

# **Part B – Health Facility Briefing & Design 25 High Dependency Unit (HDU)**



*i*HFG

## **International Health Facility Guidelines**

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## 25 High Dependency Unit ( HDU )

### 1 Introduction

The High Dependency Unit (HDU) is a specialised inpatient unit for the management of medical and surgical patients whose conditions require constant close monitoring and do not require mechanical ventilation or admission to the Intensive Care unit but are too unwell to be cared for in the general inpatient unit setting. The Unit will be staffed by specialised doctors and nurses who coordinate technological and therapeutic resources to care for the seriously ill patients.

High Dependency Unit maybe regarded as step-down Intensive Care Unit (ICU) or intermediate service between Intensive Care Unit (ICU) and Inpatient Unit (IPU).

HDU is part of a group of facilities broadly classified as Critical Care Units which include ICU, CCU, HDU, PICU and NICU. HDU may be a stand-alone unit or integrated back-to-back with ICU, CCU or PICU and IPU (Inpatient Unit).

HDU may be provided within hospitals from RDL 2 to 6.

### 2 Functional and Planning Considerations

#### *Operational Models*

The HDU will generally operate on a 24 hour per day, 7 days per week basis.

The key difference between ICU and HDU in terms of operations is the Nurse to Patient ratio. In ICU a 1 to 1 patient to nurse ratio is expected. In HDU a 2 to 1 patient to nurse ratio is assumed.

There are a number of operational models applicable to a HDU including:

#### **Combined Critical Care**

The Combined Critical Care may include the High Dependency Unit, along with the Intensive Care Unit and/or Coronary Care Unit. This model is often located in smaller hospitals where flexibility of bed usage is a requirement. The rooms within a Combined Unit will be used to manage short and medium term ICU patients when required and HDU and CCU patients at other times.

An Intensive Care Unit may incorporate up to 50% of beds as HDU.

#### **HDU within Hot Floor**

The 'Hot Floor' model involves the clustering of Intensive Care services and the HDU with other units on one floor. A 'Hot Floor' model also includes collocation with Operating Unit, Emergency Unit, CCU and parts of Medical Imaging.

#### **Combined with IPU**

This HDU may be collocated with either a medical or surgical inpatient unit, dependant on the hospital's operational policies. This model also allows for the flexing up and down on HDU and general Inpatient Unit (IPU) beds as per the clinical presentation. Any HDU facilities may also be combined with an Inpatient Unit but with the same nursing ratio of 2 patients to 1 nurse.

If HDU is integrated with IPU everything other than the following can be shared:

- HDU Bed Bays
- HDU Reporting stations required for direct observation of patients
- HDU Ensuites (minimum 1 per 4 beds)

Note: HDU Isolation can also be shared with IPU as long as the minimum number required for the combination of IPU and HDU are achieved.

#### **Independent HDU**

This model comprises separate general or specialty HDUs with an independent management structure. The advantages of this model include independent bed management control whilst encouraging medical, nursing, and other allied healthcare staff to develop sub-specialty skills.

## **Models of Care**

The typical models of Care for a HDU involves patient allocation with staff assigned to 1 or 2 patients dependent upon the patient's acuity and skill level of the nursing staff. The patients in HDU may be managed by a multidisciplinary team.

### **3 Unit Planning Models**

#### **Unit Location**

The HDU should be in a location that eliminates the need for through traffic and avoids or minimises:

- Disturbing sounds (ambulances, traffic, sirens)
- Disturbing sights (morgue, cemeteries etc.)
- Problems associated with prevailing weather conditions
- Ideally, all beds should be visible from the Staff Station or where visibility may be compromised, satellite staff stations or observation bays should be provided.

Unlike the requirements for ICU, in HDU beds may be located either in bed bays within a large area, separated by privacy curtains or within rooms. or within separate multi-bedded rooms. In all permutations, isolation rooms must be in fully enclosed rooms with ante-rooms.

#### **HDU-IPU Swing Beds**

For flexibility and added options for utilisation it may be desirable to include provisions for Swing Beds within HDU and adjoining Inpatient Unit (IPU). The swing bed section may be a group of beds that may be quickly converted from one category of use to another (HDU vs IPU) and supervised from another Staff Station. In such arrangements the minimum requirements of HDU must be applied to all swing beds.

