

Australasian Health Facility Guidelines

Part B - Health Facility Briefing and Planning 0390 - Intensive Care - Neonatal Special Care Nursery

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Australasian Health Facility Guidelines

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01 INTRODUCTION

01.01 Preamble

PURPOSE OF GUIDELINE

This Health Planning Unit (HPU) has been developed for use by the design team, project managers and end users to facilitate the process of planning and design.

The Intensive Care – Neonatal / Special Care Nursery HPU was originally developed for NSW Health and issued for Australasian use in 2006. This revision has been informed by an extensive consultation process during 2013 which included clinical experts and consumers.

01.02 Introduction

GENERAL

This document 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 and 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.

Newborn services describe the whole episode of care for newborns during the antenatal, birth and postnatal periods.

Intensive Care – Neonatal / Special Care Units are an important component of a newborn service providing care to acutely ill newborns. Broadly, the provision of care to newborns ranges from community hospitals providing services to women with uncomplicated pregnancies to large metropolitan hospitals offering neonatal intensive care facilities.

Throughout this HPU, the Unit will be referred to as a Neonatal Intensive Care Unit (NICU) and Special Care Nursery (SCN). Newborn “cot spaces” will be referred to as “bed spaces”.

This HPU 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.

Equally as important is increasing recognition of the importance of direct family involvement in care and decisions relating to that care.

01.03 Policy Framework

SPECIFIC POLICIES AND GUIDELINES

Prior to undertaking a project, planners and project personnel are encouraged to familiarise themselves with individual state and territory specific policies (as detailed in the Further Reading section of the Appendices), and with the following publications:

- Child and Youth Health Intergovernmental Partnership (CHIP), 2005, Healthy Children – Strengthening Promotion and Prevention across Australia;
- Paediatrics & Child Health Division, RACP, 2008, Standards for the Care of Children and Adolescents in Health Services; and
- Report of the Eighth Census Conference on Newborn ICU Design, Committee to Establish Recommended Standards for Newborn ICU Design, 2012, Recommended Standards for Newborn ICU Design.

01.04 Description

DEFINITION OF HEALTH PLANNING UNIT (HPU)

A NICU is a discrete and environmentally controlled Unit designed, equipped and staffed to care for premature, medically unstable or critically ill newborns that require continuous respiratory support or other intensive interventions. The age of newborns admitted to the NICU is usually up to 28 days corrected.

A SCN caters for newborns requiring less care and supervision, although not necessarily excluding respiratory support, and are not sufficiently stable to be discharged, and it may serve as a step-down from intensive/ high dependency care.

MODELS OF CARE

A NICU/SCN is a component of a Newborn Care Service. Services are normally organised across a health jurisdiction in a “hub and spoke” arrangement so the catchment population has access to both locally provided services, highly specialised services provided by tertiary hospitals (e.g. intensive care) and children’s hospitals (e.g. surgical services). The liaison between services, for both clinical management and staff training, has been made easier in recent years with the availability of telemedicine.

Neonatal services provide a range of care for well-babies and those requiring highly specialised care. This includes care of unwell, low birth weight and/or premature infants, and/or infants born with congenital conditions or other problems that may compromise health and survival.

Specialised neonatal input may begin in the antenatal period with the planned management of birth where neonatal abnormality or illness is expected.

Most health jurisdictions provide newborn retrieval and transfer services on a statewide basis. These services provide expert clinical advice, clinical co-ordination, emergency treatment and stabilisation and inter-hospital transport for very sick newborns. This service complements the local retrieval role provided by most NICU/SCN services (e.g. on-site).

The care of newborns is provided by a multidisciplinary health team and parents, which is described as a “care-by-parent” model. In this model, parents have unlimited access to their child and are active participants in the care. There is evidence to suggest that this model of care can reduce lengths of stay, reduce readmission rates and improve long term outcome (The Stockholm Neonatal Family Centred Case Study: Effects on Length of Stay and Infant Mortality).

Care-by-parent models may require access to a range of services and support that may include the ability to “room-in” and some parent rooms on the Unit that may be used when the newborn is critically ill or the parent is learning to care for the newborn as part of the transition to home process.

Other accommodation options may be available on-site or nearby and include non-government parent support services such as Ronald McDonald House. Neonatal services also provide follow-up and ongoing care after discharge. This ranges from planned follow-up clinics to ad-hoc service provision where parents may “drop-in” when problems arise. Specialised nursing roles are often required to support these services (e.g. lactation, discharge planning, home support).

For information regarding the Stockholm Neonatal Family Centred Case Study article refer to Ortenstrand, A., Westrup, B., Berggren Brostrom, E., Sarman, I., Akerstrom, S., Brune, T., Lindberg, L. and Waldenstrom, U., 2010, The Stockholm Neonatal Family Centered Care Study: Effects on Length of Stay and Infant Morbidity.

LEVEL OF SERVICE / ROLE DELINEATION

Most jurisdictions across Australia (including NSW, Queensland, Victoria and WA) outline neonatal/ newborn role delineation/ service levels with six levels of care described. The purpose of the following descriptions is not an attempt to replicate this information but to provide some overarching detail that will assist the design team to understand the type of facilities needed to support care.

Health services providing levels 1 to 3 deliver care to healthy newborns with a gestational age of 37 weeks or greater. Facilities for this category of newborn are excluded from this HPU and are instead described in HPU 510 Maternity Unit. Every service providing maternity (birthing) services will require, as a minimum, facilities for resuscitation and stabilisation prior to transfer to a higher level neonatal service.

Level 4 services provide:

- SCN services;
- short-term complex care for newborns with a gestational age of 34 weeks or greater; and

- step-down care for NICUs.

Level 5 and 6 services:

- are NICUs providing complex care for critically ill and premature newborns with a gestational age of less than 28 weeks; and
- level 6 services also provide neonatal surgery and care for complex congenital and metabolic diseases of the newborn.

PRINCIPLES UNDERPINNING OPTIMAL CARE ENVIRONMENTS

Service models should support “baby-centred” and “family-centred” care while facilitating the work of staff.

BABY-CENTRED

The Neonatal Unit must create an environment that:

- supports optimal clinical care from full life support to convalescent care;
- supports the changing needs of newborns as they grow and develop;
- promotes optimal newborn growth and development by attention to noise reduction, light and temperature control;
- supports care-by-parents models;
- provides space and equipment to facilitate Kangaroo care; and
- minimises risk of adverse occurrences, especially infection.

FAMILY-CENTERED

The NICU/SCN must recognise the pivotal role of the parents and other family members as part of the newborn’s care team. The environment must:

- create a welcoming environment;
- provide adequate space and amenity for families at the bedside to care for their baby and room-in;
- provide live-in parent accommodation nearby the Unit allow for privacy and encourage physical contact, attachment and breastfeeding / expression of breast milk. This requirement is especially needed when patients live significant distances from the health service;
- provide quiet facilities for counselling, grieving and care planning; and
- facilitate communication with staff.

STAFF-ORIENTATED

Unit design will provide an optimal working environment for staff and include:

- a pleasant and supportive working environment;
- flexibility in staff allocation and work practices;
- good access to and observation of patients. Observation may be direct and via remote monitoring;
- appropriate information technology and communication systems;
- continuing education and training facilities; and
- adequate staff support space including offices and amenities.

