

Part B – Health Facility Briefing & Design
135 Intensive Care Unit – Neonatal (NICU)



iHFG

International Health Facility Guidelines

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Table of Contents

- 135 Intensive Care Unit – Neonatal (NICU) 3**
 - 1 Introduction 3**
 - 2 Functional and Planning Considerations 3**
 - Operational Models 3*
 - Unit Planning Models 3*
 - Functional Areas 4*
 - Functional Relationships 6*
 - Functional Relationship Diagrams..... 7*
 - 3 Design Considerations 9**
 - Environmental Considerations 9*
 - Space Standards and Components 9*
 - Accessibility..... 9*
 - Doors..... 9*
 - Infection Control 10*
 - Safety and Security 10*
 - Finishes..... 10*
 - Fittings,..... 11*
 - Fixtures & Equipment..... 11*
 - Building Services Requirements 11*
 - 4 Components of the Unit..... 12**
 - Standard Components 12*
 - 5 Schedule of Accommodation..... 14**
 - Neonatal - Intensive Care Unit 14*
 - Neonatal – Special Care Unit..... 16*
 - 6 References and Further Reading..... 19**

135 Intensive Care Unit – Neonatal (NICU)

1 Introduction

The Neonatal Intensive Care Unit, commonly referred to as NICU, is a specialised unit for the care of premature, medically unstable, or extremely unwell babies who require constant careful monitoring and interventions in order to maintain normal physiological function. The neonatal intensive care unit will be staffed by specialized doctors and nurses who will coordinate technological and therapeutic resources to care for the dangerously ill newborns.

2 Functional and Planning Considerations

Operational Models

There are various operational models that can be used in Intensive Care Unit – Neonatal, as outlined below:

Integrated Neonatal Intensive Care/ Special Care Unit (NICU-SCN)

The integrated Neonatal Intensive Care/ Special Care Unit, which will be developed in a 'Pod' arrangement with shared support services, will care for neonates and Special Care Nursery babies in the same unit. The two sections (NICU and SCN) will be zonally separated within the same unit.

This operational model is suited in smaller hospitals if bed flexibility is required. In the short and medium term, the rooms/bays in an integrated Neonatal & Special Care Unit will be used to manage critically ill and medically unwell neonates, allowing for staffing and patient management flexibility, as well as allowing the babies to transition from being very sick to being discharged within the same geographic area. Special Care Nursery may also be known as the Special Care Baby Unit or SCBU.

In larger hospitals at higher Role Delineation Levels (RDL) and higher level of specialistaion, it is advisable to separate ICU from SCN as explained below.

Separate Units – Neonatal Intensive Care and Special Care Nursery Units

This model refers to separate Neonatal Intensive Care (NICU) and Special Care Nursery (SCN) with independent management structures.

One of the model's benefits is independent bed management control, which encourages physicians and nurses to develop specialty skills. It also allows for changeable unit placement and collocation with other services that have functional connections to these units that are unique.

The Neonatal Intensive Care Unit (NICU) may be located on the "Hot Floor" along with other types of ICU, and the Special Care Nursery may be located in the same building as the labour and delivery unit and inpatient maternity units. Duplication of administration, regulations, and procedures, as well as physical separation of divisions, are all disadvantages that may make staffing more difficult.

Unit Planning Models

The Intensive Care Unit - Neonatal should be in a location that eliminates the need for through traffic and avoids or minimises:

- Disturbing sounds (ambulances, traffic, sirens)
- Disturbing sights (morgue, cemeteries etc.)
- Problems associated with prevailing weather conditions (excessive wind, sun exposure etc.)

In the ideal configuration of an NICU, all baby cots/ incubator bays should be visible from the Staff Station. In larger units where this cannot be achieved, consideration may be given to providing decentralised staff / workstations with computer support to ensure direct observation.

Baby centred or family centred spaces may be considered and adequate space should be provided for family members to visit on a regular basis or to stay within the unit for the duration of the baby's admission.

A minimum number of fully enclosed NICU rooms will be provided. The balance of the bays may be provided in multi-bedded rooms.

Single occupancy enclosed rooms are required for the purposes of isolation, privacy or end of life management for the neonatal service while multiple bays within the same room may be provided in clusters/pods to maximise observation and staff efficiencies.

Consideration also needs to be given to multiple birth cots as collocation of siblings in one space is usually recommended.

Functional Areas

The Intensive Care Unit – Neonatal will consist of the following Functional Areas:

- Entry /Reception including:
 - Waiting, with play areas for children
 - Meeting/ Interview Room
 - Public toilets that may be shared with other units
- Intensive Care Nursery Areas incorporating:
 - NICU single rooms
 - NICU bays within shared rooms
 - NICU Isolation Room, negative/ positive pressure with Anteroom
 - Bathing/ Examination area
- Support Areas including:
 - Procedure Room
 - Formula Room
 - Feeding room
 - Clean and Dirty Utilities
 - Bays for blanket warmer, linen, resuscitation trolley/s, handwashing basins, mobile equipment pathology testing
 - Clean-up Room for equipment and cots
 - Cleaner's Room
 - Disposal room
 - Store rooms for equipment, general supplies and sterile stock
- Parent Support Areas (optional):
 - Parent Lounge/ Dining and Kitchenette
 - Parent Overnight stay Bedroom with Ensuite
 - Parent Property Bay – locker area
 - Toilets
 - Optional Gown-up/ Gown-down facilities for visitors
- Staff Areas including:
 - Meeting Room/s
 - Change rooms with Toilets, Shower and lockers
 - Offices and Workstations for administrative activities
 - Staff Room

The Functional Areas are briefly described below.

