either negative or positive pressure) are NOT permitted due to the following concerns:

- difficulty in the configuration of appropriate airflow for two fundamentally different purposes;
- risk of operator error;
- need for complex engineering;
- the absence of failsafe mechanisms.

501951 820 .30.00 CALCULATION OF NUMBERS OF ISOLATION ROOMS

GENERAL:

In the redevelopment of Health Care Facilities, Project Planning Teams should use available service planning and incidence data to determine the number and type of Isolation Rooms required. They will need to collect data from existing facilities progressively during the service planning phase to assess the actual demand for the use of facilities to isolate patients known or suspected to have an infection that requires a particular form of isolation.

Assessment of actual demand to isolate patients should include:

- number of patient admissions with infections known or suspected to require isolation;
- the duration of isolation required;
- clustering of cases that may be influenced by seasonal and other trends;
- type of unit where patient isolation may be necessary;

Estimates of numbers and types of isolation rooms should consider the following:

- trends in disease in the general population and the particular population served by the facility;
- demographic trends in the population served by the facility;
- specialties of the Health Care Facility, along with any projected changes in the facility's activities.

Data collected over one year or longer provide more reliable estimates and will assist in determining peak needs for diseases with marked seasonal variations.

Retrospective data (based on discharge) should be used with caution as the data may not include suspected but unconfirmed cases of certain infections requiring isolation, thereby causing an underestimation of requirements. For planned new facilities, data from comparable facilities serving comparable populations may be available in place of retrospective data.

501952 820 .31.00 CLASS N ROOMS:

When calculating requirements for persons known or suspected of having infections that require airborne precautions (such as chicken pox, measles, infectious pulmonary and laryngeal infections) it is also important to collect data on patients suspected of having tuberculosis. Patients will require isolation until confirmed as un-infected by clinicians or until the treatment renders the patient non-infectious.

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501953 820 .32.00 CLASS P ROOMS:

Requirement for such rooms should be determined by collecting data on local threats from pathogens such as *Aspergillus*, as well as evidence (from within and beyond the facility) on the role of particular environments in protecting vulnerable patients.

The final assessment of the requirements for numbers and types of Isolation Rooms should be made in consultation with clinical specialists and the Infection Control Committee.

501954 820 .33.00 PERSONAL PROTECTIVE EQUIPMENT BAYS

Personal Protective Equipment (PPE) Bays should be provided immediately outside all Isolation Rooms - including Class S.

A PPE storage unit should be provided in the purpose built bay for the storage of gloves, goggles, faceshield masks, gowns and waterless alcohol-based handrub dispensers.

A PPE Bay may be shared between two rooms.

See room data sheets and room layout sheets for more detail.

501955 820 .34.00 AREAS REQUIRING CLASS N ROOMS

Health Planning Units that require either one or more Class N rooms include:

- Emergency Unit;
- Intensive Care Unit;
- Infectious Diseases Unit;
- Procedure areas such as bronchoscopy units or sputum induction rooms.

Paediatric areas may also have a need for Class N rooms.

501956 820 .35.00 DESIGN PRINCIPLES FOR ISOLATION ROOMS

The aim of environmental control in an isolation facility is to control the airflow so as to reduce the number of airborne infectious particles such that they are unlikely to infect another person within the environment of the Health Care Facility. This is achieved by controlling the quality and quantity of intake and exhaust air, diluting infectious particles in large volumes of air, maintaining differential air pressures between adjacent areas and designing patterns of airflow for particular clinical purposes.

The location and design of the Isolation Rooms within a Health Planning Unit (Department or Ward) should enable isolation of rooms from the rest of the Health Planning Unit. Where possible a different route could be provided for the transport of contaminated waste and linen away from the main traffic area.

Multiple Isolation Rooms should be clustered and located away from the main entrance of the department.

When Health Care Facilities are developed, consideration should be given to one whole floor level, or a defined section, of inpatient accommodation being designed with separate airconditioning and exhaust. This will enable Health Care Facilities to accommodate an infectious outbreak incident within the Area Health Service.

Planning should consider:

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- sufficient and appropriate storage space for linen and waste containers inside the room and for gowns, gloves and masks inside or outside the room;
- use of an observation window will allow staff to observe patients without opening and closing the door of the Isolation Room, thus ensuring good visual observation for staff and privacy for patients;
- for privacy, a blind within double glazing should be considered;
- provision of a communication system such as a phone or intercom to allow communication between staff, patients, interpreters, visitors, etc without leaving the room.
- should both Class N and P rooms be needed within the same facility they should be planned to minimise the likelihood of these patients using, or meeting in, the same corridors or circulation paths.

501957 820 .36.00 POSITIVE AND NEGATIVE PRESSURE IN OTHER AREAS

A number of other areas of a Health Care Facility may require either positive or negative pressure, these could include:

- Operating theatres;
- Procedure rooms;
- Mortuary.

The airconditioning requirements for these areas are described in TS11.

Airconditioning and Ventilation

- 501958 860 .1.00 The control of infection risk in general and special areas of a hospital is greatly influenced by the design and efficacy of the airconditioning system. Considerable care and effort is required to ensure the appropriate results are achieved. TS11 provides detailed technical specifications on the airconditioning requirements.
- 501959 860 .2.00 Ventilation equipment should maintain the temperature, humidity and purity of the air, plus the inflow of fresh air, all within prescribed limits. Airconditioners and cooling towers should not be a source of contamination, particularly with respect to Legionella. Refer to the NHMRC - NSW Legislation, Australian Guidelines for the Control of Legionella Infection and to the NSW Code of Practice for the control of Legionnaire Disease for further information. Airconditioners and cooling towers should also comply with and be maintained in accordance with Federal/State/Territory guidelines on cooling towers and hot and cold water services and with relevant Australian Standards.
- 501960 860 .3.00 Retro fitting of split system airconditioners is a common way of resolving local cooling problems. Care should be taken when using this approach in Patient Care Areas. Issues to be considered include:
- routing of condensate drains;
 - air flow and turbulence effects;
 - maintenance and adequacy of filters.

Environmentally Sustainable Design

- 501961 860 .4.00 Provision of natural ventilation to Patient Care Areas should be approached with caution.
- The management of airflows and the creation of a stable environment is essential to the control of the spread of infection.
- Non airconditioned spaces rely on natural airflows to achieve comfort conditions. In many cases, when natural breezes are not available, supplementary ventilation in the form of ceiling fans or portable fans are used to achieve comfort conditions.
- Both the natural airflows required to achieve comfort conditions and the airflows generated by supplementary ventilation generate turbulence and unpredictable airflows. These have the potential to spread infection from patient to patient.

Patient Accommodation

- 501962 860 .5.00 In Acute Care situations it is essential that an adequate number of 1 Bed Rooms is available.
- 501963 860 .6.00 Patient Waiting Areas for non-inpatient units, including Ambulatory Care Services and Community Health, should have provision for separating patients who may be highly infectious, for example, patients diagnosed with or suspected to have communicable infectious disease.

Gaps

- 301282 880 . A gap is defined as a space where two materials do not meet leaving a space or opening that can harbour dust, germs, mould or vermin.

PHYSICAL PLANNING

General

- 501964 880 .1.00 The nature and type of surfaces and finishes used in Health Care buildings are integral to the overall management of infection control risks.

This is covered in more detail in Part C of these Guidelines. Some basic issues are discussed below.

Floors

- 501965 880 .2.00 Floor coverings must be easy to clean and resistant to disinfection procedures. This applies to all items in patient care environments.
- 501966 880 .3.00 Treatment Areas should not be carpeted.
- In both Patient and Treatment Areas, the flooring should be easily cleaned and in good repair.
- 300108 880 .4.00 Floors in areas used for food preparation or food assembly should be water resistant and greaseproof to comply with the Food Hygiene Regulations. Floor surfaces, including joints in tiles in such areas, should be resistant to food acids (epoxy grout). In all areas subject to frequent wet cleaning methods, floor materials should not be physically affected by germicidal cleaning solutions.

Skirtings

- 501967 880 .5.00 Wall bases in Kitchens, Operating and Birthing Rooms, Clean and Dirty Utility Rooms, CSSU areas and other areas subject to frequent wet cleaning methods should be made integral with the floor, tightly sealed against the wall, and constructed without voids.

Walls

- 300100 880 .6.00 Other than special treatments included as feature face work in public or staff relaxation areas, wall finishes should be scrubbable, and in the immediate vicinity of plumbing fixtures, should be smooth and water-resistant.

Ceilings

- 300101 880 .7.00 All exposed ceilings and ceiling structures in areas occupied by patients or staff, and in food preparation or food storage areas, should be finished so as to be readily cleanable with equipment routinely used in daily housekeeping activities.

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- 501968 880 .8.00 In food preparation and other areas where dust fallout would present a potential problem, there should be a finished ceiling that covers all conduits, piping, duct work and open construction systems.
- 300103 880 .9.00 Ceilings in Operating and Delivery Rooms, Isolation Rooms, Nurseries, and Sterile Processing Rooms should be monolithic from wall to wall without fissures, open joints, or crevices that may retain or permit passage of dirt particles. Light fittings should also be recessed, flush fitting and sealed to prevent dust ingress.
- 501969 880 .10.00 Acoustic and/or lay-in ceilings should not be used where particulate matter may interfere with hygienic environmental control.

Gaps

- 500293 880 .11.00 A gap is defined as a space where two materials do not meet leaving a space or opening that can harbour dust, microorganisms, moulds or vermin.
- 301283 880 .12.00 In construction of Health Care Facilities, gaps between surfaces are not permitted, and must be properly sealed. In particular gaps in the following area are not allowed.
- between skirting and floor;
 - between utility benches and walls;
 - between cupboards and floor or wall;
 - between fixtures attached to floors and walls.
- 501970 880 .13.00 Floor and wall construction, finishes and trims in dietary, food preparation areas, sterile stock areas and Pharmacy should be free of spaces that can harbour rodents and insects. Details should comply with the relevant Public Health Regulations.
- 300115 880 .14.00 Floor and wall penetrations by pipes, ducts and conduits should be tightly sealed to minimise entry by rodents and insects. Joints of structural elements should be similarly sealed.

Surface Materials

- 206023 880 .15.00 Regular routine cleaning of the Health Care Facility can be carried out much more efficiently if the design of the building is adapted to its function. Unnecessary horizontal, textured, moisture retaining surfaces or inaccessible areas where moisture or soil will accumulate should, if possible, be avoided.
- 501971 880 .16.00 All fixtures and fittings should be designed to allow easy cleaning and to discourage the accumulation of dust. Blinds are preferable to curtains for this reason.

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- 206025 880 .17.00 Where there is likely to be direct contact with patients, or with blood or body fluids, floors and walls should be surfaced with smooth, impermeable seamless materials, such as vinyl. In equipment processing areas, work surfaces should be non-porous, smooth and easily cleaned.
- 501972 880 .18.00 In hospitals, all surfaces of patient care areas in high risk treatment areas, including the Operating Unit, Intensive Care Unit, Obstetrics Unit and Neonatal Special Care Nurseries, should be smooth and impervious and not liable to be damaged by disinfectants.

General

501973 900 .1.00 Infection control precautions during construction should be integrated into the design and documentation of the facility from the beginning of the design stage. It is important that the dust control and infection control principles developed during the pre-design stage are integrated at the initial stages of the design development. It is important that the pre-design team comprehensively brief the design team and submit the findings of the survey and risk profile.

501974 900 .2.00 Building, renovation and maintenance activities within a Health Care Facility impose risks upon the incumbent population unlike any other building site. Building practices therefore require a range of precautions appropriate to the risk. Identification of the 'at risk' population, a knowledge of the transmission route of a likely pathogen and location of the 'at risk' population in relation to the construction, all need to be taken into account in the planning stages.

Risk Management

208006 900 .3.00 A formal approach to risk management must be part of all building and renovation activities.

A process for assessing risk during construction projects, and adopting appropriate precautions is provided below.

208007 900 .4.00 A more detailed review of risk is beyond the scope of this document, but adherence to Australian Standard 4360 - Risk Management principles will provide the framework to assemble a relevant risk management strategy.

208014 900 .5.00 The risk profile should contain as a minimum:

- identify the location of high-risk patients in relation to the site;
- identify ventilation system types and potential impact;
- determine air monitoring requirements, methodology and frequency;
- take air quality samples to establish a baseline;
- identify possible contaminants and their locations (contaminants may be present in ceiling dust, service shafts (especially if dampness is present), sprayed on fire retardants and bird droppings).

208008 900 .6.00 Airborne sampling should be part of any risk management program. Cumulative data is used to establish indoor and outdoor background levels of filamentous fungi for a particular site. This will enable establishment of risk profiles for particular locations in and around the hospital.

501975 900 .7.00 It is important to consult with a Microbiologist experienced in environmental sampling to identify what outcomes are required of the sampling. Equally important it is necessary to have an approximate idea of the expected number of fungi that will be obtained. This will determine the appropriate sampling system.

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Construction

- 501977 900 .8.00 Infection control measures to consider during construction are:
- infection control site induction of building workers should be carried out as a major component of the OHS induction. This induction process should be documented and signed off by each person inducted;
 - worker compliance with procedures should be monitored and the results of this monitoring should be fed back to the workers routinely through the Builder. A system must be in place to manage major breaches;
 - ensure that adequate inspections by the nominated representatives take place during the construction of the barriers. These inspections should be monitored and reported on.
- 501979 900 .9.00 Movement in and out of the site should be controlled by restricting access to only those who have undergone site induction. This will assist greatly in reducing the spread of contaminants.
- 208027 900 .10.00 All inspections should be documented including a non-conformance system for defaults, complete with a corrective and preventative action loop.
- 501978 900 .11.00 After handover it is the responsibility of the hospital to ensure the area complies with hospital standards for occupation.
- As a minimum the hospital should:
- thoroughly clean and decontaminate all the surfaces including walls, ceilings, windows and in high-risk areas ventilation systems, service cavities and ceiling spaces;
 - conduct air sampling and particle counts and implement a program of regular air sampling in high-risk areas, allowing time for culturing and results and repeat cleaning and testing prior to occupation;
 - on completion, re-certify HEPA filters and laminar/clean flow systems where installed.
- Refer also to the Commissioning section of these Guidelines.

Verification

- 206035 900 .12.00 All infection control measures described in this section are required to be verified by inspection. There must be no barriers in place to prevent the checking and validating the measures described.

Construction Risk Assessment and Action Plan

- 501980 900 .13.00 The Construction Risk Assessment and Action Plan comprises four main steps.
- STEP 1 - SELECT CONSTRUCTION ACTIVITY TYPE FROM TABLE BELOW
- Definition of Construction Activity Type is defined by :
- the amount of dust that is generated;
 - the duration of the involvement of the Heating Ventilation and Airconditioning systems (HVAC).

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501981 900 .14.00 STEP 2 - SELECT THE INFECTION CONTROL RISK GROUPS FROM TABLE BELOW

Definitions of Infection Control Risk Groups are defined based on the project location and the occupancy by patients. Contact the Infection Prevention & Control Unit if any type of location is not mentioned as examples in the guideline.

Where possible, as in outpatient facilities and day treatment centres etc work should be conducted after patient care hours, as these areas have limited times when patients are seen.

501982 900 .15.00 STEP 3 - DETERMINE THE CONSTRUCTION CLASSIFICATION CLASS

Using the Construction Activity Type and the Infection Control Risk Group selected from the above tables, use the matrix below to determine the Construction Classification Class.

The Construction Classification Class determines the procedures to be followed during construction and renovation projects.

501983 900 .16.00 STEP 4 - IMPLEMENT THE INFECTION CONTROL CONSTRUCTION GUIDELINES

Implement the appropriate Infection Control Construction Guidelines based on the Construction Activity Matrix (above) Step 3.

