Part B – Health Facility Briefing & Design

246 Paediatric Cardiac Surgery Unit

iHFG

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246. Paediatric Cardiac Surgery Unit

1. Introduction

The Paediatric Cardiac Surgery Unit (PCSU) is a specially staffed and equipped section of a healthcare facility for the support, monitoring and treatment of paediatric patients with a life-threatening or potentially life-threatening heart condition requiring Cardiac Surgery.

The PCSU will cater for patients from 1 to 16 years of age.

The PCSU will only accommodate surgical patients until they are discharged from the hospital or reallocated to an inpatient unit.

2. Functional and Planning Considerations

Operational Models

The PCSU provides services 24 hours a day, seven days a week. The level of care available should support the delineated role of a particular hospital. This unit is suitable for hospitals at the Role Delineation levels (RDL) of 4 to 6.

At RDL 5 or 6 PCSU may be established as a dedicated Centre of Excellence focussing only on Paediatric Surgery and all supporting services which are dedicated to Paediatric Surgery. On the other hand, at all RDL's from 4 to 6, PCSU may be a fully integrated service within the larger hospital, using many of the common and shared resources.

The PCSU RDL will vary depending on staffing, facilities and support services as well as the type and number of patients it has to manage. Please refer to the Role Delineation Guidelines included within these Guidelines.

Models of Care

Generally, the PCSU will provide family centred care, with parents playing a key role in the care of the patient. The initial diagnosis of the patient is not expected within PCSU. However, once a patient is diagnosed and it is determined that Cardiac Surgery is necessary, the patient will be referred to a PCSU for the complete range of services (before, during and after surgery). Therefore, PCSU is an important part of a referral pattern within the healthcare system.

Examples of the Models of Care that may be implemented include:

- Patient allocation, which involves allocation of a group of patients to nursing staff who undertake complete care and treatment. This model allows staff to become skilled with varying patient care acuities but requires the assignment of patients suitable to the level of experience and capabilities of the nursing staff.
- Task assignment, where nursing staff are assigned patient care tasks that are undertaken on all patients. This model is efficient in the delivery of patient care where there are minimal staff resources, such as night shifts.
- Team nursing, where nursing staff are divided into teams and assigned a group of patients to undertake all patient care. This model allows for differing skill mix of staff and allows more junior staff to be directly supervised by more experienced staff.
- Case management where nursing staff with particular skills (and competency) or specialties are assigned patients related to the same specialty. This model provides for specialist care of the more acutely ill patients and allows staff to specialise in particular clinical areas.
- Multi-disciplinary care, where a comprehensive range of services by teams including Paediatric Cardiac Surgery Team and Paediatric Cardiology, nursing staff, allied health professionals and other health workers. This model provides an inclusive patient care and treatment program.
- A combination of the above.

Ideally, the physical environment should permit a range of models of care to be implemented, allowing flexibility for future change and management preferences.

Levels of Care

The level of care can range from acute specialist nursing care with a progression to intermediate care and finally self-care with family assistance prior to discharge.

PCSU Integrated within a hospital

The Functional Planning Unit referred to as Paediatric Cardiac Surgery Unit (PCSU) is regarded as a Coronary Care Unit specifically configured for Paediatric patients requiring Cardiac Surgery.

This Unit will be fully dedicated to Paediatric Cardiac Surgery and should not be shared with other patient types or specialties.

PCSU, must be supported by other core components which may either be dedicated to Paediatric Surgery or shared with other specialties. When these components are shared, PCSU is the link between them, to manage and coordinate the full journey of the patients before, during and after the cardiac surgery.

In a facility at RDL 5 or 6 regarded as a Centre of Excellence in Paediatric Cardiac Surgery, it is recommended that all core components required to support PCSU be fully dedicated and exclusive to PCSU. In other facilities, there is no need to duplicate or replicate such shared components. Instead the use of such shared facilities for PCSU should be established in the operational policies, staff training and HIMS software.

The minimum core components required for PCSU are as follows:

- Paediatric Cardiac Surgery Unit (PCSU) (the main subject of this FPU)
- Paediatric Intensive Care Unit (PICU)
- Neonatal Intensive Care Unit (NICU)
- Cardiac Investigation Unit (including Catheterisation Unit)
- Operating Unit
- Acute Rehabilitation (within PCSU)

The additional supporting components required are as follows:

- Sterile Supply Unit
- Emergency Unit
- Pharmacy Unit
- Laboratory Unit
- Medical Imaging Unit
- Rehabilitation Allied Health Unit (Day Rehabilitation)
- Administration Unit
- Catering Unit
- Linen Handling Unit
- Main Entrance Unit
- Admission Unit and Discharge
- Mortuary General
- Housekeeping Unit
- Education Unit (for RDL 5 and 6)
- Research Facilities (for RDL 6)

Integrated Critical Care

PCSU is a broader category of FPU's referred to as Critical Care. The ideal PCSU will have back to back NICU (Neonatal Intensive Care Unit) and Paediatric Intensive Care Unit (PICU). This,

however, is not mandatory. These components as part of the Paediatric Cardiac Surgery process may be separate but with convenient connections either horizontally or vertically.

In the model demonstrated in these Guidelines the PCSU is shown back to back with PICU and NICU as an integrated unit. This supports maximum efficiency patient flows. This can serve to optimise the staff skills and shared equipment.

Hot Floor

A comprehensive 'Hot Floor' model may include collocation of PCSU, PICU, NICU, Catheter Lab and Operating Unit, as well as parts or all of Medical Imaging on the same floor. The Hot Floor model has the principal advantage of collocating services, avoiding duplication and with a single management structure. This allows a more efficient medical and nursing overview and patient flow. A minimum of two fully equipped operating theatres for performing all types of paediatric cardiac surgeries are required and bi-plane imaging equipment is a necessity.

Advantages of the Hot Floor model include:

- Enables standardisation of equipment across the Hot Floor avoiding duplication and minimises service costs
- Assists practitioners particularly medical and nursing to develop expertise in the specialties
- Facilitates multi-disciplinary team work and patient case management

The disadvantages of a Hot Floor involve:

- Large area required on one floor, which may not be available
- The management of a large group of nurses and doctors
- Potential infection control risks including cross infection of patients in co-located units
- Complications in the flow of visitors

Separate Critical Care

This model separates PCSU (as a CCU optimised for Paediatrics) separate from PICU and NICU with an independent management structure for each unit. The comprehensive service for Paediatric Cardiac Surgery is therefore achieved by a virtual or functional relationship between these independent units. However, NICU and PICU will not be exclusively dedicated to the infants and paediatrics who require Cardiac Surgery.