Entry/ Reception/ Waiting Areas

Depending on the size of the NICU and hospital operating policy, a Reception and Waiting area shall be provided immediately outside the entry to the unit, but away from patient and staff traffic areas. This room should have a drink dispenser, television, and comfortable sitting; a children's play area should be adjacent to or integrated into this area; and access to an Interview/ Meeting Room should be immediately available for parent conversations and distressed families/ relatives.

NICU Areas

Number of Single NICU rooms, shared NICU rooms and Isolation rooms will be provided according to the Service Plan.

However, no less than of 50% of the total NICU bays shall be in fully enclosed rooms, one per baby. The balance of the babies may be accommodated in share rooms but within discretely defined bays and regarded as Special Care Nursery (SCN). If SCN is physically separated from the NICU department, then 100% of the NICU babies must be in single fully enclosed rooms.

As a minimum one negative pressure and one positive pressure isolation room with associated ante-rooms should be provided for up to 12 NICU rooms or SCN bays or a combination of NICU rooms and SCN bays.

Staff must be able to see newborns directly at all times in order to monitor their status in both normal and emergency situations. This may be accomplished by a direct line of sight between the Staff Station and the baby incubator. If this is not possible due to the size and geometry of the unit, then a series of de-centralised reporting stations may be located between each two NICU rooms with direct observation of each room.

Sliding glass doors and partitions facilitate this arrangement and maximise access to the single bedrooms when an emergency arise.

Within the NICU rooms it is advisable to provide space for a recliner for mothers to stay with the baby, if necessary overnight.

Procedure/Treatment Room

A Procedure/Treatment Room shall be provided if required by the Operational Policy. If a Procedure/Treatment Room is provided, it should be located within, or immediately adjacent to, the area it is required to serve.

Support Areas

Equipment Clean Up Rooms

Within the Neonatal ICUs, a dedicated space for cleaning cots, incubators, dismantling & cleaning respiratory equipment is required.

This space/area can be shared if the units are collocated. Its location should be in a location that is equally accessible to all of the bed/cot bays, allowing for easy cleaning and reuse of equipment components. To allow for the mobility of clean and used equipment items, the facility should be sound-proofed and accessible from a non-sterile environment..

Laboratory Facilities

Clinical laboratory services must be accessible 24 hours a day, seven days a week in the Neonatal ICU. When this service cannot be provided by the central hospital laboratory, a satellite laboratory within or immediately adjacent to the NICU must be able to provide minimum chemistry and haematology testing, including arterial blood gas analysis.

Feeding/ Expressing Room

An area for expressing milk & breast feeding for up to 3-4 mothers is required. It should be located within the unit; the area should be comfortable and peaceful, and both mothers and staff should be able to access it in a friendly setting to encourage newborns to breastfeed.

It is also recommended to provide space for a recliner within the enclosed NICU rooms for mothers to stay with the baby and use for breast feeding.

Storage Areas

Mobile X-ray units and resuscitation trolleys should be stored in areas that are out of the way of traffic yet accessible to employees when the equipment is needed. Multiple mobile storage bays for mobile equipment may be required.

Parent Support Areas

Depending on the size of the Unit, overnight accommodation with Lounge and refreshment preparation facilities may be required for families. The accommodation may be located adjacent to the NICU or in a centralised area in close proximity to the unit. Parents with severely ill newborns may be allowed to stay in the NICU room overnight, and the unit design should include an overnight room for them.

Some mothers may be allowed to stay within the room with the baby overnight. As such, the provision of a recliner with a privacy curtain around it is desirable. The use of such a facility will be up to the unit management and subject to the condition of the baby.

Staff Facilities

Offices and workstations will be required for senior staff in full time administrative roles according to the approved positions. Offices and workstations for medical staff and some nursing staff may be located within the units or adjacent in an administrative area, to facilitate unit co-ordination, educational and research activities

A Staff Room shall be provided within the unit for staff to relax, prepare meals and beverages.

Provide staff with close access to toilets and shower, lockers and meeting rooms.

Functional Relationships

The following functional relationships will apply if the NICU and Special Care Nursery are handled as separate services.

External Relationships

It is desirable that the NICU and Special Care Nursery have ready access to:

- Emergency Unit
- Birthing Unit
- Operating Unit
- Medical Imaging
- Pathology Services
- Biomedical Engineering
- Support services including Housekeeping, Supply, Catering and Clinical Information

