

Part B – Health Facility Briefing & Design

120 Inpatient Unit – Paediatric & Adolescent



*i*HFG

International Health Facility Guidelines
2025

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120 Inpatient Unit – Paediatric & Adolescent

1 Executive Summary

This Functional Planning Unit (FPU) covers the requirements of the Inpatient Unit - Paediatric and Adolescent. These patients can be co-located in the same unit in order to provide suitable care, treatment, therapy and activities for the age ranges accommodated. The Unit also provides facilities and conditions to meet the needs of parents, families and visitors as well as the workplace requirements of staff.

The Paediatric & Adolescent Inpatient Unit will accommodate medical and surgical patients. In larger healthcare facilities, this Unit may include high dependency paediatric patients such as cardiac, neurology/ neurosurgery and orthopaedic patients.

There are several fundamental planning geometries, shown as Functional Relationship Diagrams which indicate the planning principles and preferred relationship between the components. Functional internal and external relationships with supporting departments are outlined, ensuring the efficient delivery of services across the facility.

When considering the design of the unit, accommodation for a parent or guardian to stay with the patient overnight should be included in the size and allocation of rooms. Environmental factors including acoustic insulation, natural light and privacy requirements need to be addressed to ensure a comfortable and safe environment for patients and visitors.

In Paediatric bedrooms consideration needs to be made to allow space for family and visitors, and additional floor area creating opportunities and room for children to play.

This FPU describes the minimum requirements for support spaces of a typical Paediatric & Adolescent Unit at Role Delineation Levels 3 to 6. The Schedules of Accommodation are provided using references to Standard Components (typical room templates).

Refer to the further reading materials at the end of this FPU for supporting documentation.

2 Introduction

The primary function of the Inpatient Unit – Paediatric & Adolescent is to provide appropriate accommodation for the delivery of healthcare services for paediatric and adolescent patients for a defined age group, typically infants from 28 days old to children 17 years of age. However, children between 28 days to 12 years of age should be separated from adolescents 13 to 17 years of age. Separation of patients according to gender is subject to the Operational Model of the Hospital.

Many requirements of this unit are similar to those of the Inpatient Unit - General, with some added facilities which are age-specific such as play, activity and family support areas.

3 Functional and Planning Considerations

Models of Care

Generally, the Paediatric & Adolescent Unit will provide family centred care, with parents playing a key role in the care of the patient.

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

- Patient allocation, which involves a group of patients being allocated to nursing staff who undertake complete care and treatment of this group of patients. This model allows staff to become skilled with varying patient care acuties but requires the assignment of patients suitable to the 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 shift
- Team nursing, where nursing staff are divided into teams and assigned a group of patients to whom they provide all required health care. This model allows for a differing skill mix of staff to work together, creating the opportunity for junior staff to be directly supervised by experienced staff
- Case management, where nursing staff with particular skills 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 master skills specialising in particular clinical areas
- Multi-disciplinary care, where a comprehensive range of generalist services by teams including GPs, nursing staff, allied health professionals and other health care workers collaborate to provide an inclusive, holistic patient care and treatment program
- A combination of the above

The physical environment should permit a range of models of care to be implemented, allowing flexibility for future change.

Levels of Care

The levels of care will range from acute nursing care with a progression to intermediate care and finally self-care with family assistance prior to discharge. High observation care will generally be undertaken in a tertiary hospital being RDL 5 and 6.

Planning Models

Bed Numbers and Complement

The Inpatient Unit – Paediatric & Adolescent, may contain up to 30 patient beds (plus/minus 2), although 26-27 beds are recommended to provide space for play, activity, and family areas. Additionally, this allows for Inpatient tower arrangements to be created which are identical in size and length. For each group of 30 beds (plus/minus 2) or part thereof, one lot of support rooms is to be provided in a similar manner to the Inpatient Unit, General.

The total number of beds may be reduced to incorporate family communal spaces, activity and play areas within the unit for the convenience of patients and families/ support people.

A minimum of 80% of the total bed complement shall be provided as Single Bedrooms in an Inpatient Unit used for overnight stay. Providing a greater proportion of single bed rooms is largely for infection

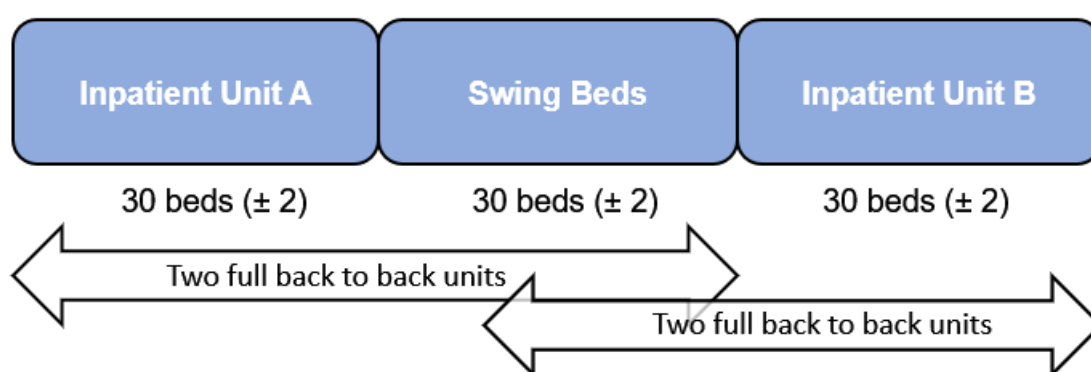
control reasons, however having parents/ guardians stay overnight with a younger patient in the patients' bedroom, is common practice.

Swing Beds

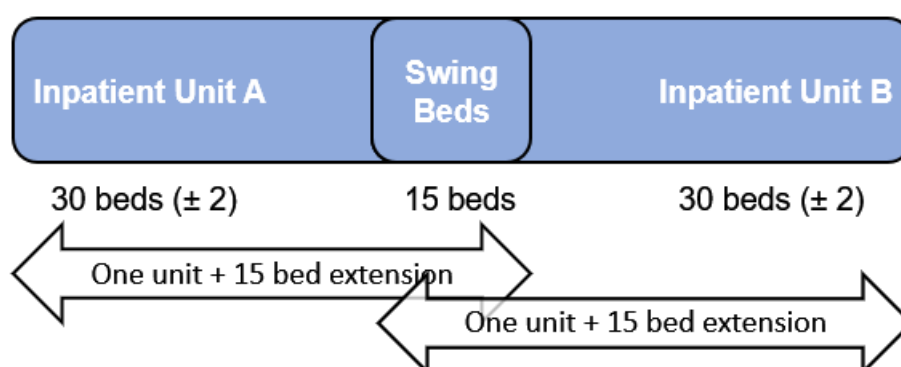
For flexibility and added options for utilisation, it may be desirable to include provisions for swing beds. This can be a single bed or a group of beds that may be quickly converted from one category of use to another. An example might be long-stay beds which may be temporarily used as acute beds at a time of high occupancy. Other examples may include a group of shared beds located between two adjoining Inpatient Units which may experience fluctuating utilisation rates.

At any given time, swing beds are part of an Inpatient Unit in terms of the total number of beds and the supporting components of the units whilst taking advantage of the additional 15 bed extension when required. Three typical permutations of swing beds are shown below:

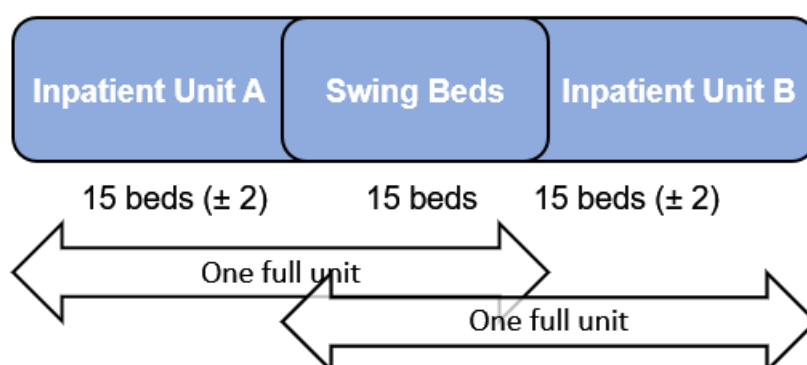
Example 1 – 3 full units back-to-back



Example 2 – Two full units and intermediate 15 bed swing bed unit



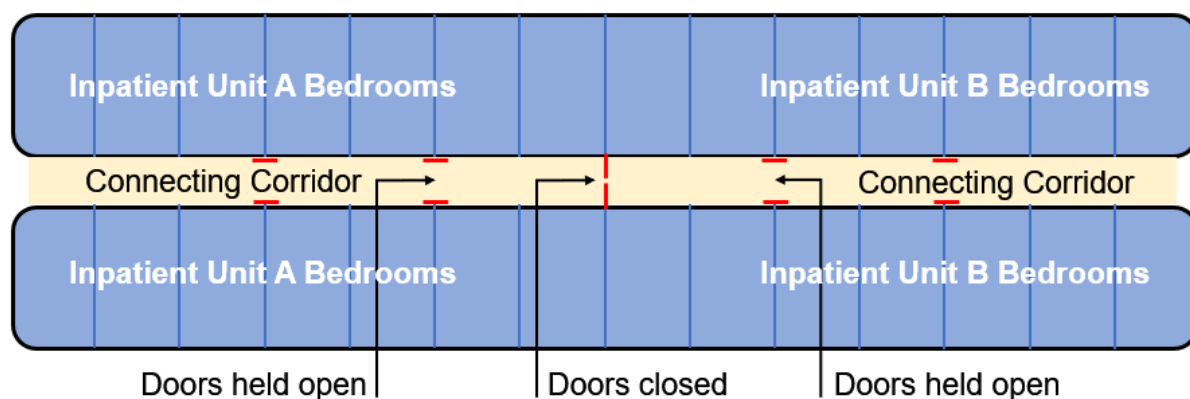
Example 3 – Two half units sharing a swing bed half unit



Facility design for swing beds is often enabled by adding wide doors within the connecting corridor. These doors may be closed or held-open depending on the swing bed numbers required by one side or the other.