Facility design for swing beds will often require additional doors within the corridor and provision for switching patient/ nurse call operation from one Staff Station to another. Security is also an issue if any of the beds are used for Paediatrics.

#### **Functional Areas**

The High Dependency Unit consists of the following Functional Zones:

- Entry/ Reception, which may be shared with adjoining units including:
  - Reception
  - Waiting areas, separate for Males and Females and sized to accommodate family members, with access to public amenities
  - Gown-up/ Gown-down for visitors
  - Meeting room that may be used as a Distressed Relatives Room
- Patient areas with:
  - Single bed bays or single rooms or multi-bedded rooms
  - Isolation rooms, positive and/ or negative pressure
  - Ensuites which are shared with a group of beds
- Support areas consisting of:
  - Staff Station, Reporting Station and write-up areas
  - Beverage Bay and Bays for linen, resuscitation trolley, laboratory facilities and mobile equipment
  - Clean and Dirty Utility Rooms
  - Medication room
  - Store Rooms for equipment, general stock and sterile supplies
  - Biomedical Workshop
- Staff Areas including:
  - Meeting Room
  - Offices
  - Staff Room
  - Storage for files and stationery
  - Change rooms with toilets, shower and lockers

The above zones are briefly described below.

### **Entry/ Reception Area**

According to the hospital operating policy, a Reception and visitor's/ relatives' Waiting Areas may be provided immediately outside the entry to the HDU, but away from patient and staff traffic areas. It is desirable that waiting areas have provision for a drink dispenser, television, and comfortable seating. An Interview Room which may be used for distressed relatives should be available.

This area needs access to separate Male/ Female toilet facilities and prayer rooms. The Entry/ Reception Area may be shared between Units depending on the design.

The provision of gown-up and gown-down facilities for visitors is optional but recommended.

### **Patient Areas**

Patient Bed Bays, Enclosed Rooms, Isolation Rooms and Ensuites shall be provided according to the numbers in the Service Plan. The beds should be grouped within units which form pods of maximum 12 beds ( $\pm 2$ ) including isolation room(s). For each pod all the support rooms will be required. The ratio of enclosed rooms to bed bays will depend on the hospital preference and the operational policy. It should be noted that when HDU is designed with enclosed rooms, it can be quickly converted to ICU by only changing the nursing ratio from 2:1 for HDU to 1:1 for ICU.

It is recommended that individual Ensuites be provided for each enclosed HDU bedroom and each isolation room. For bed bays and multi-bedded rooms provide a minimum of one ensuite per 4 beds.

The HDU room size should be sufficient to accommodate the patient, necessary personnel, monitoring capabilities, life support equipment and support services with safety considerations.

Work surfaces and storage areas must be adequate to maintain all necessary supplies and permit the performance of all desired procedures without the need for staff to leave the room.

The following design features are highly recommended for the patient areas:

- Enclosed rooms- Almost identical to ICU rooms but with ensuite bathrooms. The wall facing the corridor should be glazed with sliding glazed doors for access
- Multi-bedded rooms- No more than 4 beds per room with an ensuite bathroom. The wall facing the corridor should be glazed
- Bed bays in an open area- Consider as a minimum solid side walls with privacy curtain front.

In HDU, unlike in ICU, the services may be provided via a service panel on a wall or column at the head of the bed. However, if the intention is to retain flexibility to use HDU beds as ICU, then all services should be provided via ceiling pendants.

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

### **Support Areas**

Support Areas include Bays for linen, resuscitation trolley, mobile equipment, Cleaners Room, Clean and Dirty Utilities, Disposal Room, Staff Station and Store Rooms for consumable stock, sterile stock and equipment.

The optimum numbers and sizes of these support facilities are provided for an HDU unit of 12 beds (plus/minus 2) unless designed in an integrated unit with an IPU (32 beds  $\pm 2$ ).

As a minimum one well-located Staff Station must be provided with good direct observation of all patients in the unit. If the planning geometry does not permit this direct observation from a single point, then additional de-centralised reporting stations should be provided.

### **Staff Areas**

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/ specialists/ registrars/ educators) may be located as part of the Unit where required for

clinical functions or adjacent in an administrative area, to facilitate unit co-ordination, educational and research activities.

