Part B – Health Facility Briefing & Design

415 Stroke Centre

iHFG

International Health Facility Guidelines

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415 Stroke Centre

1 Introduction

Description

A Stroke Centre is a designated facility for the treatment of acute stroke patients, i.e. the treatment of patients within 24 to 72 hours following the onset of stroke symptoms.

The system of care is one that oversees patient access to a full range of coordinated services necessary for all aspects of stroke management, including notification and response of emergency medical service, acute treatment, rehabilitation and prevention.

This is provided through a multidisciplinary team of licensed trained professionals in stroke medicine. This team includes physicians, nurses, surgeons, physiotherapists, speech therapists, occupational therapists and allied health staff. Cerebrovascular and neurology expertise, including thrombectomy, neurosurgery and vascular surgery, is essential. Facility for inpatient rehabilitation shall be provided, which usually commences within 24 to 48 hours of symptom onset.

This guideline defines the service specification and minimum requirements for a healthcare facility designated as a fully capable Stroke Centre.

2 Functional and Planning Considerations

Operational Models

The Stroke Centre will provide services 24 hours a day, seven days a week.

The Stroke Centre must be configured to enable the recognition and treatment of a stroke in the most efficient and fastest time possible.

Models of Care

Stroke centres are classified into three categories based on the level of acute stroke care they provide, whereby their geographical distribution ensures safe and timely access to care for all patients. The level of care available should support the delineated role of a particular hospital.

- **Comprehensive Stroke Centre (CSC);** a centre that provides care for all types of strokes, including haemorrhagic strokes. Care is provided in a stroke unit through a multidisciplinary team, including licensed trained professionals in neurosurgery, vascular neurology and endovascular procedures. The centre will have a dedicated intensive care unit with a neurology focus. Inpatient and outpatient rehabilitation is also available. This unit is suitable for hospitals at the Role Delineation levels (RDL) of 5 to 6.
- **Primary Stroke Centre (PSC);** similar to a CSC with the exception of neuro-intervention and/ or neurosurgical intervention. It must have a stroke unit where a multidisciplinary team is trained in acute stroke care, where most cases of ischemic types of stroke can be treated. It shall also be capable of advanced imaging. Complex cases are sent to a CSC. This unit is suitable for hospitals at the Role Delineation levels (RDL) of 3 to 5.
- **Acute Stroke Ready Centre (SRC)**; a facility with a 24 hours emergency unit which has the capability to perform rapid stroke assessment and stabilization of the patient. It is capable of imaging and intravenous thrombolysis but does not have a dedicated stroke unit. SRC cannot admit a patient, therefore they have to be transferred to a PSC or CSC if deemed necessary. This unit is suitable for hospitals at the Role Delineation levels (RDL) of 3 to 4.

This Functional Planning Unit (FPU) will describe the design requirements for a Comprehensive Stroke Centre, with emphasis on the Stroke Unit portion of the facility. For further information on the supporting components of the Stroke Centre, please refer to their related FPU within these guidelines.

Planning Models

The Stroke Unit will be fully dedicated to stroke patients or patients exhibiting stroke symptoms. It shall not be shared with other patient types or specialities.

The Stroke Unit must be supported by other core components. For a Comprehensive Stroke Care Centre all core components required to support the Stroke Unit must be fully dedicated and exclusive to the Stroke Unit. In other facilities, there is no need to duplicate or replicate such shared components. Instead, the use of such shared facilities for the Stroke Unit should be established in the operational policies, staff training and HIMS software.

The minimum core components required for a Stroke Unit are as follows:

- Neurology Investigation Unit (Stroke Clinic)
- Intensive Care Unit (with a neurology focus)
- Integrated Medical Imaging with CT and MRI modalities as a minimum
- Operating Unit
- Acute Rehabilitation (within the Stroke Unit)

The additional supporting components required are as follows:

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

The Stroke Unit should generally be located for efficient ambulant and ambulance access at ground level, with good access to public transport. The entrances must be covered and provide shelter for ambulances and crew to unload and load patients.

Ambulance entrance must always be separated from the public entrance using separate doors.

The Stroke Unit should be clearly identified from all approaches. Signposting that is illuminated is desirable to allow visibility at night.

Planning of the Unit will depend on the Operational Model/ Model of Care adopted, and the Service plan which establishes the role delineation and size of the service.

The location and design should consider expansion if additional beds are required in the future.

Functional Areas

The Stroke Unit will consist of the following Functional Areas:

- Entrance / Reception/ Waiting
  - Receiving of patients and visitors and administration
  - Patient waiting with areas for refreshments and amenities
  - Security room
  - Public amenities

- Triage
  - Triage Assessment for ambulant patients
  - Triage Assessment for ambulance patients
- Patient Resuscitation Area
- Neurology Investigation Unit
- Gown-up/ Gown-down areas for visitors
- Integrated Medical Imaging
- Patient/ Treatment Areas including
  - Patient Rooms and Ensuites
  - Procedures Room
  - Observation / Infusions Bays
- Acute Rehabilitation
- Support Areas
  - Bays for Handwashing basins, Linen, Mobile Equipment and resuscitation trolleys
  - Clean Utility and Medication rooms
  - Cleaners Room
  - Dirty Utility and Disposal Rooms
  - Meeting/ Grieving Room
  - Staff Station
  - Pantry
  - Handover areas
  - Store rooms
  - Pathology bay
  - Respiratory/ Biomedical Workroom
- Staff Areas:
  - Change Rooms with toilets, shower and lockers
  - Staff Room
  - Offices and Workstations
  - Meeting rooms that may be used for education and teaching functions
  - Overnight accommodation

These Functional Areas are briefly explained below.

Entry / Reception / Waiting Areas

The Stroke Unit should be accessible by two separate entrances: one for ambulance patients and the other for ambulant patients. If pandemic management is intended, then a separate path for infected patients is also required and managed by a visual triage room located outside the entrance.

It is recommended that each entrance area contains a separate lobby that can be sealed by remotely activating the security doors. Access to Treatment Areas should also be restricted using security doors.

The Ambulance Entrance should be screened as much as possible for sight and sound from the ambulant patient entrance. Both entrances should direct patient flow towards the Reception/Triage Area.