BED NUMBERS AND MIX

The number of beds and mix of levels will be determined by the Service Plan. The role delineation/ service level of the Unit will determine the types of beds provided.

Final bed numbers will be influenced by the occupancy rate used and will need to accommodate significant unplanned activity such as multiple births and retrievals.

FUTURE DEVELOPMENTS

These developments include:

- the increasing use of point of care diagnostics and testing;
- increasing reliance on information systems;
- increasing rates of pre-term delivery, multiple births, survival for all gestational ages, multiple births and congenital abnormalities arising from patterns of migration;
- earlier discharge with community support;
- use of donor human milk services;

- improvements in neurodevelopmental care including the management of noise and light;
- increasingly specialised programs and roles to support discharge and longer term follow-up;
- a flexible mix of bed spaces including a higher provision of single rooms;
- increasing demand for families to live-in, be it in close proximity or at the bedside; and
- retrieval capacity.

02 PLANNING

02.01 Operational Models

HOURS OF OPERATION

The Unit will operate 24 hours per day, seven days per week. Parents and siblings will generally have unrestricted access to the Unit. Emergency admissions will be received from the Delivery Suite, Operating Suite or via external retrieval so 24 hour readiness for admissions is essential.

PARENT ACCOMMODATION

Unit design must make provision for parents to be accommodated with or close-by their newborn.

Provision of parent accommodation within the Unit may be limited, and prioritised to:

- facilitate/establish breastfeeding;
- those with an extremely ill or dying newborn; and
- parents of newborns being prepared for discharge.

02.02 Operational Policies

GENERAL

Operational policies have a major impact on design requirements and capital and recurrent costs of health facilities and must be established at the earliest stage possible. Users must be guided by local policies.

Unit specific operational policies are detailed below. For a list of general operational policies that may apply refer to AHIA, 2010, AusHFG Part B: Section 80 General Requirements.

RESUSCITATION

Resuscitation of newborns in humidicribs may be carried out in-situ. Even so, it may not be ideal in a multi-bed room with newborns in bassinets. Therefore each nursery should have ready access to resuscitation facilities, either fixed within a dedicated resuscitation space (i.e. Procedure Room) or via a mobile resuscitaire. Fixed facilities should include an open radiant-heated bed with facilities including oxygen, medical air and suction, power outlets, laryngoscopes, equipment for assisted ventilation and a secure store of drugs.

NEONATAL FOLLOW-UP

In Units providing intensive care services to newborns, follow-up services are routinely provided.

A consultation room located close to the NICU entrance but well away from the sights and sounds of the nurseries may be useful for ad-hoc attendances so staff remain in close proximity to the Unit.

The location of ambulatory care facilities required for follow-up services will depend on the projected activity, the number of sessions planned and the need to access other support services such as specimen collection, audiology, physiotherapy and developmental psychology assessments. Rooms should accommodate the family and members of the multidisciplinary team and are generally larger than general consultation spaces. Entry doors will accommodate double prams. In addition, one-way mirrors may be located in selected rooms to facilitate assessment and staff training.

NEONATAL PROCEDURES

Children's hospitals will perform neonatal surgery in the Operating Suite. However, some perinatal hospitals may need to perform selected procedures in the Unit as unstable newborns are not able to be moved safely. In selected cases, a Neonatal Room – Intensive Care is sized and equipped to undertake surgical procedures.

A common procedure conducted in NICUs is assessment and treatment of retinopathy. A quiet and dark space is required. A Procedure Room will be provided for this purpose with relevant lighting, medical gases, equipment and power supply. In smaller units, an Isolation Room may be equipped for this purpose.

LACTATION, MILK PREPARATION AND STORAGE

Newborns in the Unit will require enteral nutrition.

A dedicated room and space at the bedside will be available to support mothers who are breastfeeding or expressing. The room can serve as an area where mothers can get to know each other in an intimate setting. The area used for expressing may need to be screened. Mothers may also wish to breastfeed or express by the bedside so that space provided should be adequate.

Parents will also need access to a utility space to clean, store and sterilize equipment such as breast pumps. It is assumed that bottles and teats will be single-use items.

A milk preparation/ storage room may be provided to:

- make-up formula (depending on local policies as many services may provide a centralised milk preparation service); and
- store formula and expressed milk in refrigerators. The product needs to be stored in a way that makes each newborn's milk supply easy to identify and reduces the risk of being mixed-up with other supplies. This room will only be accessed by staff who will issue milk products to parents as required.

Donor human milk services (otherwise known as “milk banks”) provide a service that collects, screens, processes and dispenses human milk donated by nursing mothers. Planning teams should investigate local policies in relation to milk banking to assess if there are operational and facility impacts. Facility requirements have not been considered in this HPU.

NEWBORN RETRIEVAL AND TRANSFERS

As all Units will undertake intra-hospital transfers, provision must be made for storage and recharging of this equipment.

For those Units where an external retrieval and transfer service is an integral component of the NICU, spatial and design requirements will depend on:

- 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;
- 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 parking arrangements for dedicated vehicles; and
- access to the emergency vehicle bay and/or helipad.

STORAGE

A range of storage is required to support a NICU/SCN and will be related to the size and complexity of the service.

STERILE CONSUMABLES

Sterile supplies will be stored in the Clean Utility room close to Inpatient Areas. Depending on the size of the Unit, bulk storage may be required for additional supplies and less commonly used items.

PHARMACEUTICAL STORAGE

Medications and IV fluids may be stored in the Clean Utility or in a dedicated Medication Room. A refrigerator will be required to store medication with a separate refrigerator for vaccines. Both units will be temperature monitored with the systems linked to the building management system.

It is assumed that parenteral nutrition will be prepared in the main Pharmacy but stored on the Unit.

MEDICAL GASES STORAGE

Secure and accessible storage will be required for medical gases to support the management of therapy, transfers and evacuations.

EQUIPMENT MANAGEMENT, STORAGE AND CLEANING

It is assumed the Unit will clean and store its own equipment that may include:

- ventilators and CPAP devices;
- incubators and bassinets;
- radiant heaters;
- phototherapy units;
- syringe pumps;
- pulse oximeters;

- Brainz monitors;
- cardiorespiratory monitors;
- research equipment; and
- allied health equipment.

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. An equipment store on the periphery of the Unit with possible dual access from the main hospital corridor for deliveries. All areas must be designed to:

- efficiently store and access equipment without causing damage; and
- 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. Dirty to clean flows will be provided to ensure separation is achieved.

The recommended allowance (Recommended Standards for Newborn ICU Design) is a minimum allowance of 2.8m² for each intensive care/ high dependency bed and 1.7m² for each special care bed. However, this allocation will need to be reviewed on a hospital-by-hospital basis understand the actual equipment that needs to be stored.

Depending on operational policies, optional inclusions within the Store may include:

- a workstation for the nominated Equipment Nurse for inventory and ordering; and
- a work bench for a biomedical technician to undertake testing and minor repairs serviced with medical gases, power and voice/ data outlets.

Refer to Report of the Eighth Census Conference on Newborn ICU Design, Committee to Establish Recommended Standards for Newborn ICU Design, 2012, Recommended Standards for Newborn ICU Design.

PATHOLOGY

Point-of-care testing is required with the most common equipment used being blood gas analysers and blood glucose testing.

A bay for a pneumatic tube station will routinely be provided.