Internal Relationships

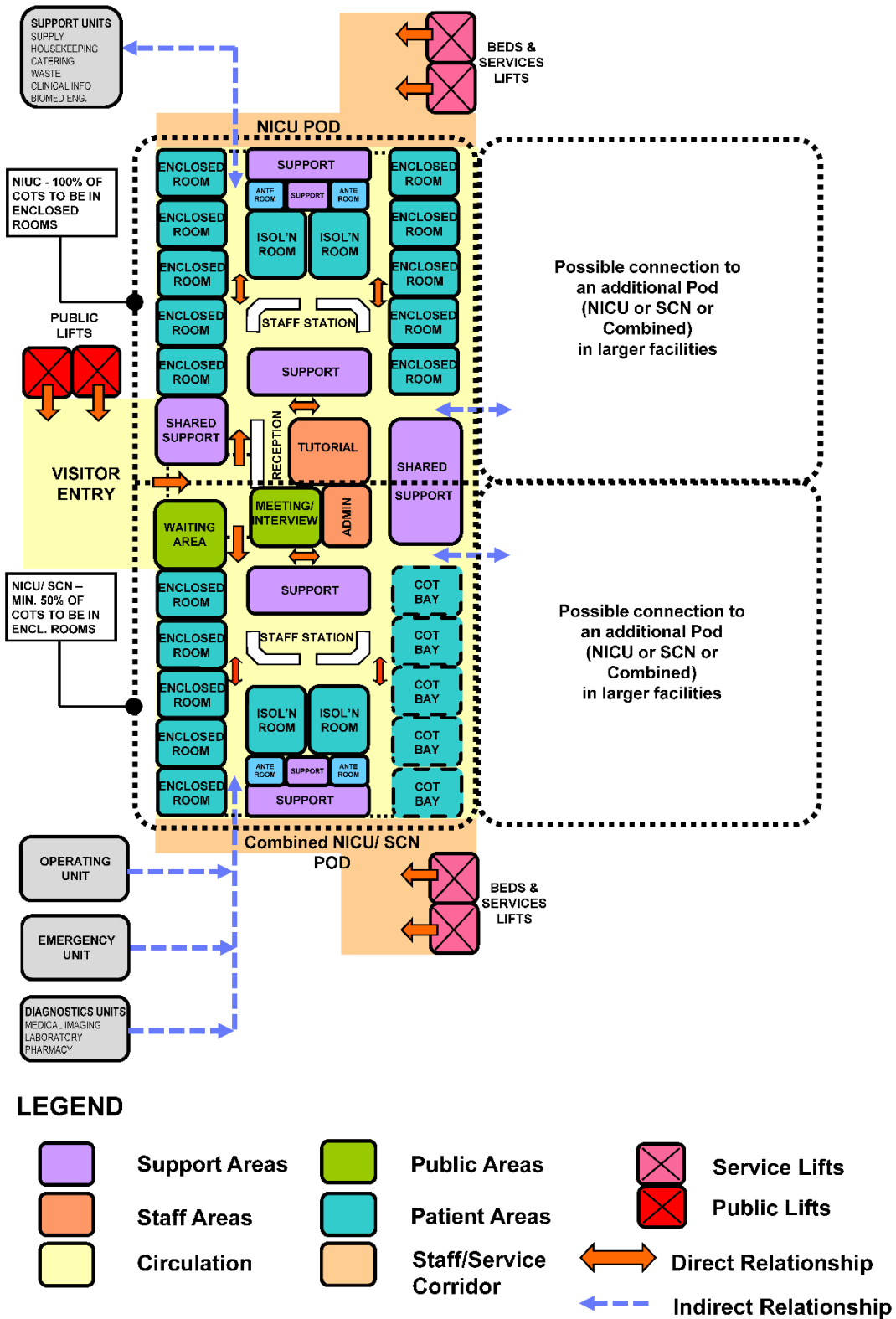
Optimal internal relationships to be achieved include:

- Staff station(s) which require direct access and observation of cots
- Utility and storage areas readily accessible by staff
- Public areas located on the perimeter of the unit
- Shared areas easily accessible from the units served
- Support services accessed via a staff/ service corridor

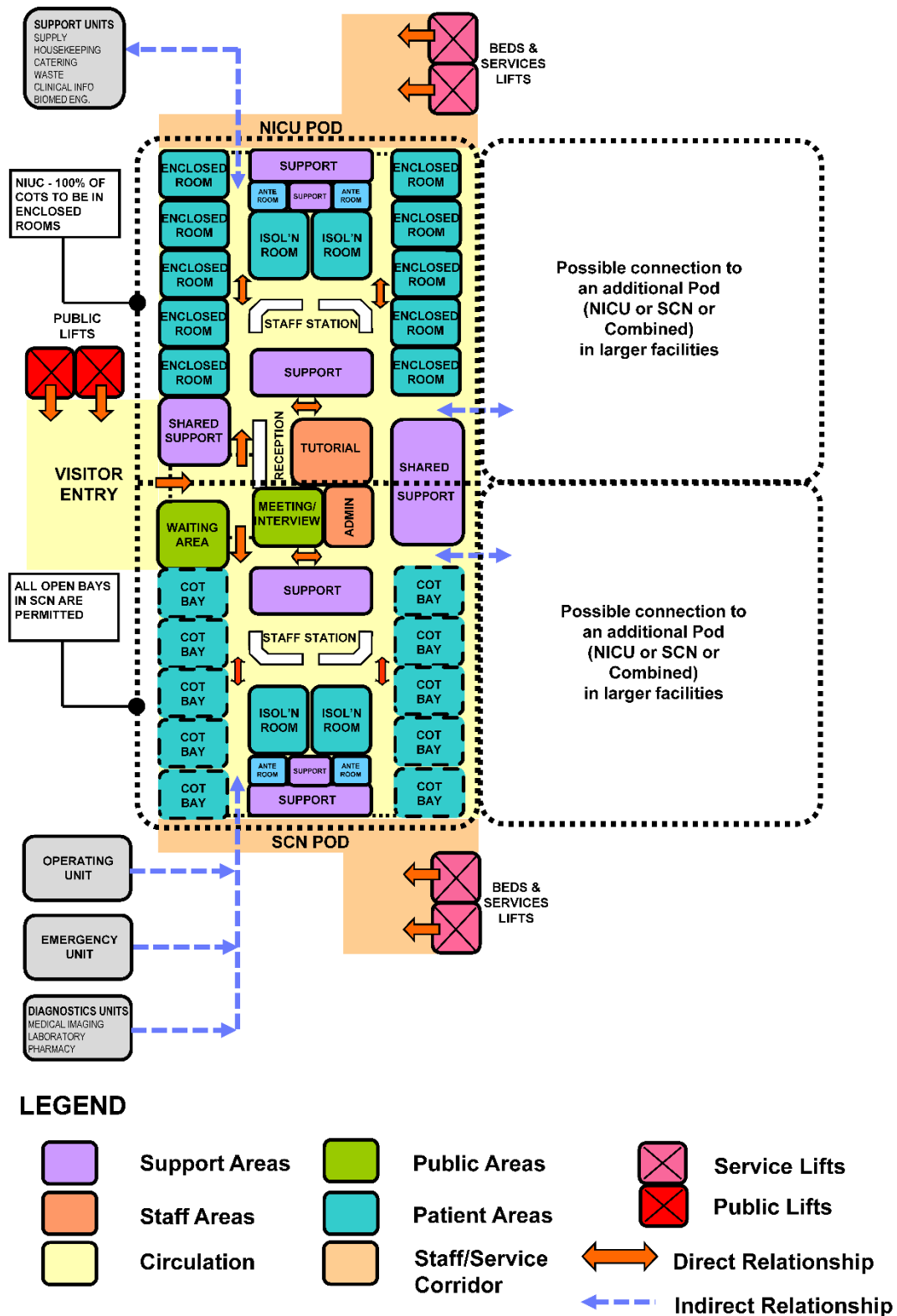
These functional relationships are best described in the diagram below.