Infection Control Construction Guidelines are procedures to control releases of airborne contaminants resulting from construction demolition or renovation activities.

References and Further Reading

501984 E+03 .17.00

Morbidity and Mortality Weekly Report: Guidelines for Environmental Infection Control Health Care Facilities, Centres for Disease Control and Prevention, June 2003.

Guidelines for the Classification and Design of Isolation Rooms in Health Care Facilities, Department of Human Services, Victoria, July 1999.

Infection Control Policy - Circular 2002/45, NSW Health Department, 2002.

Technical Series 11 - Engineering and Sustainable Design, NSW Health Department, 2003.

AS1288 - 1994 Glass in Building - Selection and Installation, Standards Australia, 1994.

AS 1668-1991 Part 2, Standards Australia, 1991.

HB 260 - 2003. Handbook: Hospital acquired infections - Engineering down the risk, Standards Australia, 2003.

Capital Works Guidelines - Building and Refurbishment Infection Control Guidelines, Queensland Health., 2002.

The Epic Project: Developing National Evidence-based Guidelines for Preventing Healthcare Associated Infections. Part 1 Guidelines for Preventing Hospital Acquired Infection - Standard Practices for Hand Hygiene, Journal of Hospital Infection, 2001 - 47 (Supplement), Sections 3-4.

Western Australia Health Facility Guidelines for Infection Control 2006 - <http://www.health.wa.gov.au/hrit/infrastructure/procedures/facility.cfm>

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DEFINITIONS OF CONSTRUCTION ACTIVITY

TYPE A: INSPECTIONS AND GENERAL UPKEEP ACTIVITIES
Includes but is not limited to : removal of ceiling tiles for visual inspection (limited to 1 tile per 5 m2); painting (but not sanding); installation of wall covering; electrical trim work; minor plumbing; any activities that do not generate dust or require cutting into walls or access to ceiling other than for visual inspection.
TYPE B: SMALL SCALE, SHORT DURATION ACTIVITIES, WHICH CREATE MINIMAL DUST
Includes, but is not limited to, installation of telephone and computer cabling, access to chase spaces, cutting into walls or ceiling where dust migration can be controlled.
TYPE C: ANY WORK THAT GENERATES A MODERATE TO HIGH LEVEL OF DUST
Includes, but is not limited to, demolition or removal of built-in building components or assemblies, sanding of wall for painting or wall covering, removal of floor covering/wallpaper, ceiling tiles and casework, new wall construction, minor ductwork or electrical work above ceiling, major cabling activities.
TYPE D: MAJOR DEMOLITION AND CONSTRUCTION PROJECTS
Includes, but is not limited to heavy demolition, removal of a complete ceiling system, and new construction.

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DEFINITION OF INFECTION CONTROL RISK AREA / LOCATION

GROUP 1 LOW	GROUP 2 MEDIUM	GROUP 3 MEDIUM HIGH	GROUP 4 HIGHEST
- Office areas - Non-patient/ low risk areas not listed elsewhere	- Patient care & other areas not covered under group 3 or 4 - Laundry - Cafeteria - Dietary - Materials Management - PT/OT/Speech - Admission/ Discharge - MRI - Nuclear Medicine - Echocardiography - Laboratories not specified as Group 3 - Public Corridors (through which patients, supplies, and linen pass)	- Emergency Rooms - Radiology - Recovery Rooms - Delivery Wards - High dependency Unit - Newborn Nurseries - Paediatrics (except those listed in Group 4) - Microbiology lab - Virology lab - Long term/sub-acute Units - Pharmacy - Dialysis - Endoscopy - Bronchoscopy areas	- Oncology Units - Radiation Therapy - Clinical areas - Chemo Infusion - Transplant - Pharmacy Admixture – clean room - Operating Rooms - Sterilisation - processing Departments - Cardiac Catheterisation - Outpatient Invasive Procedure Rooms - Anaesthesia and Pump areas - Newborn Intensive Care Unit (NICU) - All Intensive Care Units (except those listed in Group 4)

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CONSTRUCTION ACTIVITY MATRIX

CONSTRUCTION ACTIVITY RISK LEVEL	TYPE A	TYPE B	TYPE C	TYPE D
GROUP 1	Class I	Class II	Class II	Class III/IV
GROUP 2	Class I	Class II	Class III	Class IV
GROUP 3	Class I	Class III	Class III/IV	Class IV
GROUP 4	Class III	Class III/IV	Class III/IV	Class IV

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INFECTION CONTROL CONSTRUCTION GUIDELINES

CLASS I	• Execute work by methods to minimise raising dust from construction operations. • Replace any ceiling tile displaced for visual inspection as soon as possible.
CLASS II	• Provide active means to prevent air-borne dust from dispersing into atmosphere. • Seal unused doors with duct tape. • Contain construction waste before transport in tightly covered containers. • Wet mop and/or vacuum with HEPA filtered vacuum. • Place dust-mat at entrance and exit of work area and replace or clean when no longer effective. • Isolate HVAC system in areas where work is being performed. • Wipe casework and horizontal surfaces at completion of project.
CLASS III	• Isolate HVAC system in area where work is being done to prevent contamination of the duct system. • Complete all construction barriers before construction begins. • Maintain negative air pressure within work site utilising HEPA filtered ventilation units or other methods of maintain negative pressure. Public safety will monitor air pressure. • Do not remove barriers from work area until complete project is thoroughly cleaned. • Wet mop or vacuum twice per 8 hour period of construction activity or as required in order to minimise tracking. • Remove barrier materials carefully to minimise spreading of dirt and debris associated with construction. Barrier material should be wet wiped, HEPA vacuumed or water misted prior to removal. • Contain construction waste before transport in tightly covered containers. • Place dust-mat at entrance and exit of work area and replace or clean when no longer effective. • Wipe casework and horizontal surfaces at completion of project.
CLASS IV	• Isolate HVAC system in area where work is being done to prevent contamination of duct system. • Complete all construction barriers before construction begins. • Maintain negative air pressure within work site utilising HEPA filtered ventilation units or other methods of maintain negative pressure. Public Safety will monitor air pressure. • Seal holes, pipes, conduits, and punctures to prevent dust migration. • Construct Anteroom and require all personnel to pass through the room. Wet mop or HEPA vacuum the Anteroom daily. • During demolition, dust producing work or work in the ceiling, disposable shoes and coveralls are to be worn and removed in the Anteroom when leaving work area. • Do not remove barriers from work area until completed project is thoroughly cleaned. • Remove barrier materials carefully to minimise spreading of dirt and debris associated with construction. • Barrier material should be wet wiped, HEPA vacuumed or water misted prior to removal. • Contain construction waste before transport in tightly covered containers. • Place dust-mat at entrance and exit of work area and replace or clean when no longer effective. • Keep work area broom clean and remove debris daily • Wet mop hard surface areas with disinfectant at completion of project, HEPA vacuum carpeted surfaces at completion of project. • Wipe casework and horizontal surfaces at completion of project.

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CHECKLIST

Name of HPU: _____ (Print and complete one per HPU)

Agreed Role Delineation Level: _____

No	Item	Yes	No
1.0	Handwashing Facilities:		
1.1	Are the handbasin types specified appropriate for the room usage?	☐	☐
1.2	Are sufficient numbers of handbasins provided?	☐	☐
2.0	Isolation Rooms		
2.1	Are sufficient numbers of Isolation Rooms of the appropriate type provided?	☐	☐
2.2	Do the Isolation Rooms meet the minimum requirements for the class specified?	☐	☐
3.0	Physical Environment		
3.1	Do operating areas sufficiently separate clean and contaminated areas?	☐	☐
3.2	Do cleaning and clean-up areas sufficiently separate clean and contaminated areas?	☐	☐
3.3	Are staff eating and recreational areas sufficiently separate from work areas and patient treatment areas?	☐	☐
4.0	Surfaces and Finishes		
4.1	Are the following finishes appropriate for the room usage? - Floors - Skirtings - Walls - Ceilings	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐

Checked and certified by:

Name: _____

Date: _____

Company: _____

Position: _____

Signature: _____

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Description

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INTRODUCTION AND GENERAL REQUIREMENTS

Introduction

600110	1.1.00	Part E is written specifically as a guideline and not as a performance or outline specification. It precedes the 'Technical Brief' which directly references regulations and standards, and provides performance benchmarks for use by the Design Team in preparation of the Developed Design and Tender Documentation. Currently, Technical Briefs and Guidelines exist for some States (e.g. NSW, Victoria and WA). [Refer to References and Further Reading].
600100	1.1.05	Engineering services account for a significant part of the capital cost of Health Facility construction and for this reason require equal attention in terms of whole of life costs, energy efficiency and sustainability.
600101	1.1.10	Large buildings require complex engineering systems involving a project team of experts. To achieve an integrated building solution and an optimum project delivery process, members of the team need to have a general understanding of the areas of concern specific to each discipline. The increasing specialisation in Project procurement, combined with the introduction of new legislation and developments in risk management has added to the number of consultants in the team; making coordination and communication across design disciplines all the more necessary.
600102	1.1.20	The preliminary briefing and design stage is one of the most important in the design process; the spatial and building design requirements for each engineering service need to be fully understood by Architects in particular, and by other members of the team to achieve the best outcome and avoid costly redesign.

Part E - Building Services and Environmental Design

- 600103 1.1.30 This section of the guidelines addresses the provision of engineering services in Health Facilities as defined in HFG Part A. - Subsection 30: How to read - The Structure of these Guidelines, and lists the range of engineering services applicable to Health Facilities and the specific functions and issues relating to their provision.
- 600104 1.1.40 The information provided is intended to be used by the design team in the preliminary stages of the project and is presented as subjects for consideration; which in turn can be used as a checklist to generate the brief. It is for individual members of the team to select and develop the information relevant to their discipline.
- 600105 1.1.50 The early design process addresses the selection of appropriate engineering services systems, spatial requirements and the modification or reduction of particular services by a review of the climatic or building design options.
- 600106 1.1.60 The procurement of capital infrastructure and the project delivery process for Health Facilities are covered by policy in most jurisdictions. Reference should be made to deliverables and reporting required at each stage of the project delivery process.
- Reporting will generally identify elemental costs and life cycle costing - enabling comparison and assessment; it will also identify any additional costs caused to services by the building design.
- Economical whole-of-life cost options should be implemented in preference to low capital/initial cost options. It should be noted however that 'Whole of Life' cost studies are part of a larger decision making process.
- 600107 1.1.70 Part E is to be used in conjunction with the other parts of the Australasian Health Facility Guidelines for the design and operation of Health Facilities. Refer to:
- Part A for all general information relating to use and aims of this guideline, and for facilities covered, glossary, references, regulations and accreditation.
- Part B for Hospital Planning Unit (HPU) specific requirements.
- Part C for general OHS and security issues.
- Part D for infection control issues.
- Part F for Furniture, Fittings and Equipment, and Operational Commissioning
- The topics covered in Part A are not repeated or expanded in Part E except where considered necessary.

Objectives

- 600108 1.2.00 Part E has the following overall objectives:
- flexibility and innovation in design;
 - improvements in the delivery of engineering services and sustainable outcomes by addressing advances in technology;
 - cost efficiency;
 - integration of relevant design disciplines;
 - principles of quality management.

Part E - Building Services and Environmental Design

- 600109 1.2.10 The specific objective is to assist members of the design team in the preparation of the design brief and documentation for engineering services by covering the subjects that most frequently occur at this stage of the Health Facility design process.
- 600111 1.2.30 The engineering services disciplines are listed in alphabetical order, to avoid conflict with existing construction classification systems which vary between countries, agencies and consultancies.
- 600112 1.2.40 Structural and Civil engineering sections are omitted on the basis that the design issues are fully covered by regulation, standards and published specifications. Facility management, operation and maintenance, and traffic management are omitted except where these might influence the provision of Engineering Services.
- Regulations and standards do not necessarily draw attention to all site and structural risks that apply to hospitals; these should be identified for each project and allowed for in the facility risk management plan (see 1.5.00).
- 600113 1.2.50 The minimum requirements for the provision of all services installations in HealthCare Facilities will be covered by the Technical Brief. Australian Standards may apply in addition to the minimum requirements in Part E, and these will be governed by the type of facility and engineering services proposed. Some of the information in the following sections may be additional to any statutory requirements.
- 600114 1.2.60 It is assumed that accepted engineering practice, relevant codes and statutory regulations will be observed as part of normal professional services, and that these aspects require no specific reference.

General

- 600115 1.3.00 The design and layout of engineering services should ensure that they are located to avoid compromising possible developments, either that are currently proposed or in the future.
- 600116 1.3.10 For alterations and additions to part of a medical service, all the supporting services appropriate to the required function should be included. The integrity, quality and reliability of site services should be maintained during and after the work. Planning should consider the sustainability and future life costs of the whole facility and not just the alteration or addition.
- 600117 1.3.20 Healthcare procedure-specific equipment is normally excluded from the engineering services and scheduled separately. However engineering services should be provided for the equipment briefed and consideration should be given for the inclusion of an approved margin for growth and change.
- 600118 1.3.30 Access points should be located outside patient areas and circulation areas

Part E - Building Services and Environmental Design

to prevent disturbance to occupant and traffic. Controls should be tamperproof.

Each type of service should be easily identifiable, and designed for minimal dust/contamination collection and easy cleaning.

- 600119 1.3.40 Engineering services should be designed for safe usage, and for ease and economy of maintenance. Maintenance should cause minimal disruption to healthcare procedures and minimal disturbance to patients.

The building and services should be designed to allow for maintenance and replacements to be undertaken with the minimum interference to the building fabric.

- 600120 1.3.50 Services design and equipment selection should address the need to minimise maintenance in locations where technical resources may be scarce and should be coordinated with the existing protocols or requirements of 'local' Area Health Services.

Consideration should also be given to the issue of remote monitoring and control of building services.

- 600350 1.3.60 For existing sites undergoing redevelopment a current services profile should be done. Eg. Electrical, water and sewer infrastructure should be known and the impact of an increase in load evaluated.

Environment

- 600121 1.4.00 Engineering services in health care facilities should satisfy the relevant requirements for general comfort, healthcare procedures and patient care, within acceptable noise levels. The operation, monitoring and control of services should be designed for the specific patient and healthcare procedure needs of the area serviced.

- 600122 1.4.10 General acoustic requirements and acceptable noise levels must comply with AS 2107 recommendations. Vibration in occupied spaces must comply with AS 2670.1 and be prevented by design, selection, installation and operation of equipment or systems.

- 600123 1.4.20 All equipment should be selected for the required use and for the environmental conditions in the intended location.

- 600351 1.4.30 Sites should be investigated to determine they are free from contamination.

Risk Management

- 600124 1.5.00 Part E does not attempt to cover all engineering options or define the requirements of a risk management system for engineering services. These systems should be developed during the design phase of the project to the relevant standards (e.g. AS 4360), statutory regulations and duty of care.

Part E - Building Services and Environmental Design

Operating policies for engineering services for each stage of the project should be included.