IMAGING PROCEDURES, PROCESSING AND VIEWING

Mobile x-ray and ultrasound machines will be accommodated in the Unit in a dedicated bay. Standard power outlets will be required for recharge.

In new Units, digital medical imaging and PACS is assumed and viewing may occur at the bedside, Staff Station and other areas as nominated.

INTERVIEW AND MEETING ROOMS

A range of interview and meeting rooms will be required on the Unit to accommodate interactions between parents and staff and between staff members. Where possible, these rooms will be bookable and assessable from family, patient and staff areas.

STAFF ESTABLISHMENT

The staff establishment will be dependent of the level of service/ role delineation and the Unit size. Staff may include:

- medical staff (clinical director, fellows, consultants, registrars and junior medical staff);
- nursing staff (NUM, clinical nurse consultants, nurse practitioners, clinical nurse specialists, lactation consultants, home care nurses);
- educators;
- clerical/administrative staff (ward clerk, secretary, data collectors);
- ancillary staff (patient assistant); and
- allied health staff (social workers, speech pathologists, psychologists, pharmacists, physiotherapists and occupational therapists).

Provision of offices or workstations will depend on the establishment and the need to be located in/near the Unit and will comply with jurisdictional policies.

Staff visiting on a sessional or irregular basis and based elsewhere in the Hospital will need access to write-up space.

STAFF TO PATIENT RATIOS

The design, layout and configuration of the Unit should support planned nurse to patient ratios. These ratios will be determined by senior medical and nursing staff according to the individual newborn's condition and need, and access to monitoring systems.

VOLUNTEERS

Volunteers are common in this type of Unit and roles may include wayfinding, meet-and-greet, "ward grandmothers" and assistance with laundry. Suitable amenities should be provided to support these visitors (e.g. lockers).

NON-CLINICAL SUPPORT SERVICES

The Unit will need to provide storage for clothing which includes bonnets, booties and many other clothing items. A laundry with washing machine, dryer and sorting area is often provided. A blanket-type warming system is also often provided to warm clothes prior to dressing the newborn.

02.03 Planning Models

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.

A location adjacent to the Paediatric Intensive Care Unit may be desirable in a children's hospital with ready access to the Operating Suite.

The Unit should ideally be located on the same floor as or by direct lift access from the Birthing Unit and obstetric operating rooms.

Care must be taken to avoid placing the Inpatient Areas adjacent to noise sources such as plant rooms, lifts and public lobbies.

BED BAY SIZES

Guidelines and projects from the UK, Canada, New Zealand, USA and Australia have been reviewed to determine the size of bed spaces and the following information represents the general consensus of opinion and recent projects.

The following areas exclude circulation aisles between facing beds (in open-plan environments), and any additional storage or workstation included in a room:

- ICU/ HDU bay/room at 17m² which includes a hand wash basin (note that in open planned spaces basins may be shared between two bed spaces); and
- SCN bay at 10m² which excludes hand wash basins.

Each room/ bay should be zone to accommodate the newborn, parents and staff.

Centre aisles between facing beds in open plan environments must be a minimum width of 2.1m in NICU and at least 1.8m in SCN.

CONFIGURATION OF BEDS

The arrangement of beds will:

- provide a level of privacy for parents while facilitating opportunities to interact with other parents;
- provide sufficient numbers of single rooms to manage isolation for reasons of infection or immunosuppressed status, extremely unwell or dying newborns and specific congenital or medical conditions requiring extremely quiet environments; and
- group beds in bays or rooms of between two and four beds when shared approaches are adopted.

SINGLE ROOMS

There is a trend towards increasing spatial separation of newborns including single rooms (for Level 3 neonates only).

Recent research published in The Journal of Pediatrics in late 2013 studied the relationship between developmental outcomes and different room types in the intensive care environment. This research showed

that neonates managed in single rooms had poorer neurodevelopmental outcomes than those managed in open-plan units.

Dr Robert White, Chair of the Committee to Establish Recommended Standards for Newborn ICU Design, has since commented that “context is everything”. He further stated that the Unit described in the above research did not encourage “families to stay for unlimited periods of time, so the rooms were not designed to facilitate 24/7 parental presence”. The NICU environment must facilitate babies and their mothers being together “frequently and for extended periods of time”. In addition, open settings should be available for those children that are “receiving inadequate stimuli due to the absence of their family” (White, R, email, 26 October 2013).

The advantages of single rooms include:

- increased privacy, both acoustic and visual;
- greater opportunity for parental involvement;
- better infection control;
- individual environmental control of noise, light, temperature; and
- minimisation of the need for overnight parent accommodation if space is provided to room-in.

Provision of dividing doors between pairs of single rooms may facilitate management of multiple births and ease of parental access.

The disadvantages of single rooms include:

- diminished physical observation;
- a lack of stimulation of newborns receiving limited time with parents;
- the potential impacts on staffing and recurrent costs; and
- limiting opportunities for parents to socialise with other parents and obtain peer support thus creating a degree of isolation.

In order to facilitate new electronic monitoring and records systems, a PC should be included in each single bed room.

Refer to Pineda R, Neil J, Dierker D, Symser C, Wallendorf M, Kidokoro H, Reynolds L, Walker S Rogers, C., Mathur, A., Van Essen, D. and Inder, T., 2013, Alterations in Brain Structure and Neurodevelopmental Outcome in Preterm Infants Hospitalized in Different Neonatal Intensive Care Unit Environments.

02.04 Functional Areas

FUNCTIONAL ZONES

Functional zones include the following:

- entry / reception / public areas;
- inpatient areas;
- family areas, including accommodation;
- clinical support areas; and
- staff areas

ENTRY / RECEPTION / PUBLIC AREAS

The Entry/ Reception will serve as the main public access point to the Unit. It must be located to oversee the entry in order to restrict and control access. Space will be needed to manage mail, gifts and flowers. It will create a welcoming and positive first impression.

There should be easy wayfinding to Family Areas and Inpatient Areas.

The area may include waiting, visitor toilets, a child play area, interview rooms, consult rooms if provided and Store (photocopy/stationery).

Visitors have access to hand hygiene facilities on entry (e.g. alcohol based hand rub) located at the entry to the Unit and a locker bay for visitors for items such as overcoats, umbrellas.

PATIENT AREAS

Inpatient areas will be organised in groups of bed types including NICU and special care. Staff stations will be located so that most bed spaces can be observed. Ideally ICU and HDU beds will be a standard size and contiguous so that there can be some flexibility of use.

Parents and visitors will require ready access to Patient Areas from the Entry/ Reception and Family Areas within the Unit.

Staff will need ready access to many Clinical Support spaces such as clinical and equipment storage and other Staff Areas such as staff amenities.

FAMILY AREAS - GENERAL

Parents and siblings will spend significant periods of time visiting the Unit. In order to improve their comfort and provide opportunities for them to care for their baby, a range of support space is required including the following:

- family lounge/dining including a beverage bay for preparation of light meals and beverages;
- access to educational and other support materials;
- play area for children;
- easily accessible toilets and showers;
- hot desk space so that parents can undertake some work or keep in contact with other family members;
- lactation support including quiet space for breastfeeding and expressing, and facilities for cleaning associated equipment;
- access to food and drinks out-of hours (e.g. vending machines);
- access to a 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; and
- parent/ newborn accommodation.

The zone should have access to shared meeting and interview rooms on the Unit.