Advantages of this model include:

- May help to avoid bed blockages by allowing a flexible use of all Critical Care facilities independently
- Encourages the development of a greater range of sub-specialty medical and nursing skills

Disadvantages include:

- Duplication of management, policies and procedures for PCSU
- Physical isolation of units that may make staffing more difficult
- May lower the focus on the specific needs of Paediatric Surgery patients

For maximum efficiency and patient flows, the PCSU may be combined back to back with Paediatric Intensive Care Unit (PICU) and Neonatal Intensive Care Unit (NICU). This can serve to optimise staff skills and shared equipment. This model is assumed within this FPU and shown in the Functional Relations Diagram.

Stand-alone PCSU

A Stand-alone PCSU will be regarded as a Specialised Hospital, or designated as a Centre of Excellence in Paediatric Cardiac Surgery.

All services and facilities required for a Specialised Hospital according to these Guidelines will be provided and dedicated to Paediatric Surgery and Paediatric Cardiology.

If such a specialised hospital is intended, then all the core and supporting components indicated above under “PCSU Integrated within a hospital” will be required.

Comprehensive PCSU services

A comprehensive PCSU service will include:

- Telemetry beds for monitoring of patients with heart failure or life-threatening arrhythmias
- A full range of invasive and non-invasive monitoring
- Resuscitation and stabilization of emergencies
- Extracorporeal Membrane Oxygenation (ECMO) for unstable patients
- A full range of cardiac investigations
- 24 hours on call echocardiography, angiography, angioplasty and permanent pacemaker services
- Acute Inpatient as well as Outpatient cardiac rehabilitation programme
- Provide Hospital outreach and remote monitoring services
- Optional Procedure Room with access for a bed and C-arm
- Patient education facilities
- ECG (echocardiography)
- Cardiac Angiography
- Transoesophageal echo (TEE)
- Percutaneous Coronary Intervention
- Temporary or permanent pacemaker insertion

Bed Numbers and Complement

PCSU total bed numbers required by the facility’s service plan needs to be unitised for effective management and monitoring. These Units (or pods) should have no more than 12 beds (± 2) each. If more than 14 beds are required, additional units (or pods) can be provided, each with a staff station and the required support rooms.

In an integrated facility, PCSU is designed back to back with PICU and NICU. This is the model assumed in the Functional Relations Diagram and the SOA within these Guidelines.

Bed Types

All beds shall be provided as Single Bedrooms. Not only the current trend is to provide a greater proportion of single bedrooms largely for infection control reasons but also having parents staying overnight in the same patient bedroom is a common practice which is encouraged.

The Paediatric bedrooms should be similar to those required for an Adult Coronary Care Unit with attached ensuite bathroom. These rooms will have glazing to the corridor and observation from outside the room. For infants the rooms will be similar to fully enclosed NICU. If PICU is integrated back-to-back, the rooms will be fully enclosed and similar to Adult ICU guidelines and standard components rooms.

All single bedrooms can accommodate patients requiring standard contact isolation, but negative pressure isolation rooms with anteroom should be provided at a ratio of 1 per 8 beds or part thereof. Positive pressure Isolation rooms are not mandatory and are subject to the clinical services plan of the hospital.

Unit Planning Models

Depending on the preferred model of care and Role Delineation Level, the PCSU can be designed under one of the following models:

Model 1- PCSU as a core facility dedicated to Paediatric Cardiac Surgery with all other components being independent, catering to different patient types including Paediatric Cardiac Surgery.

Advantages of this model include:

- May help to avoid bed blockages by allowing a flexible use of all Critical Care facilities independently
- Encourages the development of a greater range of sub-specialty medical and nursing skills

Disadvantages include:

- Physical isolation of units that may make staffing more difficult
- May lower the focus on the specific needs of Cardiac Surgery patients

Model 2- PCSU directly attached to NICU and PICU, with all of them dedicated to Paediatric Cardiac Surgery with all other components being independent, catering to different patient types including Paediatric Cardiac Surgery

Advantages of this model include:

- Optimization of staff skills, increasing the focus on Cardiac Surgery patients

Disadvantages include:

Duplication of staff within the dedicated PICU and NICU and the independent department

Model 3- A dedicated Centre of Excellence in Paediatric Cardiac Surgery, as a Specialised hospital with PCSU and all other required components fully dedicated to Paediatric Cardiac Surgery.

In the Functional Relations Diagram and SOA within these Guidelines, Model 2 is assumed and shown. However, designers are free to also adopt Models 1 and 3 as long as all the required components are provided according to the requirements of the individual FPUs within these Guidelines.

Facility Location

The PCSU should be in a location that eliminates or minimises:

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

Ideally the location should enable expansion if additional beds are required in the future.

Functional Areas

The PCSU will consist of the following Functional Areas:

- Entry/ Reception area (may also be shared area or provided at the Main Entry) with:
  - Reception desk (optional)
  - Waiting
  - Visitors Lounge (can be shared between 2 Units)
  - Interview Room
  - Visitors Gown-up/ Gown-down
- Patient Areas – areas where patients are accommodated, and facilities specifically intended for the patient including:
  - Bedrooms - Nominated bariatric room(s) with ceiling mounted patient lifter as required by the Service Plan
  - Ensuites

  - Patient Lounge
  - Procedure Room
  - Acute Rehabilitation Gym

- Activities areas – multi-purpose areas for recreational activities including, indoor and outdoor play areas, television, music, computer activities, schooling or learning activities and family communal space.
- Support Areas – areas used by staff to support the activities of the unit including:
  - Beverage Bay or Pantry
  - Bay for handwashing, linen, meal trolleys, resuscitation trolley, mobile equipment, etc.
  - Cleaner's room
  - Clean and Dirty Utility rooms
  - Medication Room
  - Stores for equipment and general stock.
- Staff Areas – staff areas that may be shared by two or more Inpatient Units including:
  - Staff Amenities with Staff Room, Toilets and Locker areas
  - Staff Change
  - Overnight Stay Bedrooms

These Functional Areas are briefly explained below.

Entry/ Reception/ Waiting Areas

As determined by the hospital operating policy, a Reception/ Visitor's and relatives Waiting areas shall be provided immediately outside the entry of PCSU, but away from patient and staff traffic areas, with access to separate male/female toilet facilities and prayer rooms. Waiting areas may be shared between 2 or 3 Units if they are located adjacent to each other. It is desirable that these rooms have provision for a drink dispenser, television and comfortable seating. An Interview Room and a separate area for distressed relatives should be available.

Access to the Unit from the waiting areas should be via visitor Gown-up/ Gown-down rooms.