- 600125 1.5.10 Engineering services should not cause any unacceptable hazard resulting from loss of operation. The particular risks involved with patients and healthcare procedures need to be considered. Where loss of service could cause an unacceptable risk, including post disaster function, services must be designed to operate reliably and meet statutory and critical demand requirements as covered by the Technical Brief.
- 600126 1.5.20 Engineering services must be protected from unauthorised interference, or from conditions that will affect operation or damage the service, assets or persons. Protection should be provided with specific alarms, controls, warning devices or security devices; underground and all other services should be clearly identified and protected where required.
- 600127 1.5.30 All services should be designed and installed in a manner that will minimise the opportunities for patient self-harm.
- 600128 1.5.40 Services should not contribute to any risk to the environment. [Refer Sustainability]
- 600129 1.5.50 At the completion of the works, or section of the works, testing will be required to prove the suitability and operation of the works or section of the works, and to ensure that the installation complies in full with the brief. The supply of as-built drawings and detailed Operation and Maintenance Manuals will be required at the end of a project.
- Handover and commissioning procedures should provide for adequate pre-handover training for operations and maintenance personnel, especially in respect to complex control algorithms.
- Commissioning should include implementation of operating and maintenance arrangements that will deliver risk mitigation and designed whole of life performance.

Design Brief

- 600130 1.6.00 Project specific issues that may be expected to be covered in the Design Brief should address:
- nomination and listing of critical and sterile areas, including unacceptable risks;
 - application of life cycle cost analysis and other financial requirements;
 - provisions for foreseeable modifications and expansion;
 - provisions for foreseeable developments in health care practice and technology;
 - minimisation of environmental impact on surrounding environment;
 - standby power generation and distribution;
 - facility specific requirements;
 - specific risks and risk management policy;
 - trade wastes;
 - service requirements for health care equipment;
 - access for vehicles and equipment for fire fighting;

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- access for vehicles and equipment, and provision of heavy lifting facilities for plant installation and removal;
- safe access for service providers;
- specific Management and Maintenance requirements;
- critical safety and performance parameters for inclusion in the maintenance regime;
- energy recovery systems were justified by life cycle cost analysis and budget constraints.

- 600352 1.6.10 For existing sites undergoing redevelopment input should be sought from the current Facility Maintenance contractor, either in-house or outsourced.

Sustainability

- 600131 1.7.00 Engineering Services should comply with all relevant Environmental Sustainability Development polices and legislation. Sustainability must be included as a part of risk and cost management strategies.
- 600132 1.7.10 The total impact of energy saving strategies should be considered in the evaluation of options, including new or innovative renewable energy technology.
- 600133 1.7.20 Cost analysis should be prepared at the project level, whole of life costs considered for all project components, and options assessed in accordance with the relevant policies and standards.
[Refer to AS 3595 Energy Management programs - Guidelines for financial evaluation of a project].
- 600134 1.7.30 Sustainability targets should be set for the project - to be reviewed and monitored throughout the project. A long term maintenance strategy should be provided for all plant and equipment.
- 600135 1.7.40 An energy and environment management plan (EMP) including environmental performance benchmarks and targets should be prepared. Design and financial criteria for EMP should be provided for major plant and reticulation systems in terms of capital and recurrent costs, payback periods and life-cycle energy costs. An energy management continual improvement process should be initiated.
[Refer to AS/NZS ISO 14000 (Set): Environmental management Standards Set].
- 600136 1.7.50 Services systems (including standby and emergency arrangements) should be low maintenance and comply with the energy efficiency requirements of the Building Code of Australia.
- 600137 1.7.60 An Asset Management and Waste Management Plan including a maintenance strategy should be prepared for all plant and equipment, and handed over immediately after commissioning to Facility Management personnel for implementation.

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Scope

- 600138 2.1.00 The following Communications services should be considered in the Design Brief:

Assistance call systems including:

- emergency call;
- patient nurse call;
- staff assistance call;
- building services and equipment monitoring;
- communications cabling systems;
- data communications;
- duress alarm systems (refer to Security section);
- Emergency Warning and Intercom Systems (EWIS);
- intercom systems;
- MATV signal distribution system;
- microwave systems;
- pocket paging;
- public address;
- radio;
- radio frequency screening;
- voice communications;
- video systems.

General

- 600139 2.2.00 Communications services should in addition to their technical and functional requirements not interfere with the delivery of healthcare services, nor cause disturbance to patients.

Design

- 600140 2.3.00 Communications generally make a minimal demand on building design and planning, however the size and placement of communication and data equipment rooms can impact on layout and budget, especially if under provided for in the initial planning stages. The design of equipment enclosures will be governed by client, equipment manufacturer and supply authority requirements.

- 600141 2.3.10 Other early design issues to consider may include the placement of antenna and masts for relay, and the provision for access to these.

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Scope

- 600142 3.1.00 The following Electrical services should be considered in the Design Brief:

Electrical supply including:

- general services;
- critical care services;
- essential services;
- UPS and Standby Power;
- electrical equipment;
- emergency lighting and signage;
- heating and cooling;
- lighting, including site and security lighting;
- patient protection systems;
- supply and distribution;
- switchgear and circuit protection;
- transformer equipment;
- strategy for expansion.

General

- 600143 3.2.00 Electrical services should be designed to provide:

- safety and reliability;
- capacity for all equipment and plant;
- capacity for expansion;
- flexibility for isolation, shutdown and maintenance;
- compatibility with existing on-site and facility systems;
- compatibility with provider network;
- cost efficiency;
- minimise electromagnetic interference;
- distribution systems that will not see all modules of any critical service affected by any one interruption event e.g. modules of intensive care services should not be off a common sub main or one switchboard.

- 600144 3.2.10 Lightning protection although a requirement, is not usually a design issue for consideration in the preliminary design stages.

Design

- 600145 3.3.00 Consideration should be given to the location and requirements for:

- cabling;
- emergency battery supply;
- standby generating plant and fuel supply;
- substations and transformers;
- switchboards;
- switch rooms.

- 600146 3.3.10 Electrical supply is governed by supply authority regulations, standards and client policy. Sub stations are generally owned by the supply authority. Easements, substation location, security, access and egress for personnel and equipment should be considered.

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- 600147 3.3.20 Attention should be paid to the placement of sub stations and electrical mains as the former may provide a fire hazard, and both can adversely affect electrical and communications equipment. Later relocation or rectification can be costly.

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Scope

- 600148 4 .1.00 The following Fire services should be considered in the Design Brief:
- fire detection and suppression systems;
 - hydrants and hose reels;
 - portable extinguishers;
 - smoke control and air pressurisation (refer to Mechanical Section);
 - signs and evacuation plans;
 - warning and information systems;
 - water supply;
 - water storage.

General

- 600149 4 .2.00 Fire protection is usually designated as an Active or Passive system. Both require consideration in the preliminary design stages.

Active systems involve engineering services solutions. Passive systems include compartments, egress routes, and fire and smoke rated construction. The employment of active systems can influence both the building design, and the extent and cost of passive provisions.

Design

- 600150 4 .3.00 The following active systems may require equipment enclosures and adequate access for fire fighting personnel and equipment:

- external hydrants / hose reel layout;
- fire control rooms;
- pumps, tanks, sprinkler boosters;
- water supply and distribution issues;
- fire detection system.

- 600151 4 .3.10 The passive systems may include:

- compartmentation;
- construction;
- fire egress arrangements;
- fire separation.

- 600152 4 .3.20 The requirement for sprinklers for example will add a vertical component to the ceiling space requirement, which in turn will affect the overall building height.

- 600153 4 .3.30 Passive solutions can play a major role in early planning and particular consideration should be given to compartment size and design. By building in flexibility and area safety margins, changes in briefing can be anticipated and incorporated in later planning. The repositioning or addition of an egress stair as a result of modifications to compartment and egress layout can be difficult and costly.

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Scope

600154 5 .1.00 The following Hydraulics services should be considered in the Design Brief:

- fire hydrant and fire hose reel systems;
- hydrotherapy pools;
- natural or liquefied petroleum gas services;
- process waste water discharge conditioning facilities;
- roof plumbing;
- sanitary drainage service;
- sanitary fittings and fixtures;
- sewerage treatment facilities;
- storm water drainage;
- sub soil drainage;
- water services;
- recycle water system;
- rainwater storage and service.

600155 5 .1.10 Water Services may be expanded to include:

- bore water supplies;
- cold potable water service;
- external irrigation systems;
- flush services;
- hot potable water service;
- non potable cold water service;
- non potable hot water service;
- warm potable water service;
- water conservation;
- water filtering and conditioning equipment;
- special water services (Renal Dialysis Laboratory);
- water storage tanks.

General

600156 5 .2.00 For Health Facilities associated with local disaster and post disaster roles, or for maintaining continuity of some acute medical services, design for security of supply consistent with failure risks.

600157 5 .2.10 Decisions concerning the scope, extent and type of services may affect cost and should be clarified early in the planning stages. These may require more detailed design decisions on the suitability of warm water system versus thermostatic mixing valves, heat recovery and sustainability measures.

600158 5 .2.20 Location, specifics of the site or buildings, and level of service may make additional demands on the provision of services.

Design

600159 5 .3.00 Any requirements for water storage and plant including access should be an early design decision, as these may impact on the building design and structure.

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Scope

600160 6 .1.00 The following Mechanical services should be considered in the Design Brief:

- air cooling and heating services;
- building automation control systems;
- compressed air systems;
- energy management systems;
- fume and dust extraction systems;
- heat recovery systems;
- pneumatic transport systems;
- refrigeration (cool and freezer rooms);
- smoke control systems;
- steam systems;
- ventilation services;
- sterilizer equipment;
- water treatment and microbial control systems.

General

600161 6 .2.00 Each planning unit and special functional area within Health Care Facilities is covered by regulation, policy, or industry standards.

Early consideration should be given to provision for the following:

- car park ventilation and exhaust;
- contaminated exhaust air
- clean air systems (e.g. operating theatres);
- duplex systems for critical areas;
- emergency power for critical area HVAC;
- infection control;
- kitchen exhaust;
- smoke control [refer to Fire Services];
- ventilation systems;
- cytotoxic room ventilation.

600162 6 .2.10 The following functional criteria should be considered:

- energy efficiency and conservation;
- flexibility;
- passive security measures;
- reliability.

In addition to heating, cooling and ventilation, occupant comfort factors should include acoustic control.

Design

600163 6 .3.00 Climatic conditions are a known variable; however building position and orientation require careful consideration. The concept of energy/ performance modelling should be considered

600164 6 .3.10 The principal building design elements that influence HVAC systems comprise:

-Active or Passive solutions.

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- Building occupancies and loadings.
- External walls and roof.
- HVAC Zone layout.
- Orientation.

- 600165 6.3.20 The external envelope is the element most subject to variation throughout the design process. A variety of functions are served by the external wall design, these include; day lighting, view, external noise control, privacy control, thermal insulation and solar shading. Late changes to reduce costs e.g. the removal of external sun shading can have a major effect on the HVAC design.
- 600166 6.3.30 Mechanical engineering systems occupy a significant proportion of the floor area allowance for services, and often suffer from inadequate space provision and inappropriate location. Adequate sizing of services risers and attention to the coordination of services risers with circulation routes will enable flexibility in planning options especially in later stages.
- 600167 6.3.40 Inadequate height allowance in ceiling voids cannot be rectified easily in the later design stages without affecting cost. For this reason an accurate assessment of the structural system in the early stages is essential, including factors such as post disaster classification.
- 600168 6.3.50 Other Services factors to consider are:
- Central plant, including
 - Chilled water supply.
 - Plant capacity.
 - Upgrade and replacement of existing equipment.
 - Existing services.
 - Provision of adequate space and facilities (incl. services, hoists etc.) for maintenance.
 - Plant access/egress (avoiding treatment areas).
 - Underground services.

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Scope

600169 7.1.00 The following Medical gas services should be considered in the Design Brief:

- Medical breathing air storage and reticulation.
- Medical breathing air compression and conditioning.
- Medical suction pumping storage and reticulation.
- Nitrous Oxide storage and reticulation.
- Oxygen storage and reticulation.

600170 7.1.10 In addition the following gas services may be included:

- carbon dioxide systems;
- dental compressed air and suction;
- industrial and instrument compressed air systems;
- laboratory special gas supplies;
- mortuary equipment;
- nitrogen systems.

General

600171 7.2.00 The cost of Medical Gas services is directly proportional to the number of outlet points. For this reason the development of the briefing document in the form of the Room Data sheets should be carefully monitored.
[Refer to HFG Standard Components - Room Data Sheets].

600172 7.2.10 The scope and detailed definition of medical gases should be determined and included in the Design Brief. Some early detailed decisions are required; one of these would be the choice between central vacuum and venturi systems for suction.

Design

600173 7.3.00 The spatial requirements for medical gases and plant may often be low but consideration should be given to the effect of the building layout on the distribution or replication of plant.

600174 7.3.10 In the early design stages an assessment of plant distribution and plant room areas should be made and incorporated into preliminary planning for the building.

600175 7.3.20 Both plant and storage for each service should be centralised and reticulation provided throughout the facility from this central source. Plant and storage are subject to regulation which may dictate area, construction and location e.g. bulk oxygen storage.

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Scope

600176 8.1.00 The following Security services should be considered in the Design Brief:

- Access control and tracking systems.
- Door intercommunication systems.
- Duress systems.
- Intrusion detection systems.
- Parking control systems.
- Safes and strong rooms.
- Security staff location.
- Security information systems .
- Security lighting. [Refer Electrical services].
- Security hardware, barriers, screens and fencing.
- Video surveillance systems.

In some cases security systems may integrate and form part of a communications system, to be covered under that section.

General

600177 8.2.00 Security services together with Communications are subject to rapid change and growth. To establish a realistic brief some measure of forecasting is required. Since the services generally have low demands for space, the major consideration will be equipment costs. These will be determined by the type of service, and the extent of functions and coverage.

Design

600178 8.3.00 Most design issues will relate to detailed design, however access control can influence decisions regarding entry points and circulation in early planning. Security solutions through environmental design and the elimination of design elements generating a security risk should be considered.

600179 8.3.10 The required locations and area allowances for security staff should be adequately covered in the Schedules of Accommodation.

600180 8.3.20 The levels and type of security will depend on the use and location of the Facility.

System selection may depend on availability of maintenance personnel in remote and rural areas.

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Scope

- 600181 9.1.00 The following Transportation services should be considered in the Design Brief:

- Document and specimen conveyors [Refer to Mechanical services].
- Escalators.
- Goods conveyors.
- Hoists.
- Lifts

General

- 600182 9.2.00 Transportation represents a significant cost element, with the provision for lifts accounting for the major outlay. The number and location of lifts should be determined as early as possible, and result from the early traffic studies.

Design

- 600183 9.3.00 Lift traffic studies require a developed functional plan. This will show the distribution of Hospital planning units (HPUs), car parking and other functional areas within the facility, and include primary circulation routes and points of access and egress. In some cases the early implementation of a survey may improve accuracy in the outcome.

- 600184 9.3.10 Security considerations, restrictions to access and hours of operation for specific areas should be included in the traffic studies.

- 600185 9.3.20 The size of lift cars and shafts are determined by the intended use, this will vary from general public, patient bed transfer, to full critical care team requirements and special goods lifts.

- 600186 9.3.30 Lifts for special use will usually be restricted to that use and exclude other uses such as public access; this can involve infection control issues, and may affect the number and distribution of lifts. Other special requirements such as patient transfer to and from Helipads need to be considered.

- 600187 9.3.40 The location of lift motor rooms, building height restrictions, and access requirements should be considered at an early stage.

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Scope

- 600188 10 .1.00 The following Equipment or plant/storage areas requiring connection to services should be considered in the preliminary Equipment schedule:
- catering and kitchen equipment;
 - chemical storage;
 - cleaning equipment;
 - cool rooms and freezer rooms;
 - film processing equipment;
 - flammable liquid storage;
 - laboratory equipment;
 - laundry equipment;
 - medical electrical equipment;
 - sterile supply equipment;
 - ward equipment;
 - ground equipment;
 - materials handling equipment;
 - reverse osmosis plant and cooling systems for Medical Imaging equipment.