Functional Relationship Diagrams

NICU Pod collocated with a combined NICU/ SCN Pod



Separate Pods for NICU and SCN



3 Design Considerations

Refer to Part C for ergonomic issues, Part D for Infection Control, and Part E for Engineering requirements.

Environmental Considerations

Acoustics

Sound signals from patient call systems, alarms from equipment and telephones can add to the sensory overload of patients in critical care/special care. These signals should be modulated to a level that will alert staff members and be rendered less intrusive to patients.

In addition to considerations for infection control, maintenance, and equipment mobility demands, acoustic floor coverings, walls, and ceilings should be considered for these reasons. To decrease sound transmission, doorways should be offset rather than located in symmetrically opposed positions. Counters, barriers, and glass doors that do not obstruct view can also help to reduce unwelcomed noise.

Refer also to Part G of these Guidelines.

Natural Light

Controlled natural lighting for NICU rooms/ bays is desirable but not mandatory. Natural light may be provided directly via windows or through borrowed light from adjoining corridors, spaces or atrium spaces.

Space Standards and Components

Cot/ incubator spaces should be placed such that there is appropriate clearance from the side and bottom of the bed cot or incubator to the nearest fixed obstruction (including bed screens) or wall where an open plan arrangement is available. The arrangement of cots/ incubators in NICU rooms must be such that a nurse or doctor can walk right around without any interference with electrical or medical gas lines. As such, this will require the use of ceiling mounted service pendants with swivel arms in a similar manner to adult ICU. In SCN, however, the services may come from a service panel at the head of the cot/ incubator.

Accessibility

External

Ideally there should be separate and discrete entry or entries for staff, goods and supplies with swipe card or similar electronic access to authorised personnel. Discrete entry for patients on beds/cots or trolleys may also be considered and this should provide:

- Ready access from Birthing and Maternity Unit, Emergency Unit and Operating Unit that may involve transfers via lifts
- Ready access to and from Diagnostic Imaging areas

Internal

There should be one only point of public entry overseen by a ward clerk/ receptionist during extended daytime hours to:

- Monitor and/ or prevent access by visitors depending on the patients' condition
- Advise visitors if patients have been moved 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

Doors

A minimum of 1200mm clear opening is recommended for doors requiring cot/trolley access.

Also refer to Part C - Access, Mobility and OH&S of these Guidelines.

Infection Control

Hand Basins

Clinical Hand-washing facilities shall be provided convenient to the Staff Station and patient bed/cot areas. The ratio of provision shall be one clinical hand-washing facility for every two patient beds/cots in open-plan areas within the NICU & SCN and one in each single isolation room.

Handwashing facilities shall not impact on minimum clear corridor widths. At least one Handwashing Bay is to be conveniently accessible to the Staff Station. Handbasins are to comply with Standard Components - Bay - Handwashing and Part D - Infection Control in these Guidelines.

Antiseptic Hand Sanitisers

Antiseptic Hand Sanitisers should be located so they are readily available for use at points of care, in Procedures Rooms and in circulation areas.

Antiseptic Hand Sanitisers, although very useful and welcome, cannot fully replace Hand Wash Bays. Both are required.

Antiseptic hand sanitisers are to comply with Part D of these Guidelines.

Isolation Rooms

Both Positive and Negative pressure Isolation Rooms shall be provided in the NICU dependent on hospital operational policy and the clinical service plan. Entry should be through an ante-room. Clinical hand-washing, gown and mask storage, and waste disposal should be provided within the anteroom.

Refer to Part D – Infection Control in these Guidelines.

Safety and Security

Entrance doors need to be secured to prevent unauthorised access. A video intercom with speech should be provided from entrance and exit door to main staff reception complete with door release button for staff access control. Security surveillance of the Unit may include CCTV cameras and monitors.