The entrances to the Stroke Unit must be at grade-level, well-marked, illuminated, and covered. It shall provide direct access from public roads for ambulance and vehicle traffic, with the entrance and driveway clearly marked. A ramp shall be provided for pedestrian and wheelchair access.

The ambulant entrance to the Unit should be designed for discharge of patients from vehicles and ambulances. Temporary parking should be provided close to the entrance.

Waiting Areas

The Waiting Area should provide sufficient space for waiting patients as well as relatives/ escorts.

The area should be open and easily observed from the Triage and Reception areas. Seating should be comfortable and adequate.

Support facilities such as a television should also be available. Fittings must not provide the opportunity for self-harm or harm towards staff.

From the Waiting Area there must be access to:

- Triage and Reception Areas
- Toilets
- Baby Change Room
- Light refreshment facilities which may include automatic beverage dispensing machines
- Health literature

It is desirable to have separate Waiting Areas particularly for children. Child play areas will provide equipment suitable for safe play activities, including a television. It shall be separated for sound from the general Waiting Rooms and must be visible to the Triage Nurse.

The area should be monitored to safeguard security and patient well-being.

All Waiting area seats must be visible from the Reception or Triage Station(s).

Reception / Clerical Areas

The Reception Area is required to accommodate:

- Reception of patients and visitors
- Registration interviews of patients
- Clinical records
- Printing of identification labels.

The counter should provide seating and be partitioned for privacy at the interview area. There should be direct communication with the Reception / Triage area and the Staff Station in the Unit Area.

The Reception/Clerical Area should be designed with due consideration for the safety of staff. This area requires a duress alarm. The Reception desk should be located where staff can observe and control access to treatment areas, pedestrian and ambulance entrances, and public waiting areas. The Reception should have direct observation of Waiting areas and Paediatric play areas if provided.

Triage

The Triage may be collocated with the Reception desk and should have clear vision to the Waiting Room, the ambulant entry and the ambulance entrance. The Triage nurse may interview patients and perform observations in relative privacy in a bed bay or triage cubicle. Triage should be accessible to ambulant and ambulance patients.

Special attention is to be given to the visual and acoustic privacy of patients when being interviewed and also to the quality of light when being examined (the latter requires adequate natural light or colour corrected artificial lighting or task lighting).

Resuscitation Area

The Resuscitation Room/ Bay is used for the resuscitation and treatment of critically ill patients. The Resuscitation Room/ Bay requires:

- Space to fit a specialised resuscitation bed
- Space to ensure 360-degree access to all parts of the patient for uninterrupted procedures
- Circulation space to allow movement of staff and equipment around the work area
- Maximum possible visual and auditory privacy for the occupants of the room and other patients and relatives
- Easy access from the ambulance entrance and separate from patient circulation areas

- Easy access to the Integrated Medical Imaging
- Easy access to the Beds area
- A full range of physiological monitoring and resuscitation equipment
- Workbenches, storage cupboards, X-ray viewing facilities (or digital electronic imaging system) and computer access
- Access to dirty utility and disposal facilities
- Solid partitions between this and other areas are recommended.

Each Resuscitation Bay should be equipped with:

- Service panel, service pendants or pods to maximise access to patients
- Physiological monitor with facility for ECG, printing, NIBP, SpO^2, temperature probe, invasive pressure, CO_2 monitor, ICP, cerebral oxygenation, cerebral perfusion
- A procedure light similar to a small, single arm operating light
- Equipment to hang IV fluids and attach infusion pumps
- Resuscitation patient trolley
- Wall mounted diagnostic set (ophthalmoscope/ auroscope)
- Clinical scrub basin with paper towel and soap fittings

Imaging facilities should include:

- Overhead X-ray or mobile digital x-ray
- X-ray screening (lead lining) of walls and partitions between beds
- Patient resuscitation bed/ trolley with X-ray capacity

Neurology Investigation Unit

The neurology investigation unit is a dedicated outpatient stroke clinic with a neurology focus. It provides a comprehensive and ongoing service for patients who have suffered a stroke or who are at risk of having a stroke. The unit shall:

- Be accessible to patients from the waiting area.
- Have access to the integrated medical imaging
- Have the following rooms or diagnostic testing specialities:
  - Consulting rooms
  - EEG testing
  - Electrocardiogram
  - Transthoracic echocardiography
  - Extracranial neurovascular ultrasonography
  - Transesophageal echocardiography (TEE)
  - Transcranial and carotid doppler
  - Holten monitor application
  - Access to MRI and CT

For further reading refer to the Outpatient Unit FPU within these Guidelines.

Gown-up/ Gown-down rooms

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

Integrated Medical Imaging

Due to the criticality of time for stroke treatment an integrated medical imaging unit that includes the following modalities is to be provided:

- CT, including CT brain and vasculature with the capability of CT angiography

- MRI, with diffusion capability and MR angiography
- For further reading, refer to the Medical Imaging FPU within these Guidelines.

Patient/ Treatment Areas

Patient Areas will include:

- Enclosed ICU Bays, Isolation rooms, and Ensuites provided according to the Service Plan.
  - All patient areas are to comply with Standard Components.
  - The provision of attached ensuite for ICU is permitted and will depend on the operational policies of the individual facilities. However, the provision of at least one toilet/shower per 6 beds is required and can be accessed via the corridor from all rooms.
  - The ICU room size should be sufficient to accommodate the patient, necessary personnel, physiologic and neuro monitoring capabilities, life support equipment and support services with safety considerations.
  - Work surfaces and storage areas must be adequate enough to maintain all necessary supplies and permit the performance of all desired procedures without the need for staff to leave the room.
  - All beds should be visible from the Staff Station. In a larger unit where this cannot be achieved, decentralized staff/ workstations with computer support should be provided at a minimum ratio of one per two adjoining rooms with direct view.
- Procedure Room

  A Procedure Room may be included if required by the Operational Policy of the Unit, located within or immediately adjacent to the Unit. One special Procedures Room may serve several ICUs in close proximity. The Procedure Room requires access for a bed and mobile X-Ray. Consideration should be given to ease of access for patients transported from areas outside the ICU.
- Observation/ Infusion Bays

These bays can be used for ambulant patients with complex conditions that require observation, investigation or follow up. They can also be used for patients requiring monitoring while undergoing intravenous thrombolysis. This zone provides patients access to specialist care and minimises delays. This facility will share a number of the support facilities with the ICU section of the Stroke Centre.