Patient Areas

Patient Areas will include:

Bedrooms

- Only single-bed rooms should be provided within PCSU in all new facilities. In existing facilities, the maximum number of beds per room is 2, but this is not recommended.
- Paediatric bedrooms should include facilities for parents to stay with the child overnight.
- Each room should have a dedicated ensuite bathroom.
- Each single-bed room should be designed to accommodate a sofa bed (parent can stay overnight), toys and recreational space, mobility and walking aids. All the toys used in the unit must be cleanable.
- The Room may contain a bed, cot or bassinet dependent on the age of the patient.

Ensuites Bathrooms

Ensuites with hand basin, shower and toilet should be provided to all PCSU rooms. If PICU is integrated back to back, the provision of ensuite bathrooms to PICU is optional and regarded as desirable.

Procedure Room

Procedure Room with access for a bed and C-arm if required; this room is optional and depends on the service planning and operational policy of each facility.

Patient Lounge Areas

- These areas may be optional where all patient bedrooms are single. However, Patient Lounge is mandatory where the Unit includes shared bedrooms (only in existing facilities). The Lounge may also be used in a flexible manner for family gatherings and waiting family members. The lounge can also be used as a discharge lounge. Patients can be held in the lounge until the formalities of discharge are finalised.

Multi-purpose Activities

The multi-purpose rooms can be provided for various common age ranges and used for a variety of recreational or educational activities, meetings or parent facilities.

Acute Rehabilitation Gym

The dedicated acute rehabilitation gym is to be available within PCSU and optimised for a limited period that the patient is accommodated within the Unit. During this period the patient will be under intense observation. After discharge from PCSU, the patient may be referred to a separate inpatient or day rehabilitation facility which may be within the same building or separate. The continuation of rehabilitation outside PCSU will be regarded as sub-acute, long term or slow stream rehabilitation.

Support Areas

Support Areas include:

- Staff Station
- Handwashing, Linen and Equipment bays
- Clean Utility, Dirty Utility and Disposal Rooms
- Medication Room
- Store room
- Beverages Bays and Pantries
- Formula preparation and milk storage room
- Meeting Room/s and Interview rooms for education sessions, interviews with staff, patient and families and other meetings
- Lab facility – a satellite laboratory within or immediately adjacent to the PCSU must serve this function. The satellite facilities must be able to provide minimum chemistry and haematology testing, including arterial blood gas analysis
- Biomedical Workshop – a dedicated electronic and pneumatic equipment maintenance service 24 hours on-call emergency service made available

Staff Facilities

Offices/ workstations are required for senior staff in full time administrative roles according to the approved positions in the Unit. Offices/ workstations for medical staff and some nursing staff (manager/specialist/registrars/educators) may be located as part of the PCSU.

Ideally administrative areas should be located close to the clinical areas so that the staff always remain close to the patients.

A Staff Lounge shall be provided within the unit for staff to relax and prepare beverages. A Library/ Reference area with an appropriate range of bench manuals, textbooks and journals for rapid access 24 hours a day should be available withing the PCSU.

Staff will need close access to the following:

- Toilets and Shower

- Lockers
- Meeting room/s

Staff Areas, particularly Staff Rooms, Toilets, Showers and Lockers may be shared with adjacent Units as far as possible. For example an adjacent Inpatient Unit.

Teaching and Clinical Research Facilities

In RDL 5 and 6 the facility includes educational and research activities. Teaching facilities should allow staff to access simulation training and competency assessment within the unit. These rooms may also be used by the multidisciplinary team.

A central monitoring station connected to patient cardiac monitors is usually located at the central staff station. Easy viewing of cardiac rhythm of all patients will encourage discussion between staff and assist with in-house education. In RDL 5 or 6 facilities, simulation training and competency assessment facilities may also be provided.

At RDL 6, in association with the provision of all cardiac services for PCSU, research may be undertaken. Spatial provision for research may be justified by service needs and role delineation.

The following facilities may be required for clinical trials:

- Shared offices for senior coordinator/s and research fellow/s
- Shared offices/ workstations for other clinical trial research staff
- Shared offices/ workstations for registrars and research assistants
- Patient consulting room/s (if the unit is accessed by patient)
- Drug monitor room
- Drugs and research files storage
- Research laboratories (wet and dry)

3. Functional Relationships

A Functional Relationship can be defined as the correlation between various areas of activity whose services work together closely to promote the delivery of services that are efficient in terms of management, cost and human resources. Correct Functional Relationships are identified below:

External

It is necessary that the PCSU has ready access to:

- Cardiac Investigation Unit
- Cardiac Catheterisation Unit
- Emergency Unit- for urgent patient admissions
- Operating Unit- for Cardiac Surgery. A minimum of two fully equipped operating rooms for performing all types of paediatric cardiac surgeries, including on neonates, are required. Note that depending on the clinical decision, post- surgery patients may be transferred directly to PICU or NICU instead of Recovery Stage 1
- Medical Imaging Unit- Particularly for chest X-Ray, CT scanning and bi-plane imaging equipment
- Nuclear Medicine Unit- PET (if incorporated in the facility)
- Main Entrance Unit
- Public Amenities Unit
- Laboratory Unit- connection via Pneumatic Tube is preferred. This is in addition to the Stat Lab within PCSU and PICU.
- Sterile Supply Unit- with connection to the Operating Unit

- Pharmacy Unit- for Inpatients and Outpatients. Medication rooms in each unit or pod will be required.
- Biomedical Engineering- to ensure availability and functioning of monitoring and life support equipment
- Rehabilitation- Acute Rehabilitation within the Unit but Post-acute and Day Rehabilitation outside the Unit (possibly in a separate building or site)
- Supply Unit and Housekeeping (either shared or provided as dedicated facilities)
- Mortuary Unit
- Visitor and Staff car parking

Important and desirable external relationships outlined in the diagram below include:

- Separation of visitor's arrival from the interior of the PCSU
- Outpatient link between the Catheterisation Lab and PCSU
- Connection between the Emergency Unit and Catheterisation Lab
- Restricted access between PCSU, Operating Unit, PICU and NICU

Internal

Optimal internal relationships should be achieved including the following:

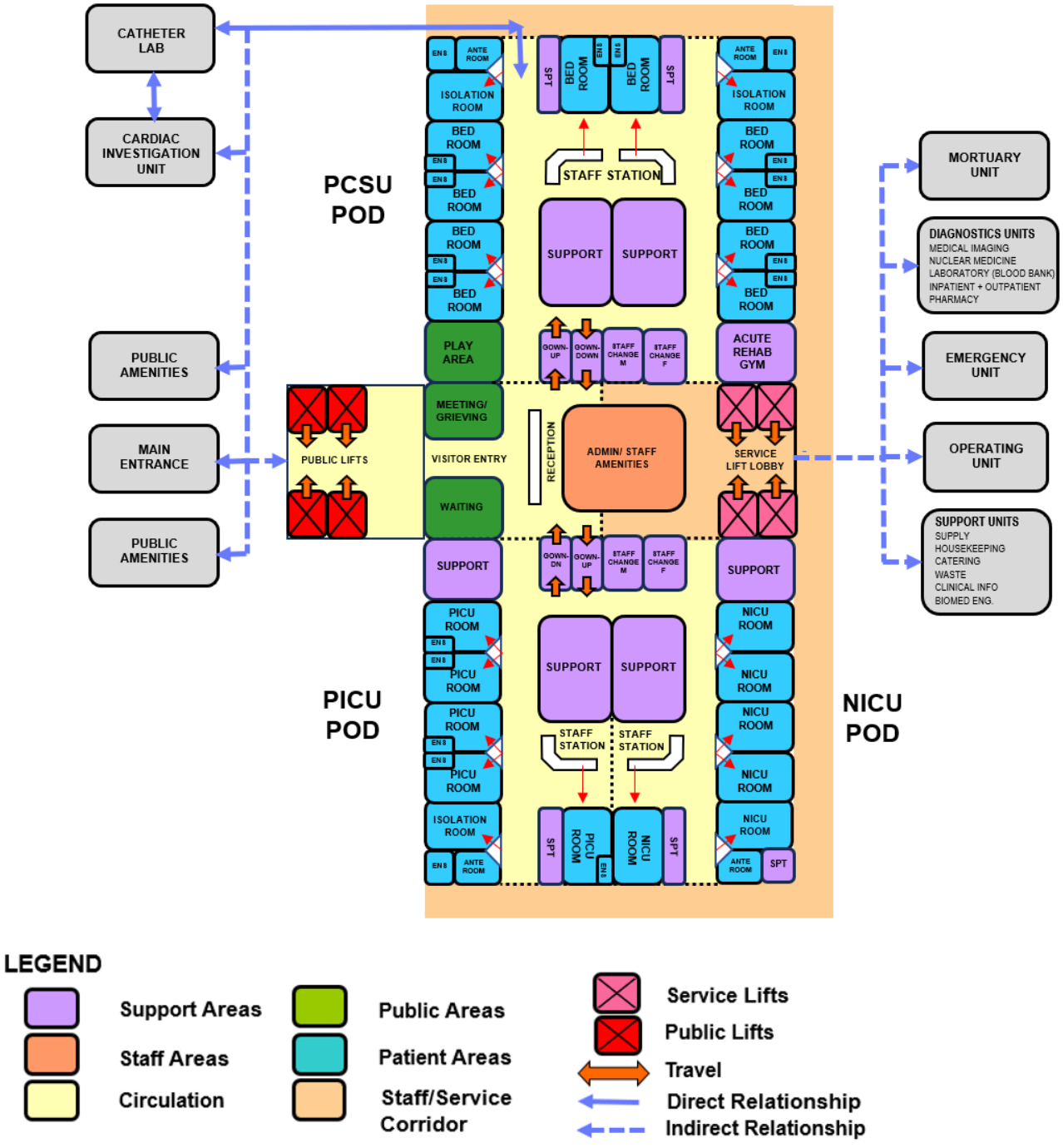
- Visitor waiting areas and access to the unit via Gown-up/ Gown-down rooms
- Patient occupied areas, forming the core of the PCSU, which require direct access and observation from the Staff Station
- Alternatively, a series of de-centralised Reporting Stations located off the corridor for the immediate observation of the rooms
- Clinical Support Areas such as Utility and storage areas that need to be readily accessible to both patient and staff work areas
- Public/waiting areas located on the perimeter of the unit with access to lifts and circulation corridors
- Shared support areas that should be easily accessible from the unit served

Important and desirable internal relationships outlined in the diagram below include:

- Staff Station(s) strategically located with supervision and control over the entry corridor and the patient areas
- Key clinical support areas located close to Staff Stations (s) and centralised for ease of staff access
- Administrative areas located in staff accessible corridors
- Flows between PCSU, PICU, NICU, Operating Unit and Catheterisation Lab to be restricted and separated from public access
- Optionally, Catheterisation Lab to be fully integrated into the Operating Unit

Functional Relationship Diagram

The Internal and External Functional Relationship are demonstrated in the diagram below.



4. Design Considerations

Access

External

Ideally there should be a 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 or trolleys should also be considered and the following should be provided:

- Ready access from Emergency Unit
- Ready access to and from the Operating Unit
- Ready access to and from Medical Imaging and Nuclear Medicine Unit
- Access from Catheterisation Unit

The above important connections may be via lifts with an ideal access time of no more than 3 minutes considering all movements, horizontal, vertical and waiting times.

Internal

There should be 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 patient's 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

All visitors should be directed to enter the unit by appointment and through Gown-up rooms and after washing their hands. Visitors should be directed to exit the unit via Gown-down rooms.

Staff should have separate change rooms, which should not be shared with visitor Gown-up/ Gown-down rooms.

Patient Areas

Patient rooms must be situated and designed so that healthcare providers have direct visualization, with a variety of monitoring at all times. This approach permits the monitoring of patient status under both routine and emergency circumstances. The ideal design would allow a direct line of vision between the central Staff Station and the head of the patient.

Where the geometry and the size of the unit does not permit direct observation from the central staff station, then de-centralised reporting stations should be provided between the rooms with direct view of the head of the patient through glass panels. Such reporting stations should be accessed from the corridor rather than inside the room.

To achieve the above observation requirements glazed sliding doors can be fitted to the room wall against the corridor. The sliding doors should open to provide the minimum clearance for bed transfer. The sliding doors should operate without a floor track. The glazing of the sliding doors should be full height so that a child on the floor can also be seen. The glass in the sliding doors should be safety glass and have certain markings or frosting to prevent people, including children at a low level, from running into the glass.

Each such reporting station should have space for two staff positions and two computer screens.

For maximum clarity, the use of camera for patient monitoring as an alternative to direct observation is not acceptable.

All patient rooms including PCSU, PICU and NICU should have individual attached Ensuite bathrooms, whether the patient is capable of using the bathroom or not. Ensuites cannot be shared between two rooms.

Other patient areas directly connected to PCSU, being PICU and NICU should be zonally separated so that the specialised staff can be allocated accordingly.