Drug Storage

The NICU shall include lockable drug storage within the Clean Utility or Medication room/s. Refer to Standard Components Clean Utility/ Medication and Store-drugs Data Sheets and Room Layout Sheets for further details.

Note: Storage for dangerous drugs must be in accordance with the relevant regulations.

Milk Storage

Breast milk storage freezers and refrigerators must be secured or kept within a lockable formula room with access restricted to staff only or mothers under staff observation to guarantee the correct milk is delivered to the right infant.

Finishes

The aesthetics of the Unit should be warm, relaxing and non-clinical as far as possible. The following additional factors should be considered in the selection of finishes:

- Acoustic properties
- Durability
- Ease of cleaning
- Infection control
- Fire safety

- Movement of equipment, floor finishes should be resistant to marring and shearing by wheeled equipment

In all areas where patient observation is critical, colours shall be chosen that do not alter the observer's perception of skin colour.

Wall protection should be provided where bed or trolley movement occur such as corridors, patients' bedrooms, equipment and linen storage and treatment areas.

Fittings, Fixtures & Equipment

Bedside Monitoring

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. The bedside nurse and/or monitor technician must be able to observe the monitored status of each patient at a glance.

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.

Each cot space shall include storage and writing provision for staff use.

Building Services Requirements

This section identifies unit specific services briefing requirements only and must be read in conjunction with Part E - Engineering Services for the detailed parameters and standards applicable.

Information and Communications Technology (ICT)

Unit design should address the following Information Technology/ Communications issues:

- Health Information System (HIS)
- Electronic Health Records (HER) which may form part of the HIS
- Hand-held tablets and other smart devices
- Picture Archiving Communication System (PACS)
- Paging and personal telephones replacing some aspects of call systems
- Data entry including scripts and investigation requests
- Bar coding for supplies, and X-rays / Records if physical copies are still being used
- Data and communication outlets, servers and communication room requirements
- Wi-Fi availability for staff, patients and/or visitors.

Nurse Call System

Hospitals must provide an electronic call system next to each cot space to allow staff to be alerted in a discreet manner at all times. Staff and Emergency calls are to be registered at the Staff Stations and must be audible within the service areas of the Unit including Clean Utilities and Dirty Utilities. If calls are not answered the call system should escalate the alert accordingly. The Nurse Call system may also use mobile paging systems or SMS to notify staff of a call.

Patient Entertainment System

Patients may be provided with entertainment/ communications systems according to the Operational Policy of the facility including television, bedside telephone, radio and internet (Wi-Fi) access. A single patient handset may combine the entertainment system, nurse call system and lighting control all in one.

Pneumatic Tube System

The Inpatient Unit may include a pneumatic tube station, as determined by the facility's operational policy. If provided the station should be located in close proximity to the Staff Station

or under direct staff supervision. When required, a second PTS station may be provided within the medication storage area.

Refer to Part E - Engineering Services for details.

Public Health

Warm water supplied to all areas accessed by patients within the Inpatient Unit should be maintained at 38°C and shall not exceed 43°C. This requirement applies to all staff handwash basins and sinks in patient accessible areas.

For further information and details refer to Part E – Engineering Services in these Guidelines.

Heating Ventilation and Air-conditioning (HVAC)

The NICU should be air-conditioned with adjustable temperature and humidity in all cot areas, Procedure rooms and Interview/Meeting Rooms for staff comfort.

All HVAC requirements are to comply with services identified in Standard Components and Part E – Engineering Services.

Refer to Part E of these Guidelines for the specific requirements for Mechanical and Electrical provision.

Medical Gases

Medical gas is that which is intended for administration to a patient in anaesthesia, therapy, diagnosis or resuscitation. Medical gases shall be installed and readily available in each NICU or SCN bay/ room according to the quantities noted in the respective Standard Components Room Data Sheets.

Also refer to Part E of these Guidelines.

4 Components of the Unit

Standard Components

Standard Components are typical rooms in a health facility, each represented by a Room Data Sheet (RDS) and Room Layout Sheet (RLS). Sometimes, there are more than one configuration possible and therefore, more than one room layout sheet can be found in the Standard Components for a room with same function. They may differ in room size and/or the requirement of FF&FE items.


The Room Data Sheets are presented in a written format, describing the minimum briefing requirements of each room type divided into the following categories:

- Room Primary Information; includes briefed areas, occupancy, room description, relationships and special room requirements
- Building Fabric and Finishes; describes fabric and finishes for the room's ceiling, floor, walls, doors and glazing requirements
- Furniture and Fittings; lists all the fittings and furniture typically located in the room; Furniture and Fittings are identified with a group number indicating who is responsible for providing the item according to a widely accepted description as follows:

Group	Description
1	Provided and installed by the Builder/ Contractor
2	Provided by the Client and installed by the Builder/Contractor
3	Provided and installed by the Client

- Fixtures and Equipment; includes all the serviced equipment commonly located in the room along with the services required such as power, data, water supply and drainage; Fixtures and Equipment are also identified with a group number as above indicating who is responsible for provision
- Building Services - indicates the requirement for communications, power, HVAC (Heating, Ventilation and Air Conditioning), medical gases, nurse/ emergency call and lighting along with quantities and types where appropriate. Provision of all services items listed is mandatory.