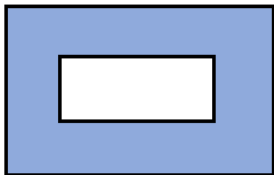
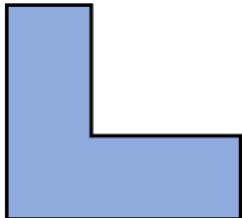
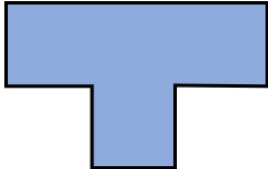
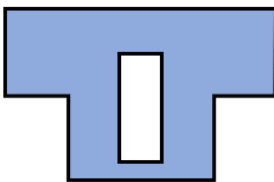
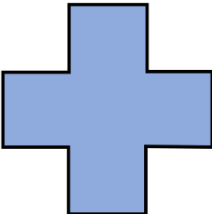
By closing one set of doors whilst opening all other doors, the swing bedrooms may be shifted from one Unit to the adjoining Unit. This technique will also require provision for switching patient/ nurse call operation from the Staff Station in one Unit to the adjoining Unit. Security aspects of this arrangement should also be considered, for example in situations where access control is preferred between the Units.

The diagram below shows the typical configuration of swing beds.



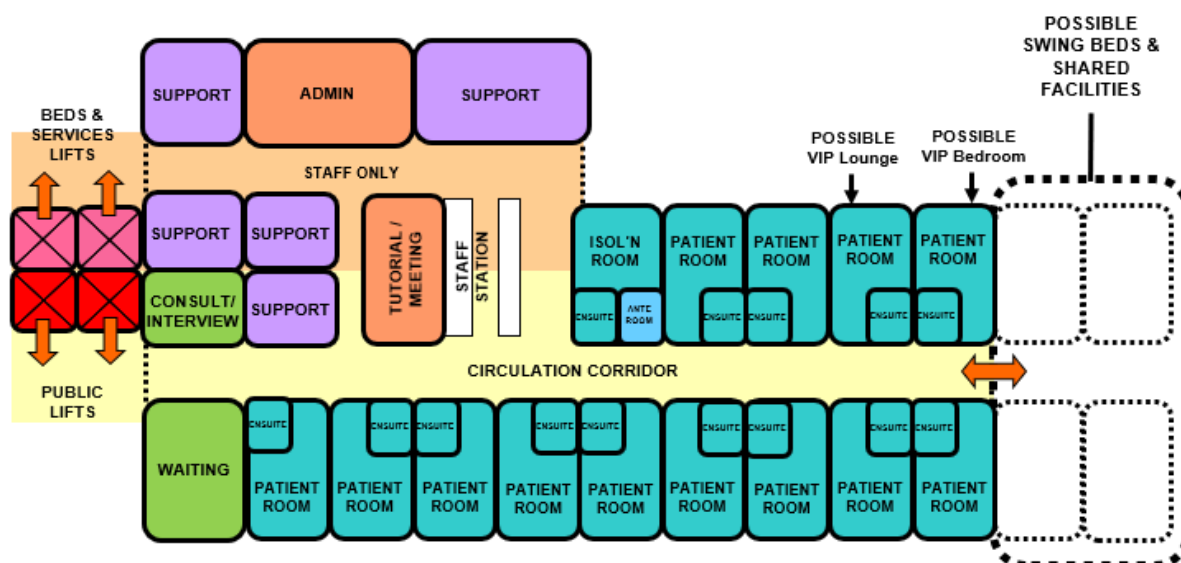
Planning Models

There are several common and acceptable planning models for Inpatient Units. Most plans can be categorised and diagrammatically reduced to one of the following geometric forms which are named for convenience. Each model has its own potential and should be studied thoroughly along with the particular local conditions to achieve the best results. The planning options include the following:

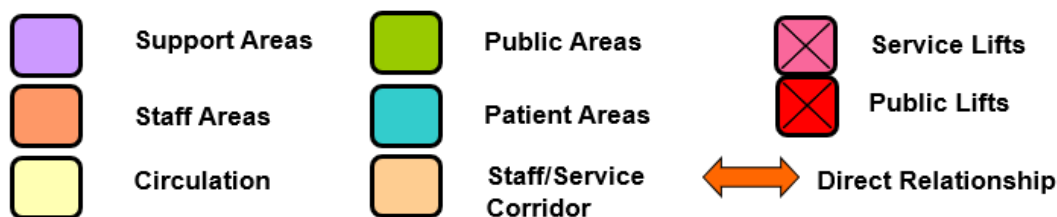
1		Linear	Single corridor configuration. Patient and support rooms are clustered along a single corridor.
2		Racetrack	Double corridor configuration. Patient rooms are located on the external aspects of the unit and support rooms are clustered in the central areas in a racetrack configuration.
3		L shaped	Single corridor configuration. A variation of the linear model where two linear wings are joined at 90 degrees to create the “L” shape.
4		T shaped	Single corridor configuration. A variation of the linear model, where two linear wings intersect to create a “T” shape.
5		Hybrid T	Combination of the Racetrack model and T model. The entrance wing has a racetrack configuration with support services in the centre. This splits into two wings at 90 degrees to form a “T” shape.
6		+ shaped	Single corridor configuration. A variation of the linear model, where two linear wings intersect approximately in the centre to create a “+” (cruciform) shape.

In all models, the security of the unit for adolescent and paediatric patients must be provided. Paediatric Inpatient accommodation should be provided with predominantly single bedrooms with only a small number of possible two bed rooms. Rooms with 3 or more beds should not be used for new Paediatric Units.

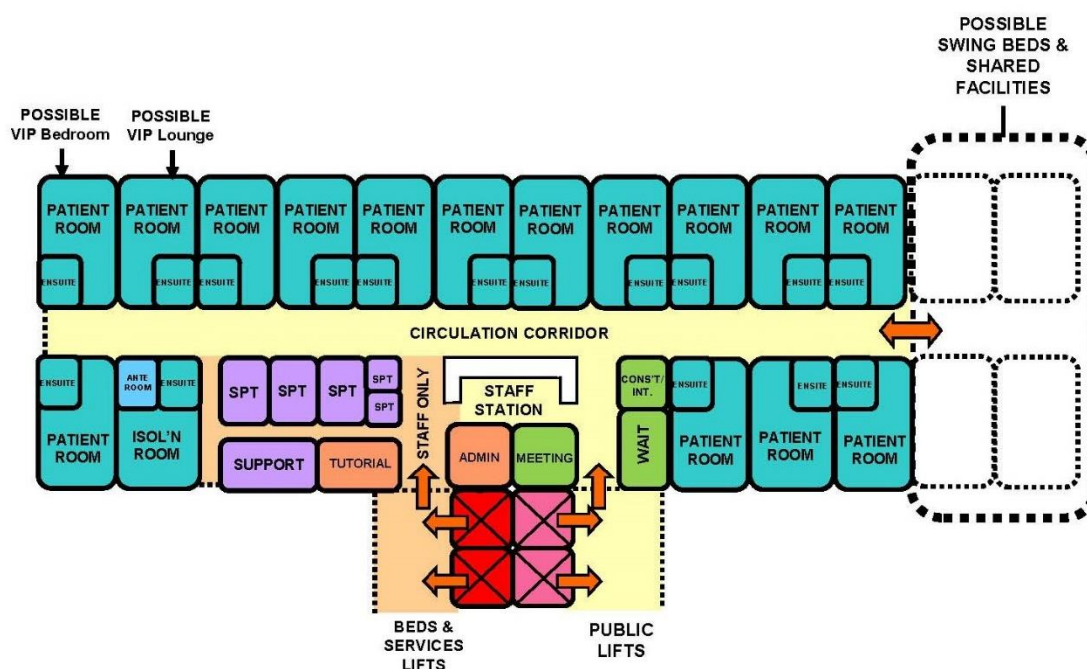
Linear (single corridor) Model 1a



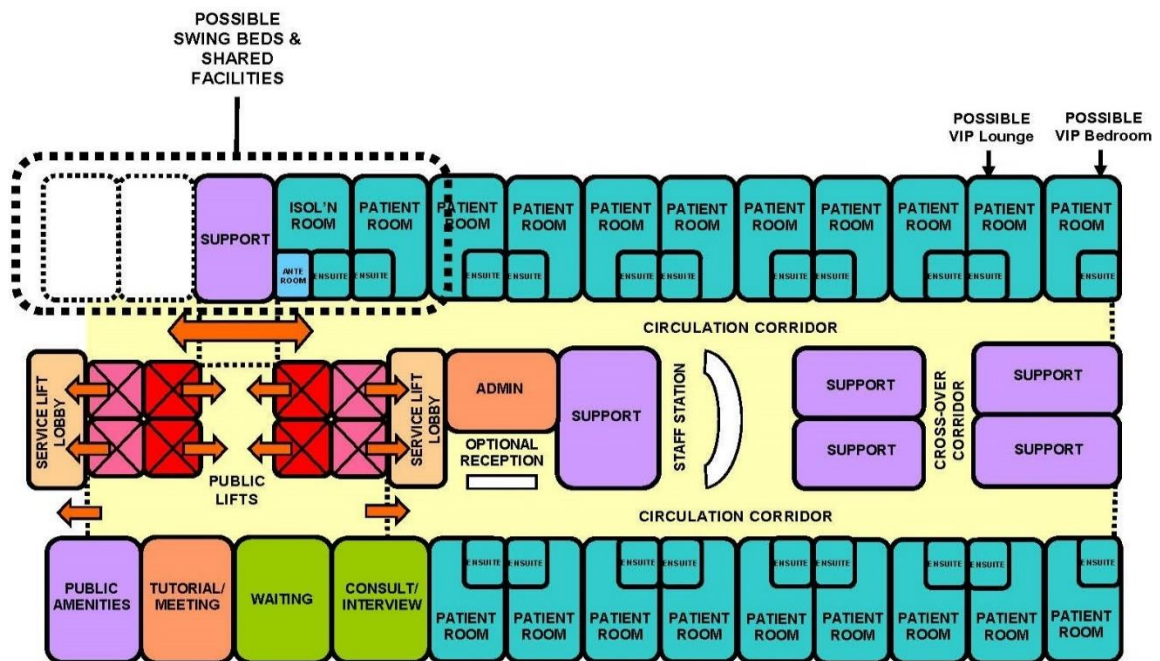
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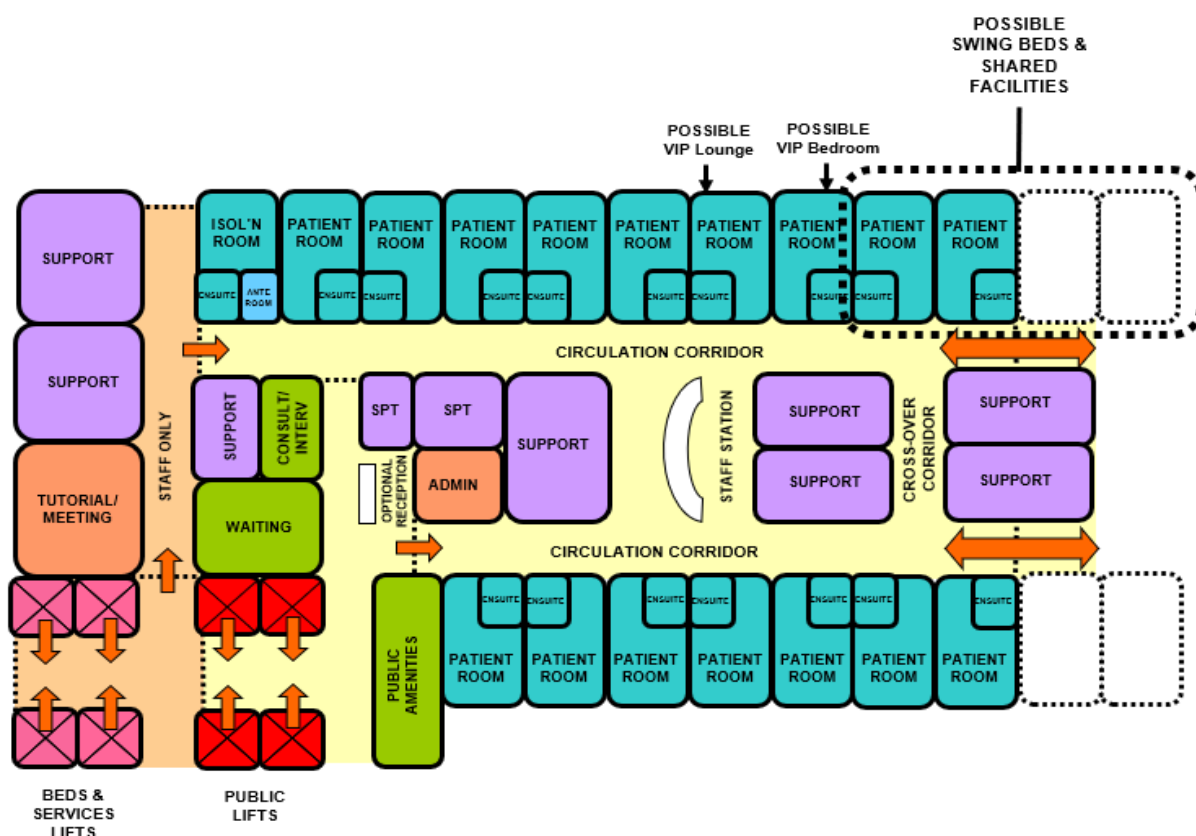
Linear (single corridor) Model 1b