Acute Rehabilitation

A dedicated acute rehabilitation room should be provided within the Stroke Unit and optimised for a limited period that the patient is accommodated within the Unit. Rehabilitation usually begins within 24 to 48 hours of stroke onset. During this period the patient will be under intense observation.

After discharge from the Stroke Unit, the patient may be referred to a separate Inpatient Rehabilitation Unit or Day Rehabilitation Unit which may be within the same building or separate. The continuation of rehabilitation outside the Stroke Unit will be regarded as sub-acute, long term or slow stream rehabilitation.

Depending on the condition of the patient they may be referred to a Long Term Care (LTC) facility. For example, this can occur if stroke results in a permanent disability.

Refer to the Rehabilitation and Allied Health as well as the Long Term Care Unit FPUs within these Guidelines for further reading.

Support Areas

Pathology Bay

Pathology Bay or Pneumatic tube is required for rapid transportation of samples to Laboratories, that may be located at the Staff Station.

Overnight Accommodation

Overnight stay for medical staff (On-call rooms) shall be provided. On-call rooms may be within the Unit or within close proximity outside the Unit. Depending upon the availability of nearby

commercial accommodation, consideration should be given to the provision of overnight stay for relatives and staff. This will be dependent upon the size and intended function of the ICU. A motel type bed-sitter level of provision is recommended.

Storage Areas

Mobile equipment such as resuscitation trolleys and mobile X-ray, that are used and located within the unit, shall have storage areas that are out of traffic paths but conveniently located for easy access by staff. Consideration should be given to the ever-increasing amount of equipment used in the unit.

Respiratory/ Biomedical Workroom

A dedicated electronic and pneumatic equipment maintenance service may have to be accommodated within the hospital or a 24 hour on-call emergency service made available. This same service can be shared with other ICU pods or Emergency Unit.

3 Functional Relationships

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

External

The Stroke Unit will require close and efficient access to the following units:

- Emergency Unit; for transfer of suspected stroke patients from the Emergency Unit to the Stroke Unit
- Medical Imaging Unit with immediate access to CT and MRI modalities
- Clinical Information Unit – Patients' previous medical records are required to provide holistic care in Emergency Department. In order to minimise delays and labour costs, a mechanical or electronic record transfer system is recommended. 24 hours per day access to Clinical Information Unit is essential
- Operating Unit – with rapid access for patients requiring urgent surgery. It must be capable of treating concurrent/ simultaneous patients with acute stroke symptoms

Ready access is required to the following units:

- Inpatient Units
- Outpatients Unit - for patient follow-up and referrals for further investigation and ongoing review for non-admitted patients
- Nuclear Medicine (if incorporated in the facility or present in the campus), for cerebral perfusion imaging using PET or SPECT
- Laboratory Unit – also possible via pneumatic tube system. Results and analysis of blood tests but me available within 45 minutes of patient arrival.
- Pharmacy Unit
- Sterile Supply Unit – to obtain sterile equipment for surgical emergencies in Stroke Unit
- Mortuary – to transfer deceased patients
- Biomedical Engineering, to ensure availability and functioning of monitoring and life support equipment
- Inpatient and Outpatient Rehabilitation; with coordination of post-acute care
- Long-term Care – this can be in a separate facility
- Catering Unit
- Material Management and Housekeeping (either shared or provided as dedicated facilities)
- Education Unit (for RDL 5 and 6)
- Research Facilities (for RDL 6)

Important and desirable External functional relationships outlined in the diagram include:

- Bed access to/ from key clinical units associated with patient arrivals and transfer via service corridor
- Easy access from the Main Entrance of a facility
- Separate entries are provided for ambulant and ambulance patients
- Easy access to public amenities (either shared or provided as dedicated facilities)
- Easy access to parking for visitors and staff
- Public entry is in close proximity to urgent short-term parking
- Rapid and ready access to key clinical units such as Operating Unit and Medical Imaging for patient treatment and transfers via service corridor
- Ready access to Inpatient Units for patient transfer via service corridor
- Access to Outpatients Units via a public corridor, if available within the centre
- Entry for staff via service corridor
- Access to support untis including Clinical Information Unit, Supply, Sterile Supply Housekeeping, Catering Waste managmenent and Mortuary should be readily accessible for staff via a service corridor
- Access to diagnostic units such as Laboratory and Pharmacy via a service corridor and may be via a pneumatic tube or automated transport system

Internal

Optimal internal relationships to be achieved include those between:

- The design should allow for rapid access to every space with a minimum of cross traffic
- There must be close proximity between the Resuscitation areas for non-ambulant patients, other treatment areas for ambulant and non-ambulant patients, so that staff may be relocated at times of high workload
- Visitor and patient access to all areas should not traverse clinical areas
- Protection of visual, auditory and olfactory privacy is important whilst recognising the need for observation of patients by staff.
- Visitor waiting areas and access to the unit via Gown-up/ Gown-down rooms
- Patient occupied areas, forming the core of the unit, which require direct access and observation by staff
- Staff stations(s) and associated areas that need direct access and observation of patient areas and ready access to administration areas
- Alternatively, a series of de-centralised Reporting Stations located off the corridor for the immediate observation of the rooms
- Clinical Support Areas such as Utility and storage areas that need to be readily accessible to both patient and staff work areas
- Public/waiting areas located on the perimeter of the unit with access to lifts and circulations corridors
- Shared support areas that should be easily accessible from the unit served.