The PCSU requires a children's play area. This area is not intended for the visitors, but the recovering patients. It requires good observation either from a Staff Station or by the parents of the children from a seating area within the playroom. An indoor playroom within PCSU is preferred.

Renal Dialysis Facilities

Dialysis machines, including provision for reverse osmosis water and drainage, should be provided to patient bedrooms according to the Unit's Operational Policy. As a minimum, dialysis facilities should be provided in each Isolation Rooms/s, plus one per pod outside the isolation room. The remaining rooms, as a minimum should have water outlet provided RO water may be provided via portable dialysis units. **Refer to Part E – Engineering Services for details.**

Environmental Considerations

Acoustics

The PCSU should be designed to minimize the ambient noise level within the unit and transmission of sound between patient areas, staff areas and public areas.

Signals from staff call systems, alarms from monitoring equipment, and telephones add to the sensory overload in critical care units. Without reducing their importance or sense of urgency, such signals should be modulated to a level that will alert staff members yet be rendered less intrusive.

For these reasons, floor coverings that absorb sound should be used while keeping infection control, maintenance, and equipment movement needs under consideration. Walls should be constructed of material with high sound absorption capabilities. Ceiling soffits and baffles help reduce echoed sounds. Doorways should be offset, rather than being placed in symmetrically opposed positions, to reduce sound transmission. Counters, partitions, and glass doors are also effective in reducing noise levels.

Acoustic treatment will be required to the following:

- Patient bedrooms
- Interview and meeting rooms
- Treatment rooms
- Staff rooms/ Changing rooms
- Toilets and showers
- Play room

Natural Light/ Lighting

Natural light and views from the Unit are highly desirable for the staff and patients. As a minimum 50% of the patient rooms should have direct access to external windows. The balance of patient rooms may have access to borrowed natural light via a glazed corridor or the light filtering through other rooms with a glazed front.

Natural light and views to the staff and support rooms is desirable but not mandatory.

High quality task lighting is essential to ensure complex medical and pharmacological tasks can be safely achieved.

Colour corrected lighting is essential to ensure patient assessment can be conducted effectively.

Privacy

The design of PCSU needs to consider the contradictory requirement for staff visibility of patients while maintaining patient privacy. Unit design and location of staff stations will offer varying degrees of visibility and privacy.

Each bedroom shall be provided with bed screens to ensure privacy of patients undergoing treatment in the room. Screens can be provided directly behind the glazed front to the corridor. Refer to the Standard Components for examples.

Confidentiality for patients during consultation or treatment is a highly important consideration to be addressed.

External gardens, courtyards or atrium facing bedrooms should be designed in such a way as to prevent others from looking into bedrooms.

At all times it should be assumed that children are entitled to as much privacy as adults.

Interior Décor

Interior décor includes furnishings, style, colour, textures and ambience, influenced by perception and culture. This can help prevent an institutional atmosphere. However, cleaning, infection control, fire safety, patient care and the patient's perceptions of a professional environment should always be considered.

Some colours, particularly the bold primaries and green should be avoided in areas where clinical observation occurs such as bedrooms, treatment areas and corridor. Such colours may prevent the accurate assessment of skin tones e.g. yellow/ jaundice, blue/ cyanosis, red/ flushing.

The PCSU will treat paediatric patients of different age groups. Designers are cautioned against designing interiors which are obviously aimed at very small children, with excessive use of cartoon characters. Playful but neutral design concepts are preferred.

Space Standards and Components

Bed Spacing/ Clearances

Bed dimensions become a critical consideration in ascertaining final rooms sizes. The dimensions noted in these Guidelines are minimum and do not prohibit the use of larger beds where required.

Depending on the operational policy, these spaces should accommodate comfortable furniture for one or two members/carers without interfering with staff member access to patients.

PCSU patient rooms are all single occupancy and similar in design to adult CCU rooms. These can also be identical to adult ICU rooms.

In PCSU bedrooms a minimum of 1200 mm clearance around both sides and the foot of the bed is required. At the head of the bed, a minimum of 300 mm clearance should be allowed between the bed and any fixed obstruction or wall. Where possible the bed should float in the centre of the room rather than pushed against a side wall. This is to allow the staff to move around the bed and get access to the head of the patient without any interference from obstructions.

Accessibility

The Bedroom and Ensuite should comply with accessibility requirements in accordance with these Guidelines. Accessible bedrooms and ensuites should enable normal activity for wheelchair dependent patients, as opposed to patients who are in a wheelchair as a result of their hospitalisation.

Doors

Door openings to bedrooms shall have a minimum of 1400 mm clear opening to allow for easy movement of beds and equipment.

Size of the Unit

Nothing in these Guidelines dictates the number of beds in a PCSU. The number of beds shall be determined by the facility's service plan. The recommended maximum number of beds per unit (or pod) is 12 beds (± 2). If more than 14 beds are required, the design should consider additional units (or pods). Each Unit (or pod) is defined by the requirement to have one set of the supporting rooms such as the Staff Station, Utility Rooms and Medication Room. However, according to these guidelines a number of facilities can be shared between the units (or pods) such as staff amenities, meeting rooms, administration areas and visitor areas.

Safety and Security

The PCSU shall provide a safe and secure environment for babies, toddlers, paediatric patients, staff and visitors, while remaining a non-threatening and supportive atmosphere conducive to recovery.

The facility, furniture, fittings and equipment must be designed and constructed in such a way that children and all other users of the facility are not exposed to avoid any possible risks of injury.

Fittings, surfaces, and furniture should have rounded edges and no small/ removable elements. All cupboards should be provided with locks.

In a PCSU the provision of security wrist bands with RFID monitoring at doorways including fire doors is required.

Security issues are important, to prevent children wandering and to provide protection from intruders and unauthorised personnel.

The arrangements of spaces and zones shall offer a high standard of security through the grouping of like functions, control over access and egress from the Unit and the provision of optimum observation for staff. The level of observation and visibility has security implications. The Unit may include child proof security barriers to prevent access to other areas by the children.

Refer also to Part C – Access, Mobility, OH&S in these Guidelines.

Drug Storage

Drugs prescribed at the hospital should not be stored in the patient bedroom. Each patient's medication shall have a dedicated Medication Room with restricted staff access. Optionally, this room could either be a Clean Utility room. The use of a Medication Management System is encouraged but is not mandatory.