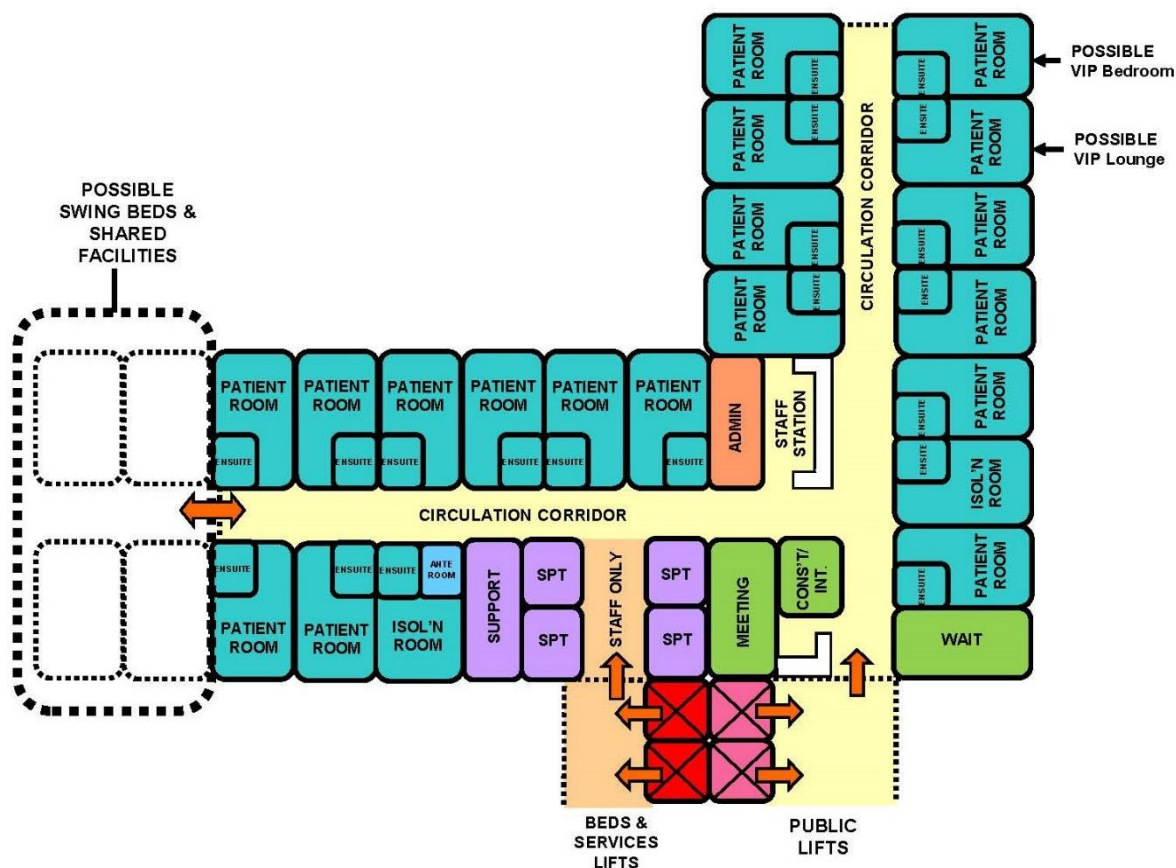
Racetrack (double corridor) Model 2a



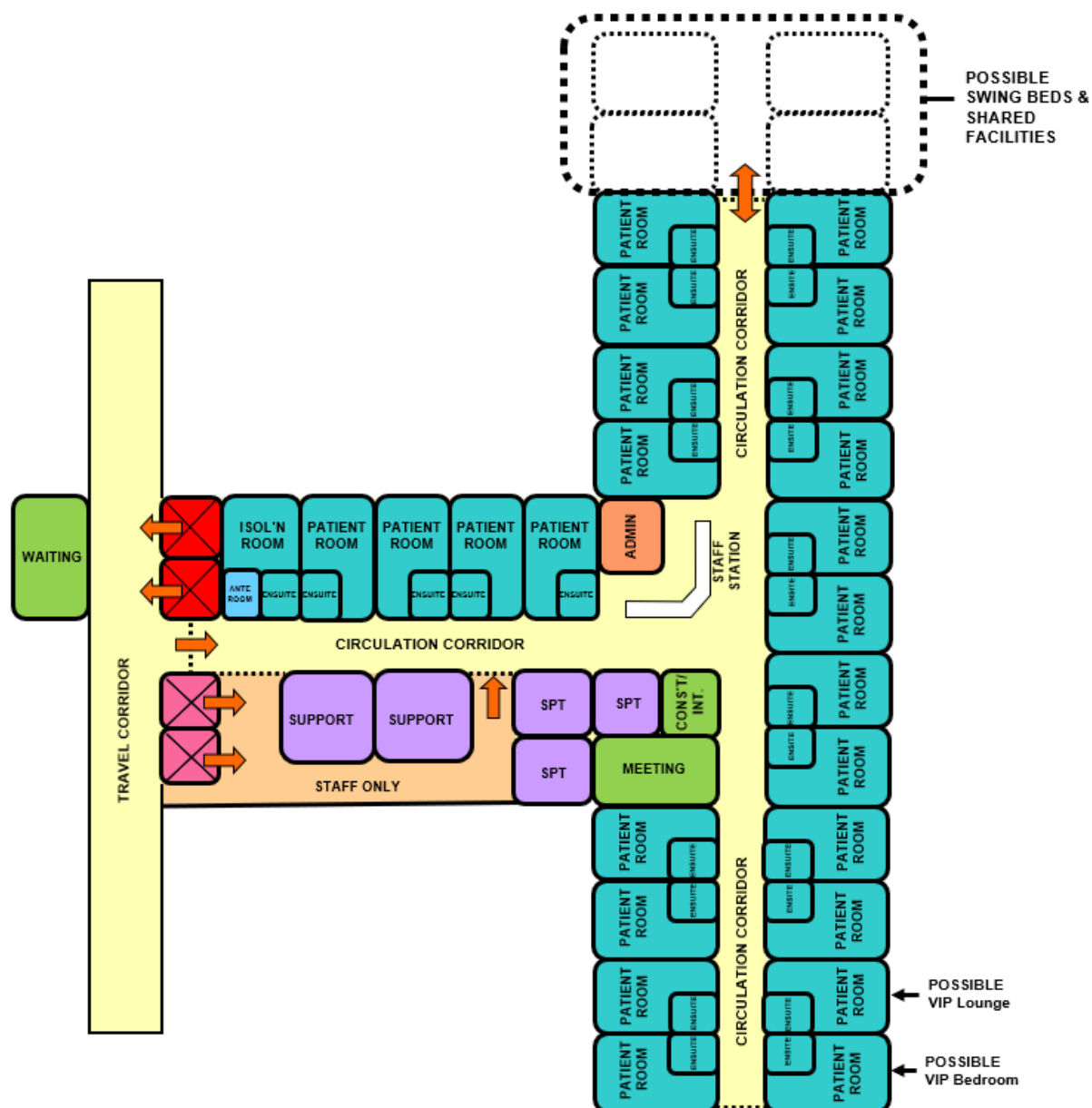
Racetrack (double corridor) Model 2b



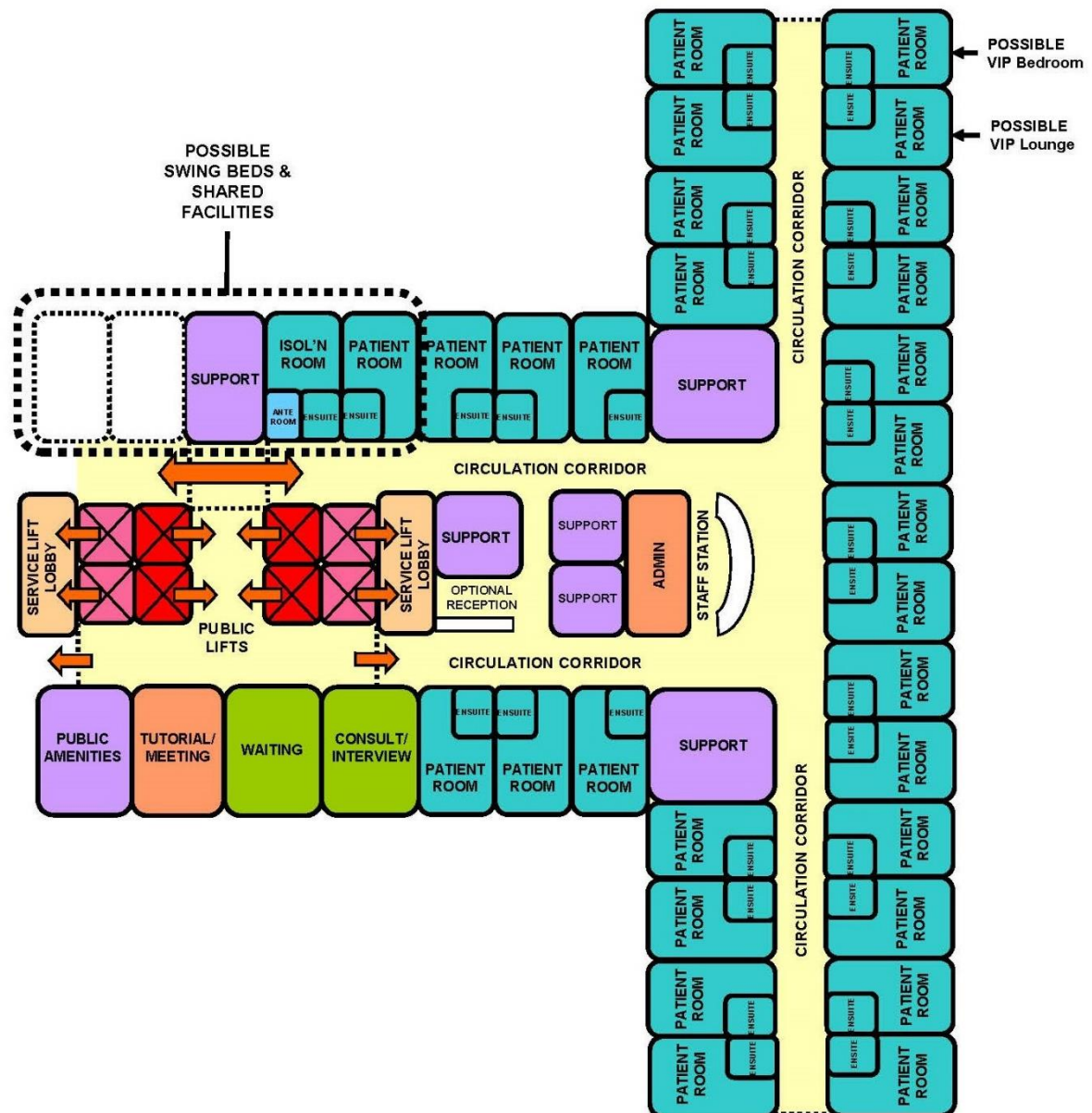
L shaped Corridor Model 3



T shaped Corridor Model 4



Hybrid T shaped Corridor Model 5



Cruciform Corridor Model 6



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Bed Configurations

In the above diagrams, the number and type of patient bedrooms are symbolic.

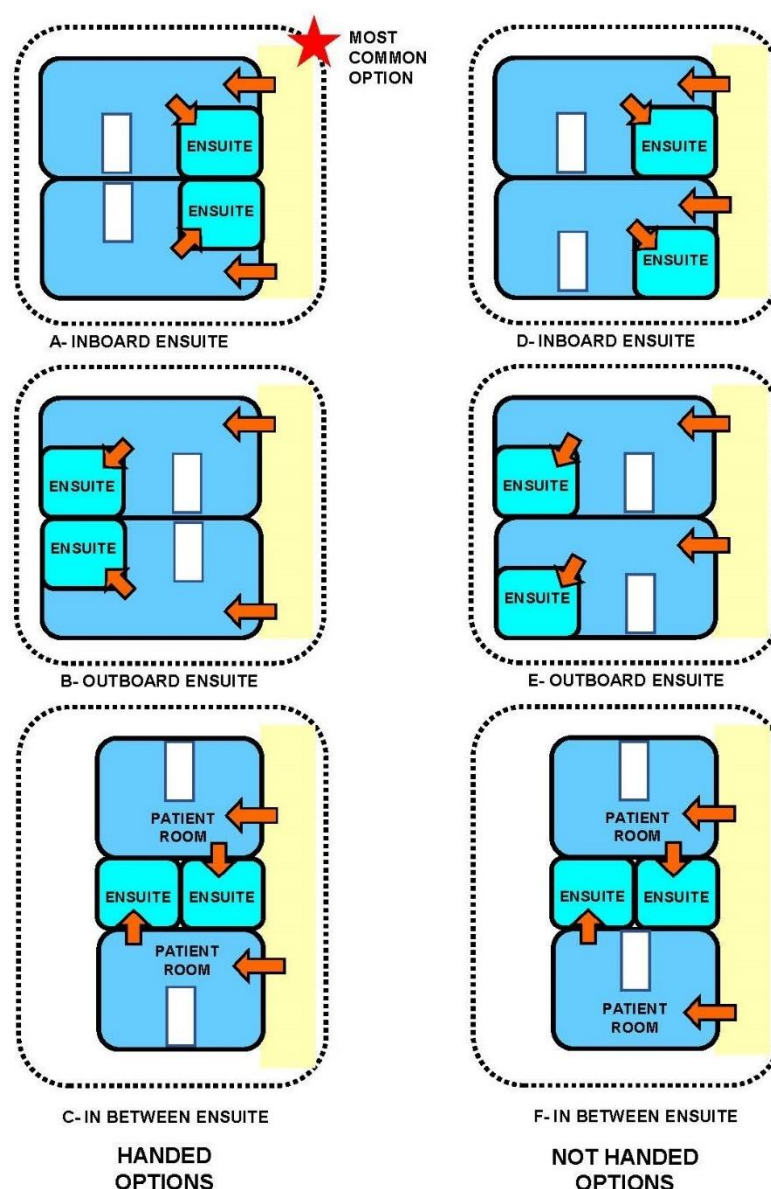
In actual design, the recommended efficient bed number per unit is 26 to 27 beds.

The bedroom types may be:

- Single bedrooms
- 2 bed rooms
- 4 bed rooms

However, it is recommended that only single and 2 bed rooms are designed for all new facility's and refurbishments or extensions of existing facility's.

The Ensuite (means attached) Bathrooms can be according to one of the following permutations:



Back-to-Back rooms may be handed or mirrored.

Mirrored configuration is most common due to the sharing of services risers.

If standardisation of the patient bed heads is preferred by the operators, this can be achieved even as the room itself is mirrored. This however, is not mandatory.

Functional Areas

The Paediatric & Adolescent Inpatient Accommodation Unit will comprise of the following Functional zones:

- Entry/ Reception area (may also be a shared area or provided at the Main Entrance to the Unit) with
 - Reception desk (optional)
 - Visitors' Lounge, can be shared between two Units
 - Interview Room
 - Gowning area for staff and visitors (optional)
- Patient Areas - where patients are accommodated, and for facilities that are specifically intended for patients including:
 - Bedrooms
 - Ensuites
 - Patient lounge
 - Patient laundry for specialist Units
- Activities areas - multi-purpose areas for recreational activities including, indoor and outdoor play areas, television, music, computer activities, schooling or learning activities and a family communal space
- Support Areas - areas used by staff to support the activities of the unit including:
 - Beverage Bay or Pantry
 - Bays for handwashing, linen, meal trolleys, resus trolley, mobile equipment etc.
 - Cleaners' room
 - Clean and Dirty Utility rooms
 - Stores for equipment and general stock
- Staff Areas - areas accessed by staff, including:
 - Staff Station
 - Office for Clinical Handover (if required)
 - Offices for administration
- Shared Areas - public and staff areas that may be shared by two or more Inpatient Units including:
 - Bathroom (Assisted)
 - Visitor Lounge
 - Public Amenities
 - Staff Amenities with Staff Room, Toilets and Locker areas
 - Treatment Room, according to service demand

These Functional zones are briefly explained below.

Entry/ Reception Area

The reception is the receiving hub of the unit and may be used to control the security of the Unit. A Waiting Lounge for visitors may be provided with access to separate male/ female toilet facilities and prayer rooms (when provided). Waiting areas may be shared between 2 or 3 Inpatient Units if they are located adjacent to each other. Optionally, a visitor and staff gowning and Personal Protective Equipment (PPE) area may be located immediately at the entrance for infection control requirements during ward isolation, if required.