General

- 600189 10 .2.00 An assessment of equipment or plant/storage areas requiring connection to services can be extracted from the following sources:
- HFG Standard component Room Data Sheets (RDS) provides information on the generic type and quantity of equipment and the associated services requirements;
 - Room Layout Sheets (RLS) provide spatial information and floor areas - they can also be used for early testing and adjustment of floor areas for the incorporation of non-standard equipment.
- 600190 10 .2.10 A preliminary schedule of generic equipment established in the early stages and will assist in determining the requirements for services and space. An early equipment budget will improve the accuracy of the total project cost estimate.
- 600191 10 .2.20 The schedules of accommodation in HFG Part B provide floor area information including circulation for each generic HPU (Hospital Planning Unit), any specific area requirements in the Room Data Sheets would be incorporated in the Project schedules of accommodation. Note: Interdepartmental Travel and Engineering is additional to the combined HPU area.
- 600192 10 .2.30 For information on the process of procuring and installing Furniture, Fittings and Equipment for a Health Care Facility. Refer to Part F Project Implementation, Subsection 680 Furniture, Fittings and Equipment.

Design

- 600193 10 .3.00 In addition to the general allowances for equipment listed above, other factors involving decanting or the transfer of existing equipment for reuse will affect the staging and final cost of the project.

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- 600194 10.3.10 The delivery and removal of equipment and plant should be considered by allowing adequate tolerances for horizontal and vertical transportation. This may require larger corridors, door openings, special sized lift cars, floor and ceiling hatches and provision for hoisting.

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References and Further Reading

600195 11 .1.00 ENGINEERING TECHNICAL BRIEFS

NSW Health 2005, Technical Series TS 11 - Engineering Services And Sustainable Development Guidelines, NSW Health.

Department of Human Services, Victoria 2004. Part E - Building Services And Environmental Design, Design Guidelines for Hospitals and Day Procedure Centres, DHS Victoria.

Western Australia Health Facility Guidelines for Engineering Services 2006. The guidelines are available at:
<http://www.health.wa.gov.au/hrit/infrastructure/procedures/facility.cfm>

PUBLICATIONS

HCAMC (Health Capital Asset Management Consortium) 2006. Australasian Health Facility Guidelines. UNSW (University of New South Wales) Sydney..

Construction Information Systems Limited. NATSPEC SERVICES combined worksections.

LEGISLATION AND STANDARDS

Australian Building Codes Board (ABCB). Building Code of Australia (BCA) 2006

SAA. AS/NZS 2107:2000 Acoustics-Recommended design sound levels and reverberation times for building interiors

SAA. AS 2670 Evaluation of human exposure to wholebody vibration.

AS 2670.1-2001 General requirements.

SAA. AS 3595:1990 Energy management programs-Guidelines for financial evaluation of a project.

SAA. AS/NZS ISO 14000 (Set):2004: Environmental management Standards Set.

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Environment

7E+06 80 .4.30 Sites should be investigated to determine they are free from contamination.

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Preamble

500030 680 .1.00 The procurement and installation of furniture, fittings and equipment (FF&E) is an important activity in the establishment and ongoing operation of Health Care Facilities. The FF&E incorporated in a facility is determined by the nature of the services offered. It is important that the FF&E is carefully selected as it can have wide-ranging impacts upon facility design, Operational Management and associated costs.

This Facility Planning Guideline provides assistance to those who are involved in the procurement of FF&E including budgeting, selection and installation.

The NSW Health Department published DS-31 Guidelines for Furniture Fittings and Equipment Budgeting for Health Building Projects in 1992. This Guideline aimed to provide Health Planning Unit rates for costing of furniture, fittings and equipment for Health Care Facilities on a functional area basis. Over time, the rates contained within it have become obsolete. It is now common practice to apply a multiplier to reflect current costs.

Changes in healthcare environments, practices in health service delivery technology and equipment design have all impacted on FF&E requirements and consequent costs. As FF&E tends to be managed at a local level, consistent cost data across a range of facilities is difficult to obtain. However, the introduction of a database format in this revised Guideline permits rates to be updated as data becomes available.

It was also identified as being desirable to broaden the scope of the Guideline to include information on the process of procuring FF&E.

The successful procurement of the correct FF&E will enable the required Health Care Services to be delivered in an optimal environment, maximising successful client outcomes and operational efficiencies, whilst reducing risks such as occupational health and safety and infection control.

Description

501213 680 .2.00 This Guideline describes the process of procuring and installing furniture, fittings and equipment for a Health Care Facility, also called equipping. This process is relevant whether it is part of a capital works development or whether it is simply the provision of new equipment within an existing facility.

The Guideline is divided into four sections:

1. Introduction - outlining the scope and objectives of the Guideline;
2. Procurement - outlining the processes for identifying needs, selection, purchasing and installation of FF&E;
3. Costing - outlining the process of budgeting and costing FF&E at various stages of a project, together with a review of cost rates;
4. Standard FF&E Items - providing a list of standard FF&E items.

Objectives

500726 680 .3.00 The purpose of this Guideline is:

1. To offer a methodology for determining the furniture, fittings and equipment requirements for a Health Care Facility;
2. To provide information and direction on the ordering of any additional

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FF&E that may be required and maximise the opportunities to gain efficiency;

3. To provide Cost Planners with Health Planning Unit (HPU) rates for costing furniture, fittings and equipment for Health Care Facilities on a functional area basis;

4. To assist with the standardisation of terminology and descriptions of FF&E items.

Scope

501214 680 .4.00 For capital works projects, this Guideline addresses procurement of FF&E following approval of the Project Definition Plan.

Operational Commissioning

501464 680 .5.00 Equipping is an integral part of the operational commissioning of new or refurbished facilities. As such, FF&E activities need to be incorporated into the Commissioning Plan. FF&E personnel form part of the Commissioning Team.

Refer to Operational Commissioning Guideline.

FF&E Groups

501465 680 .6.00 CLASSIFICATION OF FF&E

For NSW Health capital projects, FF&E is classified into four (4) groups:

Group 1 - Items supplied and fixed by the contractor. These are included in the construction contract.

Group 2 - Items supplied by the client and fixed by the contractor. These include items that are transferred but require installation by the contractor, or where the client chooses to buy a piece of equipment and give it to the contractor for installation.

Group 3 - Items supplied and installed by the client. These include all moveable items that can easily be transferred or installed by staff and major items of electromedical equipment that are purchased from the project budget, but are installed and commissioned by a third party.

Group 4 - Consumable items purchased and installed by the client outside the capital budget. This category includes bed linens, foodstuffs and disposable supplies.

Glossary of Terms

501216 680 .7.00 Refer to Part B of these Guidelines for a comprehensive list of terms used. For the purposes of this Guideline, the following terms are defined:

501217 680 .8.00 Project Specifics: Items of a variable nature specifically costed for individual projects over and above the cost derived from pricing Functional Areas and Travel/Engineering Areas.

501218 680 .9.00 Health Planning Unit (HPU): All the rooms and spaces, including internal circulation, making up a particular health service department, which are

necessary for that department to function.

References and Further Reading

- 501219 680 .10.00 DS-31 Guidelines for Furniture, Fittings & Equipment Budgeting for Health Building Projects, NSW Health Department, 1992.
- 501220 680 .11.00 Guideline on the Commissioning of Health Facilities, Draft, Queensland Health Department, 2003.
- 501221 680 .12.00 Commissioning Hospital Buildings, King Edward's Hospital Fund, London, 1981.
- 500294 680 .13.00 Capital Development Guidelines, 1-4, Hospital Project Planning Benchmarks, Department of Human Services, Victoria, 2003.

FF&E PROCUREMENT

Activities

- 501222 680 .14.00 The principal activities in the procurement of FF&E may be summarised as follows:
- planning;
 - resourcing;
 - scheduling;
 - selection;
 - purchasing;
 - receipt;
 - installation;
 - post installation, including commissioning of equipment and training staff in its use.

Planning

- 501466 680 .15.00 Generally, planning for the acquisition of furniture, fittings and equipment (FF&E) needs to be commenced early in the facility planning process and must be programmed.
- This planning should take account of:
- time required for selection of FF&E, including consultation with staff, conducting risk assessments and equipment trial;
 - time required for delivery of FF&E (including construction, assembly, shipping, etc);
 - need and capacity for temporary storage of FF&E during capital works;
 - time required for installation, assembly on site, testing, etc;
 - time for commissioning of FF&E to enable clinical use;
 - implications of transfer of equipment from existing facilities;
 - determining the value of FF&E (including impact of fluctuations in the exchange rate, life cycle costing, etc);
 - potential for gaining volume discounts by aggregating FF&E items across NSW Health and bulk purchasing or leasing these items through networks on an AHS, Quadrangle or state wide basis.

501469 680 .16.00 COST PLANNING

The programming of FF&E procurement must be undertaken in close liaison with the Finance Department of the facility so that appropriate provision is made for future expenditure on FF&E. This may be spread over two or more years.

Resourcing

501471 680 .17.00 FF&E COORDINATOR

An FF&E Coordinator should be appointed to manage the procurement of FF&E. For Capital Works projects, the FF&E Coordinator is an integral member of the Commissioning Team and should:

- be involved in the planning discussions on equipment from the early design stages of a project. Preparatory work on the scheduling and selection of FF&E for a project commences as soon as Room Data Sheets are available;
- liaise with relevant personnel regarding detailed specification and selection of items required. These may include consideration of models, material and colours that are not determined at the time of preparation of Room Data Sheets;
- be responsible for following up deliveries and coordinating the receipt and temporary storage of items;
- ensure compliance with OHS legislation in selecting FF&E.

501473 680 .18.00 EXISTING PERSONNEL

Where possible, existing personnel should undertake FF&E procurement for capital projects and routine equipping activities. This ensures that:

- established procedures for approval, ordering, contract management and maintenance requirements are followed;
- personnel who will be responsible for the management and maintenance of the purchased FF&E once the Project Team leaves the site, are involved in the scheduling, ordering and receiving process.

501472 680 .19.00 MAJOR PROJECTS

For major projects, FF&E procurement activities may be undertaken by a number of different people. Planning and clinical personnel may be responsible for the scheduling, specification and selection of FF&E items.

A Purchasing Officer may be appointed to manage the purchasing and receipt of FF&E.

Commissioning personnel may be responsible for installation and post installation activities.

501470 680 .20.00 MINOR PROJECTS

For minor capital projects and routine equipping activities, all activities will normally be undertaken by one person.

503040 680 .21.00 ADVISORY ORGANISATIONS

A number of organisations are available to assist with the procurement of FF&E. These include:

- Peak Purchasing Council;
- Area Purchasing Services or Product Evaluation Panels;
- State Contract Control Board.

Refer to Purchasing section of this Guideline.

Scheduling

501474 680 .22.00 At early planning stages, FF&E Schedules should be prepared, listing all FF&E required in the facility. These should be developed and reviewed as the project develops.

500734 680 .23.00 TYPES OF SCHEDULES

The method of scheduling FF&E may vary depending on the resources available to the Health Service and the Project Team. Considerations in selecting a method include:

- consistency;
- coherence;
- compatibility with other systems in use.

Computerised systems facilitate the compilation of schedules. The various systems that can be considered include:

- spreadsheets (such as Microsoft Excel);
- database (such as Microsoft Access);
- DOHRS Scheduling Package;
- proprietary software packages.

500736 680 .24.00 ASSET MANAGEMENT

The FF&E schedule should be able to be readily incorporated into an asset management system. The system used for a facility may determine the method of scheduling adopted.

500732 680 .25.00 PRIMARY FF&E SCHEDULES

The Project Definition Plan (PDP) fully defines the functions of each room and includes Room Data Sheets that list the general FF&E requirements for each room. Following the approval of the PDP, designing can commence and a Primary Schedule of FF&E can be prepared. This schedule assumes all items are new until transfer items have been identified.

501475 680 .26.00 The Primary Schedule is not usually specific about actual pieces of equipment. Fixed equipment, which is installed by the contractor, will be specified in the construction contract documentation. This includes both Group 1 and Group 2 items.

Scheduling FF&E

501476 680 .27.00 When scheduling FF&E, the items should be considered on a room-by-room

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basis in the first instance. They should then transferred be to a combined list to identify any duplication of major items and to simplify the ordering and costing process.

Large equipment items with long lead times should also be identified. It may be appropriate to order this equipment in advance of the project program.

Scheduling

500737 680 .28.00 TRANSFER ITEMS

Once all items have been listed an evaluation should be undertaken of existing FF&E to identify suitable items for transfer. In many cases, substantial quantities of FF&E should be suitable for transfer. Criteria for assessing transfer suitability must include age, condition, and being fit for the purpose and environment in accordance with OHS legislation.

The project time frame needs to be considered as equipment can become obsolete or not be suitable for transfer at the time of commissioning due to the period between planning and actual commissioning.

Transfer items should be identified in the FF&E schedule. These will need to be regularly reviewed throughout the course of the project.

500733 680 .29.00 This process will identify any gaps between the equipment that is to be transferred and any additional equipment required for the new facility. Any deviations from these schedules or the purchase of replacement equipment will require approval by NSW Health.

501477 680 .30.00 DEVELOPMENT OF SCHEDULES

The equipment lists may need revision in the light of detailed examination of Operational Policies, and as the design progresses.

FF&E provided must be appropriate to the room's function and available space.

500735 680 .31.00 INFORMATION CATEGORIES TO BE INCLUDED IN THE SCHEDULES

The FF&E schedule that is agreed upon should have the facility to:

- Provide each item with a unique number that denotes the Functional Unit and room number - this number can also be used to facilitate the ordering and accurate location of items in the new facility during commissioning e.g. SA.2.14 could denote the Staff Amenities, Room 2, Item 14;
- list the item by type - bed, chair, table etc;
- include particulars of the supplier, model number, etc;
- include the cost per item and any other costs such as freight;
- identify whether the item is 'new' or a 'transfer';
- identify if the item is a Group 1, 2 or 3 item in accordance with the above definition;
- include columns for asset register number and depreciation rates, etc;
- be easy to understand for health service staff.

501478 680 .32.00 GROUP 2 ITEMS - CLIENT SUPPLIED, CONTRACTOR INSTALLED

It is often thought that detailed decisions on make, model and type of furniture and equipment can be deferred until late in the construction phase

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by classifying equipment as Group 2 or even Group 3 (client supply and install). However, consultants need to know equipment details in the design stage so that they can design for the heat load, weight, dimensions and services connections.

The advantage to the client of opting for Group 2 furniture and equipment is that consultants' fees and the contractor's overheads (based on total building cost) are minimised.

However, generally, it is more advantageous to minimise the use of Group 2 items because:

- responsibility for co-ordinating structure and services then clearly rests with the contractor;
- clients' problems associated with early purchase and consequent storage and insurance do not arise;
- the contractor is responsible for early ordering or for structural and services adjustments if the specified model is superseded;
- responsibility for testing and commissioning rests with the contractor;
- equipment warranty periods commence from handover in conjunction with the defects liability period and not from the date of purchase (which may be well in advance of actual use);
- as most fixed equipment is technical and/or expensive, the tendering/purchase process is likely to be taxing and time consuming for client staff.

500739 680 .33.00 INITIAL COSTING OF THE F,F & E SCHEDULE

An initial costing of the FF&E Schedule should be undertaken as soon as it is formulated to ensure that it is within the FF&E budget allocation. Sources of information for such preliminary costings include:

- recent purchases by the Area Health Service;
- other similar recent Capital Projects;
- Peak Purchasing Council database.

501479 680 .34.00 Indicative information on the cost of FF&E can be calculated on a cost per square metre rate using the cost rates contained in this Guideline. An escalation rate for the current year will need to be applied.

