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DUBAI HEALTH AUTHORITY

DHA Health Facility Guidelines 2019

Part B – Health Facility Briefing & Design

120 – Emergency Unit

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Executive Summary

This Functional Planning Unit (FPU) covers the requirements of an Emergency Unit. This unit is sometimes referred to as an "Emergency Department" (ED), "Emergency Room" (ER) and "Accident and Emergency Department (A&E). The Emergency Unit is designed to be the initial point of care and assessment for critically ill or injured patients. The Emergency Department does not provide long term inpatient care for patients.

The standard Emergency Unit is comprised of multiple functional zones to cater for the specific needs of various patients groups. Patients of similar acuity (urgency) or staff intensity may be treated in the same zone. Facilities for this model include separate areas for resuscitation, acute monitored beds, acute non monitored beds and ambulatory treatment spaces.

While there is no typical "efficient" unit size for an Emergency Unit this FPU describes the minimum requirements for support spaces for Emergency Units with 10, 15, 30 and 60 treatment spaces. The typical unit Schedule of Accommodation is provided using Standard Components (typical room templates) and quantities for these numbers. Optional inclusions such as a Short Stay Unit and Ambulance facilities are listed separately. Users should follow the principles established in these guidelines if they wish to create units of different sizes and configurations.

There are a number of models applicable to the design of Emergency Units (of all types). These have been shown in Functional Relationship Diagrams, indicating the planning principles and preferred relationship of the components.

Further reading material is suggested at the end of this FPU but none are mandatory.

Users who wish to propose minor deviations from these guidelines should use the **Non-Compliance Report** (**Appendix 4 in Part A**) to briefly describe and record their reasoning based on models of care and unique circumstances.

The details of this FPU follow overleaf.

Table of Contents

120. Emergency Unit

1 Introduction

The function of the Emergency Unit (EU) is to receive, stabilise and manage patients (adults and children) who present with a large variety of urgent and non-urgent conditions whether self or otherwise referred. The Emergency Unit may also assist in the reception and management of patients affected by regional disasters as part of the Unit's role within its geographical location.

It is recommended that hospitals not providing an Emergency Service (by DHA approval) display a prominent exterior sign at the main entrance stating this and giving the location of the nearest hospital with an Emergency Service.

2 Functional & Planning Considerations

2.1 Operational Models

The Emergency Unit typically operates 24 Hours per day, seven days per week.

The Emergency Unit may be configured in a number of models that are aimed at improving efficiency of treatment and may influence facility design. The majority of Emergency Units have a number of these models in operation as follows.

2.1.1 Triage and Registration

Patient assessment in Triage is the patients first point of contact followed by registration by clerical staff. In this model, the Reception and Triage are collocated. The patient is rapidly assessed and assigned to the appropriate care zone according to the 5 internationally recognised triage categories as follows below:

- Category 1:
  - People who require to have immediate treatment and assessment simultaneously

- Category 2:
  - People who require treatment within 10 minutes, deemed as having an imminently life-threatening condition
- Category 3:
  - People who require treatment within 30 minutes, deemed as having a potentially life-threatening condition
- Category 4:
  - People who require treatment within 60 minutes, deemed as having a potentially serious condition
- Category 5:
  - People who require treatment within 120 minutes, deemed as having a less urgent condition.

2.1.2 Patient Streaming

In this model the patient is first triaged and registered in a rapid triage model and transferred to a streaming zone for assessment by a senior Emergency Physician. A Streaming Zone Nurse should coordinate patients through the streaming area into a Early Treatment Zone.

2.1.3 Pit Stop / Early Treatment Zone

The Pit Stop/ Early Treatment Zone is a separate clinical area where patients are managed for a short time and then moved to another area of the EU such as Acute Care or Waiting Area for patients waiting on results before discharge. This model works in conjunction with other models such as Acute Care, Non-Acute Observation, Fast Track, Short Stay Units and Mental Health assessment.

2.1.4 Fast-Track

Specific patient groups may be assessed and treated via a separate 'fast' track to other EU presentations. This may occur at the triage point, or immediately after triage but in a separate zone.

Patient types suitable for this area are ambulant with non-complex conditions such as contagious diseases, minor injuries, and paediatric illnesses. Assessment and treatment of patients of triage categories 4 and 5 may be carried out in Consult/ Examination Rooms, and the majority of patients discharged to home.

2.1.5 Grouping by Patient Acuity

Patients of similar acuity (urgency) or staff intensity may be treated in the same zone. Facilities for this model include separate areas for resuscitation, acute monitored beds, acute non-monitored beds and ambulatory treatment spaces. There may be separate entry-points (or triage points) for the different areas. Staff may be separately allocated to different areas for each shift and may require separate Staff Stations and private workspace.

Examples of Grouping by Patient Acuity include:

2.1.5.1 Resuscitation and Trauma

This model sets out how resuscitation and trauma patients are assessed and managed in order to streamline the process and ensure the correct team and diagnostic services are available. This model ensures that when emergency or trauma patients arrive, trained staff are available to attend immediately.

2.1.5.2 Acute Care

The Acute Care model is aimed at assessment and treatment of patients that are acute or unstable with complex illnesses. Acute Care may be provided in a separate zone or allocated beds that require a higher level of care and endeavours to improve the patient's access to specialist care and minimise delays. The acute care environment typically uses a standardised clinical environment for each treatment space.

2.1.5.3 Non-Acute Care

Non-acute care involves assessment of the patient to determine their need for monitoring or interventional care. Patients in this category do not require acute care or monitoring but have complex conditions that require observation, investigation, discharge planning, or follow up and are not suitable for Fast Track care. Non-Acute care patients are allocated to a separate treatment area or a Short Stay area.

2.1.6 Grouping by Specialty

Patients may be managed in different areas according to the specialty of service they require e.g. paediatric assessment and observation or mental health assessment and emergency care. It is highly recommended to have zonal separation for mental health patients in facilites at RDL 4, 5 and 6 as well as paediatric patients. Patients may be triaged from a central arrival point, or from separate ambulance and ambulant entry points. Within each Functional Area, patients would be prioritised according to acuity. In this model, separate specialist staffing for each area is required, which would also include workspaces for staff.