In both scenarios, the room must contain:

- Benches and shelving
- Medications may be manually stored and managed, or alternatively automated Medication Management systems may be utilised
- Lockable cupboards for the manual storage of restricted substances or provision of an automated Medication Management Systems
- Controlled, semi-controlled or narcotic drugs must be kept in a secure cabinet within the Medication Room with alarm. The room requires controlled staff only access and may include CCTV surveillance
- A refrigerator is required to store restricted substances and must be lockable or housed within a lockable storage area
- The Medication Room must have space for parking a medication trolley

Note: Storage for dangerous and controlled drugs must be in accordance with the relevant legislation and not stored in a patient bedroom.

Finishes

Finishes including building fabric, floor, wall and ceiling finishes, should be aesthetic, relaxing and non-institutional 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 marrying and shearing by wheeled

equipment

In areas where clinical observation is critical, such as bedrooms and treatment areas, lighting and colours shall be chosen that do not alter the observer's perception of skin colour.

Walls shall be painted with lead free paint.

Wall protection shall be provided where bed or trolley movement occurs such as corridors, patient's bedrooms, equipment and linen storage and treatment areas.

Equipment

Bedside monitoring equipment should be located to permit easy access and viewing, and should not interfere with the visualization 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. This goal can be achieved either by a central monitoring station, or by bedside monitors that permit the observation of more than one patient simultaneously. Neither of these methods are intended to replace direct bedside observation.

Weight-bearing surfaces that support the monitoring equipment should be sturdy enough to withstand high levels of strain over time. Therefore, space and electrical facilities should be designed accordingly.

Fixture and Fittings

Bed Screens

In both single and multiple-bed rooms, visual privacy (bed screens) from casual observation by other patients and visitors shall be provided for each patient. The design for privacy shall not restrict patient access to the entrance, toilet or shower. The same should also be considered in single rooms. Bed screens must be cleaned and washed regularly. Select fabric that is waterproof, fireproof and with antimicrobial properties. Disposable bed screens are another option if it aligns with the Infection Control Policy of the facility. In isolation rooms or patient rooms used for quarantine, disposable bed screens could be a more appropriate option than regular bed screens.

Curtains/ Blinds

Each room shall have partial blackout facilities (blinds or lined curtains) to allow children to rest during the daytime. Similar to bed screens, window curtains shall be fireproof, waterproof and be cleaned often.

Compliance with the Department of Health Authority for the required level of fire resistance should be ensured.

If blinds are to be used instead of curtains, the following will apply:

- Blinds must not have dangling cords that children may entangle
- Vertical or roller blinds are better alternatives than horizontal blinds as horizontal blinds have more surfaces for collecting dust
- Horizontal blinds can be fitted within a double-glazed window assembly with a knob control on the one side (commonly the bedroom side) or with a dual control (both sides) depending on the location of the window. This option is preferrable in rooms used for isolation.

Window Treatments

Window treatments should be durable and easy to clean. Consideration may be given to use of double glazing with integral blinds, tinted glass, reflective glass, exterior overhangs or louvers to control the level of lighting.

Clocks

An analogue clock/s with a second sweep hand shall be provided and conveniently located for easy reference from all bed positions and the Staff Station.

Building Services Requirements

Mechanical Services

The unit shall have appropriate air conditioning that allows control of temperature, humidity and air change. 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 Communication Technology

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

- Electronic Health Records (EHR) which may form part of the Health Information System (HIS)
- Hand-held tablets and other smart devices
- Picture Archiving Communications Systems (PACS)
- Paging and personal telephones replacing some aspects of call systems/ DECT
- Data entry including scripts and investigation requests
- Bar coding for supplies and X-rays/ Records
- Data and communication outlets, servers and communication room requirements
- Wireless network requirements
- Videoconferencing requirements
- Communications rooms and server requirements
- Closed Circuit Television (CCTV) may be required to ensure staff can oversee entry and egress points

Staff Call

Patient and Emergency Call facilities shall be provided in all patient areas (e.g. Consult Room/s, Holding/ Recovery bays, Change Cubicles and Toilets) in order for patients and staff to request for urgent assistance.

The individual call buttons should be registered and shall alert to an annunciator system. Annunciator panels should be located in strategic points visible from Staff Stations and audible in Staff Rooms, Meeting Rooms, and should be of the “non-scrolling” type, allowing all calls to be displayed at the same time.

Patient Entertainment Systems

Patients may be provided with entertainment/ communications systems according to the Operational Policy of the facility including:

- Television
- Telephone
- Internet (Wi-Fi) access

Pneumatic Tube Systems

The PCSU may include a pneumatic tube station, as determined by the facility 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.

Requirements include:

- The bay should not impede access within staff station areas;
- Racks should be provided for pneumatic tube canisters;
- Wall protection should be installed to prevent wall damage from canisters.

Hydraulics

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

Refer to Part E - Engineering Services for details.

Heating Ventilation and Air-conditioning (HVAC)

The air temperature in areas should be capable of being maintained along with relative humidity. A local thermostat in the patient room should be provided from which room temperature can be adjusted by the occupant.

All HVAC units and systems are to comply with services identified in Standard Components and Part E – Engineering Services in these Guidelines.

Medical Gases

Medical gas is intended for administration to a patient in anaesthesia, therapy, diagnosis or resuscitation.

Medical gases shall be installed, readily available and dedicated for each patient and they must not be shared between two patients even in a shared inpatient room.

Oxygen, medical air and suction must be provided to all beds. Medical gases will be provided for each bed according to the quantities noted in the Standard Components - Room Data Sheets.

Infection Control

Infectious and immune-suppressed patients may be sharing the same treatment space at the different times of the same day. The design of all aspects for the Unit should take into consideration the need to ensure a high level of infection control in all aspects of clinical and non-clinical practice.

Hand Basins

Handwashing facilities shall be provided in the corridor and will be required in all patient bedrooms and other rooms as specified in the Standard Components.

Handwashing facilities shall not impact on minimum corridor widths.

At least one handwashing bay is to be conveniently accessible to the Staff Station.

Hand basins are to comply with Standard Components – “Bay – Hand-washing” and Part D – Infection Control.

Hand basins in patient bedrooms should be used solely for infection control purposes and utilised only by staff. Patients should use hand basins provided in bathrooms for personal use purposes. Staff may not use the patient ensuite hand wash basins.

Antiseptic Hand Sanitisers

Antiseptic hand rubs should be located so they are readily available for use at points of care, at the end of patient beds and in high traffic areas.

The placement of antiseptic hand rubs should be consistent and reliable throughout facilities. Antiseptic based hand rubs are to comply with **Part D – Infection Control**, in these guidelines.

Antiseptic Hand Rubs, although very useful and welcome, cannot fully replace Hand Wash Bays.

Isolation Rooms

Negative pressure isolation rooms (Class N) with anteroom should be provided at a ratio of 1 per 8 beds or part thereof.