Individual major items costing more than \$250,000 should be identified separately as these can have a significant impact on an FF&E budget.

Reconciliation of expenses should be able to be reported either by department or by item.

501480 680 .35.00 CONTINGENCY SUM

In order to discourage over-provision in the schedules a financial contingency sum should be allowed to purchase equipment that is found to be necessary after the building is brought into use.

501481 680 .36.00 FUNDING SOURCES

Project funded items need to be identified separately from other funding sources.

Selection

503042 680 .37.00 INTRODUCTION

FF&E must be carefully selected to ensure fitness for purpose and that it meets criteria for infection control and OHS. This may require extensive market research.

Where possible, FF&E should be standardised throughout a facility.

501483 680 .38.00 FITNESS FOR PURPOSE

Selected items must be appropriate for the facility. Certain areas require special considerations e.g. Mental Health, Paediatrics, Aged Care (cognitive impairment). In these areas, standard fittings may be inappropriate and cause injury or offer patients the potential for self harm in Mental Health Units.

Refer also to Part C of these Guidelines.

501486 680 .39.00 COMPATABILITY WITH BUILDING FABRIC

FF&E components need to be selected to suit building fabric and finishes e.g. wheel/caster specifications depend on floor coverings; patient hoists must fit properly under beds and baths, and through doorways.

Particular attention is required when equipping existing facilities.

Refer also to Part C of these Guidelines.

501485 680 .40.00 DESIGN

A specialist design consultant, appointed at an early planning stage, should select colour schemes, soft furnishings and the like. This selection should satisfy the criteria of function, durability, ease of cleaning and servicing, good appearance, and economic replacement at a later date.

501482 680 .41.00 OCCUPATIONAL HEALTH AND SAFETY

Refer to Part C of these Guidelines.

The OHS Act 2000 and OHS Regulation 2001 requires designers and manufacturers to eliminate or control risks in designing and manufacturing equipment. The equipment selection process needs to determine that this responsibility has been fulfilled by these key groups before FF&E is purchased.

The employer is also required to identify, assess and control risks associated with equipment relevant to the specific application and work environment in which it will be used.

This means that the FF&E procurement process should involve:

- consultation with OHS committee and potential end users;
- trial of equipment where possible;
- risk assessment of FF&E prior to purchase;
- seeking out of the experiences of other facilities with that type of FF&E.

Since legislation overrides the policy of organisations, purchasing from approved suppliers or from government contract can only apply to

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equipment, etc that has been assessed for occupational risks and selected on the basis of safety for the particular purpose and workplace.

501484 680 .42.00 INFECTION CONTROL

Refer to Part D of these Guidelines.

Infection Control personnel must be consulted with regard to the selection of FF&E.

Requirements for finishes of items may vary depending upon the location used e.g. fabric upholstery on chairs may not be permitted in clinical areas.

501487 680 .43.00 MAJOR EQUIPMENT ITEMS

The appropriate level of equipment for a facility will be determined by service and activity planning.

NSW Health has a role in the approval to purchase major electromedical items.

501488 680 .44.00 ELECTROMEDICAL EQUIPMENT

A range of specialised electromedical equipment needs careful assessment in relation to radiation issues (may require assessment by a Consulting Radiation Expert), engineering issues (load bearing of floors, airconditioning, uninterruptible or extra power supply etc), size issues (to enable gantry movement, bed movement and so on) and safety issues (for example MRI).

The requirements of the Radiation Control Act 1990 and Radiation Control Regulation 2003 must be complied with, including requirements for disclosure of information.

501468 680 .45.00 EXISTING FF&E ITEMS

Programmed routine maintenance and replacement (RMR) will continue during the project duration. This needs to be coordinated with project requirements.

Purchasing

500740 680 .46.00 IDENTIFYING SUPPLIERS

After the FF&E Schedule has been resolved, suppliers need to be identified. Sources for these include:

- contracts held by the Area Health Service;
- State Contracts identified through the Peak Purchasing Council;
- calling for tenders from State Contract approved suppliers;
- suppliers not listed with State Contracts.

Calling for Tenders requires the preparation of a Performance Specification for the specific item. A proforma is attached for information. A current listing of typical State Contract suppliers can be obtained on CD-ROM from State Contracts. It is advisable to contact the local AHS Supply Manager who will be able to provide access to this information.

To purchase from suppliers not listed with State Contracts requires approval

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for an exemption from the NSW Department of Health. Details on the procedure to be followed to gain an exemption can be obtained from the Peak Purchasing Council. Every effort should be made to select items that are included in State Contracts to ensure that advantage is taken of evaluated products at a price that is assessed to be reasonable.

501489 680 .47.00 Notwithstanding the fact that a State Contract exists for a product, the product must be verified as being safe and fit for purpose in accordance with OHS legislation.

501490 680 .48.00 ALTERNATIVE PROCUREMENT OPTIONS

Alternative procurement options such as leasing should also be considered.

500741 680 .49.00 ORDERING THE FF&E

NSW Health policies and procedures for purchase and supply must be adhered to.

All Area Health Services have established purchasing procedures that have been developed to address the particular needs of the organisation. Wherever possible these tested methods should be used to purchase all the FF&E for the new facility. Using established procedures reduces the risk of incorrect ordering procedures being used and acts as an extra check against inappropriate procedures and processes being introduced that could result in substandard or inappropriate items being ordered and accepted.

Local procedures must fully address OHS legislative obligations.

Government Purchasing Policies and Processes

500745 680 .50.00 PEAK PURCHASING COUNCIL

The Peak Purchasing Council (PPC) is a business unit of NSW Health.

By using the services available through the PPC, Project Teams charged with the scheduling, costing and ordering of FF&E can gain opportunities to streamline the FF&E scheduling process and access potential cost saving opportunities.

The PPC was established to:

- facilitate the development and implementation of the most efficient and effective purchasing and materials management policies and practices for the NSW Health system;
- maximise the purchasing and materials management opportunities through cooperative efforts to achieve the greatest value for money benefits for their customers.

500746 680 .51.00 PORTFOLIO:

From these Terms of Reference, four portfolios were introduced and each has aims and objectives to move forward to achieve benefits for NSW Health:

- formulate the policies and procedures to be followed by NSW Health to ensure purchasing opportunities are maximised to the greatest benefit of the health system;

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- provide advice to the State Contracts Control Board, particularly in relation to whole of health contracts;
- establish and monitor a Performance Agreement with NSW Supply Services;
- liaise with suppliers, industry groups and other State/Commonwealth Government Departments to ensure that NSW Health is kept abreast of requirements and developments in the purchasing and supply area.

500747 680 .52.00 INFORMATION AVAILABLE:

The following categories of information can be readily gained by contacting the PPC:

- current Health contracts for a full range of medical, food, equipment and supplies;
- best practice issues;
- information technology;
- capital equipment;
- contract management;
- training and development opportunities;
- library facilities;
- product evaluation;
- information on gaining exemptions;
- internet chatroom with other users;
- surplus asset database;
- bulk purchasing opportunities.

500748 680 .53.00 CONTACT DETAILS FOR PPC:

Mail Address: PO Box 28
NORTH RYDE NSW 1670

Street Address: Level 1, Wallace
Wurth (Administration) Bldg
Gladesville Macquarie Hospital,
Wicks Road
NORTH RYDE NSW 2113

Phone: (02) 9887 5490
Fax: (02) 9887 5497
Email: ppc@tpg.com.au
Web Site: <http://www.ppc.health.nsw.gov.au>

500729 680 .54.00 PRODUCT EVALUATION PANEL

Some Area Health Services have an Area Purchasing Service or Product Evaluation Panel who are charged with selecting FF&E that is efficient, effective, safe and suitable for the particular needs of the clinicians, patients/clients and the type and level of service being delivered. The Panel will also be aware of the State and Period contracts being utilized by the relevant Area Health Service.

The Panel will provide advice to the Project Team and review and sign off completed schedules

501502 680 .55.00 PURCHASING MANUAL

The Purchasing and Supply Manual for Area Health and Related Services

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provides detailed specifications for the procurement methods and delegations outlined below. The manual is available at http://internal.health.nsw.gov.au/audit/manuals/purch_supply.pdf

Further information including local processes, procedures and delegations should be obtained from the relevant Area Health Service's Supply Services

To assist purchases a register and database of product evaluations is available on the PPC's website at www.ppc.health.nsw.gov.au/

501503 680 .56.00 PURCHASING FF&E FROM STATE CONTRACTS

Purchasing FF&E from State Contracts Control Board (SCCB) period contracts is mandatory where the required products are available on contracts. Exemptions can be sought if the facility has reasonable grounds for doing so e.g. on the grounds of OHS or cost.

To find out if an item is 'on contract' refer to www.supply.dpws.nsw.gov.au/Home.htm.

501504 680 .57.00 FF&E NOT ON CONTRACT

If FF&E are not available on SCCB contracts then the Area Health Services must obtain the best value for money.

The Area Health Service must use the Health Peak Purchasing Council's (PPC) standard Health Quotation, Tender and Contract Conditions documents.

Procedures required for the purchase of 'Not in Contract' items are:

- up to \$1,500 - no quotes or tenders required;
- over \$1,500 to \$30,000 - one written proposal as a minimum;
- over \$30,000 to \$150,000 - three written quotations as a minimum;
- over \$150,000 - full tenders are required.

Note: some Area Health Services have adapted these purchasing thresholds so local procedures should be checked.

501986 680 .58.00 ENVIRONMENT PROTECTION AUTHORITY

The NSW Department of Environment and Conservation incorporating the Environment Protection Authority (EPA) was established in 2003. The EPA is responsible for licensing, registration and accreditation of facilities and equipment which may impact on the surrounding environment. This impacts on all equipment and users in areas including radiology, nuclear medicine, radiotherapy, dental, cardiology and pathology.

501987 680 .59.00 RADIATION CONTROL ACT 1990 (AS AMENDED)

This Act provides for the regulation and control of radioactive substances, radioactive sources and radiation apparatus.

501988 680 .60.00 RADIATION CONTROL REGULATION 2003

This regulation:

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- deals with the licensing of persons to use certain radioactive substances and radiation apparatus;
- prescribes activities that may only be carried out by accredited radiation experts;
- sets fees in relation to licensing, registration, accreditation and approvals;
- regulates the disposal and transport of radiation apparatus and radioactive substances, and the discharge of radioactive substances;
- allows exemptions from certain provisions of the 'Radiation Control Act 1990' and the Regulation;
- prescribes certain radiation apparatus as apparatus that must be registered and sets out certain requirements in relation to such apparatus;
- prescribes offences under the Act and Regulation for which on-the-spot fines ('penalty notices') can be issued, and the amounts of those fines.

Receipt

501491 680 .61.00 PROGRAMMING

Liaison will be required with the contractor to identify dates for the delivery of specific items. This is particularly important with regard to items that the contractor is required to install that are being purchased by the client i.e. Group 2 items.

Where possible, all items required for the proposed occupation date should be available and on site some 3 to 4 weeks prior. This allows for preparation of items for final placement, ensuring all mandatory checks have been carried out and a smooth coordinated installation.

Contingency plans need to be prepared to cover failure of suppliers to deliver on time or delayed completion of construction.

501492 680 .62.00 When timing the placement of orders make due allowance for possible delays in delivery. A firm procedure for following up all outstanding orders should be worked out and carried through.

501493 680 .63.00 RECEIPT OF FF&E

Arrangements must be made to see that goods are properly checked for both quality and quantity on delivery. 'Technical' equipment can be held in a separate room until inspected and certified correct by authorised personnel. Conditions for discounts for prompt payment should be adhered to.

501494 680 .64.00 CHECKING AND TAGGING

Adequate time frames should be built in to the ordering and receiving process to allow the appropriate checking and tagging of equipment by biomedical and electrical safety staff. Where relatively large volumes of this type of equipment is involved the available resources and time availability of such personnel must be taken into consideration.

501495 680 .65.00 GROUP 2 ITEMS

Group 2 items must be delivered to the contractor prior to the date required. This ensures that opportunities do not occur where the contractor can claim loss of time due to non-availability of items and further ensure there are no disputes as to actual receipt of goods. All items handed over to the contractor should be acknowledged by a written receipt from the Contractor's representative.

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It should also be noted that the Warranty period for client supplied items generally commences at the date of delivery, not the date of occupation.

- 501499 680 .66.00 Delivery of furniture and equipment prior to the handing over of the main building can significantly reduce the period required to make the building operational. The fitting out stage is reduced. The load on the receiving personnel is spread and an opportunity is provided for all items to be labelled with their room number while in store.

Dangerous goods and other special items must be appropriately stored.

Access to the storage area, if this is in a new building and taken over in advance, and use of corridors and lifts must be planned and agreed with the contractor.

500743 680 .67.00 STORAGE

Strategies that should be considered to simplify the receipt, holding and installation of new equipment prior to occupation may include:

- identification of a secure holding area prior to the handover of the new facility. This may include constructing a temporary structure or hiring warehouse space;
- advanced handover of a section of the building for storage;
- staging the delivery of multiple items such as beds, desks and chairs to reduce the amount of storage space required;
- replacing outmoded equipment that will not be transferred with the new items prior to transfer;
- organising temporary storage areas to allow for progressive receipt and installation.

- 501498 680 .68.00 The warranty arrangements should be checked to ensure that such early possession doesn't limit or invalidate any contractual obligations.

501497 680 .69.00 DELAY IN RECEIPT

If it is intended to receive furniture and equipment directly into the new building, it may be necessary to ask suppliers to hold items, after they are ready for delivery and until the building has been handed over. The ability to do this is subject to agreement from suppliers.

Installation

503043 680 .70.00 INSTALLATION GENERALLY

Correct placement and installation of FF&E items is critical to proper functioning of the facility. Any changes to the intended location must be carefully considered.

501500 680 .71.00 GROUPS 1 & 2

The contract should require the contractor to be responsible for checking quantity and quality and for safe storage and for correct installation.

501501 680 .72.00 SPECIALISED EQUIPMENT

Construction contracts should require attendance by the contractor for the installation of specialised equipment such as diagnostic imaging and radiotherapy equipment. If possible, an early handover of the departments concerned should be arranged. If this is done, the contract must make provision for terminal boxes to be ready for connection and for mechanical services to be available at the appropriate time.

Post Installation

503044 680 .73.00 TESTING

Certain equipment items may require testing and calibration following installation. Sufficient time needs to be programmed for this to occur prior to occupation.

500295 680 .74.00 COMMISSIONING EQUIPMENT AND TRAINING OF STAFF

Following installation a thorough commissioning and training program should be followed to suit the type of equipment. Refer Performance Specification Proforma at the end of this section.

503045 680 .75.00 MAINTENANCE

Equipment must be properly maintained to ensure correct functioning and safety, and to maximise its life. Implement maintenance procedures as appropriate.

500744 680 .76.00 DISPOSAL OF SURPLUS ITEMS

If surplus items have been identified, a strategy should be developed for disposal.

The Peak Purchasing Council will advertise surplus items on the Internet.

Special agreements and processes may be in place for disposal of major equipment items e.g. electromedical.

COSTING

Objectives

501507 680 .77.00 The indicative cost rates for FF&E included in these Guidelines are intended to:

1. Provide a Guideline for Furniture, Fittings and Equipment budgeting (FF&E) for NSW public health facility building projects.

501508 680 .78.00 2. Establish rates at a minimum, rather than maximum, value.

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501509 680 .79.00 3. Provide a schedule of HPU rates following analysis of a selection of projects both within NSW and other states with the following basis:

- Level 1-6 service FF&E provision to be identified;
- 'Greenfield' site in the Sydney Metropolitan area;
- all FF&E items are new, not transferred from existing facilities.