2.1.7 Short Stay Unit

The Short Stay Unit is also known as Emergency Medical Unit (EMU) or Clinical Decision Unit and is a separate unit located adjacent or incorporated into the Emergency Unit. This may allow sharing of administrative, staff and support facilities. Patients suitable for the Short Stay Unit require observation, diagnostic services, therapy or follow-up that may take up to 24 hours. These patients are typically discharged home or admitted to an Inpatient Unit if their condition remains unresolved. Short Stay Units provide efficiency by improving the patient flow through the EU and improving bed management in the hospital by avoiding short term inpatient admissions.

2.1.8 Urgent Primary Care/ Urgent Care Centre

Facilities with a Role Delineation Level of 1 to 3 may provide an Urgent Primary Care Unit also known as an Urgent Care Centre instead of an Emergency Unit. The Urgent Primary Care Unit is able to undertake basic resuscitation, stabilisation and minor procedures with medical services provided by local General Practitioners supported by Registered Nurses. The Urgent Care Centre generally operates on a long day basis and may operate 24 hours per day, providing an extended late hour GP service. The Urgent Care Centre would have links to a network of local health services in order that patients requiring more specialised care would be transferred to a higher-level emergency unit.

3 Unit Planning Models

The Emergency Unit is generally located for efficient ambulant and ambulance access at ground level, with good access to public transport.

Planning of the Emergency Unit depends on the Operational Model/ Model of Care adopted, the patient mix, and the service plan which establishes the role delineation and size of the service. Planning should provide maximum flexibility of patient spaces to allow adaption to alternative models of care easily.

Where patients are grouped by acuity or by specialty distinct zones may be provided with good functional relationships to key areas of the unit and external units as noted in Functional Relationships. Planning should provide a clear path of travel for each zone with a minimum of cross traffic, for maximum unit efficiency. Reception and Triage areas should be located to allow maximum visibility for incoming ambulances, incoming ambulant patients and waiting areas. The

Unit should provide an isolatable area for use in infectious outbreaks and pandemics in RDL 5 and 6 facilities.

Decisions regarding the site location have a major influence on the eventual cost and operational efficiency of the Emergency Unit staff. The site of the Emergency Unit should, as much as possible, maximise the choices of layout. In particular, sites of access points must be carefully considered.

The Emergency Unit should be located on the ground floor for easy access by ambulant patients and ambulances. The entrances must be covered and provide shelter for ambulances and crew unloading and loaf-ding patients.

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 such as a white cross on a red background is encouraged.

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 are 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

A guide for the number of ambulance drop-of bays required by the number of ED beds is as follows.

- Up to 8 beds- 1 ambulance bays
- Up to 15 beds- 2 ambulance bays
- Up to 25 beds- 3 ambulance bays

- Up to 35 beds- 3-4 ambulance bays
- Up to 45 beds- 5 ambulance bays
- Up to 55 beds- 6 ambulance bays
- 65+ beds- based on traffic assessment

Note: Beds = Acute bed bays + Resus + Trauma but not observation or fast track

3.1 Functional Zones

An Emergency Unit may include the following Functional Zones, according to the facility's agreed

Service Plan:

- Entrance/ Reception/ Waiting
  - Receiving of patients and visitors and administration
  - Patient waiting with areas for refreshments and amenities
  - Security room
- Triage
  - Triage Assessment for ambulant patients
  - Triage Assessment for ambulance patients
- Patient Resuscitation/ Treatment Areas
  - Decontamination Shower
  - Resuscitation Bays
  - Acute Treatment bays/ rooms for assessment and treatment of severe conditions
  - Non-Acute treatment bays- for patients awaiting test results or requiring observation prior to admission or discharge.
  - Treatment & Procedure Rooms
- Fast Track/ Primary Care/ Consulting Area
  - Consult/ Examination rooms
  - Patient Bed/ Chair Bays
  - Vital signs room
  - Staff Station
  - Access to patient amenities

- 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.
  - Store rooms
- 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.

Optional Areas include:

- Paediatric Assessment/ Short Stay
- Mental Health Assessment Rooms
- Short-Stay Unit/ Emergency Medical Unit for extended observation and management of patients
- Ambulance Base and facilities.

In addition to standard treatment areas, depending on the service plan and models of care, some functions may require additional, specifically designed areas to fulfil special roles, such as:

- Streaming of patients to improve throughput and access to care which may require specialist areas such as Fast Track zone
- Management of paediatric patients
- Management of major trauma patients
- Management of mental health patients
- Management of patient following sexual assault

- Undergraduate and postgraduate teaching
- Transport and retrieval services
- Tele-medical referral/ consultation service

The inclusion of the above functional areas or specialist treatment zones are dependent on the size of the unit and the Service Plan of the facility.

The above zones are briefly described here:

3.1.1 Entrance/ Reception/ Waiting Areas

3.1.1.1 Entrance

The Emergency Unit should be accessible by two separate entrances: one for ambulance patients and the other for ambulant patients. It is recommended that each entrance area contains a separate foyer that can be sealed by remotely activating the security doors. Access to Treatment Areas should also be restricted by the use of 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 Emergency 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 Emergency Unit should be paved to allow discharge of patients from cars and ambulances. Temporary parking should be provided close to the entrance.

3.1.1.2 Waiting Areas

The Waiting Area should provide sufficient space for waiting patients as well as relatives/ escorts. The recommended area for Waiting is 1.5m^2 per 1,000 presentations per annum or 15m^2 as a minimum guide. The area should be open and easily observed from the Triage and Reception areas.

Seating should be comfortable and adequate. Space should be allowed for wheelchairs, prams, walking aids and patients being assisted. There should be an area where children may play.

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 and drinking water
- Telephones
- Health literature.

It is desirable to have a separate Waiting Areas particularly for children. Child play areas are to 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.

Consideration should be given to provision of a separate, negatively pressured Waiting area for use by patients presenting with suspected pandemic infections. All Waiting Area seats must be visible from the Reception or Triage Station.

3.1.1.3 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 Acute Treatment/ Observation Area.

The Reception/Clerical Area should be designed with due consideration for the safety of staff. This area requires a duress alarm easily accessible for staff. 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.