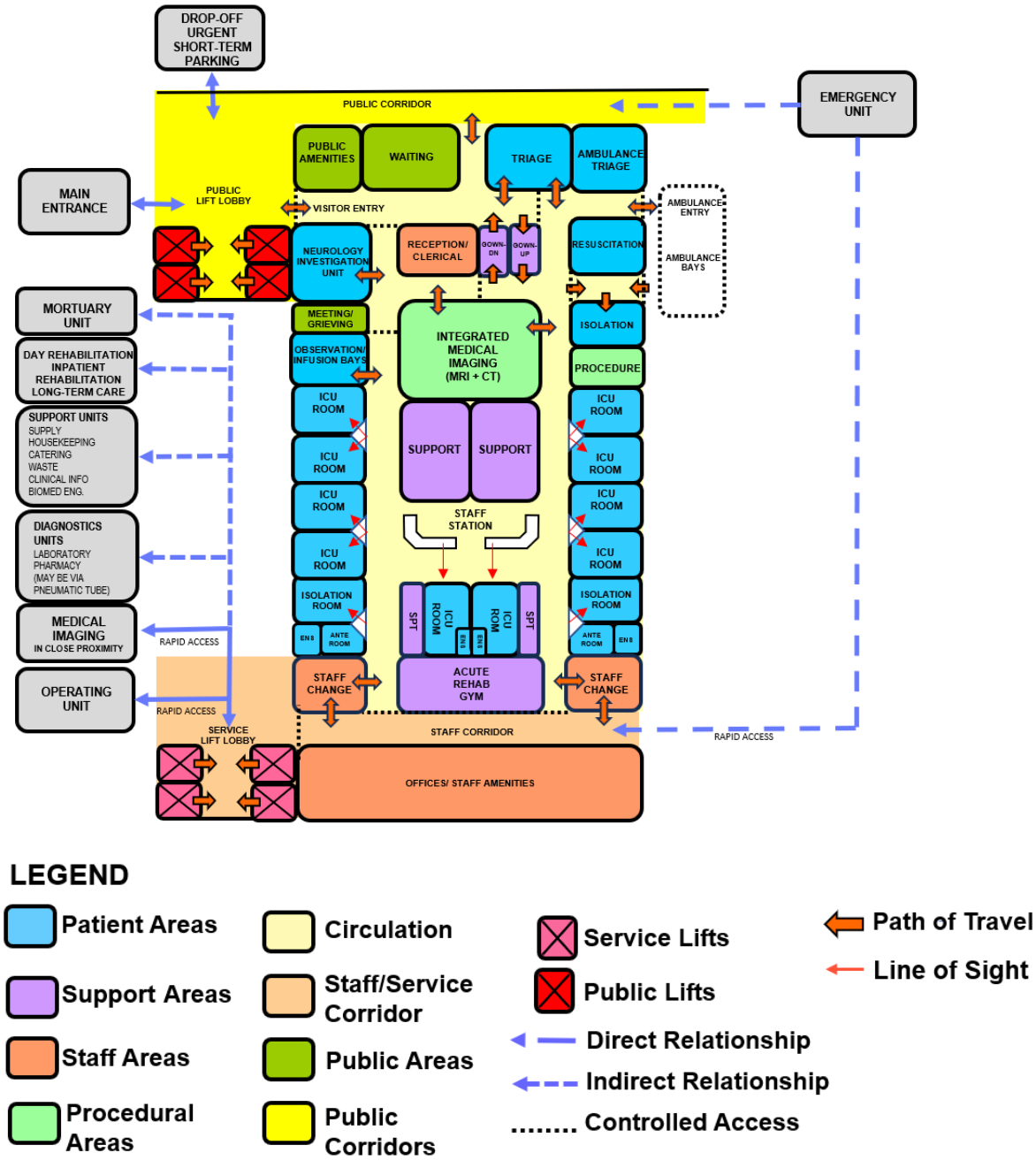
Important and desirable Internal relationships outlined in the diagram below:

- Triage and Waiting located at the Public Entry of the Unit; Ambulance Triage located at the Ambulance Entry
- Direct link from Ambulance Entry, to Ambulance Triage and Resuscitation areas
- Close proximity of Resuscitation and Patient Treatment Areas
- Access from all Patient Rooms and Consult areas to the Integrated Medical Imaging facilities

- Staff Station(s) located close to the Unit entry with supervision and control over the entry corridor and the patient areas
- Clinical support areas located close to Staff Stations (s) and centralised for ease of staff access
- Administrative areas located at the Unit entry and in staff accessible corridors
- Good visibility and access from Staff Station to Patient Bedrooms.
- Staff amenities and Administration may be accessed externally from staff/ service corridors and located on the perimeter of the Unit

Functional Relationship Diagram

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



4 Design Considerations

External Signposting

The emergency unit should be clearly identified from all approaches. Signposting that is illuminated is desirable to allow visibility at night. The use of graphic and character displays is encouraged.

Car Parking

Car parking should be close to the Entrance, well-lit and available exclusively for patients, their relatives and staff. Parking areas should be available close to the Emergency Unit for urgent call in staff. Undercover car parking should be available for:

- Appropriate number of ambulances which will be determined by the case load and the availability of ambulance access to other parts of the hospital for non-emergency patients
- Taxis and private vehicles that drop off/pick up patients adjacent to the ambulance entrance
- Temporary parking should be provided close to the entrance

Patient Treatment Areas

Patients must be situated where the healthcare providers have direct visualization, with a variety of monitoring at all times. This approach permits the monitoring of patient status under both routine and emergency circumstances. The preferred design is to allow a direct line of vision between the patient and the central Staff Station. In Stroke Centre with a modular design, patients should be visible from their respective nursing substations.

Sliding glass doors and partitions facilitate this arrangement and increase access to the room in emergency situations.

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

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

Renal Dialysis Facilities

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

Ambulance Service Requirements

Specific requirements of the Ambulance Service(s) serving the area shall be obtained and complied with. These requirements will be in relation to areas such as ramp gradients (if any), ambulance parking/ unloading area gradients, height clearance and ambulance bay dimensions.

Specific information about emergency vehicles and ambulances that will be used for the facility should be acquired from local public and private Ambulance Services.