501510 680 .80.00 4. Provide a basis for presenting cost data for future analysis.

501511 680 .81.00 5. Complement the Standards for Health Planning Unit Cost Rates document (DS-13) as published by NSW Health.

501512 680 .82.00 Note: It is emphasised that the guideline rates are intended to provide furniture, fittings and equipment budgets only at the initial planning stages of a project. More accurate estimates based on detailed furniture, fittings and equipment lists should be developed at the design development stage, in parallel with the normal capital cost planning process.

Cost Planning Stages

501513 680 .83.00 For description of Standard Cost Planning stages refer to Part B General Requirements in these Guidelines.

FF&E Rates

501514 680 .84.00 The following table of guideline rates/m2 for each HPU or department sets out rates for Cost Plan A and/or B stage - for which an all inclusive rate is provided.

A schedule of all major items of equipment proposed for a particular project is required to be included as part of the budget submission at this stage of the Planning Process.

501515 680 .85.00 The guideline rates cover Health Care Facilities providing services from Level 1 to Level 6.

Rates prepared for the Victoria Department of Human Services have been used as the basis of this Guideline.

501517 680 .86.00 At Cost Plan C stage the equipment budget should be confirmed by means of a detailed furniture, fittings and equipment list derived from the Room Data Sheets (and co-ordinated with the Architect's design).

501518 680 .87.00 The FF&E Rates published here are based on a June 2002 base date for all prices.

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503046 680 .88.00 LOOSE FURNITURE EQUIPMENT & IT

Rates for costing of loose furniture, furnishings & IT equipment in the calculation of cost for projects are provided for each Functional Unit.

The rates include allowances for telephones, pagers, cleaning equipment, EDP workstations and some relevant specialist EDP software.

The rates exclude super-specialities (eg cardiothoracic surgery) or unusual specialities (eg apheresis, hyperbaric and reproductive biology).

Constraints in respect of specific Functional Units include:

- library rates assume a manual card index system. Add costs are applicable for computerised indexing and book security systems;
- Information Technology rates are based on general furniture and equipment. Central IT and communications hardware and software are project specific items;
- Medical Records rates are based on traditional manual paper storage. Optical disk based technology increases them2 rate considerably but may eliminate archiving and most storage floor areas;
- Medical Imaging rates are based on traditional film and do not include digital imaging (PACS) except where associated with specific modalities;
- Security rates do not include CCTV;
- Stores and Supply rates assume minimal mechanical materials handling equipment.

FF&E costs may vary from standard rates due to fluctuations in exchange rates and purchasing arrangements.

501519 680 .89.00 ADJUSTMENT OF RATES

It is recommended that adjustment of guideline rates should be by way of:

- a) Use of CPI rather than BPI;
- b) Ongoing analysis of future projects so as to take account of changes in policy, technology and the costs associated with these.

Project Specifics

501520 680 .90.00 The furniture, fittings and equipment budget guideline rates have been calculated for greenfield projects assuming normal operating policies.

503047 680 .91.00 Where specific major or unusual equipment is proposed for a project:

- the major item(s) should be identified and costed as project specific item(s);
- the relevant Functional Unit furniture and equipment rate(s) should be reduced to an appropriate administrative or clinical rate (to allow for general items).

501522 680 .92.00 It is recommended that the following be regarded as project specific items:

- window furnishings;
- artwork;
- Information Technology;
- communications (PABX, paging etc);
- furniture and equipment commissioning - tendering, receiving, storing, distributing cleaning, testing and pre-occupancy security.

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- 501523 680 .93.00 In all cases project specific items of equipment should be listed separately on the budget submission.

Transfer Items

- 501524 680 .94.00 The furniture, fittings and equipment budget guideline rates have been calculated for greenfield projects where equipment is not transferred from existing facilities.
- 501525 680 .95.00 The impact of transferred items is very project specific. The value of transferred items varies across projects and across departments from 80% of the 'greenfield value' where most required furniture, fittings and equipment is to be transferred, to less than 10% where most required furniture, fittings and equipment is to be purchased.
- 501527 680 .96.00 At PDP stage the Health Service, in conjunction with Area staff, should evaluate whether existing equipment for each department is appropriate for transfer. The budget should then be adjusted accordingly after allowing for refurbishment and transfer costs.
- 501528 680 .97.00 All transferred items should be included in the detailed furniture, fittings and equipment lists prepared for Cost Plan C Stage

General Items

- 501529 680 .98.00 At Cost Plans A and B stages, a square metre rate should be included for window furnishings, artwork and the like.
- 501530 680 .99.00 At Cost Plan C and D stages, an allowance should be included for window furnishings, artwork and the like based on a measured or quoted estimate of the requirements.
- 501531 680 .100.00 MAINTENANCE
- The cost of maintenance is generally excluded from the quoted rates and should be allowed for as an operating budget item.

Contingency Sum

- 501532 680 .101.00 At Cost Plan A and Cost Plan B stage, an allowance should be included for contingencies based on 5% of the tabulated equipment budget.
- 501533 680 .102.00 At Cost Plan C and Cost Plan D stage, an allowance should be included for contingencies based on 2% of the tabulated equipment budget.

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FF&E - Building Budget Delineation

501534 680 .103.00 It is necessary to clearly define which fittings and equipment are included in the Building Cost and which are FF&E Costs, in order to clarify the responsibilities of the consultants and the users and to prevent duplication and oversights.

For budgeting purposes, at least through to Schematic Design, (Cost Plan C Stage), furniture, fittings and equipment should be classified as either Group 1 (ie Contractor to Supply and Install) or Group 3 (ie Client Supply and Install).

501535 680 .104.00 Adjustments as to who actually supplies and installs furniture and equipment can be made in the Design Development Stage (Cost Control Plan D). This may require consequential adjustments to Building Cost and furniture and equipment budgets.

501536 680 .105.00 FF&E items may be included as part of the Building Cost where they:

- require services connections or are required to be built in and fixed;
- are mobile or loose, but are associated with items to be connected or built in to ensure compatibility e.g. bain-maries;
- are interchangeable between groups, especially where building design may be affected e.g. storage, shelving or compactus.

STANDARD FF&E ITEMS

Standard FF&E Items and Requirements

503050 680 .106.00 Refer to Part C of these Guidelines for general requirements concerning fixtures and fittings that are fixed to, and part of, the building. These include considerations of ergonomics, human engineering, safety, security and infection control.

Requirements for particular FF&E items including workbenches, Staff Stations and Reception Counters are detailed.

501990 680 .108.00 A table has been appended to this Guideline that lists standard fittings and fixtures, and their generally applied group (classification 1, 2 or 3). These groups may vary for each facility, depending upon the procurement process and purchasing policies. Transfer items should be designated group 2 if they are to be installed in a new facility by the building contractor.

The database ID number corresponds to the ID number indicated on the Room Data Sheet.

Use of standard descriptions in all project documentation avoids confusion and enables coordination between facility planning teams, the project design and construction team and the commissioning team.

Performance Specification Pro Forma

500749 680 .109.00 INTRODUCTION

In order to take advantage of a competitive tendering process in the ordering of FF&E, an Outcome Performance Specification can be developed which includes all the requirements of an item. This specification is then issued to approved suppliers for consideration and the submission of a quotation.

500750 680 .110.00 Developments of Outcome Performance Specifications are a responsibility usually addressed by the Product Evaluation Panel.

500751 680 .111.00 It is important to ensure that all attributes are included so that suppliers only provide quotations on suitable models and types.

500752 680 .112.00 OUTCOME PERFORMANCE SPECIFICATION PRO FORMA

Some or all of the following specifications may be required depending on the item:

A. SIZE

- dimensions;
- high position / low position;
- operating weight.

500753 680 .113.00 B. SPECIAL REQUIREMENTS

This should include all the features that are required to ensure the item can perform at the required standard, with minimal risk to users e.g. safety, ergonomics, adjustability, mobility, stability, colour, swing of doors.

500754 680 .114.00 C. FINISHES

The type of material used in the product and the finishes can be most important for maintenance and infection control reasons. Ensure that finishes required to be impervious, waterproof, washable etc to meet special needs are identified.

500755 680 .115.00 D. WATER SUPPLY

This is particularly important for items such as sanitisers, sterilisers etc.

500756 680 .116.00 E. POWER

Request information on any power supply conditions required for the equipment.

500757 680 .117.00 F. WASTE

Strict requirements of the EPA make it very important for Health Service Management to consider waste implications.

500758 680 .118.00 G. CONTROL SYSTEMS

The configuration and accessibility of any control systems required to ensure a work area is functional should be considered for all relevant equipment items.

500760 680 .119.00 H. COMMISSIONING AND CLIENT TRAINING

A thorough commissioning and training program should be specified to suit the type of equipment.

OHS legislation requires designers, manufacturers/suppliers to provide information on the safe use of equipment and any risks associated with that equipment.

Client training should:

- include safe operating procedures and work practices;
- be conducted over several sessions so that employees who work on night shift and weekends can attend;
- include all staff who will have some role with the equipment e.g. nurses, cleaners, maintenance personnel, porters, volunteers.

Client training and education should be provided over at least two (2) sessions with the option to call trainers back to the site if required for further consultation. Preferably two persons should be designated as in house trainers to ensure continuity and consistency of training new staff.

A complete service manual should be provided that includes all operational, maintenance, safety and technical information as well as a contact list for service and operational issues. The manual should be easily accessible to staff on all shifts.

500761 680 .120.00 J. MAINTENANCE SERVICE CONTRACT

Tenderers should include the option of a fully quantified and explanatory Maintenance Service contract to suit the complexity and the value of the equipment. Advice should be sought on this matter from Asset Management within the Area Health Service. For major items of equipment e.g. X-ray machines, pathology processors, etc it may be appropriate to negotiate a 5 year maintenance agreement at the time of tendering for the main equipment. It may be substantially more costly to do so at a later date.

500762 680 .121.00 K. ASSOCIATED EQUIPMENT AND SUPPORT SYSTEMS

Tenderers should be requested to include a complete list of all supporting engineering or other systems, and consumable items that are required to commission and maintain any equipment. This may include compressors, water filtration systems, filters, back-up systems, chemicals, etc.

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INTRODUCTION

Preamble

501121 950 .1.00 This Guideline is based on the Guideline for the Commissioning of Health Facilities for the Queensland Health Department prepared by GHAAP at the University of NSW. The Queensland document has been substantially altered to suit NSW Health Department requirements.

501122 950 .2.00 This Commissioning Guideline has been prepared to assist the health facility capital planning and development of projects undertaken by NSW Health. It has been developed in line with other NSW Health Guidelines and will need to be read in conjunction with them. Refer to other sections of these Guidelines for further information regarding FF&E, Service Planning and Operational Policies.

It is expected that the principles described here will be useful for large and small projects, though the degree of structure and personnel involved will vary considerably.

Definitions

501132 950 .3.00 COMMISSIONING

There are two types of Commissioning:

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- Building Commissioning - completion for occupation by the contractor from a physical facility point of view such as successful running of all plant and equipment. This is managed by the Project Team.

- Operational Commissioning - the preparation of a facility and its staff for commencement of operation such as equipping and familiarising of staff with facility operation. This is managed by the Commissioning Team.

This Guideline deals primarily with Operational Commissioning.

501657 950 .4.00 OCCUPATION

Occupation involves:

- preparation for the move at all management levels;
- the physical move into the new facility;
- contingency plans for key items and emergency plans;
- defects and issues notification processes.

880026 950 .5.00 DECOMMISSIONING

Decommissioning is the process undertaken to secure vacated premises.

The process involves:

- isolating and capping all mechanical, electrical and plumbing services unless required for future use on the protection of the building;
- ensuring that all systems are protected by draining down and making secure;
- taking suitable measures to prevent the entry of birds, vermin, insects and vegetation;
- organising disposal of unwanted items in accordance with NSW Health policies;
- ensuring that all access points to the area are secured, and where necessary boarded-up, barring unauthorised entry.

Objectives

880004 950 .6.00 This document should enable planning teams to:

- understand the context within which the commissioning process takes place;
- describe the operations that will take place in every department or Unit and identify the staffing required, consistent with the recurrent budget and the business plan developed for the budget unit;
- describe the scope of the commissioning task and the time and activities to complete the commissioning process;
- describe the standards, procedures, systems and technologies to be used to achieve the commencement of operations;
- establish and identify ownership of the process with clear indications of roles and responsibilities of team members;
- describe the time and activities to complete the commissioning process;
- identify the management control procedures for commissioning;
- identify and clarify the handover and post-project evaluation procedures;
- undertake risk assessment and the identification of potential hazards and the required strategies to eliminate or protect against these hazards during commissioning.

Commissioning and the Process of Planning

- 501145 950 .7.00 The main phases in the evolution of a new facility are: service planning, brief, design, construct, commission and operate.
- Refer to Part B for further information regarding the NSW Process of Facility Planning (POFP).
- 501147 950 .8.00 There is considerable interaction between these phases which includes planning the way the building will operate. This involves extensive consultation between users and designers, and coordination between the Project Team and the Commissioning Team. Refer to the attached Bar Chart.
- 501124 950 .9.00 The first step in the planning process is preparation of the Service Plan. The Service Plan identifies the service requirements. This may result in the need to consider capital solutions to a particular service need. If so the Department will approve proceeding to the Procurement Feasibility Plan (PFP) and Project Definition Plan (PDP) phases. These describe the service-related operations and physical characteristics of the Health Care Facility i.e. the project brief.
- This planning is undertaken prior to commencement of commissioning and knowledge of this is essential for the Commissioning Officer. The planning documents are usually referenced in the Commissioning Plan.
- The Project Team is responsible for the design and construction of the facility in accordance with the project brief, to suit the operational policies determined at the PDP stage.
- The Commissioning Team should be established during the design stage of a project and should liaise with the Project Team to prepare for occupation and operation.
- Following handover from the contractor, the Commissioning Team will manage the occupation and initial operation activities.
- The Commissioning Team will also be involved in the formal evaluation of the facility after a period of occupation i.e. the Post Occupancy Evaluation.

Key Considerations

- 501123 950 .10.00 Key considerations in commissioning include the following issues:
- the process of commissioning a facility relates not only to the management of time, costs, supplies, equipment and the quality of buildings, but also to the management of people, systems and organisations to ensure that the facility is utilised effectively, and patient, staff and visitor safety is maintained;
 - commissioning must be planned, considered and resourced as far in advance as possible, as a separate but integrated entity within the overall project;
 - key personnel should be involved throughout the whole project if possible;
 - appropriate resources in staff, time and support must be allocated;
 - the Commissioning Plan will be based on operational policies and the design solution;
 - Operational Policy reviews and project outcomes may require implementation of a change management strategy;
 - commissioning requirements must be incorporated in the tender documents, for example decanting strategies and staged building works;
 - development of an open/agreed Communication Plan and document control system is required. This plan will encompass the various reviews required through the planning and building phases that should be conducted

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to ensure that project is developed in accordance with the Project Definition Plan.

- the success of a project results from the co-operation of the users and their investment in the different processes. The OHS Act 2000 requires consultation with personnel at all levels. Operational Commissioning should not be attempted without consultation and user involvement.

Commissioning Team

501148 950 .11.00 The Commissioning Team is a multidisciplinary team that will vary depending on the stage and size of the project. For small projects, commissioning is usually managed by one or two people, with specialist input as required. On complex projects, roles will be undertaken by separate personnel.

There are four key roles in the commissioning process:

- Commissioning Coordinator;
- FF&E Coordinator;
- Commissioning Engineer;
- Departmental Commissioning Facilitator.

The Commissioning Coordinator will develop a list of team members required, based on their experience and the input needed to commission the Health Care Facility. This team will come together very early and determine their individual roles, requirements and time frame.