A Staff Room shall be provided within the unit for staff to relax during their break hours. Inclusion of a window to the outside is desirable. Gender segregation for Change Room that include Toilets, Shower and Lockers is advisable.

HDU requires access to adequate facilities for staff education and meetings. Teaching facilities should allow staff to access simulation training and competency assessment within the unit.

These facilities may be used by the multidisciplinary team.

Staff Areas may be shared with adjacent Units as far as possible.

## **4 Functional Relationships**

### ***Internal***

Optimal internal relationships to be achieved include those between:

- Patient areas, generally around the perimeter with minimum 50% access to external windows
- Staff station and de-centralised Reporting Stations
- Utility and storage areas that need to be readily accessible by both patient and staff
- Public areas located on the perimeter of the unit
- Shared areas that should be easily accessible from the units served.

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

- Clear Goods/ Services and Bed Access
- Access to/ from key clinical units associated with patient arrivals/ transfers via service corridor
- Access to/ from key diagnostic facilities - Medical Imaging, Laboratory and Pharmacy via service corridor
- Discrete service access for Supply, Catering, Housekeeping and Clinical Information Units
- Clear Public Entrance
- Entry for visitors directly from a public corridor to Reception and Waiting
- Access to / from key public areas, such as the main entrance from the public corridor.

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

- Bed Room(s) on the perimeter to maximise access to windows or borrowed light
- Staff Station is centralised for maximum patient visibility and access
- Clinical support areas located close to Staff Station(s) and decentralised for ease of staff access
- Reception and Administrative areas located at the Unit entry for control over entry corridors.

### ***External***

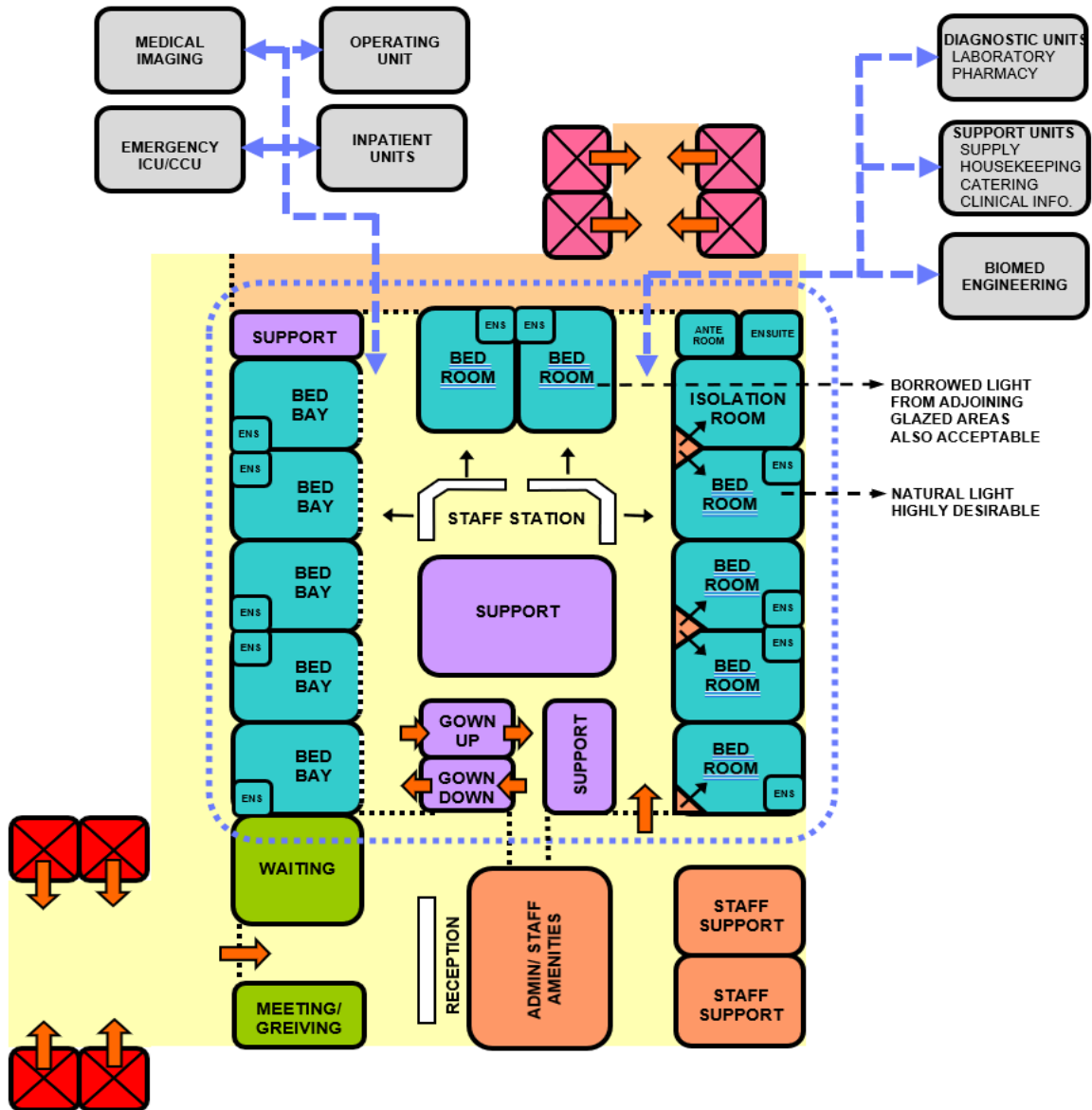
It is desirable that the High Dependency Unit has ready access to:

- Intensive Care Unit
- Inpatient Unit
- Emergency Unit (including ambulance bay)
- Operating Unit
- Medical Imaging
- Laboratory Services
- Biomedical Engineering
- Back of house facilities such as Supply, Catering, Housekeeping and Morgue.

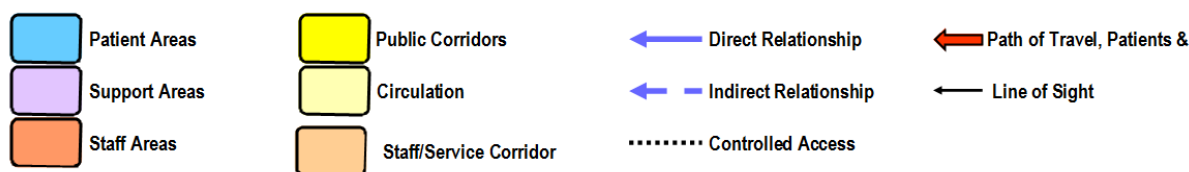
**Functional Relationship Diagram**

These relationships between the various components within the High Dependency Unit are best described by the Functional Relationships Diagram below.

**Self-Contained Separate Unit Model, 50/50% enclosed beds and open bays**



### LEGEND



## 5 Design Considerations

### *Patient Treatment Areas*

Staff must have direct visualisation of patients within the HDU, to permit the monitoring of patient status under both routine and emergency circumstances. Centrally displayed monitor systems may be used to enhance this ability. The preferred design is to allow a direct line of vision between the central Staff Station and the patient.

Like the ICU the inclusion of sliding glass doors and partitions facilitate this arrangement and increase access to the enclosed rooms in emergency situations.

For bed bays the solid side walls and curtains should be arranged so that observation of patients is maximised.

When the central Staff Station is not sufficient for the observation of all patients due to the planning geometry of the Unit, then additional Reporting Stations should be provided throughout the Unit. Such Reporting stations may be on the same side as the beds or on the opposite side of the corridor adjoining the beds.

If multi-bedded room model is employed, then a small staff station or reporting station may be located directly inside such rooms (maximum 4 beds per room).

### *Environmental Considerations*

#### **Acoustics**

Consistent with critical care areas, the HDU 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 activity, preferably placing them away from quiet areas including patient bedrooms and bed bays.

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 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 materials with high sound absorption capabilities. Ceiling soffits and baffles help reduce echoed sounds. Doorways should be offset, rather than being placed in symmetrically opposed positions, to reduce sound transmission. Counters, partitions, and glass doors are also effective in reducing noise levels.

Acoustic treatment is required to the following:

- Patient Bedrooms and Ensuites
- Interview and meeting rooms
- Staff rooms
- Change 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 psychological well-being of patients and staff, and as many rooms as possible should have windows to reinforce day/ night orientation.

As a minimum 50% of the beds in the HDU must have direct access to Natural light. Other beds may have access to borrowed natural light via other areas such as a glazed corridors or other rooms or areas which have direct access to natural light.