3.1.2 Triage

The Triage may be collocated with the Reception desk and should have clear a vision to the Waiting Room, the ambulant entry and the ambulance entrance. The Triage nurse may interview patients, perform observations and provide first aid in relative privacy in a Bed Bay or Triage Cubicle. Triage must include an examination couch with appropriate privacy screening.

3.1.3 Patient Resuscitation/ Treatment Areas

3.1.3.1 Decontamination Area

Emergency Units require a Decontamination area for patients who are contaminated with toxic substances. This requirement is mandatory for Units at RDL 4 to 6 facilities. The Decontamination area may be integrated with the Ambulance bay/s or directly accessible from the ambulance bay/s without entering any other part of the unit. The Decontamination area may consist of shower heads in a section of the Ambulance bay ceiling or a dedicated internal room with a shower hose

spray. For any hospital that may be called upon for major disaster management (by the DHA), consideration should be taken to provide large external decontaminiation area with deluge showers.

Additional requirements include:

- A retractable plastic screen to contain the water flow if located in an external area
- A flexible water hose, floor drain and contaminated water trap; all water flowing out of such a decontamination area shall be treated as contaminated water and treated accordingly.

3.1.3.2 Resuscitation Area

The Resuscitation Room/ Bay is used for the resuscitation and treatment of critically ill or injured 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 Acute Treatment/Observation area from the Staff Station
- 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, SpO2, temperature probe, invasive pressure, CO2 monitor
- 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

3.1.3.3 Acute and Non-Acute Treatment Areas

Acute Treatment Areas are used for the management of patients with acute illnesses. Non-acute Treatment Bays are provided for patients who are not critical but require observation or investigation prior to discharge. Requirements are as follows:

- Bed Bays to fit a standard mobile bed
- Storage space for essential equipment and supplies used at the bedside
- Space to allow monitoring equipment to be housed

All Treatment bays including Triage, require the following:

- Service panel with medical gases, power and data
- Examination light; the examination light must be a high standard focused light with a power

output of 30,000 lux, illuminate a field size of least 150 mm and be of robust construction

- Wall mounted sphygmomanometer
- Waste bins and sharps containers
- Patient call and emergency call facilities.

3.1.3.4 Patient Toilets/ Showers

In an Emergency Unit the following Patient Toilet/ Ensuite facilities are required (separate Male and Female):

- Up to eight treatment bays – two Patient Toilets/ Ensuite, one each for male/ female
- Between nine and 20 treatment bays – four Patient Toilets/ Ensuite, two each for male/ female
- Between 21 and 40 treatment bays – six Patient Toilet/ Ensuite, three each for male/ female
- More than 40 treatment bays – eight Patient Toilet/ Ensuite, four each for male/ female
- At least two of the above Toilets/ Ensuites to be Accessible for wheelchairs, one each for male/ female.

3.1.4 Fast Track/ Urgent Primary Care/ Consultation

If a Fast Track/ Primary Care/ Consultation Service is to be provided according to the service plan, the following facilities may be provided:

- Consulting / Examination room/s
- Bed/ Chair Bays for patients as required and according to the size of the service
- Staff Station; dependent upon the size of the service
- Pathology Bay or Pneumatic tube for rapid transportation of samples to Laboratories, that may be located at the Staff Station.

Facilities that may be shared with the Emergency Unit include

- Entrance and Reception; this may be a shared facility with the hospital or other specialty departments
- Waiting Area may be shared, and a sub-waiting space may be provided
- Treatment Room/s
- Dirty Utility/ Disposal Room
- Storage; as required
- Staff Room
- Toilets and Change Rooms; may be shared with the Emergency Unit and the hospital.

Consultation Rooms are to be provided according to Unit size and requirements for examination and treatment of ambulant patients. Consult Rooms are to comply with Standard Components - Consult Room.

Environmental Requirements; 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)

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

3.1.5 Support Areas

Support areas include Clean and Dirty utilities, Disposal room, Bays for linen, handwashing, mobile equipment and resuscitation trolley and Store Rooms to comply with Standard Components as identified in the Schedule of Accommodation.

3.1.5.1 Staff Station/s

The Staff Station/s should have an uninterrupted vision of the patients. It should be centrally located and may be constructed with an enclosed area to ensure confidential information can be conveyed without breach of privacy and to provide security to staff, information and privacy. The use of sliding windows and adjustable blinds can be used to modulate external stimuli and a separate write-up area may be considered.

3.1.5.2 Pathology Bay

A designated area for performing immediate laboratory investigations such as arterial blood gas analysis and microscopy should be considered in Units of Role Delineation Levels 4 to 6. Mechanical or pneumatic tube transport systems for specimens and electronic reporting of results are recommended.

3.1.5.3 Medication Room

A Medication Room is required for the storage of medications used within the Emergency Department. Entry should be secure with a self-closing door. The area should be accessible to all clinical areas and have sufficient space to house a drug refrigerator for the storage of heat sensitive drugs. The drug refrigerator should be temperature monitored and alarmed.

3.1.6 Optional Areas

Inclusion of the following optional areas is dependent on the clinical services plan.

3.1.6.1 Paediatric Assessment/ Short Stay

A separate zone may be provided, customised for paediatric patients with

- Controlled access for the safety and security of paediatric patients
- Paediatric play area, within the zone
- Paediatric Consult rooms
- Bed/ cot bays and chair bays for nebuliser therapy

- Staff Station with direct visibility to all treatment bays and areas
- Support areas contained within the zone for staff convenience.

3.1.6.2 Acute Mental Health & Behavioural Assessment Area

Patients suffering from an acute psychological or psychiatric crisis have unique and often complex requirements. An Emergency Unit should have adequate facilities for the reception, assessment, stabilisation and initial treatment of patients presenting with acute mental health problems.

It is not intended that this be used for prolonged observation of uncontrolled patients. The main purpose of such an area is to provide a safe and appropriate space to interview and stabilise patients. Acute mental health presentations have the potential to disrupt the normal operation of an Emergency Unit. Conversely, the busy environment of an Emergency Unit may not be conductive to the care of patients with acute mental health crises.