The Room Layout Sheets (RLS's) are indicative plan layouts and elevations illustrating an example of a good design. The RLS indicated are deemed to satisfy these Guidelines. Alternative layouts and innovative planning shall be deemed to comply with these Guidelines provided by the following criteria are met:

- Compliance with the text of these Guidelines
- Minimum floor areas as shown in the schedule of accommodation
- Clearances and accessibility around various objects shown or implied
- Inclusion of all mandatory items identified in the RDS. 

Standard Components have considered the required design parameters described in these Guidelines. Each FPU should be designed with compliance to Standard Components - Room Data Sheets and Room Layout Sheets, nominated in the Schedules of Accommodation in Appendices of this FPU.

5 Schedule of Accommodation

The Schedule of Accommodation (SOA) provided below represents generic requirements for this Unit. It identifies the rooms required along with the room quantities and the recommended room areas. The sum of the room areas is shown as the Sub Total as the Net Area. The Total area is the Sub Total plus the circulation percentage. The circulation percentage represents the minimum recommended target area for corridors within the Unit in an efficient and appropriate design.

Within the SOA, room sizes are indicated for typical units and are organised into the functional zones. Not all rooms identified are mandatory therefore, optional rooms are indicated in the Remarks. These guidelines do not dictate the size of the facilities, therefore, the SOA provided represents a limited sample based on assumed unit sizes. The actual size of the facilities is determined by Service Planning or Feasibility Studies. Quantities of rooms need to be proportionally adjusted to suit the desired unit size and service needs.

The Schedule of Accommodation are developed for particular levels of services known as Role Delineation Level (RDL) and numbered from 1 to 6. Refer to the full Role Delineation Framework (Part A - Appendix 6) in these guidelines for a full description of RDL's.

The table below demonstrates the SOA's for a Neonatal Intensive Care Unit with 4, 6 and 12 cots and a 12 cots Neonatal Special Care 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. Arranging the bed areas in clusters of up to 12 bays is recommended within observation from Staff Station. The number of clusters will be determined by the service plan.

Any proposed deviations from the mandatory requirements, justified by innovative and alternative operational models may be proposed and record in the Non-Compliance Report (refer to Part A - Appendix 4) with any departure from the Guidelines for consideration by the local health authority for approval.

Neonatal - Intensive Care Unit

NICU accommodation is provided in individual enclosed rooms and SCN accommodation provided in semi-open bays. In th SOA's provided below, a 50/50 ratio is applied. If only NICU cots are required, then 100% enclosed rooms should be used.

ROOM/ SPACE	Standard Component Room Codes				RDL 4 Qty x m ²	RDL 5-6 Qty x m ²	RDL 5-6 Qty x m ²	Remarks
Unit Size					4 Cots	6 Cots	12 Cots	
Entry/ Reception								Optional - may be shared
Reception/ Clerical	recl-10-i similar				1 x 8	1 x 8	1 x 10	May be shared with an adjacent unit
Waiting	wait-15-i wait-20-i wait-30-i				1 x 15	1 x 20	1 x 30	1.2 m2 per person; 1.5 m2 per wheelchair
Play Area - Paediatric	plap-10-i similar				1 x 8	1 x 8	1 x 10	Adjacent to Waiting-Family
Meeting/ Interview Room	meet-9-i meet-12-i				1 x 9	1 x 9	1 x 12	Family interviews
Toilet - Public	wcpu-3-i				2 x 3	2 x 3	2 x 3	May share facilities with adjacent unit
Toilet - Accessible	wcac-i				1 x 6	1 x 6	1 x 6	May share public amenities if located close
Nursery- Intensive Care								

Intensive Care Unit – Neonatal (NICU)