The following consideration shall be given while designing the Ambulance areas:

- Access for Ambulances shall not conflict with other mobility vehicles or pedestrian traffic
- The Ambulance access shall be located away from public entrances and shall be reasonably screened from public view; a separate entrance is required and cannot be shared with the Main Public Entrance
- The Ambulance access is to be directly connected to the Emergency Unit; an air lock shall be provided between the inside and the outside; Ambulance access to the Emergency Unit shall not be via hospital corridors that are open for public access.
- The Ambulance collection/ drop off points must be discreet and shall be covered

- A lockable storage cupboard or room no less than 2 m^2 shall be provided for Ambulance supplies. The cupboard or room shall have adjustable shelves and be lockable with a separate key or keypad lock.
- A hose cock with attached hose shall be located close to an Ambulance bay for washing down the vehicle or trolleys; it is recommended that the hose cock and hose be located in a discrete cabinet or recessed bay.
- An intercom system shall be provided between the Ambulance door and the Emergency Unit Reception/Clerical Area, Triage Area or Staff Station; the Intercom system shall be integrated with a security CCTV system located to clearly show those requesting entry.
- All Ambulance Bays shall be clearly marked and sign-posted; the external signage system shall direct ambulances and vehicles carrying emergency cases to the Ambulance Bays. These signs shall be clearly visible at the entrance to the Hospital and/or any major change of direction. Signs directed to ambulance bays intended for emergency units or birthing units shall be permanently lit during the night. In order to avoid confusion, the signage system shall be designed in such a way that ambulant patients, including ambulant access to an emergency unit are not to be directed to the ambulance bay or ambulance door.
- A Communications Room is required, for up to three ambulance officers to communicate between major hospital centres and the ambulance service for coordination of Ambulance movements; the communications base is also a critical co-ordination centre in the event of a disaster.
  - The room should be immediately adjacent to the Ambulance entry of the Emergency Unit with direct line of sight to incoming ambulance vehicles and the parking bays.
  - The room will include workstation benches and chairs for 3 people, telephones, computer and radio communications systems.

Environmental Considerations

Acoustics

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

Clinical Areas should be designed to minimise the transmission of sound between adjacent treatment areas.

Special attention is to be given to the visual and acoustic privacy of patients when being interviewed in the triage area.

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

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

Acoustic treatment will be required to the following:

- Patient bedrooms;
- Triage and meeting rooms;
- Treatment rooms;
- Staff rooms/ Changing rooms;
- Toilets and showers

Natural Light/ Lighting

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.

Natural light should be favourably considered when planning the Stroke Unit in patient areas and is desirable in other support areas such as waiting and family areas.

As many ICU rooms as possible should have windows to reinforce day/ night orientation. If windows cannot be provided in each room, an alternate option is to allow a remote view of an outside window or skylight.

As a minimum 50% of ICU rooms should have direct access to a window. The balance of the rooms may have accessed to borrowed light via the corridor outside the room.

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

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

Privacy

The design of Stroke 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.

Each treatment space shall be provided with bed screens to ensure privacy of patients undergoing treatment in both private and shared areas.

Each bed shall be provided with bed screens to ensure privacy of patients undergoing treatment in the room. Refer to the Standard Components for examples.

Confidentiality for patients receiving treatment is a highly important consideration to be addressed. The other factors to be considered include:

- Use of windows in internal walls and/ or doors, provision of privacy blinds;
- The location of sanitary facilities to provide privacy for patients while not preventing observation by staff;
- Location of external/ internal courtyards or atrium facing bedroom windows to prevent others from looking into bedrooms
- Discreet spaces to enable confidentiality of discussions related to a patient and storage of patients medical records
- Privacy screening to bed and chair bays
- Consultation, Interview bays, Resuscitation bays and Patient bed bays should not be visible from public or waiting areas; examination couches should not face the door.

Space Standards and Components

Bed Spacing/ Clearances

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

All patient beds must comply with standard components for fittings, furniture, mechanical and electrical services and staff call systems including the clearances that they imply.

In critical care bedrooms, 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.

In ICU, unlike the configuration of Inpatient Unit bedrooms, the bed is to float in the centre of the room with all services accessible via ceiling mounted pendant. Staff must be able to freely circulate around the bed without any interference from cables, tubes and similar obstructions. Therefore, in ICU, the beds should not be placed against the wall.

For bed bays there should be at least 2.8 metres in width per curtained bed bay, and a minimum of 900mm clear space at the foot of each bed.

Accessibility

Design should provide ease of access for wheelchair bound patients to Reception desks, Staff Stations and Triage Rooms and Interview/ Meeting Rooms. Waiting areas should include spaces for wheelchairs and suitable seating for patients with disabilities or mobility aids.

Patient toilets and Ensuites should comply with accessibility requirements in accordance with these guidelines. Accessibility bedrooms and ensuites should enable normal activity for wheelchair dependent patients, as opposed to patients who are in a wheelchair as a result of their hospitalisation.

Doors and Corridors

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

Doors used for bed transfer to Operating Unit, Medical Imaging Unit, and Inpatient Units, must be appropriately positioned and sized. A minimum of 1400mm clear opening is recommended for doors requiring bed/trolley access.

Corridor width in the Stroke Unit must allow the passage of two hospital beds without difficulty. There should be adequate space for trolleys to enter or exit the rooms. Corridors should not be used for storage of equipment and bays provided for storage should not impede Corridor access.

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

Size of the Unit

The number of beds shall be determined by the facility's service plan. The minimum number of beds to establish a Stroke Unit is 10 beds. The recommended maximum number of beds visible from a single central staff station to critical care rooms should not exceed 12 beds (± 2).

Safety and Security

The Stroke Centre receives a large number of patients and their visitors, many of whom may be distressed. The hospital has a duty of care to provide for the safety and security of employees, patients and visitors, while remaining a non-threatening and supportive atmosphere conducive to recovery.

The precise details of security features should be designed in conjunction with a security risk assessment for the specific site.

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 health care facilities.

The arrangement of spaces and zones shall offer a high standard of security through the grouping of like functions and the provision of optimum observation for staff. The level of observation and visibility has security implications. Control over access and egress from the Unit is mandatory.

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

Drug Storage

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

In both scenarios, the room must contain:

- Benches and shelving;
- Medications may be manually stored and managed, or alternatively automated Medication Management systems may be utilised

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

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

Perimeter Access Control

Ambulatory and Ambulance entrances should be separate, with electronically operated locks. Access from the Waiting Areas to the treatment areas should be controlled. There should be restricted access from the remainder of the hospital into the Stroke Unit.

Reception / Triage Areas

The interface between the Waiting Areas and the Reception / Triage Areas should be carefully designed so as to permit communication and reassurance to distressed patients or visitors and yet provide safety and security for staff.

Counters should be of sufficient height and depth to minimise the possibility of them being jumped over or reached over.

The Reception Area should be designed so that staff may sit at eye level with standing patients or visitors. The Reception / Triage area should have an unobstructed view of the entire Waiting Area.

Fixed and/or personal duress alarms should be positioned in suitable areas as suggested by the security risk assessment, particularly Reception and Staff stations. Uniformed security personnel may be required at very short notice to assist with a safety or security issue.