Patient flows should be separated where possible to maximise privacy and minimise disruption. A separate secure entrance for use by the police may be desirable. Patients should be continuously observable by staff either directly or via closed circuit television

The designated area should be within close proximity of other continuously staffed areas of the department, with ready access to assistance when required. As far as possible, the facility should not contain objects that could be thrown at staff. There should be two separate exits to allow the exit of staff if one exit is blocked. The exit doors should open outwards and should be lockable from the outside but not from the inside. If a window is incorporated, any drapes or blinds shading the window should be operable from outside. All areas should have easily accessible duress alarms.

As far as possible, the area should be free of heavy or breakable furniture, sharp or hard surfaces which could injure an uncontrolled patient and should incorporate tamper resistant electrical fittings. It should also incorporate interior design features that promote calmness, such as muted

colours and soft furnishings and appropriate lighting. Patient tracking devices may enhance security.

The Acute Mental Health & Behavioural Assessment Area should be separate enough from adjacent patient care areas to allow privacy for the mental health patient and protection of other patients from potential disturbance or violence. There should be acoustic and visual separation from adjacent clinical areas, but ready access for staff in the event of an urgent need for intervention. The incorporation of sound-insulating material is recommended.

Ideally the area should contain at least two separate but adjacent areas:

- Interview Room (Mental Health) with:
  - Two exit doors, swinging outward and lockable from outside, to allow for the escape of staff members when one exit is blocked; one door should be large enough to allow a patient to be carried through it; consideration should be given to solid core doors with safety viewing glass
  - Design that permits observation of the patient by staff outside the room at all times; this may be backed up with closed circuit television for the safety of staff
  - Acoustic shielding from external noise
  - Soft furnishings with no hard edges
  - No patient access to air vents or hanging points
  - Smoke detectors fitted
  - Duress alarm at each exit.
- Treatment room (Mental Health) with the following features:
  - The room should be immediately adjacent to the Interview room and should contain adequate facilities for physical examination of the patient; however, the inclusion of unnecessary and easily dislodged equipment should be avoided; a lockable retractable door or panel to services is recommended.
  - If operational policy dictates that intravenous sedation is to occur in this area, the room should include appropriate facilities and monitoring equipment, mounted out of reach of a potentially violent patient. The room should contain the minimum of additional fittings or hard furnishings that could be used to harm an uncontrolled patient. It should be of

sufficient size to allow a restraint team of five people to surround a patient on a standard Emergency Unit bed and should be at least 14m^2 in floor area.

3.1.6.3 Short Stay Unit (SSU)/ Emergency Medical Unit (EMU)/ Clinical Decision Unit

This facility may be provided either within or adjacent to the Emergency Unit for the prolonged observation and ongoing treatment of patients who are planned for subsequent discharge (directly from the EU). Patients may be kept in this Unit for diagnosis, treatment, testing or for medical stabilisation. The length of stay in the Unit is generally between 4 and 24 hours, although Unit policy may allow require longer stays. The Unit may also be situated separately to the Emergency Unit, although functionally linked.

According to the service plan, dedicated beds for short stay are separately designated and staffed. The types of patients planned to be admitted to this Unit determine the number and type of beds provided, and the design of associated monitoring and equipment. Staff Stations, work and storage and other support areas need to be available and may be shared if the unit is located physically close to other treatment areas.

3.1.6.4 Ambulance Service Requirements

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

Specific information about emergency vehicles and ambulances that are 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 vehicular 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 $2m^2$ 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 should include workstation benches and chairs for 3 persons, telephones, computer and radio communications systems.

4 Functional Relationships

A Functional Relationship can be defined as the correlation between various areas of activity which 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

4.1 External Relationships

The Emergency Unit requires close and efficient access to the following units:

- Medical Imaging Unit; The Medical Imaging Unit is to provide general X-Ray diagnostic investigations and other diagnostic screening services such as fluoroscopy, ultrasound, mammography, computed tomography (CT), magnetic resonance imaging (MRI) and other interventional radiographic procedures and immediate access to those modalities are highly recommended for effective Emergency Unit's operational procedure;
  - Medical Imaging may be provided as a satellite facility within the Emergency Unit; the requirement for film processing is dependent upon close proximity to the Medical Imaging Department and the use of digital radiology;
  - A system of electronic display of imaging is desirable.
- 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.
- Birthing Unit - for labour, deliveries and care for patients with antepartum complications
- Operating Unit – to transfer patients requiring emergency surgical procedures

- Cardiac Investigation Unit (particularly Cardiac Catheter Laboratories) – for patients who require further cardiac services consultation, diagnostic procedures, and interventional treatments
- Intensive Care Unit/ High Dependency Unit/ Coronary Care Unit - for admission of patients with severe conditions requiring close monitoring or life support.
- Ready access is required to the following:
  - Inpatient Accommodation Units – for admissions of medical and surgical patients
  - Outpatients Unit - for patient follow-up and referrals for further investigation and ongoing review for non-admitted patients
- Service Units including:
  - Catering Unit – for providing meals, beverages, and snacks for patients
  - Mortuary – to transfer deceased patients for storage and undertaking post mortems examination/ autopsies
  - Laboratory Unit – for sending patient specimen for testing and examination, this may be an automated link such as pneumatic tube system
  - Pharmacy Unit – pharmacy services for dispensing medications for discharged patient and enabling prescriptions to be filled by patients
  - Sterile Supply Unit – to obtain sterile equipment for surgical emergencies in Emergency Department

These key external functional relationships are demonstrated in the diagrams below including the following:

- Separate entries are provided for ambulant and ambulance patients
- Public entry is in close proximity to urgent short-term parking
- Rapid and ready access to key clinical units such as Operating Unit, Birthing Unit, Cardiac Catheter Labs, ICU/ HDU/ CCU 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
- Access to support units including Clinical Information Unit, Supply, Sterile Supply

Housekeeping, Catering Waste management 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.

4.2 Internal Relationships

Within the Unit, key functional relationships include the following:

- The design should allow for rapid access to every space with a minimum of cross traffic
- There must be close proximity between the Resuscitation / Acute Treatment 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.