### Privacy

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

Each enclosed bedroom shall be provided with bed screens behind the glass facing the corridor to ensure privacy of patients undergoing treatment in the room.

All open bed bays and beds in multi-bedded rooms must have sufficient privacy screens.

Ensure that publicly accessible external areas such as courtyards, corridors or atriums facing bedroom windows do not have a view to the patient areas of the HDU.

Refer to the Standard Components for examples.

### Space Standards and Components

#### Bed Rooms

In HDU bed rooms a minimum of 1200 mm clearance around both sides and the foot of the bed is recommended. At the head of the bed, a minimum of 300 mm clearance should be allowed between the bed and any fixed obstruction or wall.

#### Bariatric Patient Facilities

The HDU facilities may require provisions for bariatric patients, depending on the service requirements including ceiling suspended lifting systems between the Bedroom bed area and an adjacent Ensuite.

Refer to Inpatient Unit - Bariatric for specific details of Bariatric requirements. All fixtures and fittings for bariatric patients will need to accommodate up to 350kg weight.

#### Doors

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

#### Size of the Unit

The number of beds shall be determined by the facility's service plan. The recommended maximum number of beds visible from a single central staff station in an HDU should not exceed 12 beds ( $\pm 2$ ).

#### Safety and Security

The HDU shall provide a safe and secure environment for 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 all users of the facility are not exposed to avoidable risks of injury.

Security issues are important due to the increasing prevalence of violence and theft in healthcare facilities.

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 optimum observation for staff. The level of observation and visibility has security implications.

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

### **Drug Storage**

Drugs prescribed at the hospital should not be stored in the patient bedrooms or bed bays. All drugs should be managed by the responsible nurses via a Medication Room.

Medications may be manually stored and managed, or alternatively automated Medication Management systems may be utilised.

Controlled, semi-controlled or narcotic drugs as per Ministry of Health Legislation must be kept in a secure cabinet within the Medication Room/ Clean Utility Room with alarm. The room requires access controlled for staff only 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.

### **Finishes**

Finishes including fabrics, floor, wall, and ceiling finishes, should be 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 marring and shearing by wheeled equipment

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

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

### **Curtains/ Blinds**

Each window shall have partial blackout facilities to allow patients to rest during the daytime. If blinds are to be used the following applies:

- Vertical blinds and Holland blinds are preferred over horizontal blinds as they do not provide numerous surfaces for collecting dust
- Horizontal blinds may be used within a double-glazed window assembly with a knob control on the bedroom side

Privacy bed screens must be washable, fireproof and cleanly maintained at all times. Disposable bed screens may also be considered.

### **Fittings, Fixtures & Equipment**

#### **Bedside Monitoring**

Bedside monitoring equipment should be located to permit easy access and viewing, and should not interfere with the visualisation of, or access to the patient. The bedside nurse and/ or monitor technician must be able to observe the monitored status of each patient at a glance. 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 is 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. It should be assumed that monitoring equipment will increase in volume over time. Therefore, space and electrical facilities should be designed accordingly.

### **Building Service Requirements**

#### **Information and Communication Technology**

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

- Electronic Health Records (EHR)
- Health Information System (HIS)
- Hand-held tablets and other smart devices
- Picture Archiving Communication System (PACS)
- Paging and personal telephones replacing some aspects of call systems/ DECT
- Data entry including scripts and investigation requests
- Bar coding for supplies and records
- Data and communication outlets, servers and communication room requirements
- Optional availability of Wi-Fi for staff and patients and their visitors

#### **Staff Call**

Hospitals must provide an electronic call system next to each inpatient bed to allow for patients to alert staff in a discreet manner at all times.

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

#### **Patient Entertainment Systems**

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

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

#### **Heating Ventilation and Air-conditioning (HVAC)**

The Unit should be air-conditioned with adjustable temperature and humidity for patient comfort.

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

#### **Medical Gases**

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

#### **Pneumatic Tube Systems**

The HDU 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.

### Hydraulics

Warm water must be supplied to all areas accessed by patients within the HDU. This requirement includes all staff handwashing basins and sinks located within patient accessible areas.

Refer to Part E - Engineering Services for details.

### Infection Control

#### Hand Basins

Handwashing facilities shall be provided in the corridors, critical care bed rooms and other rooms as specified by the Standard Components.