Patient Areas

Patient Areas include:

- **Bedrooms** – These may include 1 or 2 bed rooms for a new facility. Existing facilities undergoing minor refurbishment may retain 3 or 4 bed rooms. More than 5 beds per room is not recommended.
 - A one bed room is referred to as a single or private room. Two or more bed rooms are referred to as shared bedrooms. The preference is to have single rooms in a new hospital setting. If this is not economically feasible, then 2 bed rooms may also be considered. In new facilities at least 50% of all beds should be single rooms
 - Paediatric bedrooms will generally include facilities for parents/ guardians to stay with the child overnight. Therefore a single room or a large 2 bed room is desirable. The mix of bedroom types is dependent on the operational policy of the facility. In hospitals where rooms have either a single bed or two beds, a room for 2 beds may be used to accommodate a single bed when the Unit has not reached maximum occupancy. When occupancy increases, an additional bed can be added to all rooms designed for 2 beds to reach maximum occupancy. Managing bed allocation this way combines maximum patient privacy with economy
 - Besides the standard 1 and 2 bed rooms, other types of patient rooms will also be required including isolation rooms
 - Each single bedroom should be designed to accommodate sufficient space for a sofa bed (parent/ guardian can stay overnight), toys and recreational space, mobility and walking aids. All toys used in the unit must be cleanable
 - The room may contain a bed, cot or bassinet dependant on the age of the patient
 - A variety of patient bedrooms will be required in each Inpatient Unit. These are listed in the Schedule of Accommodation within this FPU
- **Ensuites**- each ensuite includes a toilet, shower and wash basin. A minimum of one toilet is to be provided per 4 Inpatient beds in shared rooms (ideal is one per 2 beds) and 1 toilet per private Inpatient room. Optionally, in shared rooms, two separate bathrooms may be provided, one with a toilet and hand wash basin and the other one with a shower and hand wash basin. An ensuite cannot be shared between two separate rooms.
- **Lounge**- may be optional where all patient bedrooms are Single. However, a patient lounge is required where the Unit includes shared bedrooms. The lounge may also be utilised as a “discharge lounge” when space is limited to due capacity. Patients can wait in the lounge until the formalities of discharge are finalised.
- **Multi-purpose room**- separate areas or rooms may be configured as multi-purpose rooms for various common age ranges and used for a variety of recreational or educational activities, meetings or parent/ guardian facilities.
- **Treatment room**– a separate treatment room provides a clean, quiet and private space for clinical procedures to take place in a controlled environment.