The optimal internal relationships are outlined in the diagrams below include the following:

- 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
- Patient treatment areas divided into Fast Track, Acute/ Non-acute Care/ Observation, with the addition of specialist areas such as Paediatrics, Mental Health and Short Stay Unit in larger Emergency Units
- Staff Station/s located centrally within Treatment Areas, with direct oversight of Resuscitation, Acute Treatment and Non-acute Treatment bays

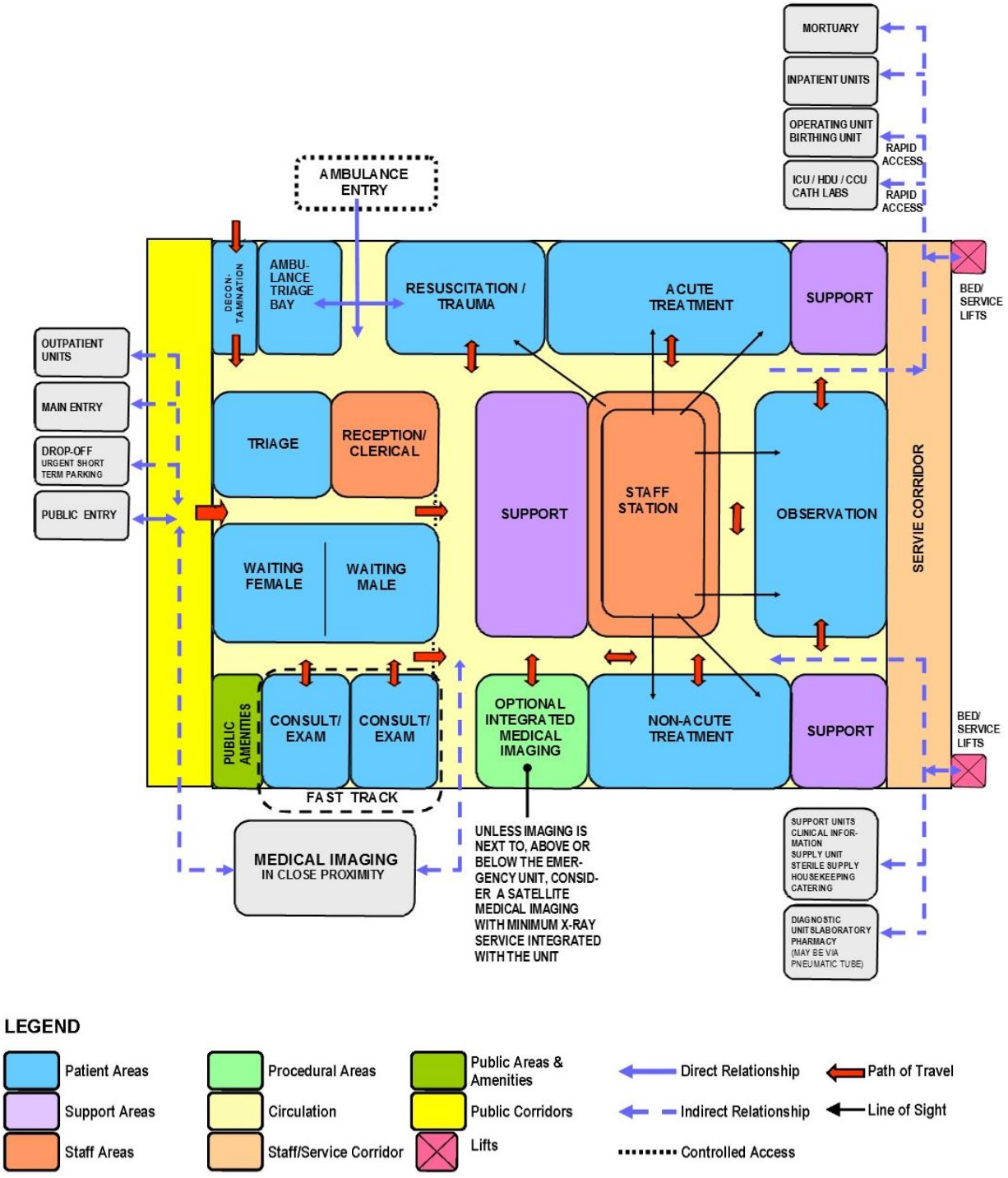
- Access from all Patient Treatment and Consult areas to the Integrated Medical Imaging facilities
- Support areas for Treatment zones located adjacent to the zones for ready access
- Staff amenities and Administration may be accessed externally from staff/ service corridors and located on the perimeter of the Unit.