CLINICAL SUPPORT AREAS

Clinical support space will include:

- staff stations;
- clean utility room - that may contain storage for medications;
- dirty utility room;
- storage for clinical supplies and equipment, store in mobile equipment bays or in storage rooms; and
- milk preparation and storage.

This space is generally arranged nearby patient care areas to reduce staff travel time and ensure that equipment, supplies and other support space is close at hand. Where possible, the location of this space, especially storage, should be arranged so that frequently used items are located close-by and less frequently use equipment is located further away.

STAFF AREAS - GENERAL

A range of space will be required to support the staff of the Unit and include:

- office space for administrative and research activities;
- staff amenities including a staff room, toilets, lockers a shower;
- education space; and
- an on-call room (depending on local policies).

While the nursing manager may be located within the clinical areas of the Unit, other departmental office space should be located in a staff-only zone clearly separated from family areas. If possible this staff-only zone will have its own key-controlled access separate from the main entry. This office space may include the extended team including allied health staff. The offices must be supported by facilities for photocopying, stationery storage and paper shredding and recycling.

STAFF AREAS - EDUCATION

Staff Workroom – Telemedicine

A room for “hub” services that will be used for discussions with colleagues, patient reviews and review of medical imaging and other results.

Seminar Room

A seminar room for up to thirty staff will be provided, depending on the size of the Unit. This room must be located so it can be accessed by other staff without the need to travel through clinical areas. 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 and

medical gases. It may be separated from the Seminar Room by an operable wall. Alternatively, storage space may be located within the Seminar Room as the same room used for skills training.

02.05 Functional Relationships

EXTERNAL

Direct access to the Birthing Unit (not applicable to units in Children's Hospitals) and Operating Unit with parent access to Recovery. Postnatal inpatient beds (less critical as mothers often discharged much earlier and will then spend their time in the NICU).

Other keys external relationships include:

- helipad;
- Emergency Department ambulance bay;
- Medical Imaging Unit; and
- Ambulatory Care Unit.

03 DESIGN

03.01 Accessibility

EXTERNAL

Rapid access will be required from the Delivery Suite, Emergency Department, and helipad. These patient movements should occur in travel routes that are separate to visitor routes. In addition, parents will require after-hours access to the Unit.

INTERNAL

There will be a single public entry point to the Unit. Separate access will be provided for staff, patient transfers and the movement of supplies and waste.

Circulation routes through the Unit will allow access and ease of movement for a mobile x-ray or ultrasound and a mother on a bed or trolley.

03.02 Parking

Parents may need access to on-site parking.

For information regarding staff parking, refer to Part C: Section 790, Safety and Security Precautions.

03.03 Disaster Planning

Each Unit will 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, services such as emergency lighting, telephones, duress alarm systems and computers and the emergency evacuation of patients, many of whom will require assistance.

For further information refer to local jurisdiction disaster management plans and for general disaster planning/natural disaster information to:

- Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions; and
- Part B: Section 80 General Requirements.

03.04 Infection Control

GENERAL

Good infection control practices in the newborn environment are essential.

An infection control risk assessment should be undertaken prior to concept design planning. Refer to local jurisdictional policies and procedures and to Part D: Infection Prevention and Control.

HAND HYGIENE

Clinical hand basins should be provided at a ratio of one basin to two bed spaces in NICU and one basin to four bed spaces in the SCN. Staff must not have to travel more than six metres from bed to basin. The space occupied by the basins is additional to the size of the bed bay.

Each single room will contain a hand wash basin. Ideally this will be located at the entry to the room so staff wash their hands on entry and exit from the room.

Alcohol based hand rub will be located throughout the Unit to provide an alternative to soap and water.

ISOLATION ROOMS

Isolation rooms will be provided for newborns with known infections and for newborns transferred in until their infectious status is known. Both standard isolation and negative pressure isolation will be required.

Requirements for isolation rooms will need to be confirmed through a risk assessment process which will include consideration of the role delineation of the health service and patient profile.

03.05 Environmental Considerations

ACOUSTICS

While noise is a normal part of foetal development, numerous studies identify excessive noise as a primary stressor for babies, and staff of health care facilities, with newborns particularly disoriented by noise because their hearing is still developing.

Ambient noise levels should not exceed an hourly Leq 40-45 dB(A).

Noise control measures within a NICU may include arranging beds in single rooms and in groups of two to four beds.

Should parent accommodation be provided, the location will need to ensure that noise arising from other areas within the Unit does not interrupt sleep. Should babies be rooming-in prior to discharge, additional acoustic treatment may be required between rooms.

Refer to Australian/New Zealand Standards, 2000, AS/NZS 2107:2000 Acoustics - Recommended design sound levels and reverberation times for building interiors (SAI Global).

LIGHTING

All clinical areas should have controlled natural lighting for the development of circadian rhythms in the newborns.

Direct overhead ambient lighting in the newborn care space must be avoided as 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.

The bed space should have three separate light sources and controls including:

- general room ambient lighting - controlled by dimmer;
- individual work space lighting - not direct on newborn with controls to allow immediate darkening of any bed position to permit transillumination; and
- observation/ procedure light for every bed space.

Lighting must be colour-corrected to natural lighting. Ambient lighting levels in bed bays should be adjustable, through a range of at least 100 to 600 lux as measured at each bedside.

Refer to Australian / New Zealand Standards, 2009, AS/NZS 1680.0:2009 Interior lighting - Safe movement (SAI Global).

NATURAL LIGHT

External windows are ideally provided throughout the Unit, especially in Inpatient Areas and in the parent lounge. Window covering will be needed to ensure that light can be moderated.

PRIVACY

Privacy will be supported through the provision of dedicated interview rooms and family and staff areas.

INTERIOR DECOR

Colour selection relative to newborns is largely inconsequential, 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 colours. Colour schemes should not interfere with accurate assessing of the newborns skin colour. Parents consulted as part of this HPU revision indicated a preference for an art strategy that was inspirational and offered hope.

SIGNAGE AND WAYFINDING

For information refer to:

- Part C: Section 750, Signage; and
- Department of Health, NSW, 2009, Technical Series 2 - Wayfinding for Health Facilities.

03.06 Space Standards and Components

ERGONOMICS

The layout of bed spaces will ensure staff and parents can easily access the medical service panels and/or pendants.

Selected equipment, such as incubators, are bulky and difficult to manoeuvre. These items should be stored so that they can be easily retrieved and transferred to the bed space.

The design of the Unit will ensure patients, staff, visitors and maintenance personnel are not exposed to avoidable risks of injury.

For more information refer to Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions.

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, Human Engineering; and
- Part C: Section 790, Safety and Security Precautions.

ACCESS AND MOBILITY

Where relevant, the design needs to comply with AS 1428 Design for Access and Mobility.

For further information refer to:

- Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions; and
- Standards Australia, 2010, AS 1428 (Set) 2010 Design for access and mobility Set (SAI Global).

DOORS AND CORRIDORS

All entry points, doors or openings, should be a minimum of 1200mm wide, unobstructed to permit the manoeuvring of beds and other equipment. Larger openings may be required for special equipment as determined by local requirements.

The size of the basic cot is often enlarged by the addition of monitors, other equipment 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 beds.

Corridors throughout the ICU will be 2100mm minimum clear width. When the NICU is collocated with a SCN, the same corridor width should be retained to enable future flexibility of use.