However, the provision of Positive Pressure isolation rooms (Class P) is optional and will depend on the clinical assessment and the facility service plan.

Any isolation room may also be used for patients who do not require isolation. However, the Class N and Class P isolation rooms may not be interchangeable or switchable.

Any room, regardless of the pressure in the room will not be regarded as an isolation room unless it has an ante-room.

Refer to Part D – Infection Control in these Guidelines.

5. Components of the Unit

Standard Components

Standard Components are typical rooms within a health facility, each represented by a Room Data Sheet (RDS) and a 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 and 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 Area, Occupancy, Room Description and relationships, and special room requirements)
- Building Fabric and Finishes; identifies the fabric and finish required for the room 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
2	Provided by the Client and installed by the builder
3	Provided and installed by the Client

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

The Room Layout Sheets (RLS's) are indicative plan layouts and elevations illustrating an example of 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 that 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.

Non-Standard Components

Non-standard rooms are identified in the schedules of accommodation as NS and are identified below.

Activities/ Play Room

The Activities/ Play room will provide an indoor room for potentially noisy activities including watching TV, play, listen to music or accessing computer activities. The room should be suitable for a range of ages including adolescents. Requirements include:

- TV

- Computer or computer tablets
- Lounge chairs, soft seating for parents
- Cushioned flooring suitable for children to sit on the floor
- Large, safe toys
- Enclosure for toddlers
- Wi-Fi access

Multi-purpose Room

This room may be used for a variety of quiet activities including schooling, and meetings with staff or families. Requirements include:

- Desk and chair
- Meeting and activities table
- Comfortable seating to suit the room purpose
- Wi-Fi access

6. Schedule of Equipment

The Schedule of Equipment (SOE) below lists the major equipment required for the key rooms in this FPU.

PCSU and PICU

Room/ Space		
Bay - Resuscitation Trolley, Room Code (bres-i)		
Defibrillator: with monitor	Trolley: resuscitation	Pump: suction/ aspirator, portable
Bed Room - CCU , Room Code (pbce-25-i-ccu)		
IV pole: mobile	Air flowmeter	
Light: procedure, single, ceiling mounted	Bed: ICU, electric	Patient lift: overhead track, w sling
Linen carrier: dirty, single	Infusion pump: enteral feeding	Sequential compression device
Monitor: physiologic, critical care	Infusion pump: single channel	Sharps disposal: wall mounted, 7L
Oxygen flowmeter	Infusion pump: syringe	Suction adapter
Waste bin: clinical, 120 litres	Table: overbed	Trolley: multi-purpose
Medication Room , Room Code (medr-10-i)		
Cabinet: storage, medication, narcotics	Medication dispensing trolley: automated	Trolley: medication
Medication dispensing system: automated, main unit	Refrigerator: drugs, under-bench, 150L	Sharps disposal: wall mounted, 7L
Medication dispensing system: automated, refrigerator lock module		
Gymnasium, 45m2, Room Code (gyah-45-i)		
Defibrillator: with monitor	Pulley weights: wall mounted	Parallel bars: floor mounted
Exercise bicycle	Table: examination/ treatment, rehabilitation, electric	Waste bin: General, 20 Litres
Exercise mat	Table: mat, 1200mm	Trolley: resuscitation
Exercise stairs: static	Treadmill: exercise, automatic	

Neonatal Intensive Care Unit (NICU)

Room/ Space		
Neonatal Bay - Intensive Care, Room Code (nbicu-e-i)		
Air flowmeter	Infusion pump: syringe	Oxygen flowmeter: low flow
Incubator: infant	Lamp: phototherapy, neonatal	Services pendant: ceiling
Infusion pump: enteral feeding	Linen carrier: dirty, single	Suction adapter: low flow
Infusion pump: single channel	Monitor: physiologic, critical care, neonatal	Ventilator: neonatal/ paediatric
Bay - Resuscitation Trolley, Room Code (bres-i)		
Defibrillator: with monitor	Trolley: resuscitation	Pump: suction/ aspirator, portable
Medication Room , Room Code (medr-10-i)		
Cabinet: storage, medication, narcotics	Medication dispensing trolley: automated	Trolley: medication
Medication dispensing system: automated, main unit	Refrigerator: drugs, under-bench, 150L	Sharps disposal: wall mounted, 7L
Medication dispensing system: automated, refrigerator lock module		

7. Schedule of Accommodation

The Schedule of Accommodation (SOA) provided in this FPU 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 comprises of the sub-total areas of these rooms plus an additional percentage of the sub-total applied as the circulation (corridors within the Unit). Circulation is represented as a percentage is the minimum recommended target area. Any external areas and optional rooms/ spaces are not included in the total areas in the SOA.

Within the SOA, room sizes indicated for typical units and are organized into functional zones. Not all rooms identified are mandatory, therefore, some rooms are found as optional in the corresponding Remarks. These Guidelines do not dictate the size of the facilities and the SOA provided represents a limited sample based on assumed unit sizes. The actual size of the facilities is determined by the 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 knowns as Role Delineation Level (RDL) and numbered from 1 to 6. Applicable RDL's are noted in each SOA provided in this FPU and not necessarily all six RDL's are applicable. Refer to Part A for a full description of the RDL's.

The following should be considered in conjunction with the SOA/s provided in this FPU:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in this FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation and/ or capacity required for the clinical service.
- Exact requirements for room quantities and sizes reflect Key Planning Units (KPU) identified in the Service Plan and the Operational Policies of the Unit
- All areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines. Refer to Part B Preliminaries
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit.
- Staff and support rooms may be shared between Functional Planning Units dependent on location and accessibility to each unit and may provide scope to reduce duplication of facilities.
- Offices to be provided according to the number of approved full-time positions within the Unit.