The Commissioning Team must represent the interests of all users of a facility. They must be accessible and willing to listen.

Input is required with regard to:

- nursing needs and patient care;
- senior medical staff activities and interests;
- accepting the engineering services and implementing a planned preventative maintenance program;
- supply of furniture and equipment as well as consumable supplies;
- design and project management to ensure close contact with the contractors and advise on progress of the building work;
- Health Department policies, procedures and procedures;
- administrative and secretarial assistance.

The core team members must have a good understanding of the project details and desired outcomes. It is essential that tasks are allocated to appropriate personnel and that they are adequately briefed.

The reporting structure for the Commissioning Team will follow those established for the project.

501150 950 .12.00 COMMISSIONING ROLES

COMMISSIONING COORDINATOR:

The major role in Operational Commissioning is that of the Commissioning Coordinator which covers two main areas of responsibility:

1. Management of the Overall Commissioning Process;
2. Management of the Operational Commissioning Activities.

On most projects, one person will be responsible for both these areas. On large projects, the areas of responsibility may be split between two or more people.

These responsibilities require attention to the following main tasks:

- 501151 950 .13.00 1. Management of the Overall Commissioning Process. The Commissioning Team will be required to:
- prepare and implement the Commissioning Plan for all services in conjunction with the Health Care Facility management and NSW Health;
 - manage the commissioning process including convening and minuting meetings;
 - coordinate and provide support for the departmental commissioning processes;
 - provide advice in regard to, representation of, and communication with the facility's management regarding commissioning activities;
 - program staffing needs required at the time of commissioning;
 - determine and manage the commissioning budget.
2. Manage the Operational Commissioning Activities:
- establish the FF&E program;
 - identify OHS hazard, risk assessment and risk elimination or control as required by legislation;
 - determine Staff and manage relocation;
 - assist with activity management;
 - manage the Occupation Program - including confirmation that lead times are appropriate;
 - define the defects liability period activities;
 - establish staff training programs;
 - determine Acceptance Criteria;
 - ensure operational functioning of the facility;
 - establish a feedback loop activity for QA;
 - manage the preparation and sign off of the commissioning procedures.

503038 950 .14.00 Ideally this person should be involved in the project from its conception and have a clinical background. The Commissioning Coordinator will report directly, and have access to the facility's executive team. The Commissioning Coordinator is also the link between the Project Team and the Commissioning Team.

501152 950 .15.00 FF&E CO-ORDINATOR:

The FF&E Coordinator is usually a separate person to the Commissioning Coordinator, and should have purchasing experience.

The FF&E Co-ordinator will be required to:

- ensure that equipment specifications for the whole project are consistent with user group requirements;
- coordinate OHS assessments of new equipment in consultation with end users;
- establish lead times for delivery of major items, tendering requirements, responsibilities and contract arrangements;
- order FF&E and organising delivery, storage and installation;
- establish evaluation criteria for its acceptance;
- ensure consistency between what was planned for all spaces and what is ordered;
- ensure that any alternatives offered by the builder are reviewed against user evaluation criteria;
- ensure patient interface samples submitted by the builder are signed off;
- manage the provision of manuals and scheduling training for staff using the equipment.

The FF&E Coordinator reports to and is managed by the Commissioning

Coordinator. Refer also to FF&E Guideline.

501153 950 .16.00 COMMISSIONING ENGINEER:

The role of the Commissioning Engineer is to become familiar with all the building services provided in the new facility.

The Engineer will then be required to:

- carry out regular surveillance inspections in order to deal with issues or problems being experienced by other staff in critical or other areas;
- support the Commissioning Team in the occupation process;
- develop emergency policies and procedures for services for implementation upon occupation;
- plan for training and handover of plans and manuals etc;
- coordinate asset management documentation and processes for servicing, etc.

This role is usually undertaken by the Hospital Engineer.

501154 950 .17.00 DEPARTMENTAL COMMISSIONING FACILITATOR:

The role of the Departmental Commissioning Facilitator is usually undertaken at the departmental level. The Facilitator will be required to:

- develop a programme that will identify the duration of moves, establish interdependencies, identify dates of occupation and determine the duration of de-commissioning;
- establish departmental schedules for FF&E;
- prepare records for patient transfers;
- organise and arrange staff site inspections and plan staff training;
- prepare and monitor departmental activity check lists.

Commissioning Tasks

501140 950 .18.00 GENERAL TASKS

The main tasks in commissioning may be undertaken by one or more officers assigned with the delegated authority. Some of these tasks may be replicated from existing systems. They include to:

- establish the Commissioning Team - membership, roles, responsibilities and authorities, reporting;
- review the planning documents including the PDP, policies and procedures for the whole of service/facility as well as for the individual departments to determine, document and agree to the changes since sign-off and the processes for implementing the changes;
- develop a plan for the commissioning and occupation of the new building or areas;
- program the commissioning process for each main department or unit;
- manage equipment selection, trials, OHS assessment, procurement, delivery, storage, installation, testing, training and establish inventories - order times must be coordinated with the building programme to ensure that storage time is as short as possible, and that storage space is available;
- develop operational policies and procedures for the facility and groups of departments or functions, as a continuation of briefing and coordinated with services plans, so that all Commissioning personnel understand how the new facility is intended to function;
- determine job specifications and descriptions, and arrive at a detailed staff establishment;
- take over the building from the contractor, commence the maintenance program, effect insurances and establish security arrangements;

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- ensure that the building contract has been carried out properly in accordance with the agreed design;
- participate in the process of defects identification and rectification;
- manage acceptance and operational testing of installations;
- work out documentation procedures, design and order stationery and processing equipment;
- obtain necessary licenses, certification and other statutory approvals and documentation;
- work out final details of supply systems and arrange supply and disposal contracts;
- develop emergency procedures for fire, explosion, disasters etc;
- prepare staff for occupation including orientation, recruitment and training;
- manage the process of occupation including relocation and decommissioning;
- organise and hold opening ceremony;
- start work i.e. accept patients and initiate supporting services;
- monitor initial operation.

501144 950 .19.00 TASKS UNDERTAKEN JOINTLY WITH PROJECT TEAM

In coordination with the Design and Construction Team the Project Team is also required to:

- provide signage such as directional and information signs. Refer to Part C of these Guidelines;
- determine a system for Room Identification - this may be different from the one used during construction and may be altered to suit operational policies or asset management systems; this should be resolved early to assist with placing equipment and defects management;
- establish security systems including keying electronic access control systems (including lifts), CCTV systems, duress alarms, patient wandering systems and alarm management and responses;
- selection of interior design elements including artwork, fabrics, window treatment, privacy screens, paint colours, floor coverings, furniture types.

Commissioning Plan

501126 950 .20.00 INTRODUCTION

The Commissioning Plan provides a framework within which the process and activities of commissioning are determined.

These activities must be properly planned.

880011 950 .21.00 CONTENT

The Commissioning Plan should address the following:

- Physical Activities Programme - the identification, sequence and duration of all activities required to bring a Health Care Facility into operation. It should include post-occupancy activities. It is closely linked to the building programme and must be regularly reviewed and updated;
- The time line, milestones and critical path from this programme are the key information required throughout the operational commissioning process. In many cases contingencies are required if milestones are not met. Communication is essential;
- Organisational & management structure - outlining the activities required to make the Health Care Facility operational, and responsibilities for planning and commissioning activities. Responsibilities and coordination processes are established;

- Operational Policies - detailed policies and procedures for the facility as a whole and for each department as it is expected to operate at the date of occupation. Policies outlined in the PDP should be reviewed;
- Human Resources strategies - including staffing estimates; appointments; transfers; recruitment; deployment and training. It includes staff orientation, OHS and industrial relations issues;
- Communication Plan - this should follow the project planning / commissioning team structure and include frequency, content and form of communications, contact lists and processes, external agencies and community liaison / profiling etc. There may be a number of sub-plans dependent on the target audience;
- Furniture, Fittings and Equipment activities - includes trials, OHS assessments, user investigation, source of funding, capital budget allocations, scheduling, purchasing, commissioning, training & documentation;
- Occupation activities - includes cleaning, testing, fitout, occupation by staff and patients, relocation activities, stocking and commencement of operations;
- Decommissioning of previous facilities;
- Budget allocations - addressing both capital and recurrent budgets. This will identify what will be purchased from which budget; an agreed allocation of funds from the capital budget for FF&E; the breakdown per various departments; organisational-wide budget allocations e.g. signage, window treatments, artworks, landscaping, contingency and cash flows;
- Risk Management - identifying major potential risks, establish contingencies, identify what will be done to minimise the risk of disruption occurring and nominate possible actions for correction.

The extent of documentation will vary with the complexity of the project.

Commissioning Program

501155 950 .22.00 Programming is fundamental to successful commissioning. This role should be assigned to a member of the Commissioning Team. A specialist programmer may be appointed for complex projects.

501156 950 .23.00 PROGRAMMING CONSIDERATIONS

The team's first task is to determine what has to be done and in what time frame.

The commissioning program must be coordinated with the construction program. An accurate and detailed timetable is required showing the sequence of activities and the critical path.

The communication strategy for the Commissioning Team should be developed and implemented so that all members of the project and commissioning teams are informed of project requirements and work to the same timetable.

Program dates should be achievable and have sufficient contingencies to allow the facility to open on the planned date. Changes to the program must be identified and appropriate action taken.

Operational Policies and Procedures

501170 950 .24.00 DEFINITION

Refer to Part B of these Guidelines for a discussion of the Relationship of Operational Policies to the Facility Design Process.

Operational policies must be established for the whole facility.

Operational policies can be defined as a statement of the objectives and the principal functions for each department. They outline the eventual operational system for the department.

Operational policies will determine what equipment should be obtained, how each staff member will be deployed, and what standard of service will be provided to patients. Significantly, they will also affect the running costs of the facility, and will clarify managerial responsibility.

501161 950 .25.00 OPERATIONAL CHANGE

New developments provide the opportunity to introduce operational changes. This may vary from changes to development of new operational procedures in one department or unit to implementation of significant new management approaches.

There may be considerable resistance to this change from some existing personnel. Therefore change must be carefully planned, documented and its implementation managed.

501165 950 .26.00 REVIEW OF OPERATIONAL POLICIES

The Health Care Facility will have been designed and constructed to suit expected operational policies determined at the briefing stage.

The original assumptions about how a service was to be managed and function may have changed during subsequent stages. The commissioning team must document and review all of the operating expectations.

Where possible, those personnel involved in the development of these policies should be involved as part of the commissioning team.

The implications of changes may require adjustment to construction, staffing or budgets.

Once a facility opens, there must be an embargo on physical changes to design for a period of 12 months, except where obvious errors or unacceptable risks are evident. After this period, a review of the effectiveness of operational systems can be undertaken.

880114 950 .27.00 WHOLE HOSPITAL POLICIES

Whole hospital policies are system wide policies that describe the operation of a facility as a whole. These are usually part of an overall Area approach, are multi-departmental concerns and usually require decisions from a management team having a wide representation.

These policies form the framework of the facility's organisation within which the working of each department can be defined. These include:

- facilities management;
- supply services;
- catering;

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- domestic service;
- laundry, linen and uniforms;
- public relations;
- IT and communication systems;
- transport (both internal and external);
- personnel and human resources.

501179 950 .28.00 DEPARTMENTAL POLICIES

Departmental Policies include:

- philosophy of the service e.g. the model of care, the functions and the relationship to standards;
- utilisation (services provided);
- design considerations;
- internal departmental flows (goods and people);
- applicability of whole hospital policies.

501180 950 .30.00 OCCUPATIONAL HEALTH AND SAFETY

Refer to Part C of these Guidelines.

The OHS Act has implications for the consultation processes undertaken during operational commissioning (including policy and procedure development).

Any OHS risks associated with commissioning or decommissioning e.g. security, noise, dust control, asbestos removal, manual handling, must be identified, assessed, eliminated or controlled.

Documentation During Commissioning.

880123 950 .31.00 DOCUMENTING POLICY AND PROCEDURES MANUALS

The Operational Procedure and Policy Manuals will reflect best practice and should be consistent with the other facility documentation to become part of the Quality Assurance documentation. This will also ensure a commitment to using and maintaining the documents as changes in policy occur.

Good documentation enables procedures and policies to be consistently implemented over time and with changing personnel.

880124 950 .32.00 Procedures and policies should take into account that the physical arrangement of Health Care Facilities may not correspond to management structures. This may also impact on commissioning processes.

502234 950 .33.00 USING THE WORKING GROUPS

Policies and procedures should be developed in conjunction with working parties representing each department or Functional Unit. These policies and procedures may require endorsement by the Commissioning Team and senior management may need to determine matters of policy.

502235 950 .34.00 PROCEDURES MANUAL OUTLINE

A Procedures Manual should include:

- a brief summary of the original (or revised) Operational Policy;
- an outline of the main functions of the department, including where appropriate:
 - services to be provided, including any specialised work;
 - normal hours of work;
 - on-call and emergency arrangements;
 - predicted workload and target standards;
 - specialised items of equipment, where these have a large impact on the main functions of the department;
 - services which will be provided by other facilities.
- organisational structure, including lines of accountability within the hospital as a whole as well as within the department;
- costed staffing structure;
- proposed grading and numbers of staff (managerial, supervisory and operational);
- proposed deployment of staff over each shift;
- other staff requirements.

Note: for large departments, it may be preferable to show the staffing structure as an appendix to the manual.

- budgetary arrangements; showing an outline of the main components of the department's budget;
- relationships with other departments;
- departmental information systems for collecting information about patients, staff or finance and the software systems to be used - generally whole of facility policies and include consideration of:
 - use of Picture Archiving Communication System (PACS);
 - 'paperless' approach;
 - telecommunications;
 - methods of staff and patient education;
 - security of information;
 - roles and responsibilities for staff using these information systems;
 - training needs;
 - management systems.

502226 950 .35.00 ISSUE OF MANUALS

Manuals should be published as the policies are developed. Additions and alterations will be inevitable as operational systems are never static.

880147 950 .36.00 USING THE MANUALS

A large number of manuals will be produced, representing a substantial investment in time and resources. These should cover all management and departmental systems.

These manuals will form the basis for training staff to operate the hospital as it has been planned.

They will include instructions for operating equipment, and health and safety procedures.

The Commissioning Team must program and manage production of the manuals. The implementation of these will impact on the efficiency of the hospital and the satisfaction of its staff and its first patients.

Staffing Strategies

501181 950 .37.00 ASSESSMENT OF REQUIREMENTS

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The planning of new facilities and assessment of recurrent costs including staffing, is made at PFP and PDP stages. This is a considerable length of time ahead of actual occupation.

A review of this and assessment of staffing requirements at the occupation date needs to be undertaken as part of the Commissioning Plan.

In assessing the staffing establishment for a facility, it is important to consider the operational management structure as a whole and then look at staff deployment.

Calculations of staffing requirements should be as accurate as possible for the Commissioning review. This involves relating workload and patient dependencies to the actual numbers and categories of staff required compared with the funding available.

Different strategies will be required depending on the outcome of the staffing review. These may include issues of staff retention, recruitment, orientation and training.

501186 950 .38.00 CONSIDERATIONS

New staff recruitment and training, existing staff reorientation and in-service education should be undertaken well in advance of the intended occupation date.

Close liaison with counselling services and support for key staff in their working groups, will be essential to manage change.

A new development can lead to staff insecurity. The personnel policy must be determined as early as possible.

Staff must be kept informed on all aspects of a project and the effect of the project on them personally. This can be undertaken through discussions and news bulletins.

Adequate support for staff during operational change must be provided.