4.3 Functional Relationship Diagrams

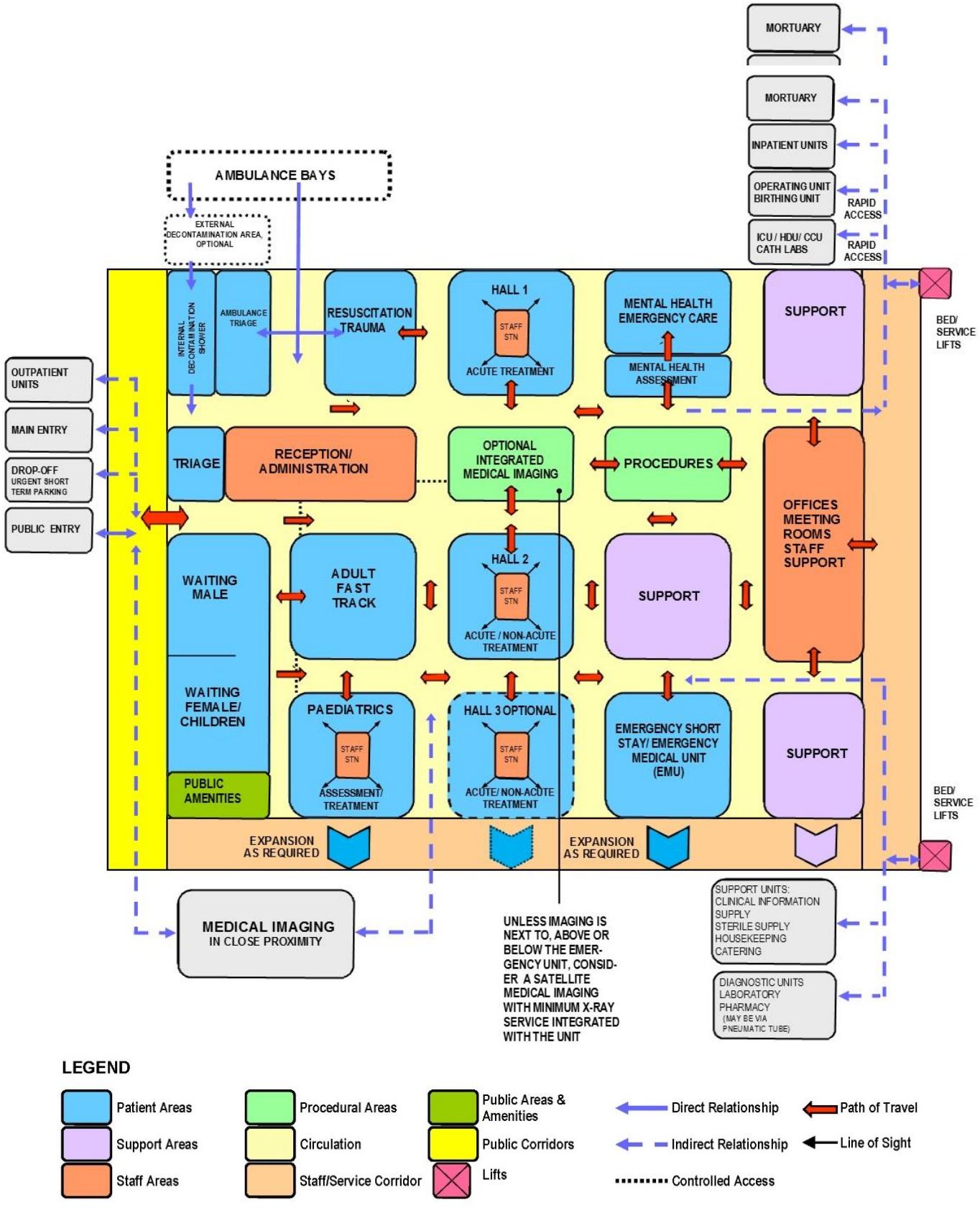
The functional relationships of a typical Emergency Unit of various sizes are demonstrated in the diagrams below. Other models need to have similar relationships but implemented in different ways. Refer to the typical models below.

4.3.1 Emergency Unit - Small: (nominal 5 to 10 Treatment spaces)

Services at RDL 1 - 3 are classified as Urgent Primary Care and may be delivered in an Urgent Care Centre.



4.3.2 Emergency Unit - Medium: (nominal 11 to 30 Treatment spaces)



4.3.3 Emergency Unit - Large: (nominal 31 to 100 or more Treatment spaces)

5 Design Considerations

5.1 Patient Treatment Areas

Patients must be situated so that healthcare providers have direct visualization, as far as possible. This 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 Staff Station. In large Emergency Units, treatment bed areas may be designed in clusters with a centralised staff station with maximum direct visibility of patients.

Treatment spaces may be fully or partially enclosed to ensure that confidential information can be conveyed without breach of privacy and to provide security to staff. Treatment bed spaces should be designed as acuity adaptable - to suit any patient acuity in order to provide maximum flexibility for patient placement within the Emergency Unit.

5.1.1 Paediatric Treatment Zone

Paediatric assessment and treatment should be designed as a separate zone and have restricted access for safety and security of paediatric patients.

Paediatric Bed Bays should be provided at the same size as Adult Bed Bays in order to provide future flexibility.

5.2 Environmental Considerations

5.2.1 Acoustics

The Emergency Unit should be designed to minimise the ambient noise level within the unit and transmission of sound between patient areas, staff areas and public areas. Consideration should be given to the location of noisy areas or activity, preferably placing them away from patient Bed Bays.

Acoustic treatment is required to the following:

- Consult/ Interview and triage areas for discussions/ interviews with clients;
- Seclusion and psychiatric assessment rooms
- Treatment and Procedure Rooms
- Waiting areas
- Staff Stations

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

5.2.2 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.

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

5.2.3 Privacy

The design of the Emergency Unit 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. The patient acuity and their correlating treatment zones are a major influence.

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

The following features shall be integrated to the design of the Unit:

- Doors and windows to be located appropriately to ensure patient privacy and not comprise staff security

- 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.

5.3 Space Standards and Components

5.3.1 Bed Spacing

In open plan treatment bed areas there should be at least 2.4 metres of clear floor space between the centers of each bed and a minimum of 900mm clear space at the side and foot of each bed. If solid walls are used between treatment spaced then the minimum clear space should be 2800mm from centre to centre of walls.

5.4 Accessibility

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

5.5 Doors and Corridors

Doors used for bed transfer to Operating Unit, Medical Imaging Unit, Critical Care Units 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 Emergency Unit must allow the passage of two hospital beds without difficulty. There should be adequate space for trolleys to enter or exit Treatment, Procedure and

Consult Rooms. Corridors should not be used for storage of equipment and bays provided for storage should not impede Corridor access.

Note: Refer to **Part C - Access, Mobility and OH&S** in these Guidelines - Space Standards & Dimensions for further information on corridor standards.

5.6 Size of the Unit

The size of the Emergency Unit is determined by the Clinical Services Plan establishing the intended services scope and complexity.

Schedules of Accommodation have been provided for typical small, medium and large facilities along with the typical Role Delineation that may apply to that size. Small, medium and large facilities are nominally defined as follows:

- Small: 5 to 10 treatment spaces (not including Procedure and Treatment Rooms)
- Medium: 11 to 30 treatment spaces
- Large: 31 to 100 or more treatment spaces

5.7 Safety and Security

The Emergency Unit 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 in Emergency Departments and health care 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 Emergency Unit receives a large number of patients and their visitors, many of whom may be distressed or involved in violence. The hospital has a duty of care to provide for the safety and security of employees, patients and visitors. Both policies and structures should be in place to minimise injury, psychological trauma and damage or loss of property. The precise details of security features should be designed in conjunction with a security risk assessment for the specific site.