Paediatric Cardiac Surgery Unit (PCSU)

ROOM/ SPACE	Standard Component				RDL 4			RDL 5/6			Remarks
Shared Areas											
Reception/ Clerical	recl-10-i recl-12-i				1	x	12	1	x	12	Shared by all units
Waiting	wait-20-i wait-30-i similar				1	x	40	1	x	60	Shared by all units; 1.2 m^2 per person; 1.5 m^2 per wheelchair; If required by local authorities, male/ female separation to be provided
Meeting Room	meet-12-i meet-l-15-i				1	x	15	1	x	15	Shared by all units, Interviews with relatives
Lounge – Relative	lnpt-20-i similar				1	x	20	1	x	25	Shared by all units; Relative communal space, modify size to suit service
Toilet - Public	wcpu-3-i				2	x	3	2	x	3	Shared by all units
Toilet – accessible	wcac-6-i				2	x	6	2	x	6	
Gowning Up	gwup-i				1	x	12	1	x	12	Dedicated to PCSU
Gowning Down	gwdn-i				1	x	12	1	x	12	Dedicated to PCSU
Patient Areas					**8 Rooms**			**12 Rooms**			
1 Bedroom - PCSU	1 br-ccu-25-i				7	x	25	11	x	25	Provide ceiling mounted lifter in designated bariatric room(s)
1 Bedroom - PCSU (Negative Pressure)	1 br-ccu-25-i similar				1	x	25	2	x	25	Optional dependent on Service Demand
Anteroom	anrm-i				1	x	6	2	x	6	To negative pressure isolation room if provided
Ensuite - Standard	ens-st-i				8	x	5	13	x	5	6 m^2 for designated bariatric ensuite(s)
Activities/ Recreation Room	NS				1	x	15	1	x	15	Noisy activities; Size to suit service
Multi-purpose Room	NS				1	x	15	1	x	15	Quiet activities; Size to suit service
Lounge - Adolescent	lnad-10-i				1	x	10	1	x	10	Optional
Play room - Internal	plap-10-i similar				1	x	15	1	x	15	May be used for play therapy
Procedure Room	proc-20-i				1	x	20	1	x	20	Optional; provide according to service demand
Sub Total							**450**			**631**	
Circulation %							**40**			**40**	
Area Total							**630**			**946.5**	
Support Areas											
Bay - Beverage, Enclosed	bbev-enc-i				1	x	5	1	x	5	
Bay - Meal Trolley	bmt-4-i				1	x	4	1	x	4	Optional; depends on catering/ operational policies
Bay - Handwashing, Type A	bhws-a-i				2	x	1	3	x	1	In addition to basins in patient rooms; 1 at entry, 1 near staff station; Refer to Part D
Bay - Linen	blin-i				1	x	2	1	x	2	Quantity and location to suit each facility

ROOM/ SPACE	Standard Component				RDL 4			RDL 5/6			Remarks
Bay - Mobile Equipment	bmeq-4-i				1	x	4	2	x	4	Quantity, size dependent on equipment to be stored; can be open or enclosed
Bay - Pneumatic Tube					1	x	1	1	x	1	Optional, locate at Staff Station or under staff supervision
Bay - Resuscitation Trolley	bres-i				1	x	2	1	x	2	
Clean Utility	clur-12-i				1	x	12	1	x	12	May be Interconnected with Medication Room
Medication Room	medr-10-i				1	x	10	1	x	10	May be Interconnected with Clean Utility
Clean Utility/ Medication Room	clum-14-i				1	x	*	1	x	*	*Optional, if preference is to combine Clean Utility and Medication Room into a single Room, Minimum 14m2
Cleaner's Room	clrm-6-i				1	x	6	1	x	6	May be shared with an adjacent unit in smaller CCUs
Communications Room	comm-i				1	x	35	1	x	35	
Dirty Utility	dtur-10-i				1	x	10	1	x	10	May be co-located with Disposal Room
Disposal Room	disp-8-i disp-10-i				1	x	10	1	x	10	
Formula Room					1	x	10	1	x	10	
Gymnasium/ Rehabilitation Exercise	gyah-p-i				1	x	30	1	x	30	
Observation Bay	Off-wi-1-i similar				4	x	2	6	x	2	Exact quantity shall be based on planning geometry. Only required if direct observation from staff station is not possible
Office - Clinical/ Handover	off-cln-i				1	x	15	1	x	15	
Staff Station	sstn-10-i sstn-14-i sstn-20-i				1	x	14	1	x	20	
Store - General	stgn-12-i similar stgn-15-i similar				1	x	12	1	x	15	Size as per service demand and operational policies
Store - Equipment	steq-15-i or steq-20-i				1	x	15	1	x	20	Size dependent on equipment to be stored
Sub Total							**207**			**230**	
Circulation %							**40**			**40**	
Area Total							**289.8**			**322**	
Staff Areas											
Meeting Room	meet-12-i meet-l-15-i				1	x	15	1	x	15	For Meetings, Tutorials
Office - Single Person, 9 m^2	off-s12-i				1	x	12	1	x	12	Unit Manager
Office - Single Person, 12 m^2	off-s12-i				1	x	12	1	x	12	Optional for Cardiologist
Office - 2 Person Shared	off-2p-i				2	x	12	3	x	12	Optional
Property Bay - Staff	prop-2-i prop-3-i				1	x	3	1	x	5	Number of lockers depends on staff complement per shift , may be shared with an adjacent unit in smaller PCSUs

ROOM/ SPACE	Standard Component				RDL 4			RDL 5/6			Remarks
Staff Room	srm-15-i				1	x	15	1	x	20	May be shared with an adjacent unit in smaller PCSUs
Toilet - Staff	wcst-i				2	x	3	2	x	3	Separate Male and Female
Staff Change	chst-14-i chst-20-i				2	x	14	2	x	20	Separate Male and Female
Overnight Stay - Bedroom	ovbr-10-i				1	x	10	2	x	10	
Overnight Stay - Ensuite	oves-4-i				1	x	4	2	x	4	
Sub Total							**129**			**174**	
Circulation %							**35**			**35**	
Area Total							**174.2**			**235**	
Grand Total							**464**			**557**	

Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation.
- Exact requirements for room quantities and sizes will reflect Key Planning Units identified in the service plan and the policies of the Unit.
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit.
- Office areas are to be provided according to the Unit role delineation and number of endorsed full-time positions in the unit.
- Staff and support rooms may be shared between Functional Planning Units dependant on locations and accessibility to each unit and may provide scope to reduce duplication of facilities.

8. References and Further Reading

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

- International Health Facility Guideline (iHFG) www.healthdesign.com.au/ihfg
- Department of Health (UK), Health Building Note 23 Hospital accommodation for children and young people, 2004, refer to website www.estatesknowledge.dh.gov.uk
- Guidelines for Design and Construction of Health Care Facilities; The Facility Guidelines Institute, 2014 Edition; refer to website www.fgiguidelines.org
- Nurse/ Midwife: Patient Ratios, ANMF, Australian Nursing and Midwifery Federation, 2016; refer to website http://www.anmfvic.asn.au/~/media/f06f12244fbb4522af619e1d5304d71d.ashx
- The Cardiac Surgery Information Guide is supported by The Royal Children's Hospital Foundation http://www.rch.org.au/cardiac_surg/Parent_Info/
- NSW Paediatric Cardiac Services Model of Care Sydney Children's Hospitals Network https: //www.schn.health.nsw.gov.au