All Patient areas are to comply with the Standard Components included in these Guidelines.

Other Inpatient Units with specific clinical specialties are also available in these Guidelines. They include Bariatric, General, Long-Term Care (LTC), Mental Health and Rehabilitation. These can be found in Part B - Functional Planning Units.

Support Areas

Support Areas include:

- Handwashing, Linen, and Equipment bays
- Clean Utility, Dirty Utility and Disposal Rooms
- Beverage Bays and Pantries
- Formula preparation and milk storage room
- Meeting Room/s and Interview rooms for education sessions, interviews with staff, patients and families and other meetings

Staff Areas

Staff Areas will consist of:

- Offices and workstations
- Staff Room
- Staff Station
- Clinical handover room (if required)
- Toilets, Shower and Lockers

Note 1: Offices and workstations will be required for administrative as well as clinical functions to facilitate educational/ research activities

Note 2: Staff Areas, particularly Staff Rooms, Toilets, Showers and Lockers may be shared with adjacent Units as is reasonably practicable

Shared Areas

In addition to the shared Staff areas above, Shared Areas include:

- Patient Bathroom (assisted)
- Treatment Room
- Public Toilets
- Visitor Lounge
- Family Visiting Room (if culturally required)
- Some Staff Areas

Functional Relationships

The Inpatient Unit – Paediatric & Adolescent, requires good functional relationships to ensure the efficient delivery of services whenever multidisciplinary expertise is needed.

External

Principal relationships with other Units include:

- Ready access to/ from diagnostic facilities such as Medical Imaging
- Ready access from the Emergency Unit
- Ready access to/ from Critical Care Units (ICU and CCU)
- Ready access to/ from Clinical Laboratories and Pharmacy (may be via Pneumatic Tube System)
- Ready access to/ from Materials Management, Housekeeping and Catering Units
- Ready and discreet access to the Mortuary
- Inpatient Surgical Units require ready access to Operation/ Day Procedures Units

Principal relationships with public areas include:

- Easy access from the Main Entrance of a facility
- Easy access to public amenities
- Easy access to parking for visitors

Principal relationships with Staff Areas:

- Ready access to staff amenities which may be shared by multiple Units in a central location

Note: Paediatric & Adolescent Inpatient Units must not be located so that access to one Unit is via another Unit with the Swing Bed components being the only exception.

Internal Relationships

Optimum internal relationships include:

- Patient occupied areas as the core of the unit
- The Staff Station and associated areas need direct access and observation of Patient Area corridors

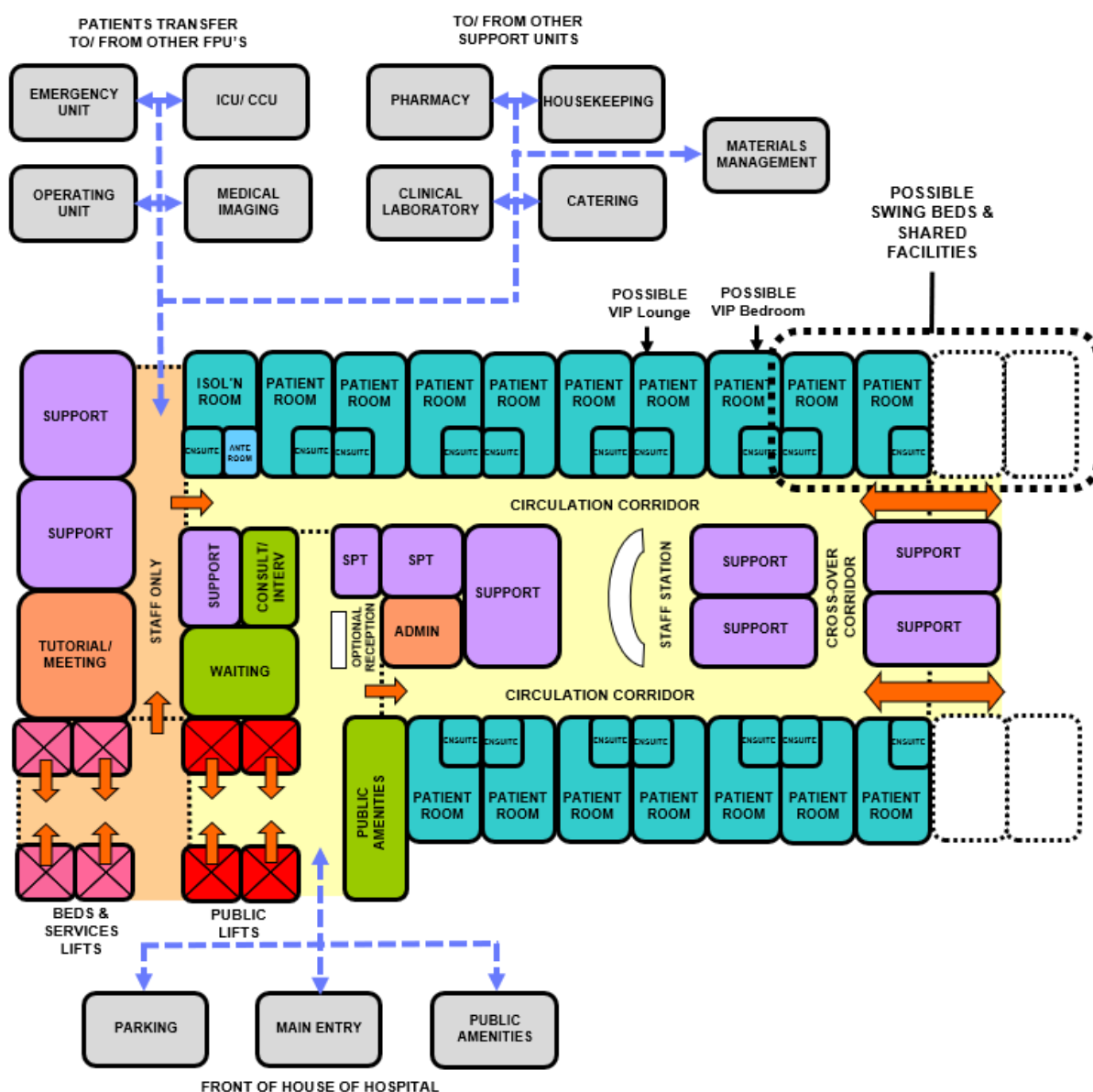
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Inpatient Unit – Paediatric & Adolescent

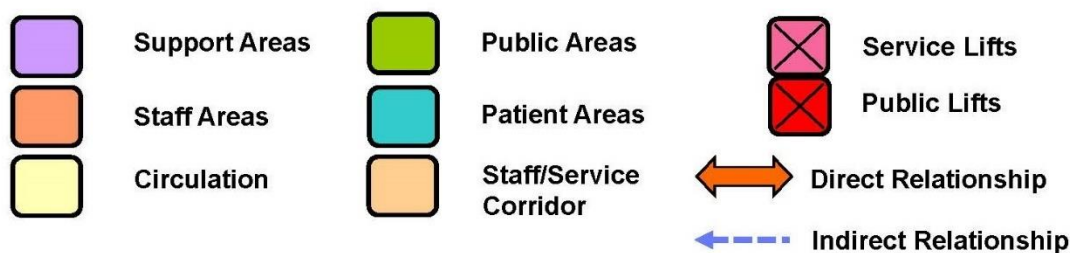
- Utility and storage areas need ready access to both patient and staff work areas
- Public Areas should be on the outer edge of the Unit
- Shared Areas should be easily accessible from the Units served without passing through another Unit

Functional Relationships Diagram

The functional relationships of a typical Paediatric & Adolescent Inpatient Unit in the Racetrack Model are demonstrated in the diagram below. The same relationships must be considered when applied to other Models.



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Important and desirable external relationships outlined in the diagram include:

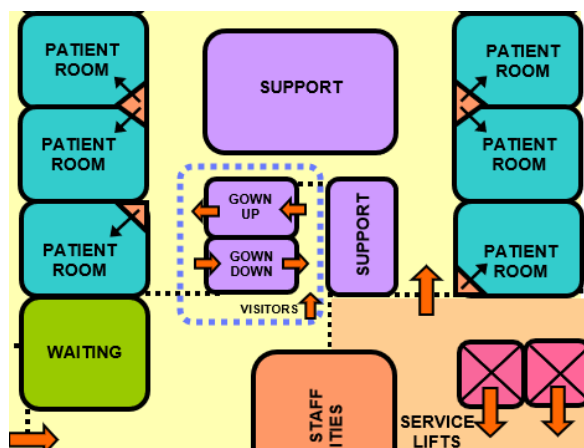
- Clear Goods/ Services/ Staff Entrance
 - Access to/ from key clinical units associated with patient arrivals/ transfers via service corridor
 - Access to/ from key diagnostic facilities via service corridor
 - Entry for staff via the public or service corridor
 - Access to/ from shared staff break and property areas via service corridor
 - Access to/ from Materials, Catering and Housekeeping Units via service corridor
- Clear Public Entrance
 - Entry for patients and visitors directly from dedicated lift and public corridor
 - Access to/ from key public areas, such as the main entrance, amenities, parking and cafeteria from the public corridor and lift

Important and desirable internal relationships outlined in the diagram include:

- Bedroom on the perimeter arranged in a racetrack model (other Planning Models are also suitable)
- Isolation Room is located close to the Bed/ Service Lift to avoid passing other patient rooms
- Staff Station is centralised for maximum patient visibility and access
- Clinical support areas located close to Staff Station(s) and centralised for ease of staff access
- Administrative areas located at the Unit entry and adjacent to Staff Station
- Patient Lounge is located close to the Unit entry allowing relatives to visit patients without traversing the entire Unit
- Reception located at Unit entry for control over entry corridor and security of the Unit
- Personal Protective Equipment Bays located at the entrance for both Staff and Visitors for infection control requirements during ward isolation

Optional PPE Entrance Module

In cases where the Unit is to be isolated due to an infectious disease outbreak such as a pandemic, there may be a requirement to include Gown-Up and Gown-Down rooms for visitors to access upon entry to and exit from the Unit.