Refer to Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions.

WINDOWS

Location and design of windows in Inpatient Areas requires careful planning to provide maximum sun protection. Shading devices must be neutral in colour or opaque to minimise colour distortion from transmitted light.

03.07 Safety and Security

SAFETY

Bed spaces 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: Section 790, Safety and Security Precautions.

SECURITY

The security system should protect the physical safety of newborns, families and staff in the Unit and in particular should minimise any risk of abduction.

There will be a single controlled entry for the public and visitors. Consideration may be given to the use of closed circuit television with phone or intercom for after-hours access. In some cases, parents may be issued with access control cards to facilitate access out of hours.

Emergency exits will be alarmed.

A newborn security tag system may be used.

Ready access to duress alarms for staff will be required especially at receptions and staff stations.

03.08 Finishes

GENERAL

Finishes in this context refer to walls, floors, windows and ceilings.

Refer to Part C: Section 710, Space Standards and Dimensions.

WALL PROTECTION

Adequate wall protection should be provided to areas that will regularly be subjected to damage. Particular attention should be given to areas where beds or trolley movement occurs such as corridors, bed space walls, treatment areas, equipment storage bay/ rooms and linen trolley bays.

FLOOR FINISHES

Refer to:

- Part C: Section 710, Design for Access, Mobility, OHS and Security; and
- Department of Health, NSW, 2009, Technical Series TS7 - Floor Coverings in Healthcare Buildings.

CEILING FINISHES

Sound-absorbing, acoustic tiles/finishes with a noise reduction co-efficient (NRC) 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: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions.

03.09 Fixtures, Fittings & Equipment

The Room Data and Room Layout Sheets in the Australasian Health Facility Guidelines contain standard rooms as described in this HPU.

For more detailed information refer to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) and to:

- Part C: Section 710, Space Standards and Dimensions; and
- Part F: Section 680 Furniture Fittings and Equipment.

03.10 Building Service Requirements

INFORMATION TECHNOLOGY AND MANAGEMENT SYSTEMS

Systems generally must be compatible with overall hospital systems.

There will be facilities for x-ray viewing (using PACS) and a local Neonatal Information System will operate at each bed 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. A PC will be required in each single bed room. Other bed spaces may utilise computers on wheels (COWs).

Communications: There must be systems for optimal fail-safe communications between staff, and for parents to communicate by telephone with bed side staff. This will include an emergency call system and nurse assist system.

Information Technology: Fibre optic cabling is required at each bed side for information systems, monitoring and PACS. Wi-Fi systems should also be considered to support hospital systems, equipment and parents.

Increasingly, technology is provided as a means of connecting families and other friends and family (e.g. "streaming" video of the newborn).

TELEPHONES

Hospital telephones located in Inpatient Areas should have a light call indicator and low ringing tones to minimise noise. Cordless phones are preferred.

Use of mobile phones at the bed side should similarly be either prohibited or ringing tones switched to silent.

A telephone outlet should be provided to each NICU bed bay.

CLOCKS

A clock must be clearly visible from each bed 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.

ARRANGEMENTS FOR MEDICAL SERVICES

Medical services may be arranged using:

- pendants;
- beam system;
- horizontal wall ducts with cabinetry; or
- vertical columns/ducts.

Ceiling-suspended pendants with single or double articulated arm provide flexibility but occupy more space around the bed, 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 in the bed space, less intimidating, preserves all available natural light and is less expensive.

Regardless of which option or mix of options is selected, the arrangement of outlets must be identical at each bed so that staff can be familiar with their work zone wherever they are.

Requirements are described in Room Data Sheets.

ELECTRICAL SERVICES (ANZNU GUIDELINES)

All electrical systems within the NICU will be cardiac protected in bed bays, rooms and other treatment space used for patient care. Body protection is required in SCN environments.

Uninterruptible power supply (UPS) must be available to provide continuous emergency power to NICU equipment including ventilators, monitors, Brainz monitor and the nitrous oxide machine.

Essential power will be required to support other equipment and services such as the intubation light, infusion pumps and humidifiers.

USE OF NITRIC OXIDE

Nitric oxide (a vasodilator) is being increasingly used in the treatment of very premature newborns. It is usually provided by portable cylinder as required. It may be reticulated from a local manifold but unless reticulated to all NICU beds 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 bed. It is not recommended.

Cylinders may be stored in a well-ventilated gases store or in the Store - Equipment.

04 COMPONENTS OF THE UNIT

04.01 Standard Components

Rooms / spaces are defined as:

- *standard components* (SC) which refer to rooms / spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed;
- *standard components – derived rooms* are rooms, based on a SC but they vary in size. In these instances, the standard component will form the broad room 'brief' and room size and contents will be scaled to meet the service requirement;
- *non-standard components* which are unique rooms that are usually service-specific and not common.

The standard component types are listed in the attached Schedule of Accommodation.

The current Standard Components can be found at: www.healthfacilityguidelines.com.au/standard-components

04.02 Non-Standard Components

Information relating to Non-Standard components is detailed below.

ISOLATION ROOM - STANDARD AND NEGATIVE PRESSURE

Description and Function

Isolation rooms will be needed in each NICU as part of the total complement of beds. A reasonable estimate is one isolation room per 10 NICU beds although Neonatal Units that have a high number of admissions from outside hospitals such as those in paediatric hospitals may require more rooms. Isolation rooms should have the ability to provide support to the most complex patients.

At least one of these rooms must be Class N - negative pressure ventilation with adjoining anteroom. (Refer to Part D Section 820 of the Guidelines for further information). All N-Class rooms will have an anteroom attached for staff and visitors.

Rooms may be used as standard rooms when not occupied by an infectious newborn. All rooms will have a dedicated Type A hand wash basin.

Location and Relationships

These rooms will be located on the periphery of the Unit so that newborns do not travel through Inpatient Areas to reach the bed space.

Considerations

These rooms should be fitted-out to the standard of a NICU bed space so that flexible use is possible.

BATHING / MULTIPURPOSE AREA

Description and Function

A dedicated multipurpose space. This room provides for assisted bathing of newborns with a collocated examination area. In addition, a range of parent education can occur in this space.

Facility requirements include:

- a separate baby bath inset into a bench with a shower hose;
- examination bench with over-head light;
- storage;
- oxygen and suction;
- a clear floor space that can be accommodate mats so that newborns can have tummy time; and
- a hand wash basin.

Location and Relationships

Located near the Staff Station.

Considerations

The room should be maintained at a temperature that ensures that newborns are kept warm.

PROCEDURE ROOM

Description and Function

This room will be equipped for:

- resuscitation;
- laser therapy for retinopathy of prematurity; and
- other procedures as required.

The Procedure Room may also double as a consult/ treatment room for members of the multidisciplinary team.

Location and Relationships

Central location close to but away from Inpatient Areas.

Considerations

Laser screening and in-use warning lights.

Radiant heater.

Pendant and gases as per NICU bed bay.

BAY - PATHOLOGY TESTING

Description and Function

A Pathology Bay provides for point of care testing including blood gases and blood glucose testing.

Requirements include:

- a bench with splashback;
- storage; and
- analysers with power and data.

Location and Relationships

In a location where the space can be supervised by staff. Should be located near hand hygiene facilities and be colocated with the Bay – Pneumatic Tube Station.