Relatively secluded or isolated areas should be monitored electronically (for example, by closed circuit television), with monitors in easily visible and continuously staffed areas.

Finishes

Finishes including building fabric, floor, wall and ceiling finishes, should be aesthetic, relaxing and non-institutional as far as possible. The following additional factors should be considered in the selection of finishes:

- Acoustic properties
- Durability
- Ease of cleaning
- Infection control
- Fire safety
- Movement equipment, floor finishes should be resistant to marrying and shearing by wheeled equipment.

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

Walls shall be painted with lead free paint.

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

Construction, finishes, design for disabled access, parking, signposting, etc. shall be in accordance with the other relevant sections of these Guidelines

Floor Finishes

The floor finishes in all patient care areas and corridors should have the following characteristics:

- Non-slip surface
- Impermeable to water, body fluids
- Durable
- Easy to clean
- Acoustic properties that reduce sound transmission
- Shock absorption to optimise staff comfort but facilitate movement of beds

Equipment

Bedside monitoring equipment should be located to permit easy access and viewing, and should not interfere with the visualization of, or access to the patient. The bedside nurse and/or monitor technician must be able to observe the monitored status of each patient at a glance. This goal can be achieved either by a central monitoring station, or by bedside monitors that permit the observation of more than one patient simultaneously. Neither of these methods are intended to replace direct bedside observation.

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

Fixture and Fittings

Clocks

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

Bedside Storage

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

Window Treatments

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

Within ICU, curtain or blinds with horizontal blades may not be utilised. Vertical blinds, hollands blinds and venetian blinds (with double glazing) may be utilised.

Building Services Requirements

Mechanical Services

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

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

Information and Communication Technology

It is vital to provide reliable and effective IT/ Communications service for efficient operation of the Unit. The following items relating to IT/ Communication shall be addressed in the design of the Unit:

- Electronic patient records – Patient information systems
- Electronic forms and requests (e.g. scripts and investigative requests)
- Picture archiving communications systems (PACS)
- Telephones including cordless and mobile phone/ DECT

- Computers and hand-held computers
- Public Address System and Paging for staff and emergencies
- Patient call, nurse assist call, emergency call systems
- Duress systems
- Supply and records management systems including bar coding for supplies
- Wireless network requirements
- Videoconferencing requirements
- Communications rooms and server requirements.

Telephones

- Telephones should be available in all offices, at all staff stations, in the clerical area and in all consultation and other clinical rooms.
- The use of multi-function, wireless communication devices should be considered.
- A dedicated telephone to receive admitting requests from outside medical practitioners is desirable.
- A cordless phone or phone jack should be available for access to patients' beds.
- Direct telephone lines bypassing the hospital switchboard should be available for use in internal and external emergencies.
- The Staff Station should have a dedicated inward line for the for the ambulance and police services.

Telemedicine

Stroke Units using telemedicine facilities should have a dedicated, fully enclosed room with appropriate power and communications cabling provided. This room should be of suitable size to allow simultaneous viewing by members of multiple service teams and should be close to the Staff Station.

Nurse/ Emergency Call

Nurse and Emergency Call facilities shall be provided in all patient and treatment areas in order for patients and staff to request for urgent assistance.

The individual call buttons shall alert to an annunciator system. Annunciator panels should be located in strategic points within the circulation area, particularly Staff Stations, Staff Rooms, and Meeting Rooms and should be of the "non-scrolling" type, allowing all calls to be displayed at the same time. The audible signal of these call systems should be controllable to ensure minimal disturbance to patients at night. The alert to staff members shall be done in a discreet manner at all times.

Pneumatic Tube Systems

The Stroke Unit may include a pneumatic tube station, as determined by the facility Operational Policy. If provided the station should be located in close proximity to the Staff Station or under direct staff supervision. When required, a second PTS station may be provided within the medication storage area.

Requirements include:

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

Hydraulics

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

Refer to Part E - Engineering Services for details.

Heating Ventilation and Air-conditioning (HVAC)

The air temperature areas should be capable of being maintained along with relative humidity.

The Stroke Unit shall have appropriate air conditioning that allows control of temperature and humidity within each functional zone.

A local thermostat in the patient room should be provided from which room temperature can be adjusted by the occupant.

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

Medical Gases

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

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

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

Radiation Shielding

The Unit may undertake procedures involving imaging; plans and specifications will require assessment for radiation protection by a certified physicist or other qualified expert as required by the relevant Radiation and Nuclear Safety Agency. The radiation protection assessment will specify the type, location and amount of radiation protection required according to the final equipment selections and layout. Radiation protection requirements must be incorporated into the final specifications and building plans.

Infection Control

Handbasins

Hand basins for hand-washing should be located in close proximity to each treatment bay and must be included in each enclosed bay or treatment room. Hand basins should be accessible without traversing any other clinical area. All handbasins in clinical areas should be of surgical type with hands-free activation (Type A). Dispensers for non-sterile latex gloves should be available in the vicinity of each handbasin and each treatment area.

Clinical Hand-washing Facilities shall be provided convenient to the Staff Station and patient bed areas. The ratio of provision shall be one clinical hand-washing facility for every patient bedroom.

Refer to Part D- Infection Control for ratios of basins required in clinical areas.

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

At least one negative pressure Isolation Room shall be provided for each ICU 8 beds or part thereof. 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.

Positive Pressure ICU rooms will depend on the operational policy of the facility and the clinical assessment of the patient types expected. However, the provision of the least one negative pressure isolation room per pod is mandatory, but the provision of positive pressure isolation room is optional.

All entry points, doors or openings, shall be a minimum of 1400 mm wide, unobstructed. Larger openings may be required for special equipment, as determined by the Operational Policy.