4 Design Considerations

General

Patient Treatment Areas

The Paediatric & Adolescent Unit should be designed so that the majority of patient rooms may be observed by nursing staff.

The Inpatient Unit – Paediatric bedrooms should be designed to accommodate a parent/ guardian staying overnight, toys and recreational space, mobility, and walking aids. All toys used in the unit must be cleanable.

The room may contain a bed, cot or bassinet but all rooms should be capable of accommodating a full-sized bed.

A minimum of one bedroom should be provided to accommodate a larger bed with lifting equipment for bariatric paediatric/ adolescent patients. The facility's Operational Policy will determine the number of bariatric rooms provided.

Environmental Considerations

Acoustics

The Paediatric & Adolescent Inpatient Unit should be designed to minimise the ambient noise level within the unit and transmission of sound between patient areas, staff areas and public areas.

Consideration should be given to the location of noisy areas or activities, preferably placing them away from quiet areas including patient bedrooms.

Acoustic treatment will be required to the following areas:

- Patient bedrooms
- Play and activity areas
- Interview and meeting rooms
- Treatment rooms
- Staff rooms
- Toilets and showers

Natural Light

The use of natural light should be maximised throughout the Unit. Windows are an important aspect of sensory orientation and the psychological wellbeing of patients. All bedrooms require a window providing natural light. Natural light is also desirable in other patient areas such as lounge rooms. Windows should provide an open and pleasant outlook, preferably to a landscape or view of the natural environment.

Bedrooms may be organised with windows surrounding an internal courtyard (open to the sky) where natural light can enter the interior spaces. It may be organised to face an internal multi-storey atrium if it is filled with natural light. In both instances, care should be taken to maintain patient privacy.

Observation and Privacy

The design of the Paediatric & Adolescent Inpatient Unit 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. This is largely influenced by patient acuity including high dependency or intermediate care requirements.

Each bed shall be provided with bed screens to ensure privacy of patients undergoing treatment in both private and shared inpatient rooms. Refer to the Standard Components in these Guidelines for examples.

Other factors for consideration include:

- Use of windows in internal walls and/ or doors, provision of privacy blinds.
- Rooms used for paediatric patients should have glazed doors to the top and bottom in order to observe children on the floor
- Location of sanitary facilities to provide privacy for patients while not preventing observation by

staff

- Location of external/ internal courtyards or an atrium facing bedroom windows to prevent others from looking into the bedrooms

Space Standards and Components

Accessibility

Bedrooms and Ensuities must comply with accessibility requirements in accordance with applicable standards (regional and international) and are determined by the Facility's service plan. Accessible bedrooms and ensuites should enable normal activity for patients who are wheelchair dependent, as opposed to patients who are in a wheelchair as a result of their hospitalisation.

Doors

Door openings to Inpatient bedrooms shall have a minimum of 1350mm clear opening (although 1400mm is recommended) to allow for easy movement of beds and equipment.

Size of the Unit

Maximum room capacity is six patients in a room. It is recommended that all patient bedrooms are either single or shared by 2 beds in new facilities. Although 4 bed rooms and 6 bed rooms are permitted, they should be avoided to allow for increased patient privacy.

Minimum dimensions, excluding such items as ensuites, built-in robes, alcoves, lockers, entrance lobbies and floor mounted mechanical equipment shall be as follows:

ROOM TYPE	WIDTH	LENGTH
Single Bedroom	4200 mm	3650 mm
Two Bed Room	4200 mm	6450 mm
Four Bed Room (existing facilities only)	8400 mm	6400 mm
Six Bed Room (existing facilities only)	8400 mm	8950 mm

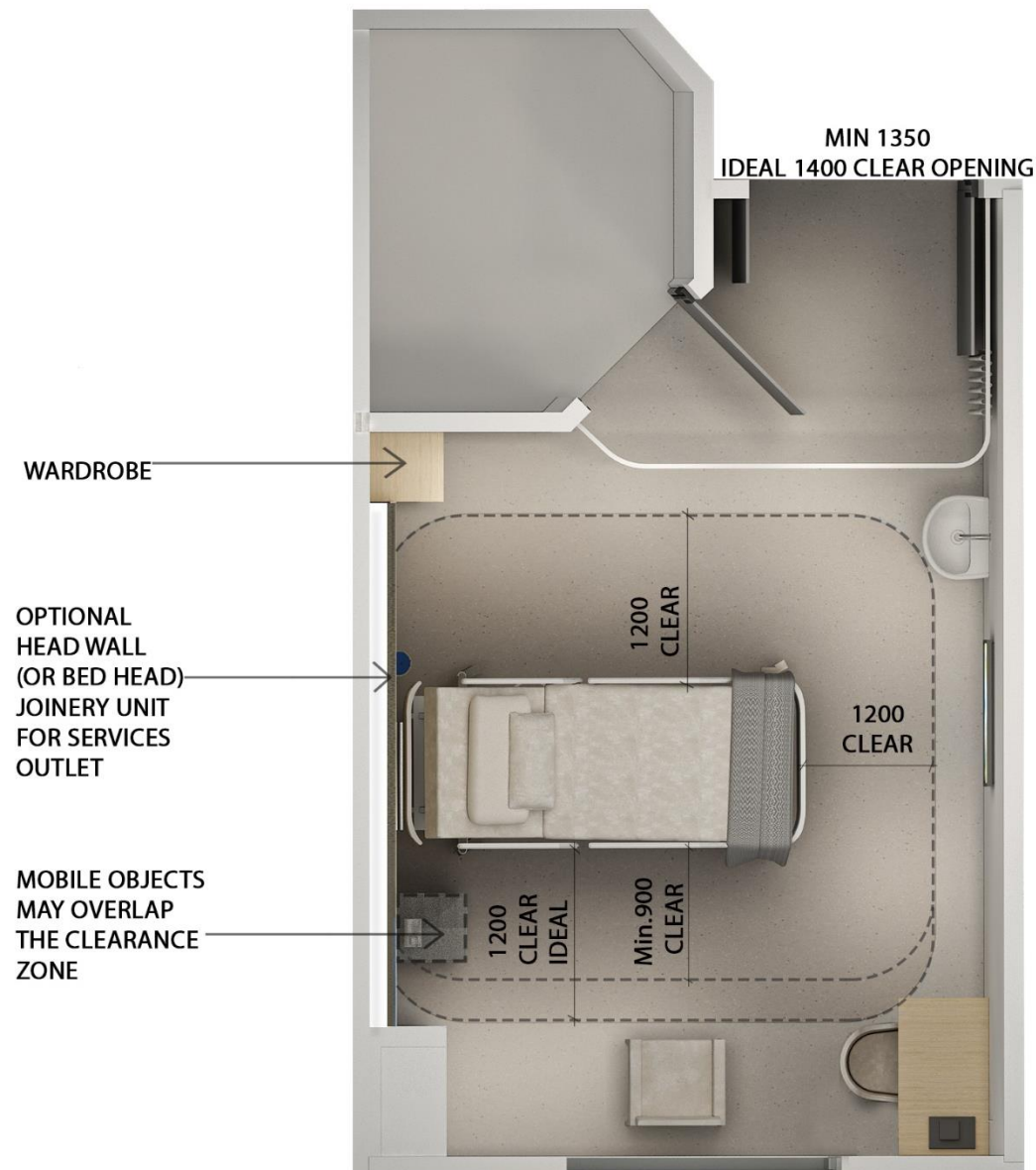
Depending on the operational policy, these spaces should accommodate comfortable furniture for one or two family members/ carers without interfering with staff member access to patients.

Minimum room dimensions are based on overall bed dimensions (buffer to buffer) of 2200mm long x 1050mm wide. Minor encroachments including columns and hand basins that do not interfere with functions may be ignored when determining space requirements.

Typical Single Bedrooms

In single bedrooms there shall be a minimum clearance of 900mm (1200mm recommended) to both sides of the bed and a clearance of 1200 mm available at the foot of the bed to allow for easy movement of equipment and beds.

The clearance required around a bed in a single room is represented diagrammatically below:

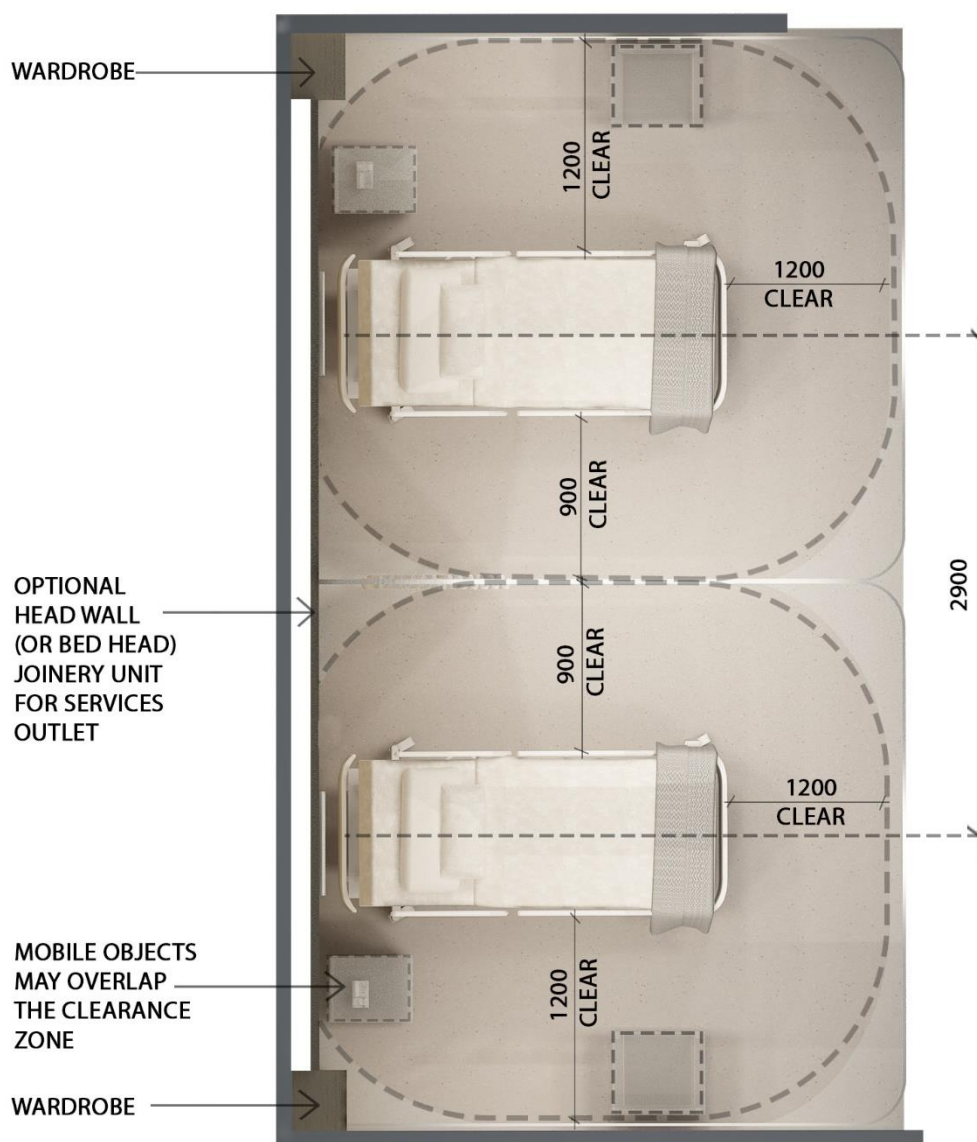


Multiple Bedrooms

In multiple bedrooms such as 2 bed rooms, the minimum distance between beds shall be 900 mm to each side of each bed and 1200mm at the foot of each bed and between the side of a bed and a wall. The distance between bed centrelines must not be less than 2900 mm.