MILK STORAGE ROOM

Description and Function

The Milk Storage Room provides a wet area for preparation and storage of enteral nutrition. This is a staff only area and should be a lockable room. Requirements include:

- refrigerators;
- bench space for preparation;
- a sink to dispose of unused milk products;
- a hand wash basin, Type B; and
- storage.

Considerations

It is essential that each newborn receives the right feed. The refrigerator should provide separation so all feeds are clearly labelled and identifiable.

FORMULA ROOM

Description and Function

A room accessed by mothers to store, clean equipment associated with breastfeeding (e.g. breast pumps). The room will need a sink, storage and bench space for preparation.

Location and Relationships

To be located near Milk Storage Room.

Considerations

Increasingly, hospitals are not preparing formula and instead using 'ready to feed' products/ formula that is prepared centrally under strict dietary and food handling conditions.

LINEN CUPBOARD

Description and Function

A cupboard with shelving to store selected clothing such as booties, bonnets etc.

Location and Relationships

Located near Bay – Linen and warming device.

STORE - RETRIEVAL EQUIPMENT

Description and Function

This store is used to store medical equipment that is used for intra-hospital retrievals. The bay will have wall protection and corner guards and sufficient GPOs at working height, to recharge equipment. If a room is used, it should be lockable.

Considerations

This bay should be located in a secure zone to prevent tampering.

The transport cot is difficult to manoeuvre so it should be easy to move in and out of the Store.

FEEDING/EXPRESSING ROOM

Description and Function

The Feeding Room provides an area for mothers to feed newborns or express milk with the assistance of staff. Requirements include:

- comfortable chairs for breastfeeding;
- a hand wash basin;
- nurse call system;
- storage; and
- a TV.

Location and Relationships

It will be located adjacent to the Inpatient Area with good access to the Formula Room. It should also be easily accessible from the Family Support Zone.

Considerations

The location should be located in a quiet zone to reduce distractions.

PARENT LOUNGE / DINING / BEVERAGE

Description and Function

This area provides a change of environment away from the Inpatient Area. This space will contain:

- lounges;
- a TV;
- dining tables and chairs; and
- a beverage bay.

Location and Relationships

Locate in the Family Area with ready access from Entry/ Reception Area and Inpatient Area.

Considerations

The space should only be used by the immediate family.

An external outlook is desirable.

Internet access may be considered.

PATIENT RESOURCE AREA

Description and Function

A quiet room to be used by parents to sit and read or use computers. Comfortable seating and a desk will be required.

Location and Relationships

Located in Family Area.

Considerations

It is likely that many parents will want to connect laptops and other devices.

OVERNIGHT ROOM - PARENT

Description and Function

Limited overnight rooms on the Unit are required for activities such as care-by-parent prior to discharge (transitional care).

The number of rooms provided is generally estimated at 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.

Room requirements will include:

- twin beds convertible to a double/ queen bed plus space for baby bed/s;
- direct access to basin, toilet and shower facilities that may be shared between rooms;
- possible access to four GPOs, one oxygen, one medical air and one suction outlet near the bed space;
- telephone and emergency call facilities;
- a television (may be used for recreational and educational purposes); and
- an internet data outlet

Location and Relationships

The newborns 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.

Considerations

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.

If newborns are rooming-in prior to discharge, it may be better to not equip the room with medical gases but instead simulate using equipment that will be used at home.

STAFF WORKROOM - TELEHEALTH

Description and Function

This room will accommodate several functions include telehealth (i.e. viewing patients remotely, discussing cases with colleagues at "spoke" sites) and viewing PACS images.

The room will accommodate up to two to three staff.

Location and Relationships

Located in Staff Area, alongside other meeting rooms.

Considerations

Dimmable lighting required.

AX APPENDICES

AX.01 Schedule of Accommodation

A generic Schedule of Accommodation for a combined ICU/ SCN at levels 4/5/6 is shown below and lists generic spaces for this HPU.

For level 1 to 3 and a level 4 with only SCN requirements, refer to AHIA, 2012, AusHFG Part B: HPU 510 Maternity Unit.

The 'Room/ Space' column describes each room or space within the Unit. Some rooms are identified as 'Standard Components' (SC) or as having a corresponding room which can be derived from a SC. These rooms are described as 'Standard Components –Derived' (SC-D). The 'SD/SD-C' column identifies these rooms and relevant room codes and names are provided.

All other rooms are non-standard and will need to be briefed using relevant functional and operational information provided in this HPU.

In some cases, Room/ Spaces are described as 'Optional' or 'o'. Inclusion of this Room/ Space will be dependent on a range of factors such as operational policies or clinical services planning.

ENTRY / RECEPTION AREA

Department	AusHFG Room Code	Room / Space	SC / SC-D	Qty	m2	Remarks
Level 2/3		Bay - Lockers		1	1	Optional; for visitors' use
Level 2/3	CONS	Consult Room	Yes	1	12	No. to be determined. Size based on Paediatric use. Will require heat table and scales.
Level 2/3	INTF	Interview Room	Yes	2	12	
Level 2/3	RECL-12	Reception / Clerical, 12m2	Yes	1	12	For 1 - 2 staff. Visitors will have access to hand hygiene at entry, in Family Support Areas and at
Level 2/3	STPS-8	Store - Photocopy / Stationery, 8m2	Yes	1	8	Optional. May not be duplicated if provided in
Level 2/3	WCAC	Toilet - Accessible, 6m2	Yes	1	6	
Level 2/3	WAIT-20	Waiting, 20m2	Yes	1	20	Designed to enable separation of family groups. May include phones and vending

Note: Assumes public amenities will be available nearby.

INPATIENT AREAS

Department	AusHFG Code	Room	Room / Space	SC / SC-D	Qty	m2	Remarks
Level 2/3	BPATH		Bay - Pathology	Yes	1	4	Bench 1200 x 800; analysers, ice machine, handbasin and pneumatic tube station.
Level 2/3	CLUR-14		Clean Utility, 14m2	Yes	1	14	Includes medications
Level 2/3	DTUR-10		Dirty Utility, 10m2	Yes	1	10	Includes medications
Level 2/3	CLRM-5		Cleaner's Room, 5m2	Yes	1	5	
Level 2/3			Disposal Room, 10m2		1	10	
Level 2/3	ECL-14		Equipment Clean-Up	Yes	1	14	For cleaning beds, incubators, dismantling & cleaning respiratory equipment.
Level 2/3			Linen Cupboard	Yes	1	1	Optional. For small items that are not processed by the Linen Service - baby clothes etc
Level 2/3			Milk Storage Room		1	12	With refrigerators and freezers. Staff only area
Level 2/3			Formula Room		1	9	Used for formula preparation and storage. Also used by mothers to sterilize expressing
Level 2/3	BMEQ-4		Bay - Mobile Equipment, 4m2	Yes	4	4	General storage eg. Trolleys
Level 2/3	BMEQ-6		Bay - Mobile Equipment, 6m2	Yes	1	6	X-Ray / Ultrasound
Level 2/3	OFF-CLW		Office - Clinical Workroom	Yes	1	15	
Level 2/3	SSTN-20		Staff Station, 20m2	Yes	1	20	Number dependent on layout.
Level 2/3	STSS-24		Store - Sterile Stock	Yes	1	25	Based on 0.5m2 per cot. Assumes compactus
Level 2/3	STEQ-20		Store - Equipment	Yes	1	100	Based on 2m2 per bed. Include space for biomedical assessment & repair
Level 2/3	STGN-9		Store - General, 9m2	Yes	1	9	
Level 2/3			Store - Intra-Hospital Transport Equipment		1	8	
Level 2/3	BMEQ-6		Bay - Mobile Equipment, 6m2	Yes	1	6	Intra-hospital equipment
Level 2/3	STGN-8		Store - Retrieval Equipment	Yes	1	0	Space requirements will depend on the role of the retrieval service. Refer 390.06.25.