The location of an office for security personnel near the entrance should be considered. This room should be positioned so that it allows Security Staff a clear view of the Waiting Room, Triage and Reception Areas. Immediate access to these areas is essential. Remote monitoring of other areas in the department by CCTV and of staff duress/personal alarms should also occur from this area.

5.8 Drug Storage

Controlled and dangerous drugs must be kept in a secure cabinet with alarm according to operational and drug storage policies. The room should be secured with staff only access and may include CCTV surveillance.

A lockable refrigerator or a refrigerator located within a lockable room is required to store restricted substances.

5.8.1 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 Emergency Unit.

5.8.2 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 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.

5.9 Finishes

Finishes including fabrics, floor, wall and ceiling finishes, should be appropriate to the nature of this unit including the following considerations:

- Ease of cleaning
- Infection control
- Acoustic properties
- Durability
- Fire safety
- Movement of equipment and impact resistance.

In areas where clinical observation is critical such as Bed Bays and treatment areas, lighting and colour selected must not impede the accurate assessment of skin tones. Walls shall be painted with lead free paint.

The floor finishes in all patient care and treatment areas should have a non-slip surface and be impermeable to water and body fluids.

Refer also to **Part C – Access, Mobility, OH&S** and **Part D - Infection Control** of these Guidelines.

5.10 Curtains/ Blinds

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

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

5.11 Building Service Requirements

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

5.11.1 Information and Communication Technology

Emergency Units are high volume users of telecommunications and information technology. The following items relating to IT/ Communication shall be addressed in the design of the Unit:

- Electronic Medical Records (EMR) which may form part of the 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
- Data entry including scripts and investigation requests
- Bar coding for supplies and X-rays/ Records

- Public Address system and Paging system for staff and emergencies
- Duress systems, personal mobile duress systems may be considered
- Data and communication outlets, servers and communication room requirements
- Optional availability of Wi-Fi for staff, patients and their visitors.
- Videoconferencing requirements.

5.11.2 Patient Information Systems

An electronic Emergency Unit Information System may be installed to support clinical management, patient tracking and departmental administration. Sufficient terminals should be available to ensure that queuing does not occur, even at peak times. Workspace design should include sufficient bench-widths or suitable suspension devices for terminals, keyboards, drives and printers. Additional computer terminals, software and peripheral devices should be installed to enable other departmental functions

5.11.3 Public Address System

An intercom or public-address system that can reach all areas of the Emergency Unit should be considered.

5.11.4 Telemedicine

Emergency 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.

5.11.5 Staff Call

Hospitals must provide an electronic call system next to each treatment space are zones including bathrooms 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 Nurse Call system may also use mobile paging systems or SMS to notify staff of a call.

5.11.6 Heating, Ventilation, Air-conditioning (HVAC)

The air temperature and humidity in all treatment and procedure areas should be controllable from within the unit and adjustable to ensure patient comfort and safety.

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

5.11.7 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, Procedure, Treatment or Consult Room according to the quantities noted in the Standard Components Room Data Sheets.

5.11.8 Radiation Shielding

The imaging rooms and areas where mobile imaging is used require radiation shielding. A certified physicist or qualified expert is to assess the plans and specifications for radiation protection as required by FANR. A radiation protection assessment specifies the type, location and amount of radiation protection required for an area according to the final equipment selections, the layout of the space and the relationship between the space and other occupied areas.

Radiation protection requirements must be incorporated into the final specifications and building plans. Consideration should be given to the provision of floor and ceiling shielding when rooms immediately above and below are occupied.

5.11.9 Pneumatic Tube Systems

The Emergency Unit may include a pneumatic tube station system, as determined by the facility Operational Policy. If provided the station/s should be located in close proximity to the Staff Stations within the treatment clusters or under direct staff supervision.

5.12 Infection Control

Handbasins for hand-washing should be located in close proximity to each treatment bay and must be included in each enclosed bay or treatment room. Han basins should be accessible without traversing any other clinical area. All handbasins in clinical areas should be the 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.

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

5.12.1 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. Both are required.

5.12.2 Isolation Rooms

At least one negative pressure Isolation Room should be provided in Units in RDLs 3 to 6. The need for additional negative pressure Isolation Rooms shall be determined by the infection control risk assessment.

Refer also to **Part D - Infection Control** in these Guidelines.

6 Standard Components of the Unit

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
2	Provided by the Client and installed by the builder
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 Emergency Unit 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.

6.1 Non-Standard Rooms

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.

6.1.1 Triage Cubicles (ambulant patients)

The Triage Cubicles are used for patient interview, observation and initial assessment, located adjacent to the Triage Desk or station. The cubicle may be enclosed or partly enclosed and include:

- Desk
- Chairs for patients and support person
- Exam couch with privacy screen curtains
- Equipment for measuring vital signs
- Handbasin with paper towel and soap fittings

The cubicle requires bed/ trolley access for patients requiring trolley transfer to other EU areas.

6.1.2 Holding Room (Bodies)

The Holding Room for bodies is a secure room for deceased patients on trolleys awaiting transfer to the Mortuary. The room is to contain a handbasin with paper towel and soap fittings. The room should be located in a staff only, quiet area of the Unit and sized to accommodate a single trolley.

6.1.3 Pneumatic Tube Station

The Pneumatic Tube Station 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

6.1.4 Vital Signs Room

The Vital Signs room is a room for measurement and recording of patient vital signs. The room includes:

- Desk and chair for staff
- Chairs for staff, patient and support person

- Handbasin with paper towel and soap dispensers
- Clinical measurement equipment:
  - Weighing scales
  - Stadiometer - height measurement device
  - Vital signs monitoring equipment, electronic

7 Schedule of Accommodation

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

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

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

The table below shows four alternative SOA's for three role delineations; a small unit with 10 Treatment spaces suitable for RDL 1 & 2, Medium sized units with 15 and 30 Treatment Bays for RDL 3 & 4 and a large unit with 60 (or more) Treatment Bays suitable for RDL 5 & 6.