Paediatric bedrooms that contain cots may have reduced bed centres, but consideration must be given to the spatial needs of visiting relatives. To allow for more flexible use of the room the above clearances are still recommended. Consider allowing additional floor area within the room for children to play.

The clearance required around beds is represented diagrammatically below:

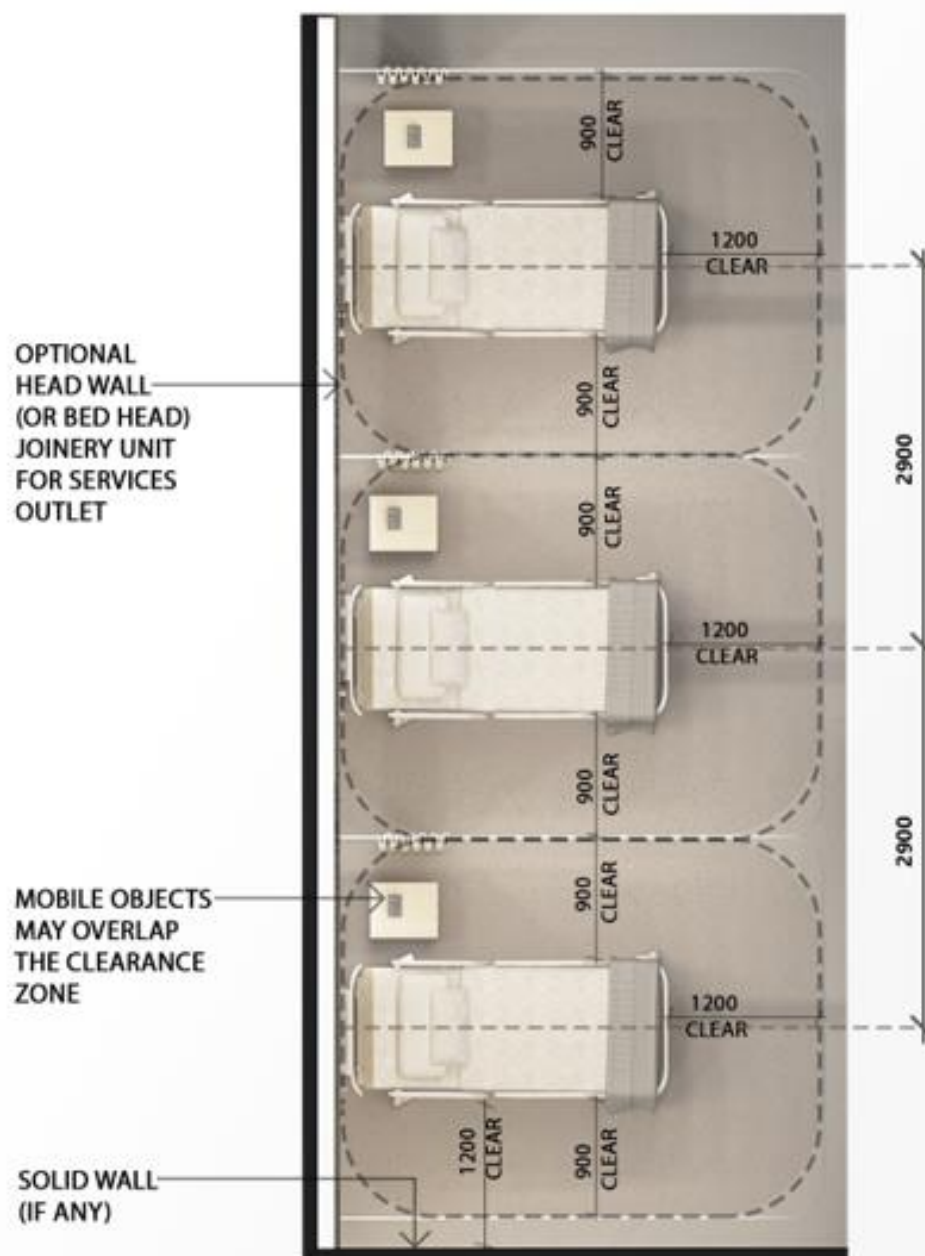


Multiple Bed Bays

In multiple-bed bays, the minimum distance between beds shall be 900 mm to each side of each bed. 1200mm clearance shall be provided at the foot of the bed and between the side of a bed and a wall. The distance between bed centrelines should not be less than 2900 mm.

Paediatric bedrooms that contain cots may have reduced bed centres, but consideration must be given to the spatial needs of visiting relatives. To allow for more flexible use of the room the 2900 mm centre line is still recommended. Considering allowing additional floor area within the room for the children to play.

The clearance required around beds in multiple-bed rooms and chair spaces is represented diagrammatically below:



Drug Storage

Drugs prescribed at the hospital should not be stored in the patient bedroom. Each Inpatient Accommodation Unit shall have a dedicated lockable storage room with restricted staff access. Optionally, this room could either be a Clean Utility room incorporating medication storage or a separate Medication Room.

In both scenarios, the room must contain:

- Benches and shelving
- Lockable cupboards for the manual storage of restricted substances or provision of an automated Medication Management System
- Controlled or dangerous drugs must be kept in a secure locked cabinet or safe within the Medication Room
- A refrigerator, as required to store restricted substances, it must be lockable or housed within a lockable storage area
- Controlled access by staff only with CCTV surveillance camera/s if required by the facility
- 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.

Safety and Security

The Paediatric & Adolescent Inpatient Unit 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 avoidable 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 Paediatric/ Adolescent Unit the provision of security wrist bands with RFID monitoring at doorways including fire doors is optional but highly recommended.

Security of the Unit is essential to prevent children from straying and to provide patients, visitors and staff protection from intruders and unauthorised personnel.

The arrangement 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 optimal 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.

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

Finishes

Finishes including fabric, floor, wall and ceiling finishes should create an environment that is relaxing and has a non-institutional appearance. The following additional factors should be considered in the selection of finishes:

- Acoustic properties
- Durability and resilience
- Ease of cleaning
- Infection control
- Fire safety
- Movement of equipment
- Work health and safety
- Compliance with relevant standards and guidelines

In areas where clinical observation is critical such as bedrooms and treatment areas, lighting and colour selections must not impede the accurate assessment of skin tones.

Walls shall be painted with lead free paint and wall protection shall be provided where bed and trolley movement occurs such as corridors, patients' bedrooms, equipment and linen storage and treatment areas.

Fixtures, Fittings and Equipment

Window Treatments

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 in accordance with the facility's Infection Control Policy.

Compliance with the relevant local 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 loose cords or strings that can cause children to become entangled
- 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 preferable in rooms used for isolation.

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

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

A single patient handset may combine the entertainment system, nurse call system and lighting control all in one unit.

Bed Screens

In both single and multiple-bed rooms, visual privacy (bed screens) shall be provided for each patient. The design for privacy shall not restrict patient access to the entrance, toilet or shower. Bed screens must be regularly cleaned and washed or changed if using disposable curtains.

Selection of fabric that is waterproof, fireproof and optimally with an antimicrobial property is recommended. 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.

Building Services Requirements

This section only identifies unit specific services' briefing requirements and must be read in conjunction with Part E - Engineering Services for a complete list of applicable parameters and standards.

Mechanical Services (HVAC)

The air temperature in inpatient 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 during anaesthesia, therapy, treatment, diagnosis or resuscitation.

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

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

Hydraulics/ Water Treatment

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.

Refer to Part E - Engineering Services for details.

Information Technology (IT) and Communications

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

- Health Information System (HIS)
- Electronic Health Records (EHR)
- Hand-held tablets and other smart devices
- Picture Archiving Communication System (PACS)
- Paging and personal telephones replacing some aspects of call systems
- Digital Enhanced Cordless Telecommunications (DECT) phones and computers
- Data entry including scripts and investigation requests
- Bar coding system
- Data and communication outlets, servers, and communication room requirements
- Wi-Fi access for staff, patients and/or visitors

Nurse Call / Emergency Call / Staff Call

Hospitals must provide an electronic call system that allows patients and staff to alert nurses and other allied healthcare staff, in a discreet manner at all times.

Patient calls are to be registered at the Staff Stations and must be audible within the service areas of the Unit, including Clean Utility and Dirty Utility rooms. If calls are not answered the call system should escalate the call priority. The Nurse Call system may also use mobile paging systems or SMS to notify staff of a call.

Pneumatic Tube Systems

The Paediatric & Adolescent Inpatient Unit may include a pneumatic tube station (PTS), 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.

Infection Control

Handbasins

Handwashing facilities are to be provided in the corridors, patient bedrooms and other rooms as specified in the Standard Components. They shall not impact on minimum clear widths. At least one handwashing bay is to be conveniently accessible to the Staff Station. Hand basins are to comply with Standard Components – Bay – Handwashing, and Part D of these Guidelines.

Hand Basins Inpatient bedrooms are provided exclusively to be used by staff for infection control considerations. Hand basins are available in the ensuites for patients and their visitors which shall not be used by Staff.