Issues of industrial relations, OHS and matters of redeployment and retraining must be addressed and resolved.

The recruitment of staff needs to consider:

- recruitment procedures required;
- the availability of potential staff;
- time taken to fill positions.

Furniture, Fittings and Equipment (FF&E)

501190 950 .39.00 The equipping process is outlined in the separate Furniture, Fittings and Equipment Guideline.

Bringing the New Building into Use

501191 950 .40.00 PLANNING

Detailed commissioning plans must be developed for each department or area within a facility. The plans are developed in consultation with the end user managers and providers of support services. The plans will be based on the day-to-day activities, tasks and roles of all personnel involved in the department and required to bring it into operation.

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The Commissioning Team and other relevant personnel should review the Commissioning Plan prior to occupation on a weekly or even daily basis. The occupation program must be committed to and signed off.

501192 950 .41.00 OCCUPATION

At occupation, all key supervisory staff should be appointed, initiated and instructed in the working methods to be adopted, then briefed on their implementation.

The progression from occupation to operation requires a considerable amount of planning and work. The time required will vary according to the size and nature of the facility. Sufficient time must be allowed for trial runs and overcoming inevitable challenges.

Operational managers should be aware of and involved in attending to items outstanding at handover.

Staffing strategies must be in place.

Furniture, fittings and equipment should be on site ready for placement.

Arrangements should be made for supply of consumables.

The facility must be cleaned to a standard fit for operation. This is usually a higher standard than the Builder's clean at handover.

Required testing of services and for contamination must be undertaken.

Public Relations

501197 950 .42.00 COMMUNICATIONS PLAN

Development of a new facility will generate a degree of interest in the community and among staff. Closure of existing facilities may create negative reactions. Provision of an effective Communications Plan and public relations strategy is an important part of the commissioning process. This may be managed by the Commissioning Co-ordinator or by specialist Public Relations personnel.

Communications with the staff is equally important. Staff are significant players in what is presented to the public. They should be routinely given correct information about the project, which is consistent with that being provided to the public. Site visits may be arranged.

501199 950 .43.00 STRATEGIES

The aim should be to build up local interest in the new project to a peak to coincide with opening day. Publicity may include suitable articles and photos published in the local and national press, talks to local societies and organisations, exhibitions of plans and models of the new buildings.

Public awareness can be stimulated by open days, held once equipment and furniture are in place. A descriptive leaflet or brochure can be produced describing the services to be offered to the community and how they should be accessed.

Publicity activities should be programmed to coincide with key milestones in a project such as:

- the announcement of approval to proceed;
- turning of the first sod;

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- topping out of the building;
- the handover of the building;
- the official opening.

Close contact should be made and maintained with interested professional bodies, local authority services, and local medical organisations. This may also help with staff recruitment. General practitioners should be encouraged to participate in activities of the facility. The help of voluntary services may also be enlisted. There will be a range of individuals, community service organisations and special interest groups that have direct involvement with the facility and they need to be kept informed of progress and changes of service. It is important to list these to ensure that a structured information flow is maintained.

Information being prepared and released must be correct and consistent. Policies for image, graphics, and the written style should be established. Contradictory or other negative information must be avoided. If there is doubt about some issue, or a choice is yet to be made, this should be made clear.

Where previously published information changes or is updated, this should also be publicised as widely as possible.

502326 950 .44.00 OPENING CEREMONY

The timing of the opening ceremony needs to be considered. Holding it prior to occupation of the facility allows the media, staff and visiting dignitaries to see the area without disrupting the operation of the Unit or privacy of the patients.

Timing the ceremony for after commencement of operations allows the guests and dignitaries to see the facility in operation and to meet patients. The date should be fixed well in advance, particularly if it is intended to invite a VIP to perform the ceremony.

An appropriate budget should be established, any special arrangements made and approvals obtained e.g. traffic changes such as road closures.

Risk Analysis and Management

501204 950 .45.00 GENERAL

Risk Management strategies should be included in both the Commissioning Plan and timetable. They should be developed in consultation with the project team, contractor, end users of the facility and other support personnel.

501205 950 .46.00 TYPES OF RISKS

Many health care organisations are concerned with the potential financial impact from risks associated with the development of a new facility. Documentation of a Risk Strategy should reflect the risk assessment developed at the preliminary planning stages.

Consideration should have been given to the financial risks resulting from a 'poor investment' regarding the project as a whole, through the procedures involved in evaluation of the PFP. There is also an evaluation of the risks associated with poor contractor performance and claims related to such things as errors and omissions, delays etc, during the design and construction phases. These are covered using normal construction and project management procedures.

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Commissioning risks include:

- cost over-runs for the commissioning itself;
- excessive budget allowances for recurrent costs after opening;
- legislative changes that impact on staffing or operations, public liabilities etc;
- failure in design, which might affect Occupational Health and Safety matters, patient safety etc;
- poorly developed Operational Procedures that lead to problems with infection control, patient safety etc.

502327 950 .47.00 MANAGING RISKS

The aim of the Risk Management Strategy is to identify the areas of potential risk and to prepare a plan of action for addressing these. Often the very act of doing this can prevent a risk being realised. The Strategy will be revised as new risks become evident and earlier risks eliminated. The Commissioning Team members should be aware of how to report potential risks and should be encouraged to report potential risks even if they are not likely to occur immediately.

Legal implications, which could arise from the proposed work practices for a facility, can be reduced by using the opportunity of a new development to review all policies and procedures and to use the Operational Procedures documentation to provide a basis for assessing risk. A 'legal audit' can provide a comprehensive assessment of risk.

OHS Regulation requires OHS hazard identification, risk assessment and risk elimination or control. Local actions such as conducting ergonomic evaluations of specific work spaces and simple corrections can reduce claims by staff for injury.

Post Occupancy Evaluation (POE)

501210 950 .48.00 GENERAL

Refer to separate Post Occupancy Evaluation Guideline.

Evaluation of the operation of the facility in relation to the original brief, the planning policies and the design helps identify both successes and deficiencies in the building and its operational systems and provides valuable feedback for future projects. A POE is not an exercise in fault finding. It is a recognition that many decisions have been made along the way to the completed facility with varying success.

501212 950 .49.00 OUTCOMES

A POE study should reveal:

- deficiencies in the design that can be remedied fairly easily;
- where previously accepted design principles are giving trouble in practice;
- design features that have proved to be expensive in terms of running costs;
- where accepted design principles are working well.

502238 950 .50.00 USE OF RESULTS

The results of a POE will be used to:

- reassess the design principles and space provision proposed in the Health Facility Guidelines;

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- identify issues that require further research or expert input;
- promote clearly successful solutions in future projects;
- avoid expensive errors or mistakes that compromise functionality or efficiency in capital works projects.

PLANNING

Operational Policies and Procedures

880115 950 .29.00 DEPARTMENTAL PROCEDURES

Departmental procedures describe the way an individual department will operate. The activities of one department may impact on other departments. This must be addressed in the procedures.

Successful implementation of procedures requires acceptance and commitment from all affected personnel. This can be achieved through consultation and involvement in their preparation.

Glossary of Terms

880068 950 .51.00 The following section provides definitions for some key terms used in this Guideline.

ACTIVITIES PROGRAMME

Displays the complete time frame of the project and the relocations of the departments in a staged strategy.

This may also be displayed in the form of a Gantt Chart and identifies, in sequential order, the relocation of departments and the 'lead time' allocated.

COMMISSIONING

The term used to describe the preparation of a building, plant, equipment and personnel to a state of readiness for occupation and operational use.

COMMISSIONING STRATEGY

Describes all the activities that must be planned for the complete process of commissioning.

DATE OF TRANSFER

The actual date that a department will move into the new building.

DECOMMISSIONING

The process undertaken to secure vacated premises.

COMMISSIONING LEAD TIME

The period of time required, between the handover of the building to the hospital by the Contractor, and the date of occupation.

OPERATIONAL STRATEGY

The term Operational Strategy has two components.

- the Services Plan - describes the services to be provided on a State or area wide basis;
- the Development Plan - describes the service related operations and capital characteristics of the facility.

DEFECTS LIABILITY PERIOD

Period of time from occupancy during which time faults / defects in the building or fixtures are identified, reported and repaired by the contractor.

PRACTICAL COMPLETION AND HANDOVER

The date of handover of the building or part of the building to the hospital by the contractor and from which point the defects liability period starts.

References and Further Reading

500322 950 .52.00 Capital Works Guideline - Capital Works & Assets Management Branch, Asset Management Unit, Queensland Health, 1997.

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Checklists

880208 950 .53.00 A List of Activities for Inclusion in a Commissioning Plan is included as an attachment to this document.

Sequence of Activities

880153 950 .54.00 A Matrix outlining a sequence of activities for commissioning is attached to this document. It is a simplified version of a British approach to commissioning and sets out the timing and sequence of activities. It assumes a large project, with a high degree of complexity and a 2-3 year period of building construction. A phased handover of some facilities such as mechanical plant is incorporated.

The work involved is divided into seven 'streams':

1. Planning and building;
2. Management;
3. Equipping;
4. Staffing and training;
5. Operational methods;
6. Phasing;
7. Public relations.

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OPERATIONAL COMMISSIONING – SEQUENCE OF ACTIVITIES

Stream Time	1. PLANNING AND BUILDING	2. MANAGEMENT	3. EQUIPPING	4. STAFFING AND TRAINING	5. OPERATIONAL METHODS	6. PHASING	7. PUBLIC RELATIONS	Time
3yrs	<u>Briefing and Design Period</u> Requirements Site Selection Development Plan Drawings & Specs Tenders & Contract Building starts	Business Case Operational policies Recurrent cost estimate Staffing establishment Equipment policies	Preliminary equipment lists and costs Room data sheets	Appoint hospital engineer as site engineer	Development operational principles and policies in conjunction with building and equipment design	Commission engineering services progressively during construction	Project described in press	3yrs
2yrs	Building in hand	Equipping initiated Commissioning team appointed Administrator appointed DON appointed	Detailed equipment lists and costs Equipment selection or design Obtain quotation	Establish nurse training program			Community consultation meetings and news bulletins on activities	2yrs
1yr	Hand over engineering plant	Project team briefs commissioning team Approve staff numbers Approve equipment costs	Initiate orders and receive equipment for early phases	Prepare induction and training courses Appoint CSSD supervisor, assistant administrator and assistant director of nursing	Initiate detailed operational policies as basis for operational manuals and induction courses	Boiler plant working	Progress reports in local press Exhibition of plans and models	1yr
½ yr	Hand over some office accommodation for temporary offices Hand over temporary storage area Snag lists	Initiate medical staff appointments Review program for hand-over (transfer) date	Continue orders for later phases Store equipment as necessary Complete equipment ordering	Prepare staff appointment program Prepare advertisements Appoint department heads Initiate training programs	Review stationery and form design 1 st editions of operational manuals	Temporary feeding arrangements Temporary equipment store in use	Progress reports in local press Plan publicity Initiate descriptive brochure	½yr
¼yr	CONTRACT COMPLETION HAND-OVER MAIN BUILDINGS	Plan initial cleaning program	Equipment deliveries completed Equipment labeling and placing	All department heads in post Appoint portaging staff	Initial cleaning programs initiated	Occupancy of departments start	Initiate recruitment publicity campaign Initiate planning for official opening	¼yr
1mnth	Start of defects period		Equipment tests and demonstrations Equipping complete Start issuing stores	Appoint nurses and nursing auxiliaries	Initial cleaning completed Complete and publish operational manual addenda	All departments occupied	Appoint publicity officer Plan arrangements for visits	1mnth
TRANS FER day		Inform outside authorities Trial runs Dedication		Appoint medical officers Complete appointment of ancillary staff Review establishment		All supporting departs in operation. 1 st Ward opens.	Open day or days Local and national press viewing	TRANS FER day
6mnth	Defects schedule Final completion	Evaluate commissioning programs	Equipment evaluation	Continuation courses	Evaluate operational policies	Wards opened progressively	Official opening (at least 8 weeks after 'T' day)	6mnth

Part F – Project Implementation

ACTIVITIES FOR INCLUSION IN A COMMISSIONING PLAN

A. MANAGEMENT AND PROGRAMMING

1. Prepare commissioning program.
2. Integrate with construction program.
3. Consider need for early availability of sections of the new building eg residential accommodation, supply centre, space for storage of equipment etc., in time to include instructions in the building contract.
4. Coordinate provision of off-site services.
5. Coordinate various commissioning 'streams':
 - 5.1 Operational procedures;
 - 5.2 Staffing;
 - 5.3 Equipping;
 - 5.4 Public relations;
 - 5.5 Engineering services;
 - 5.6 Opening ceremony;
 - 5.7 Cost control.
6. Prepare detailed timetable for movement of equipment, staff and patients into the new building and coordinate with associated activities.
7. Inaugurate supporting and primary services:
 - 7.1 Engineering;
 - 7.2 Cleaning;
 - 7.3 Supply and disposal;
 - 7.4 Catering;
 - 7.5 Clinical.
8. Trial runs.
9. Receive patients.

B. OPERATIONAL PROCEDURES

1. Discuss operational policies with project team:
 - 1.1 Clinical services;
 - 1.2 Hotel services;
 - 1.3 Engineering services.
2. Develop operational policies and prepare detailed operational procedures and methods of working.
3. Prepare procedure manuals for staff training, planned preventative maintenance etc.
4. Advise on selection of equipment.
5. Coordinate procedures with general practitioners and other local authority services as appropriate. Build up integrated hospital and domiciliary services.
6. Prepare initial cleaning program.
7. Induction of supervisory staff.
8. Inaugurate planned operational procedures.

C. STAFFING

1. Review provisional estimates with regard to revenue costs.
2. Prepare recruitment program.
3. Submit proposals to health authority.
4. Finalise appointment program.
5. Prepare training, reorientation and 'back to nursing' courses, in liaison with local authorities and organisations.
6. Consult with labour/industry and productivity departments and trade unions as necessary.
2. Appoint supervisory staff and arrange induction course.
3. Appoint and train other staff according to program.

Part F – Project Implementation

D. EQUIPPING

1. Check preliminary equipment list and estimate cost.
2. Assess existing equipment available for transfer.
3. Revise list and specify new equipment to meet detailed operational procedures.
4. Conduct OHS Assessments of new equipment in consultation with potential end users representatives.
5. Consider means of variety reduction of equipment types and models.
6. Obtain comparative quotations for equipment types.
7. Select equipment types.
8. Submit proposals to health authority for approval.
9. Place equipment orders.
10. Receive, check, label and store equipment.
11. Arrange equipment maintenance contracts.
12. Arrange supplies contracts - types, quantities, delivery.
13. Distribute equipment to places of use.
14. Test equipment in position where necessary.
15. Prepare inventories of final equipment placements.

E. PUBLIC RELATIONS

1. Press reports, infrequent at first building up to maximum publicity for recruitment.
2. Arrange talks to local societies, schools etc.
3. Prepare descriptive brochure.
4. Staff recruitment drive.
5. Exhibition of plans and model.
6. Open days for public viewing.
7. Organise arrangements for group visits.
8. National and local press days.
9. Official opening (post-transfer of patients).

F. PROGRAMMED TRANSFER FROM OLD INTO NEW BUILDING

1. Finalise plans for phased handover, if any.
2. Programmed build-up of off-sited services.
3. Assess and program run-down of 'old' inpatients prior to move.
4. Program phased transfer, security requirements, and removal arrangements.
5. Assess need for additional (temporary) staff during phased transfer.
6. Review and program future use of vacated buildings.
7. Organise temporary communications to maintain services (if needed).
8. Assess need for suspension of outpatients clinics (1 day).
9. Transfer inpatients.
10. Resume normal service from new hospital.