5 Components of the Unit

Standard Components

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

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

- Room Primary Information; includes Briefed Area, Occupancy, Room Description and relationships, and special room requirements)
- Building Fabric and Finishes; identifies the fabric and finish required for the room ceiling, floor, walls, doors, and glazing requirements
- Furniture and Fittings; lists all the fittings and furniture typically located in the room; Furniture and Fittings are identified with a group number indicating who is responsible for providing the item according to a widely accepted description as follows:

Group	Description
1	Provided and installed by the builder
2	Provided by the Client and installed by the builder
3	Provided and installed by the Client

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

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

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

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

Non-Standard Components

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

6 Schedule of Equipment

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

Room/ Space		
Patient Bay - Resuscitation, Room Code (pbtr-r-n)		
Analyser: blood gas, point-of-care	Light: surgical	Ultrasound scanning unit: point-of-care
Bowl stand: single	Monitor: physiologic, critical care	Ventilator: transport
Cabinet: storage, medication, narcotics	Oxygen flowmeter	Kick bucket
Defibrillator: with monitor	Pump: suction/ aspirator, portable	Suction adapter
Diagnostic set: portable	Refrigerator: drugs	IV pole: mobile
Infusion pump: rapid, blood/ solution warming, on stand	Air flowmeter	Supply unit: ceiling
Infusion pump: single channel	Stool: adjustable, OR	Monitor: physiologic, intracranial pressure (ICP)
Infusion pump: syringe	Stretcher: radiography/ trauma	Doppler: transcranial (TCP)
Patient Bay - Acute Treatment, Room Code (pbtr-a12-n)		
Air flowmeter	Oxygen flowmeter	Light: procedure, single, ceiling mounted
Diagnostic set: wall mounted	Stretcher: procedure/ recovery	Linen carrier: dirty, single
IV pole: mobile	Suction adapter	Monitor: physiologic, acute care
Infusion pump: single channel		
Patient Bay - Critical (Enclosed); Class S Isolation & Patient Bay - Critical (Enclosed); Class N Isolation, Room Code (pbce-25-i)		
Air flowmeter	Infusion pump: single channel	Monitor: physiologic, critical care
Bed: ICU, electric	Infusion pump: syringe	Oxygen flowmeter
Chair: recliner, electric	Light: procedure	Sequential compression device
Infusion pump: enteral feeding	Linen carrier: dirty, single	Suction adapter
Supply unit: ceiling	Mattress: powered, low air loss, pressure redistribution with turn assist	Ventilator: adult/ paediatric
Table: overbed	IV pole: mobile	Monitor: physiologic, intracranial pressure (ICP)
Doppler: transcranial (TCP) (shared)		
EEG, Room Code (echo-l similar)		
Bed: inpatient, electric	Oxygen flowmeter	Suction adapter
Electroencephalograph (EEG)	Electromyograph (EMG) with evoked potential (optional)	

7 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 particular levels of service known as Role Delineation Level (RDL) and numbered from 2 to 6 (including in-between numbers such as 4-5). Level 2 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.

Stroke Centre

ROOM/ SPACE Unit Size	iHFG Standard Component Room Codes	RDL 5-6 Qty x m²			Remarks
Entry/ Reception/ Waiting					
Airlock - Entry	airle-10-i	1	x	10	Optional; May be shared with Main Entry; Ambulance entry may require separate Airlock
Waiting	wait-10-i wait-20-i	2	x	10	May be separate Male/ Female/ Family
Waiting - Family	wait-20-i wait-25-i	1	x	25	
Reception	rec-e-i similar	1	x	15	Staff to observe & control access
Play Area - Paediatric	plap-10-i similar	1	x	8	Adjoining Waiting area
Bay - Vending Machines	bvm-3-i bvm-5-i	1	x	3	Optional
Bay - Wheelchair Park	bwc-i similar	1	x	4	Wheelchairs & trolley holding
Parenting Room	par-i	1	x	6	May be shared with Main Entry
Police/ Security Room	secr-10-i similar	1	x	12	* Optional
Toilet- Accessible	wcac-i	1	x	6	May also include facilities for baby change
Toilet - Public & Patient	wcpt-i	2	x	4	For waiting patients and support persons
Gown Up/ Gown Down facility	gw-up-d gw-dn-d	2	x	6	
Meeting Room - Small	meet-9-i	1	x	9	May be used as Interview, Grieving room or as Telemedicine consult
Triage					
Triage - Nurse	rece-i similar	1	x	5	May include with Reception
Triage Cubicle/s	cub-tri-i	2	x	10	Includes exam couch and write-up desk
Ambulance Triage	ambtr-i	1	x	12	2 bays
Resuscitation/ Treatment Areas			4 spaces		
Patient Bay - Resuscitation	pbtr-r-i similar	2	x	28	includes handbasin within
Patient Bay - Enclosed, Isolation Negative Pressure	pbhe-is-n-i	1	x	14	includes hand basin within qty according to service plan
Anteroom	anrm-i	1	x	6	For negative pressure isolation room
Ensuite - Standard	ens-st-i	1	x	5	For Isolation room/s
Procedure Room	proc-20-i	1	x	20	
Observation/ Infusion Bays			5 spaces		
Patient Bay - Acute Treatment	pbtr-a12-i	5	x	12	Qty according to service plan; arranged in clusters of up to 12 beds
Bay - Handwashing, Type A	bhws-a-i	2	x	1	1 per 4 open treatment bays
Intensive Care Unit			10 spaces		
Patient Bay - Critical (Enclosed); Class S Isolation	pbce-25-i	8	x	25	Group of not more than 12, within observation of Staff Station
Patient Bay - Critical (Enclosed); Class N Isolation	pbce-25-i	2	x	25	Clustered, located away from Unit entrance
Anteroom	anrm-i	2	x	6	For Class N Isolation Rooms
Ensuite - Super	ens-sp-i	2	x	6	Size for 'full assistance', i.e. 2 staff plus equipment
Bathroom	bath-i	1	x	15	Inclusion depends on operational policy of unit
Observation Bay	off-wi-1-i similar	3	x	2	1 per 2 enclosed bed rooms