Antiseptic Hand Rubs

Antiseptic hand rubs should be provided in areas where they can be used frequently, such as at points of care, near patient beds and in high-traffic areas. The placement of antiseptic hand rubs should be consistent and reliable throughout facilities.

Antiseptic hand rubs are necessary and essential for safe patient care delivery, however they should be provided in addition to Handwash Bays and not as a substitute.

Antiseptic hand rubs are to comply with Part D in these Guidelines.

Isolation Rooms

Isolation Rooms can only accommodate one patient bed per room. At least two 'Class N' (Negative Pressure) Isolation Room shall be provided for each 30 (plus/minus 2) beds. The beds in isolation rooms may be used for acute care when not required for isolation.

Entry to each Isolation room shall be through an airlock (or anteroom). Handwashing facilities, gown and mask storage, and waste disposal shall be provided within the airlock.

The pressurisation of the isolation room and the airlock must be monitored and displayed on a device on the corridor side. The monitor must have an audible and visible alarm.

The pressure regime for the negative pressure isolation room and airlock should be based on the following:

Corridor	(N) Neutral
Airlock	(-) Negative
Inpatient room	(--) Negative
Ensuite	(---) Negative

An Ensuite - Special, directly accessible from the Isolation Room, shall be provided for every isolation room, negative or positive.

Refer to Parts D & E in these Guidelines.

5 Standard 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 is more than one configuration possible therefore, more than one room layout sheet can be found in the Standard Components for a room with the 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 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
- 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 the provision of these items
- 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 (RLSs) are indicative plan layouts and elevations illustrating an example of good design. The RLSs indicated are designed 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 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 in compliance with 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 described below.

Activities/ Recreation Room

The Activities/ Recreation room will provide an indoor room for noisy activities including watching TV, games, playing, listening to music or computer activities. The room should be suitable for a range of ages including adolescents. Requirements include:

- Activities / Recreation Room
 - TV
 - Computer or computer tablets
 - Lounge chairs, soft seating

- Cushioned flooring suitable for children to sit on the floor
- 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 rooms' purpose
- Wi-Fi access

6 Schedule of Equipment (SOE)

The Schedule of Equipment and Furniture lists for the major equipment required in this FPU.

Room Name		
1 Bed Room - Standard, Room Code (1br-st-18-i), 1 Bed Room - Isolation, Room Code (1br-is-n-18-i), 1 Bed Room - Large, Room Code (1br-lg-30-i), 1 Bed Room - VIP, Room Code (1br-vip-36-i), 2 Bed Room - Standard, Room Code (2br-st-30-i)		
Air flowmeter	Locker: bedside	Suction adapter
Bed: inpatient, electric (or paediatric crib)	Oxygen flowmeter	Table: overbed
Treatment Room, Room Code (trmt-14-i)		
Air flowmeter	Light: examination	Refrigerator: drugs (optional)
Diagnostic set (optional)	Monitor: physiologic, acute care	Stretcher: procedure/ recovery
Infusion pump: single channel	Oxygen flowmeter	Suction adapter

7 Schedule of Accommodation

The Schedule of Accommodation (SOA) provided in the Appendices of 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 which 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 are indicated for typical units and are organised 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 is developed for particular levels of services known as Role Delineation Levels (RDL) numbered from 1 to 6. Applicable RDLs are noted in each SOA provided in the appendices. Not all six RDLs are necessarily applicable. Refer to Part A for a full description of the RDLs.

Inpatient Unit-Paediatric & Adolescent

Room/ Space	Standard Component Room Codes	RDLs 3 to 6 Qty x m2 26 Beds			Remarks
Entrance/ Reception		Qty x m2			
Reception/ Clerical	recl-10-i	1	x	10	
Lounge - Visitor	wait-30-i	1	x	30	Area may be enlarged to increase seating capacity
Meeting Room - Small	meet-9-i	1	x	9	Interviews with patient/ family
Toilet - Public	wcpu-3-i	2	x	3	Separate Male and Female. Minimum 1 pair per floor
Toilet - Accessible	wcac-i	1	x	6	Minimum 1 per floor
Patient Areas					
1 Bed room - Standard	1br-st-18-i	18	x	18	Mix and number depend on service demand
1 Bed room - Isolation	1br-is-n-18-i or 1br-is-p-18-i	2	x	18	Class N rooms are mandatory according to the ratios nominated in this FPU. Any isolation room may be combined with the mandatory Bariatric room to form an Isolation Bariatric room at 28m2 (1br-is-p-28-i or 1br-is-n-28-i). Class P isolation rooms according to the clinical services plan.
Anteroom	anrm-i	2	x	6	For 1 Bed room - Isolation
1 Bed room - Large	1br-lg-30-i	1	x	30	Minimum 1 per unit of 30 beds required for use by bariatric patients. Include Dialysis outlet and follow minimum Bariatric Standards. This room may also be combined with any Isolation room to form an Isolation Bariatric room at 28m2.
1 Bed room - VIP	1br-vip-36-i	1	x	36	Provide according to service demand
2 Bed room	2br-st-30-i	2	x	30	Mix and number depend on service demand
Ensuite - Standard	ens-st-i or ens-st-a-i	22	x	5	Directly accessible from each 1 Bed, 2 Bed, Isolation room
Ensuite - Super	ens-sp-i	1	x	6	For 1 Bed room - Large. Special fittings required for bariatric patients
Ensuite - VIP	ens-vip-i	1	x	8	For 1 Bed room - VIP
Overnight Stay- Bedroom	ovbr-10-i similar	1	x	10	Available for parents/ guardians staying overnight. Allow for a bigger bed size.
Overnight Stay – Ensuite	oves-4-i	1	x	4	For Overnight Stay- Bedroom
Activities/ Recreation Room	NS	1	x	50	Noisy activities: Size to suit service
Multi-purpose Room	NS	1	x	40	Quiet activities: Size to suit service
Laundry - Patient	laun-pt-i	1	x	6	Optional
Lounge - Parent/ Guardian/ Visitor	lnpa-12-i	1	x	12	Parent/ Guardian communal space, modify size to suit service. Located close to Playroom.
Lounge - Adolescent	lnad-10-i	1	x	10	Optional
Playroom - Internal	plap-20-i	1	x	20	May be used for play therapy
Playroom - External	NS	1	x	*	*External Area; Optional
School Room	meet-l-15-i	1	x	15	Optional, depending on the service plan and the typical age of the patients being received
Toilet - Patient	wcpt-i	1	x	4	Optional, locate adjacent to communal areas
Bathroom	bath-i	1	x	16	1 per 60 beds or may be shared between 2 units
Treatment Room	trmt-14-i	1	x	14	Optional, provide according to service demand
Support Areas					
Bay - Beverage, Enclosed	bbev-enc-i	1	x	5	
Bay - Handwashing, Type B	bhws-b-i	4	x	1	In addition to basins in patient rooms; 1 at entry, 1 near staff station; Refer to Part D
Bay - Personal Protective Equipment	bppe-i	1	x	1.5	In addition to those required for isolation rooms. Refer to Part D - Infection Control
Bay - Linen	blin-i	2	x	2	Quantity and location to suit each facility
Bay - Meal Trolley	bmeq-4-i	1	x	4	Optional, depends on catering/ operational policies
Bay - Mobile Equipment	bmeq-4-i or bmeqe-4-i	1	x	4	Quantity and size dependent on equipment to be stored. Can be open or enclosed
Bay - Resuscitation Trolley	bres-i	1	x	1.5	
Bay - Pneumatic Tube	bpts-i	1	x	1	Optional, Locate at Staff Station or under staff supervision
Clean Utility	clur-12-i	1	x	12	May be Interconnected with Medication Room

Room/ Space	Standard Component Room Codes	RDLs 3 to 6 Qty x m2 26 Beds			Remarks
Medication Room	medr-10-i	1	x	10	May be Interconnected with Clean Utility Room
Clean Utility/ Medication	clum-14-i	1	x	14	Optional if combined Clean Utility and Medication Room provided
Formula Room	form-i	1	x	10	
Dirty Utility	dtur-14-i	1	x	14	2 may be required to minimise travel distances
Disposal Room	disp-8-i	1	x	8	
Pantry	ptry-i	1	x	8	
Store - Equipment	steq-20-i	1	x	20	Size dependent on equipment to be stored
Store - General	stgn-8-i	1	x	8	Size as per service demand and operational policies
Cleaners' Room	clrm-6-i	1	x	6	Includes storage for dry goods
Staff Areas					
Staff Station	sstn-14-i	1	x	14	May include ward clerk. Size and location dependent on quantity of staff and operational policies
Office - Clinical Handover	off-cln-i	1	x	15	May be co-located with Staff Station
Office - Single Person	off-s12-i	2	x	12	NUM office and clinical personnel as needed
Meeting Room - Medium/ Large	meet-l-15-i	1	x	15	Meetings, Tutorials. May be shared between 2 units
Overnight Stay - Bedroom	ovbr-10-i	1	x	10	Required at the rate of 1 per Unit. Does not need to be located within the Unit, however, must have convenient access.
Overnight Stay - Ensuite	oves-4-i	1	x	4	
Staff Lounge (Male/ Female)	srm-15-i	2	x	15	Include Beverage Bay
Property Bay - Staff	prop-3-i	2	x	3	May be separated by male and female. Number of lockers depends on staff complement per shift
Toilet - Staff	wcst-i	2	x	3	Separate Male and Female
Sub Total				1075	
Circulation %				35	
Total Area				1451	

The following should be considered in conjunction with the SOA 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 Clinical Service Plan and the Operational Policies of the Unit.
- All areas shown in the SOA follow the '4 Floor Area Measurement Methodology, Definitions and Diagrams' as described in these Guidelines. Refer to Part B, Complete Part.
- Room sizes indicated should be viewed as a minimum requirement. Variations are acceptable to reflect the needs of individual Unit.
- Class N Isolation rooms are not subject to Clinical Services Plan or demand. They are mandatory and must be provided in accordance with this FPU.
- 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 are to be provided according to the number of approved full-time positions within the Unit.

8 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 Guidelines (iHFG) www.healthdesign.com.au/iHFG
- Australasian Health Facility Guidelines, Part B Health Facility Briefing and Planning, 0540 Paediatric / Adolescent Unit, 2023; refer to website <https://healthfacilityguidelines.com.au/hpu/paediatric-adolescent-unit-2>

DH (Department of Health) (UK), Health Building Note 23 Hospital accommodation for children and young people, 2004, refer to website <https://www.england.nhs.uk/publication/designing-hospital-accommodation-for-children-hbn-23/>
- 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>