CLINICAL SUPPORT AREAS

Department	AusHFG Code	Room	Room / Space	SC / SC-D	Qty	m2	Remarks
Level 2/3	ANRM		Anteroom	Yes	2	6	As required for Class N Isolation Rooms
Level 2/3	BAEX-12		Bathing / Examination Area		1	15	
Level 2/3	BHWS-PPE		Bay - Handwashing / PPE	Yes	15	1.5	Type A basins. Assigned at a rate of 1:2 in ICU and 1:4 in HDU / SC beds.
Level 2/3	NBSC		Neonatal Bay - Special Care	Yes	16	16	Area excludes basins. Sizes as per ICU to accommodate CPAP etc. High dependency care.
Level 2/3	NBGC		Neonatal Bay - General Care	Yes	14	10	Excludes basins & circulation
Level 2/3	NBICU		Neonatal Bay - Intensive Care	Yes	16	16	Area excludes basins.
Level 2/3			Neonatal Bay - Intensive Care, Isolation, Negative Pressure		2	17	Includes basin.
Level 2/3			Neonatal Bay - Intensive Care, Isolation, Standard		6	17	Includes basin.
Level 2/3	PROC-20		Procedure Room	Yes	1	20	

FAMILY SUPPORT AREAS

Department	AusHFG Code	Room	Room / Space	SC / SC-D	Qty	m2	Remarks
Level 2/3	PLAP-10		Play Area - Paediatric, 10m2	Yes	1	10	For siblings.
Level 2/3			Feeding / Expressing Room		1	12	For expressing milk & breast feeding; 3-4
Level 2/3	LAUN-PT		Laundry - Domestic	Yes	1	6	Baby and parent clothing. Incorporate linen cupboard for small items
Level 2/3			Parent / Infant Room		6	15	May accommodate parents and newborns.
Level 2/3			Parent Resource Area		1	9	Quiet room for use of laptop, literature or other
Level 2/3	WCPU-3		Toilet - Public	Yes	1	3	To be located in ready access to inpatient areas
Level 2/3	ENST-ST-C		Ensuite - Standard - Additional Access, 5m2	Yes	3	5	Shared between 2 rooms. Provision of an accessible ensuite will be needed.
Level 2/3			Laundry - Domestic		1	6	Optional. Baby and parent clothing. Incorporate linen cupboard for small items.
Level 2/3	PROP-2		Property Bay - Staff	Yes	1	8	Approximately 50 half height lockers

The number of Parent / Infant Rooms to be provided will be determined on a jurisdictional basis. The number shown in this Schedule of Accommodation is indicative only.

STAFF OFFICES AND AMENITIES

Department	AusHFG Code	Room	Room / Space	SC / SC-D	Qty	m2	Remarks
Level 2/3			Bay - Lockers		1	1	Optional; for visitors' use
Level 2/3	CONS		Consult Room	Yes	1	12	No. to be determined. Size based on Paediatric use. Will require heat table and scales.
Level 2/3	INTF		Interview Room	Yes	2	12	
Level 2/3	RECL-12		Reception / Clerical, 12m2	Yes	1	12	For 1 - 2 staff. Visitors will have access to hand hygiene at entry, in Family Support Areas and at each bed space
Level 2/3	STPS-8		Store - Photocopy / Stationery, 8m2	Yes	1	8	Optional. May not be duplicated if provided in Staff Area
Level 2/3	WCAC		Toilet - Accessible, 6m2	Yes	1	6	
Level 2/3	WAIT-20		Waiting, 20m2	Yes	1	20	Designed to enable separation of family groups. May include phones and vending
Level 2/3	ANRM		Anteroom	Yes	2	6	As required for Class N Isolation Rooms
Level 2/3	BAEX-12		Bathing / Examination Area		1	15	
Level 2/3	BHWS-PPE		Bay - Handwashing / PPE	Yes	15	1.5	Type A basins. Assigned at a rate of 1:2 in ICU and 1:4 in HDU / SC beds.
Level 2/3	NBSC		Neonatal Bay - Special Care	Yes	16	16	Area excludes basins. Sizes as per ICU to accommodate CPAP etc. High dependency care.
Level 2/3	NBGC		Neonatal Bay - General Care	Yes	14	10	Excludes basins & circulation
Level 2/3	NBICU		Neonatal Bay - Intensive Care	Yes	16	16	Area excludes basins.
Level 2/3			Neonatal Bay - Intensive Care, Isolation, Negative Pressure		2	17	Includes basin.
Level 2/3			Neonatal Bay - Intensive Care, Isolation, Standard		6	17	Includes basin.
Level 2/3	PROC-20		Procedure Room	Yes	1	20	
Level 2/3	BPATH		Bay - Pathology	Yes	1	4	Bench 1200 x 800; analysers, ice machine, handbasin and pneumatic tube station.
Level 2/3	CLUR-14		Clean Utility, 14m2	Yes	1	14	Includes medications
Level 2/3	DTUR-10		Dirty Utility, 10m2	Yes	1	10	Includes medications
Level 2/3	CLRM-5		Cleaner's Room, 5m2	Yes	1	5	
Level 2/3			Disposal Room, 10m2		1	10	
Level 2/3	ECL-14		Equipment Clean-Up	Yes	1	14	For cleaning beds, incubators, dismantling & cleaning respiratory equipment.
Level 2/3			Linen Cupboard	Yes	1	1	Optional. For small items that are not processed by the Linen Service - baby clothes etc
Level 2/3			Milk Storage Room		1	12	With refrigerators and freezers. Staff only area
Level 2/3			Formula Room		1	9	Used for formula preparation and storage. Also used by mothers to sterilize expressing equipment.