ROOM/ SPACE Unit Size	iHFG Standard Component Room Codes	RDL 5-6 Qty x m²			Remarks
Neurology Investigation Unit		4 rooms			
Consult Room	cons-i	4	x	14	Combined Consult/ Examination Room; Quantity according to service demand, consultants include neurologists, vascular neurologists and neurosurgeons
Vital Signs Room	vsr-i	1	x	8	
Blood Collection Bay	bldc-5-i	1	x	5	Optional, may use a shared facility if located close
Holtor/ Ambulatory BP Application	cons-I similar	1	x	10	Locate close to consult rooms
ECG Cubicle - 1 Patient	NS	1	x	8	screened cubicle close to hand wash basin
Echocardiography	echo-i	1	x	15	can be part of Cardiac Investigation Department
EEG	echo-I similar	1	x	15	
Office - Reporting	off-wis-i	1	x	12	Holter analysis and echo reporting
Bay - Handwashing, Type B	bhws-b-i	2	x	1	in corridors and staff work areas
Staff Station	sstn-5-i sstn-12-i similar	1	x	12	
Interview Room - Family	intf-i	1	x	12	
Integrated Medical Imaging		2 rooms			
C.T Scanning – Procedure Room	ctpr-i	1	x	45	Room size is dependent on equipment selected
C.T Scanning – Control Room	ancrt-i similar	1	x	12	
CT Computer Equipment Room	coeq-i	1	x	8	Room size dependant on equipment selected.
Bay – Resuscitation Trolley	bres-i	1	x	1.5	May be shared if located in close proximity to another unit
MRI Scanning Room	mri-42-i	1	x	42	Room size dependant on equipment selected
MRI Computer Equipment Room,	coeq-8-i similar	1	x	8	MRI. requirements as per manufacturers specifications
MRI Control/ Reporting Room	ancrt-14-i similar	1	x	12	
Anaesthetic Induction Room	anin-i	1	x	15	Optional
Viewing and Reporting Room	xrrr-12-i similar	1	x	12	May be combined with Control Room
Preparation/ Set-Up Room (Imaging)	prep-s-i	1	x	9	
Bay – Resuscitation Trolley	bres-i	1	x	1.5	non-ferrous
Patient Bay – Holding, 10m2	pbtr-h-10-i	2	x	10	1 outside each scanning room
Bay – Handwashing, Type B	bhws-b-i	1	x	1	1 per 4 bed bays
Bay – Handwashing, Type A	bhws-a-i	1	x	1	close to MRI room
Change Cubicle – Accessible, 4m2	chpt-d-i	2	x	4	1 cubicle per scanning room
Waiting – Sub	wait-sub-i	1	x	5	May be divided into gender segregated areas
Shared Support Areas					
Bay - Beverage	bbev-op-i bbev-enc-i	1	x	5	
Bay - Blanket Warmer	bbw-i	1	x	1	Optional
Bay - Handwashing, Type A	bhws-a-i	3	x	1	at Entry to the unit and in corridors
Bay - Linen	blin-i	2	x	2	
Bay - Mobile Equipment	bmeq-4-i bmeq-6-i	2	x	4	
Bay - Pathology	bpath-1-i bpath-3-i	1	x	3	
Bay - Pneumatic Tube	bpts-i	1	x	1	Optional

ROOM/ SPACE Unit Size	iHFG Standard Component Room Codes	RDL 5-6 Qty x m²			Remarks
Bay - PPE	bppe-i	1	x	1.5	As required, may be combined with Bay-Handwashing
Bay - Resuscitation Trolley	bres-i	1	x	1.5	
Clean Utility	clur-8-i clur-12-i	1	x	14	
Cleaner's Room	clrm-6-i	1	x	6	
Dirty Utility	dtur-s-i dtur-10-i dtur-12-i	1	x	14	
Disposal Room	disp-8-i	1	x	8	
Equipment Clean-up	ecl-8-i	1	x	8	Room size according to service requirements
Holding Room - Bodies	body-h-i	1	x	12	Optional; also used as 'Brought in Dead' room
Medication Room	medr-10-i similar	1	x	10	
Office - Clinical Workroom	off-clw-i similar	1	x	15	
Respiratory/ Biomedical Workroom	rewm-i similar	1	x	20	Inclusion depends on operational policy of unit
Staff Station	sstn-20-i similar	1	x	20	2m² per staff; may be divided for clusters
Store - Equipment	steq-10-i steq-15-i similar	1	x	15	
Store - General	stgn-8-i stgn-10-i stgn-12-i	2	x	12	
Store - Respiratory	steq-20-i	1	x	20	Inclusion depends on operational policy of unit
Store - Sterile Stock	stss-24-i	1	x	24	
Toilet - Accessible, Patient	wcac-i	2	x	6	shared with Neurology Investigation Unit
Staff Areas					
Staff Room	srm-15-i similar srm-20-i srm-30-i	1	x	30	
Change – Staff (Male/ Female)	chst-14-i chst-20-i	2	x	20	1.5m² per staff member
Office- Single Person, 12m²	off-s12-i	1	x	12	Note 1; Director
Office- Single Person, 9m²	off-s9-i	6	x	9	Note 1; Unit Manager, Staff Specialists, Radiologist, Interventional Neuroradiologist,, Nurse Manager
Office - Workstations	off-ws-i	4	x	5.5	Medical, Allied Health, Nursing, as required
Overnight Stay - Bedroom	ovbr-i	1	x	10	Optional
Overnight Stay - Ensuite	oves-i	1	x	4	Optional
Meeting Room - Medium/ Large	meet-l-15-i meet-l-30-i	1	x	30	
Meeting Room - Small	meet-9-i meet-12-i	1	x	12	
Store - Photocopy/ Stationery	stps-8-i	1	x	8	
Property Bay- Staff	prop-2-i				
Toilet - Staff	wcst-i	2	x	3	with close access to treatment areas
Sub Total				**1467**	
Circulation %				**40**	
Area Total				**2054**	

Note 1: Offices to be provided according to the number of approved full time positions within the Unit

Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation.
- Exact requirements for room quantities and sizes will reflect Key Planning Units identified in the Service Plan and the 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.
- Office areas are to be provided according to the Unit role delineation and the number of endorsed full time positions within the Unit
- Staff and support rooms may be shared between Functional Planning Units dependant on location and accessibility to each unit and may provide scope to reduce duplication of facilities.

8 References and Further Reading

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

- International Health Facility Guideline (iHFG) www.healthdesign.com.au/ihfg
- DOH (Department of Health) Abu Dhabi, Standard for Licensed Acute Stroke Centers, July 2022; refer to website https://www.doh.gov.ae
- Guidelines for Design and Construction of Health Care Facilities; The Facility Guidelines Institute, 2014 Edition; refer to website www.fgiguidelines.org
- Pragmatic solutions to reduce the global burden of stroke: a World Stroke Organization, The Lancet Neurology Commission, October 09, 2023
- Guidelines for Management of Stroke, World Health Organization (WHO)