ROOM/ SPACE	Standard Component Room Codes				RDL 4 Qty x m ²	RDL 5-6 Qty x m ²	RDL 5-6 Qty x m ²	Remarks
Unit Size					4 Cots	6 Cots	12 Cots	
Neonatal Bay – Intensive Care, Enclosed	nbicu-e-i					1 x 17	4 x 17	Min. 50% of cots spaces must be in single enclosed rooms (including isolation rooms).
Neonatal Bay - Resuscitation	nbicu-i similar				1 x 12	1 x 12	1 x 12	For resuscitation and transfer prep; in addition to neonatal bays
Neonatal ICU - Isolation Room - Negative Pressure	nb-is-n-i				1 x 18	1 x 18	1 x 18	Provide according to Service Plan but no less than 1 for up to 12 NICU rooms.
Neonatal ICU - Isolation Room - Positive Pressure	nb-is-p-i				1 x 18	1 x 18	1 x 18	Provide according to Service Plan but no less than 1 for up to 12 NICU rooms.
Neonatal Bay – Special Care	nbsc-i				2 x 12	3 x 12	6 x 12	Qty will depend on No. of Birthing Rooms, beds and service plan.
Anteroom	anrm-i				2 x 6	2 x 6	2 x 6	Mandatory for Isolation Room, Negative & Positive Pressure
Bathing/ Examination	baex-i				1 x 10	1 x 10	1 x 10	
Support Areas								
Bay - Blanket/ Fluid Warmer	bbw-1-i				1 x 1	1 x 1	1 x 1	
Bay - Handwashing, Type A	bhws-a-i				2 x 1	3 x 1	4 x 1	At Unit entry and Staff Stations; refer to Part D
Bay - Linen	blin-i				1 x 2	1 x 2	2 x 2	
Bay - Mobile Equipment	bmeq-4-i				1 x 4	1 x 4	1 x 4	
Bay - Pathology	bpath-3-i				1 x 3	1 x 3	1 x 3	Point of Care testing
Bay - Pneumatic Tube	bpts-i					1 x 1	1 x 1	Optional, may be located with Pathology Bay or Staff Station
Bay - PPE	bppe-i				1 x 1.5	2 x 1.5	3 x 1.5	As required, may be combined with Bay-Handwashing
Bay - Resuscitation Trolley	bres-i				1 x 1.5	1 x 1.5	1 x 1.5	Neonatal resuscitation trolley
Cleaner's Room	clrm-6-i						1 x 6	Smaller units may share
Clean Utility	clur-8-i clur-12-i				1 x 8	1 x 8	1 x 12	May be interconnected with Medication room.
Medication Room	medr-10-i similar				1 x 8	1 x 8	1 x 12	May be interconnected with Clean Utility room.
Clean Utility/ Medication Room	clum-14-i				1 x *	1 x *	1 x *	*Optional, if preference is to combine Clean Utility and Medication Room into a single Room, Minimum 14 m2
Dirty Utility	dtur-s-i dtur-12-i				1 x 8	1 x 8	1 x 12	
Disposal Room	disp-8-i						1 x 8	May be shared
Equipment Clean-up	ecl-10-i similar				1 x 8	1 x 8	1 x 12	For dismantling & cleaning cots, incubators & equipment
Feeding Room	feed-i or feed-2p-i				1 x 4	1 x 7	2 x 7	Located adjacent to Formula Room; Single rooms or Room with two bays.
Formula Room	form-i				1 x 10	1 x 10	1 x 10	Includes milk storage
Office – Write-up Bay	off-wi-1-i				4 x 1	6 x 1	12 x 1	1 per cot; may be combined two write-up bays for every two cot bays/ rooms
Office - Write-up (Shared)	off-wis-i similar					1 x 8	1 x 12	May be collocated with Staff Station
Procedure Room	proc-20-i						1 x 20	
Staff Station	sstn-14-i similar sstn-20-i				1 x 8	1 x 12	1 x 20	2, 3, 6 staff seated
Store - Equipment	steq-10-i similar steq-25-i similar				1 x 8	1 x 12	1 x 24	Based on a minimum of 2 m ² per cot

Intensive Care Unit – Neonatal (NICU)

ROOM/ SPACE	Standard Component Room Codes				RDL 4 Qty x m ²	RDL 5-6 Qty x m ²	RDL 5-6 Qty x m ²	Remarks
Unit Size					4 Cots	6 Cots	12 Cots	
Store - General	stgn-8-i similar stgn-14-i similar				1 x 6	1 x 6	1 x 12	Consumable stock and sterile packs
Store - Sterile Stock	stss-12-i similar				1 x 6	1 x 6	1 x 10	
Treatment Room	trmt-14-i					1 x 14	1 x 14	Optional
Parent Support Areas								Optional
Parent Lounge/ Dining/ Kitchenette	Inpa-20-i similar				1 x 15	1 x 20	1 x 35	Optional, communal space, 8, 12 persons
Parent Overnight Stay Bedroom	ovbr-10-i				1 x 10	1 x 10	1 x 10	Optional
Parent Overnight Stay Ensuite	oves-4-i				1 x 4	1 x 4	1 x 4	Optional
Parent Property Bay	prop-2-i prop-3-i similar				1 x 2	1 x 2	1 x 4	Optional, Lockers for parents visiting
Chane - Gown Up/ Gown Down (Male/ Female)	ch-gw-i				2 x 6	2 x 6	2 x 6	Optional, for parents and visitors; separate for male and female
Staff Areas								
Office - Single Person	off-s9-i				1 x 9	1 x 9	1 x 9	NICU Manager
Office - 2 Person Shared	off-2p-i						1 x 12	Medical, Nursing, Allied Health as required
Office - Workstations	off-ws-i				1 x 5.5	2 x 5.5	4 x 5.5	Clerical support, Nursing, Medical as required
Meeting Room	meet-l-20-i						1 x 20	Meetings, Education
Staff Room	srm-15-i srm-20-l srm-30-i				1 x 15	1 x 20	1 x 30	
Change - Staff (M/F)	chst-10-i chst-14-i				2 x 10	2 x 10	2 x 14	Toilet, Shower and Lockers
Sub Total					331.5	419.5	703	
Circulation %					40	40	40	
Total Area					464.1	587.3	984.2	

Neonatal – Special Care Unit

The Neonatal Special Care Unit (SCN) may be collocated with Neonatal Intensive Care Unit.

ROOM/ SPACE	Standard Component Room Codes					RDL ALL Qty x m ²	Remarks
Unit Size						12 Cots	
Entry/ Reception							
Reception/ Clerical	recl-10-i					1 x 10	May be shared with an adjacent unit
Waiting	wait-30-i					1 x 30	1.2 m2 per person; 1.5 m2 per wheelchair
Play Area - Paediatric	plap-10-i					1 x 10	Adjacent to Waiting-Family
Meeting/ Interview Room	meet-12-i					1 x 12	Family interviews

Intensive Care Unit – Neonatal (NICU)