Hand-washing facilities shall not impact on minimum clear corridor widths. The following handwashing ratios should be provided:

- There must be one handwashing bay type A within each enclosed HDU room, isolation room and ante-room
- There must be one handwashing bay type A for each open HDU area for each 4 bed bays
- In addition, at least one handwashing bay type A is to be conveniently accessible to the Staff Station and one to be provided at the unit entry/exit

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 purposes. Staff may not use the patient ensuite hand wash basin.

#### Antiseptic Hand Rubs

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 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

The HDU shall include at least one negative pressure Isolation Room per group of 12 ( $\pm 2$ ) beds or as many as required by the Clinical Service Plan of the Unit. Entry shall be through an airlock. Clinical hand-washing, gown and mask storage, and waste disposal shall be provided within the airlock. An Ensuite - Special, directly accessible from the Isolation Room, shall also be provided.

Provision of positive pressure isolation rooms will depend on the hospital operational policy. Any positive pressure isolation room will also require an ante-room.

For further information on Isolation Rooms refer to Part D – Infection Control in these Guidelines

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 minimum, dialysis facilities should be provided in each and every Isolation Room/s, plus one per pod outside isolation room. The remaining rooms, as minimum should have water outlets provided. RO water may be provided via portable dialysis units.
- If HDU is integrated within IPU, then provide dialysis facilities to at least one of the HDU bed bays and water outlets to the remaining rooms. For the balance of the unit, provide dialysis at the ratio required for IPU.

Refer to Part E – Engineering Services for details.

## 6 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).

The Room Data Sheets are written descriptions representing the minimum briefing requirements of each room type, described under various 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/ 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 typically located in the room along with 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.
- 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.

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.

The HDU consists of Standard Components to comply with details described in these Guidelines. Refer also to Standard Components Room Data Sheets (RDS) and Room Layout Sheets (RLS) separately provided.

### Non-Standard Components

Non-standard rooms are rooms are those which have not yet been standardised within these Guidelines. As such there are very few Non-standard Rooms. These are identified in the Schedules of Accommodation as NS and are separately covered below.

#### Bay - Pneumatic Tube

The Bay - Pneumatic Tube should be located at the Staff Station/s under the direct supervision of staff for urgent arrivals. The location should not be accessible by external staff or visitors.

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

### 7 Schedule of Equipment (SOE)

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

Room/ Space	
<b>1 Bed Room - High Dependency, Room Code (1br-hdu-20-i)</b>	
Air flowmeter	Infusion pump: enteral feeding
Bed: inpatient, electric	Infusion pump: single channel
IV pole: mobile	Infusion pump: syringe
Table: overbed	Light: examination, ceiling
Locker: bedside	Oxygen flowmeter
Monitor: physiologic, acute care	Suction adapter

### 8 Schedule of Accommodation

The Schedule of Accommodation (SOA) identifies the rooms required in the Unit along with the quantity and the recommended room area. The sum of these room areas is the Sub Total and Total Departmental areas with a recommended circulation percentage. The circulation percentage represents the area required for internal corridors and is a target for efficient planning. SOAs and room sizes are developed for typical units and are organised into the functional zones applicable to the Unit. Not all rooms identified are mandatory requirements and optional rooms are indicated. Quantities of rooms may need to be proportionally adjusted to suit the desired unit size and service needs.

The Schedules of Accommodation are developed for levels of service known as Role Delineation Level (RDL) and numbered from 1 to 6 (including in-between numbers such as 4-5). Level 1 represents uncomplicated health facilities, ascending to level 6 representing complex specialist services and hospitals. Refer to the full Role Delineation Framework in these guidelines for a full description of the RDL's identified. RDL Levels not listed are not applicable for this service.

The Schedule of Accommodation for typical HDUs at RDL Levels 4 to 6 with 4, 8 and 12 beds are as follows. The Schedule of Accommodation lists generic spaces that form an HDU. Quantities and sizes of some spaces need to be determined in response to the service needs of each unit on a case-by-case basis.