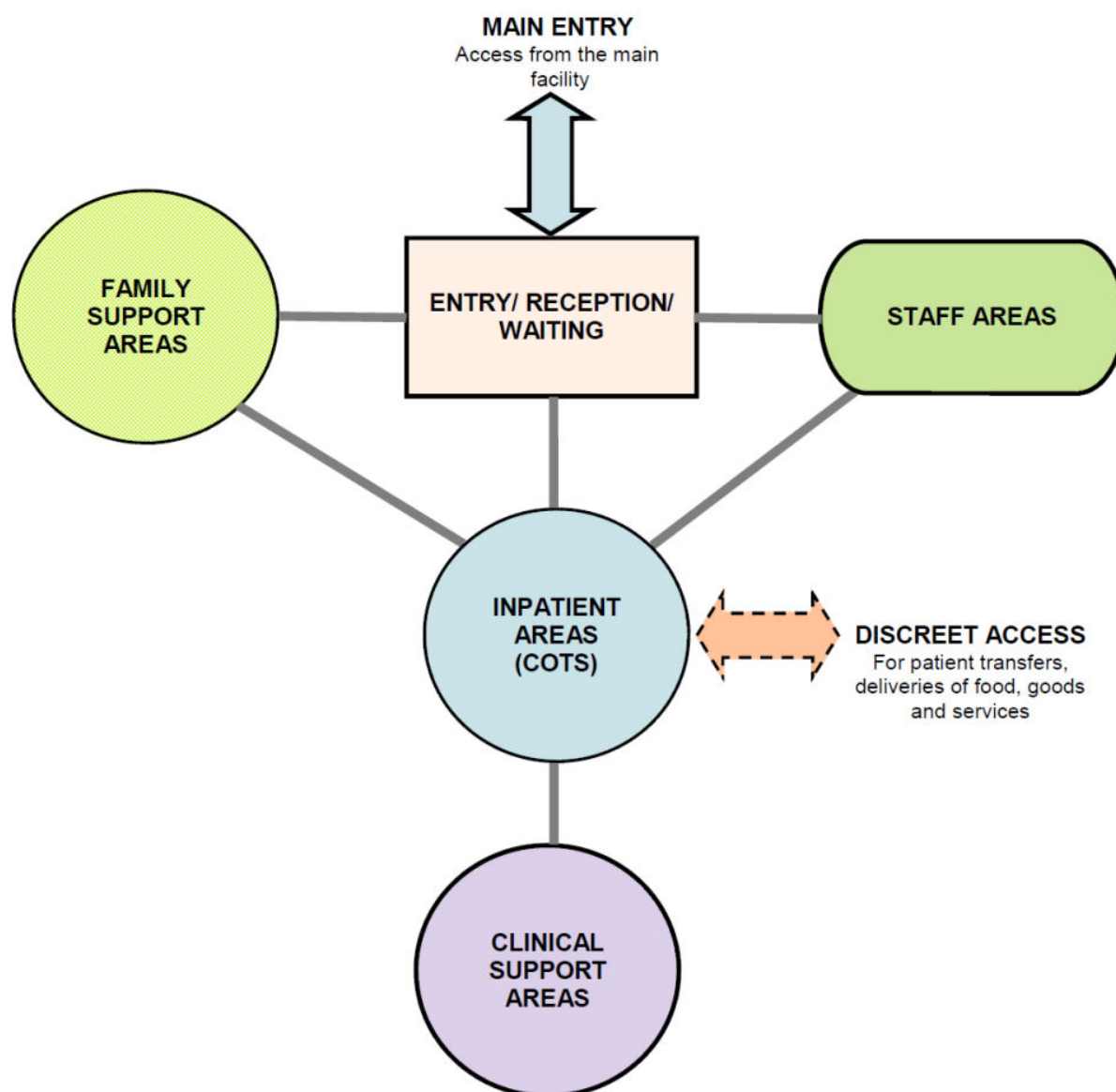
Australasian Health Facility Guidelines

Level 2/3		Formula Room		1	9	Used for formula preparation and storage. Also used by mothers to sterilize expressing equipment.
Level 2/3	BMEQ-4	Bay - Mobile Equipment, 4m2	Yes	4	4	General storage eg. Trolleys
Level 2/3	BMEQ-6	Bay - Mobile Equipment, 6m2	Yes	1	6	X-Ray / Ultrasound
Level 2/3	OFF-CLW	Office - Clinical Workroom	Yes	1	15	
Level 2/3	SSTN-20	Staff Station, 20m2	Yes	1	20	Number dependent on layout.
Level 2/3	STSS-24	Store - Sterile Stock	Yes	1	25	Based on 0.5m2 per cot. Assumes compactus
Level 2/3	STEQ-20	Store - Equipment	Yes	1	100	Based on 2m2 per bed. Include space for biomedical assessment & repair
Level 2/3	STGN-9	Store - General, 9m2	Yes	1	9	
Level 2/3		Store - Intra-Hospital Transport Equipment		1	8	
Level 2/3	BMEQ-6	Bay - Mobile Equipment, 6m2	Yes	1	6	Intra-hospital equipment
Level 2/3	STGN-8	Store - Retrieval Equipment	Yes	1	0	Space requirements will depend on the role of the retrieval service. Refer 390.06.25.
Level 2/3	PLAP-10	Play Area - Paediatric, 10m2	Yes	1	10	For siblings.
Level 2/3		Feeding / Expressing Room		1	12	For expressing milk & breast feeding; 3-4 mothers
Level 2/3	LAUN-PT	Laundry - Domestic	Yes	1	6	Baby and parent clothing. Incorporate linen cupboard for small items
Level 2/3		Parent / Infant Room		6	15	May accommodate parents and newborns.
Level 2/3		Parent Resource Area		1	9	Quiet room for use of laptop, literature or other resources
Level 2/3	WCPU-3	Toilet - Public	Yes	1	3	To be located in ready access to inpatient areas
Level 2/3	ENST-ST-C	Ensuite - Standard - Additional Access, 5m2	Yes	3	5	Shared between 2 rooms. Provision of an accessible ensuite will be needed.
Level 2/3		Laundry - Domestic		1	6	Optional. Baby and parent clothing. Incorporate linen cupboard for small items.
Level 2/3	OFF-S12	Office - Single Person, 12m2	Yes	1	12	Clinical Director
Level 2/3	OFF-S9	Office - Single Person, 9m2	Yes	1	9	Staff Specialist (full time), NUM
Level 2/3	OFF-2P	Office - 2 Person Shared, 12m2	Yes	1	12	Social Workers
Level 2/3		Office - Workstation, 5.5m2		1	5.5	eg. Administration, CNC and research staff
Level 2/3		Office - Workstation, 4.4m2		1	4.4	eg. Allied health, CNE, registrars, research staff. Data entry etc.
Level 2/3	OVBR	Overnight Stay - Bedroom	Yes	1	10	Optional and dependent on rostering practices.
Level 2/3	MEET-L-30	Meeting Room, 30m2	Yes	1	30	Up to 20 staff
Level 2/3	SHST	Shower - Staff, 3m2	Yes	1	3	
Level 2/3	SRM-18	Staff Room	Yes	1	40	
Level 2/3	STPS-8	Store - Photocopy / Stationery, 8m2		1	8	
Level 2/3	STGN-9	Store - General, 9m2	Yes	1	9	
Level 2/3	MEET-L-20	Meeting Room, 20m2	Yes	1	20	Low fidelity simulation. Adjacent to Tutorial Room. Operable wall optional. Provide medical gases.
Level 2/3		Staff Workroom - Telemedicine		1	12	For 3 to 4 staff
Level 2/3	WCST	Toilet - Staff, 3m2	Yes	4	3	
Level 2/3	PROP-2	Property Bay - Staff	Yes	1	8	Approximately 50 half height lockers

These office allocations are indicative only. Each project will be required to develop a workforce profile to inform the development of space for offices.

AX.02 Functional Relationships / Diagrams

The following diagram sets out the relationships between zones in a Neonatal / Special Care Nursery.



AX.03 Checklists

For Planning Checklists refer to Part A, B, C and D of these Guidelines. For security requirements specifically refer to Part C: Section 790, Safety and Security Precautions.

AX.04 References

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AX.05 Further Reading

GENERAL

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- Committee on Fetus and Newborn, American Academy of Pediatrics, 2012, Levels of Neonatal Care, Pediatrics Volume 130:3:pp.587-597;
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