ROOM/ SPACE	Standard Component Room Codes								RDL ALL Qty x m ²	Remarks
Unit Size									12 Cots	
Toilet - Public	wcpu-3-i								2 x 3	May share facilities with adjacent unit
Toilet - Accessible	wcac-i								1 x 6	May share public amenities if located close
Nursery- Special Care										
Neonatal Bay - Special Care	nbsc-i								10 x 12	Qty will depend on No. of Birthing Rooms, beds and service plan. Minimum of 12m ² for open bay SCN
Neonatal Bay - Resuscitation	nbicu-i similar								1 x 12	For resuscitation and transfer prep; in addition to neonatal bays
Neonatal ICU - Isolation Room - Negative Pressure	nbsc-l similar								1 x 14	Provide according to Service Plan but no less than 1 for up to 12 NICU rooms.
Neonatal ICU - Isolation Room - Positive Pressure	nbsc-l similar								1 x 14	Provide according to Service Plan but no less than 1 for up to 12 NICU rooms.
Anteroom	anrm-i								2 x 6	For Isolation Room, Negative & Positive Pressure
Bathing/ Examination	baex-i								1 x 10	
Support Areas										
Bay - Blanket/ Fluid Warmer	bbw-1-i								1 x 1	
Bay - Handwashing, Type A	bhws-a-i								4 x 1	At Unit entry and Staff Stations; refer to Part D
Bay - Linen	blin-i								2 x 2	
Bay - Mobile Equipment	bmeq-4-i								1 x 4	
Bay - Pathology	bpath-3-i								1 x 3	Point of Care testing
Bay - Pneumatic Tube	bpts-i								1 x 1	Optional, may be located with Pathology Bay or Staff Station
Bay - PPE	bppe-i								3 x 1.5	As required, may be combined with Bay-Handwashing
Bay - Resuscitation Trolley	bres-i								1 x 1.5	Neonatal resuscitation trolley
Cleaner's Room	clrm-6-i								1 x 6	Smaller units may share
Clean Utility	clur-12-i								1 x 12	May be interconnected with Medication room.
Medication Room	medr-10-i similar								1 x 12	May be interconnected with Clean Utility room.
Clean Utility/ Medication Room	clum-14-i								1 x *	*Optional, if preference is to combine Clean Utility and Medication Room into a single Room, Minimum 14 m2
Dirty Utility	dtur-12-i								1 x 12	
Disposal Room	disp-8-i								1 x 8	May be shared
Equipment Clean-up	ecl-10-i similar								1 x 12	For dismantling & cleaning cots, incubators & equipment
Feeding Room	feed-2p-i								2 x 7	Located adjacent to Formula Room; Single rooms min. 4m ² and shared rooms (2 bays) min. 7m ² .
Formula Room	form-i								1 x 10	Includes milk storage
Office – Write-up Bay	off-wi-1-i								12 x 1	1 per cot; may be combined two write-up bays for every two cot bays/ rooms
Office - Write-up (Shared)	off-wis-i								1 x 12	May be collocated with Staff Station
Procedure Room	proc-20-i								1 x 20	

Intensive Care Unit – Neonatal (NICU)

ROOM/ SPACE	Standard Component Room Codes					RDL ALL Qty x m ²	Remarks
Unit Size						12 Cots	
Staff Station	sstn-20-i					1 x 20	6 staff seated
Store - Equipment	steq-25-i similar					1 x 24	Based on a minimum of 2 m ² per cot
Store - General	stgn-14-i similar					1 x 12	Consumable stock and sterile packs
Store - Sterile Stock	stss-12-i similar					1 x 10	
Treatment Room	trmt-14-i					1 x 14	Optional
Parent Support Areas							Optional
Parent Lounge/ Dining/ Kitchenette	Inpa-20-i similar					1 x 35	Optional, communal space, 8, 12 persons
Parent Overnight Stay Bedroom	ovbr-10-i					1 x 10	Optional
Parent Overnight Stay Ensuite	oves-4-i					1 x 4	Optional
Parent Property Bay	prop-3-i similar					1 x 4	Optional, Lockers for parents visiting
Chane - Gown Up/ Gown Down (Male/ Female)	ch-gw-i					2 x 6	Optional, for parents and visitors; separate for male and female
Staff Areas							
Office - Single Person	off-s9-i					1 x 9	SCN Manager
Office - 2 Person Shared	off-2p-i					1 x 12	Medical, Nursing, Allied Health as required
Office - Workstations	off-ws-i					2 x 5.5	Clerical support, Nursing, Medical as required
Meeting Room	meet-l-20-i					1 x 20	Meetings, Education
Staff Room	srm-30-i					1 x 30	
Change - Staff (M/F)	chst-14-i					2 x 14	Toilet, Shower and Lockers; may be shared with adjoining unit
Toilet – Staff (M/F)	wcst-d					2 x *	If Staff Change is shared and located outside the Unit, provide one staff toilet for each male/ female within the Unit.
Sub Total						664.0	
Circulation %						40	
Total Area						929.6	

Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the Standard Components.
- Rooms indicated in the schedule reflect the typical arrangement.
- All the areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines.
- Exact requirements for room quantities and sizes shall reflect Key Planning Units (KPU) identified in the Clinical Service Plan and the Operational Policies of the Unit.
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit.
- Offices are to be provided according to the number of approved full-time positions within the Unit.

6 References and Further Reading

In addition to Sections referenced in this FPU, i.e. Part C- Access, Mobility, OH&S and Part D - Infection Control and Part E - Engineering Services, readers may find the following helpful:

- DH (Department of Health) (UK) Health Building Note 09-03: Neonatal Units, 2013, refer to website:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/147879/HBN_09-03_Final.pdf
- Guidelines for Design and Construction of Hospitals, The Facility Guidelines Institute, 2018 Edition; refer to website: www.fgiguidelines.org