**High Dependency Unit (HDU)**

ROOM/ SPACE Size	Standard Component Room Codes	RDL 3 Qty x m <sup>2</sup> 4 Beds			RDL 4 Qty x m <sup>2</sup> 8 Beds			RDL 5/6 Qty x m <sup>2</sup> 12 Beds			Remarks
<b>Entry / Reception</b>											
Reception/ Clerical	recl-10-i recl-15-i similar				1	x	10	1	x	12	Optional
Waiting (Male/Female)	wait-15-i wait-20-i wait-30-i similar	2	x	15	2	x	20	2	x	25	Separate M & F; 1.2 m <sup>2</sup> per person; 1.5 m <sup>2</sup> per wheelchair
Meeting Room	meet-1-15-i similar				1	x	12	1	x	15	
Toilet - Public	wcpu-3-i	2	x	3	2	x	3	2	x	3	May share public amenities if located close
Toilet – Accessible	wcac-i	1	x	6	1	x	6	1	x	6	
Gown- up	gw-up-i	1	x	8	1	x	10	1	x	10	
Gown-down	gw-dn-i	1	x	8	1	x	10	1	x	10	
<b>Patient Areas</b>											
1 Bed Room - ICU/HDU	1br-icu-25-i	1	x	25	5	x	25	9	x	25	Group of 12 +/- 2 beds, within vision of Staff Station
Patient Bay - HDU	pb-hdu-24-n	3	x	24	5	x	24	7	x	24	Group of 12 +/- 2 beds, within vision of Staff Station
1 Bed Room - ICU/HCU, Class N Isolation	1br-icu-25-i similar	1	x	25	1	x	25	1	x	25	Negative Pressure Isolation, Provision for RDL 3 & 4 dependent on clinical service plan but no less than 1 per pod. If HDU is combined with IPU, the minimum number of isolation rooms will apply to the combined unit.
Patient Bay - Critical	pb-c-20-i	2	x	20	2	x	20	2	x	20	Group of 12 +/- 2 beds, within vision of Staff Station
Anteroom	anrm-i similar	1	x	6	1	x	6	1	x	6	For Class N Isolation Rooms when provided
Ensuite - Super	ens-sp-i	2	x	6	6	x	6	10	x	6	Size for 'full assistance', i.e. 2 staff plus equipment
Patient-Toilet/Shower	ens-sp-i similar	1	x	6	1	x	6	1	x	6	Shared between Two Patient Bay-Critical
<b>Support Areas</b>											
Bathroom - Assisted	bath-i	1	x	16	1	x	16	1	x	16	Optional, inclusion depends on operational policy
Bay - Beverage	bbev-op-i bbev-enc-i	1	x	5	1	x	5	1	x	5	
Bay - Blanket Warmer	bbw-1-i	1	x	1	1	x	1	1	x	1	Optional
Bay - Handwashing, Type A	bhws-a-i	1	x	1	2	x	1	3	x	1	At Unit entry and in Corridors; refer to Part D
Bay - Linen	blin-i	1	x	2	1	x	2	2	x	2	
Bay - Mobile Equipment	brmeq-4-i	1	x	4	1	x	4	2	x	4	
Bay - Pathology (Satellite Laboratory)	bpath-1-i similar	1	x	1	1	x	2	1	x	4	
Bay - Pneumatic Tube	NS	1	x	1	1	x	1	1	x	1	Optional, may be located with Pathology Bay or Staff Station

## High Dependency Unit

ROOM/ SPACE Size	Standard Component Room Codes	RDL 3 Qty x m <sup>2</sup> 4 Beds			RDL 4 Qty x m <sup>2</sup> 8 Beds			RDL 5/6 Qty x m <sup>2</sup> 12 Beds			Remarks
		Qty	m <sup>2</sup>	4 Beds	Qty	m <sup>2</sup>	8 Beds	Qty	m <sup>2</sup>	12 Beds	
Bay - PPE	bppe-i	1	x	1.5	1	x	1.5	1	x	1.5	As required, may be combined with Bay-Handwashing
Bay - Resuscitation Trolley	bres-i	1	x	1.5	1	x	1.5	1	x	1.5	
Cleaners Room	clrm-6-i	1	x	6	1	x	6	1	x	6	Smaller units may share with a collocated unit
Clean Utility	clur-12-i				1	x	12	1	x	12	May be interconnected with Medication room. These areas apply if HDU is in the typical ICU configuration. If HDU is integrated with IPU, then the support area sizes of IPU will apply
Medication Room	medr-10-i				1	x	10	1	x	10	May be interconnected with Clean Utility room
Clean Utility / Medication	clum-14-i	1	x	14	1	x	14	1	x	14	*Optional if Clean Utility and Medication Room are provided separately.
Dirty Utility	dtur-12-i similar dtur-14-i	1	x	10	1	x	12	1	x	14	These areas apply if HDU is in the typical ICU configuration. If HDU is integrated with IPU, then the support area sizes of IPU will apply
Disposal Room	disp-8-i similar	1	x	8	1	x	8	1	x	10	Optional
Equipment Clean-up	ecl-10-i similar	1	x	8	1	x	8	1	x	8	Optional; provide only if the unit is back to back with ICU or if there is an intention to upgrade or use as ICU. Room size according to service requirements.
Respiratory Workroom	rewm-i	1	x	20	1	x	20	1	x	20	This room may also be shared with ICU.
Respiratory Store	steg-20-i similar	1	x	20	1	x	20	1	x	20	
Office - Clinical Handover	off-cln-i similar	1	x	10	1	x	15	1	x	15	Locate near staff station
Office - Write-up Bay	off-wi-1-i	2	x	1	6	x	1	10	x	1	1 per each enclosed bed room
Staff Station	sstn-14-i similar sstn-20-i similar	1	x	12	1	x	18	1	x	20	
Store - Equipment	steg-10-i steg-14-i	1	x	10	1	x	14	1	x	14	May be subdivided
Store - General	stgn-14-i similar	1	x	12	1	x	16	1	x	16	
Store - Sterile Stock	stss-12-i similar stss-20-i similar	1	x	6	1	x	12	1	x	24	Room size according to service requirements
On-call Room	ovbr-10-i	1	x	10	1	x	10	1	x	10	One per Pod. But may also be grouped together between several units.
On-call Room -Ensuite	oves-4-i	1	x	4	1	x	4	1	x	4	
Office - Single Person	off-s9-i	1	x	9	1	x	9	1	x	9	Unit Manager
Office - 2 Person Shared	off-2p-i				1	x	12	1	x	12	Nurse Educators, Staff Specialists, Clinicians
Office - Workstation	off-ws-i	1	x	5.5	2	x	5.5	4	x	5.5	Registrars, Nursing, Secretarial
Meeting Room	meet-l-15-i meet-l-30-i similar				1	x	15	1	x	25	Quantity and size dependent on Service Plan
Bay - Beverage	bbev-op-i bbev-enc-i				1	x	4	1	x	5	Optional, near Meeting Room/s
Store - Photocopy/ Stationery	stps-8-i similar	1	x	8	1	x	8	1	x	10	
Staff Lounge (Male / Female)	srm-15-i	2	x	15	2	x	15	2	x	15	Male/ Female, Include Beverage Bay



## High Dependency Unit

ROOM/ SPACE Size	Standard Component Room Codes	RDL 3 Qty x m <sup>2</sup> 4 Beds			RDL 4 Qty x m <sup>2</sup> 8 Beds			RDL 5/6 Qty x m <sup>2</sup> 12 Beds			Remarks
		Qty	m <sup>2</sup>	4 Beds	Qty	m <sup>2</sup>	8 Beds	Qty	m <sup>2</sup>	12 Beds	
Change - Staff (Male/Female)	chst12-i similar chst-20-i	2	x	10	2	x	14	2	x	20	Toilets, Shower & Lockers; size depends on staff numbers
<b>Sub Total</b>				352.5			594			795	
<b>Circulation %</b>				40			40			40	
<b>Area Total</b>				494			832			1113	

Please note the following:

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

## 9 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.healthfacilitydesign.com.au](http://www.healthfacilitydesign.com.au)
- DH (Department of Health) (UK), Health Building Note 57: Facilities for critical care, 2003, refer to website [www.estatesknowledge.dh.gov.uk](http://www.estatesknowledge.dh.gov.uk)
- Guidelines for Design and Construction of Hospitals; The Facility Guidelines Institute, 2018 Edition; refer to website: [www.fgiguideines.org](http://www.fgiguideines.org)
- AHIA, Australasian Health Facility Guidelines, Part B Health Facility Briefing and Planning, HPU 0360 - Intensive Care - General, Rev 6, 2016; refer to website: <https://healthfacilityguidelines.com.au/health-planning-units>