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

7.1 Emergency Unit located within a health facility

Note: Services at RDL 1-3 are classified as Urgent Primary Care

ROOM/ SPACE	Standard Component Room Codes	RDL 1-2 Qty x m^2			RDL 3-4 Qty x m^2			RDL 3-4 Qty x m^2			RDL 5-6 Qty x m^2			Remarks
		Small-10 spaces			Med.-15 spaces			Med.-30 spaces			Large-60 spaces			
Entry/ Reception/ Waiting		Urgent Primary Care												
Airlock - Entry	airle-10-d	1	x	10	1	x	10	1	x	10	1	x	10	Optional; May be shared with Main Entry; Ambulance entry may require separate Airlock
Reception/ Clerical	recl-10-d recl-15-d similar	1	x	10	1	x	15	1	x	20	1	x	20	Staff to observe & control access
Waiting	wait-20-d wait-30-d similar							2	x	20	2	x	40	May be separate Male/ Female - minimum
Waiting - Family	wait-30-d similar	1	x	25	1	x	30	1	x	25	1	x	25	Minimum
Play Area	plap-10-d similar	1	x	8	1	x	8	1	x	10	1	x	10	Adjoining Waiting area
Bay - Vending Machines	bvm-3-d similar							1	x	3	1	x	5	Optional
Bay - Wheelchair Park	bwc-d similar	1	x	2	1	x	4	1	x	4	1	x	6	Wheelchairs & trolley holding
Parenting Room	par-d							1	x	6	1	x	6	May be shared with Main Entry
Police/ Security Room	secr-10-d similar				1	x	10 *	1	x	12	1	x	12	* Optional
Toilet- Accessible	wcac-d	1	x	6	1	x	6	1	x	6	1	x	6	May also include facilities for baby change
Toilet - Public	wcpt-d				1	x	4	2	x	4	2	x	4	
Triage														
Triage - Nurse	sstn-5-d similar	1	x	5	1	x	5	2	x	5	2	x	5	May include with Reception
Triage Cubicle (s)	NS				1	x	10	2	x	10	4	x	10	Includes exam couch and write-up desk
Ambulance Triage	ambtr-d similar				1	x	10	1	x	12	2	x	12	1, 2 & 4 bays respectively
Resuscitation/ Treatment Areas														
Decontamination Shower	shdec-d	1	x	8	1	x	8	1	x	8	1	x	8	May be external with ambulance bays
Patient Bay - Resuscitation	pbtr-r-d similar	1	x	35	1	x	35	3	x	28	4	x	28	35m^2 room has 2 bays, includes handbasin within
Patient Bay - Acute Treatment	pbtr-a12-d	2	x	12	5	x	12	8	x	12	18	x	12	Qty according to service plan; arranged in clusters of up to 12 beds

ROOM/ SPACE	Standard Component Room Codes	RDL 1-2 Qty x m^2	RDL 3-4 Qty x m^2	RDL 3-4 Qty x m^2	RDL 5-6 Qty x m^2	Remarks
		Small-10 spaces	Med.-15 spaces	Med.-30 spaces	Large-60 spaces	
Patient Bay - Non-Acute Treatment	pbtr-na-d	3 x 10	4 x 10	8 x 10	16 x 10	Qty according to service plan; arranged in clusters of up to 12 beds
Patient Bay - Enclosed, Isolation Negative Pressure	pbhe-12-d	1 x 12	1 x 12	1 x 12	2 x 12	Acute/ Non-acute; includes hand basin within Qty according to service plan
Patient Bay - Enclosed, Isolation - Standard/ Positive Pressure	pbhe-12-d		1 x 12	1 x 12	2 x 12	Acute/ Non-acute; includes hand basin within Qty according to service plan
General X-ray Room	genxr-d			1 x 30	2 x 30	Optional; for CT scanning & Control room additional area is required
Procedure Room	proc-20-d			1 x 20	2 x 20	May include plaster/splint facilities
Plaster Room	plst-14-d			1 x 14	1 x 14	Optional
Treatment Room	trmt-14-d		1 x 14	1 x 14	1 x 14	
Anteroom	anrm-d	1 x 6	2 x 6	2 x 6	2 x 6	For isolation room (s)
Ensuite - Standard	ens-st-d	1 x 5	2 x 5	2 x 5	2 x 5	For Isolation room (s)
Meeting Room - Small	meet-9-d			1 x 9	2 x 9	For use as Interview, Grieving room or Telemedicine consult
Shower - Patient	shpt-d	1 x 4	1 x 4	1 x 4	2 x 4	May be combined with Toilet-Patient
Toilet - Accessible, Patient	wcac-d	shared	1 x 6	2 x 6	2 x 6	
Toilet - Patient	wcpt-d	1 x 4	2 x 4	2 x 4	4 x 4	
Fast Track/ Primary Care/ Consulting		**2 spaces**	**3 spaces**	**5 spaces**	**10 spaces**	
Consult/ Exam Room	cons-d	2 x 13	3 x 13	3 x 13	4 x 13	
Consult - ENT/ Ophthalmology	cons-ent-opt-d			1 x 14	1 x 14	
Patient Bay - Non Acute Treatment	pbtr-na-d			1 x 10	5 x 10	
Vital Signs Room	NS		1 x 8	1 x 8	1 x 8	Optional
Bay - Handwashing, Type A	bhws-a-d			1 x 1	2 x 1	for bed bay area
Staff Station	sstn-5-d similar sstn-14-d similar		1 x 5	1 x 8	1 x 12	
Toilet - Patient	wcpt-d			1 x 4	2 x 4	
Support Areas						**May be shared between zones**
Bay - Beverage, Open Plan	bbev-op-d	1 x 5	1 x 5	1 x 5	1 x 5	
Bay - Handwashing, Type A	bhws-a-d	2 x 1	3 x 1	4 x 1	9 x 1	1 per 4 open treatment bays, minimum

ROOM/ SPACE	Standard Component Room Codes	RDL 1-2 Qty x m^2	RDL 3-4 Qty x m^2	RDL 3-4 Qty x m^2	RDL 5-6 Qty x m^2	Remarks
		Small-10 spaces	Med.-15 spaces	Med.-30 spaces	Large-60 spaces	
Bay - Linen	blin-d	1 x 2	1 x 2	2 x 2	2 x 2	
Bay - Mobile Equipment	bmeq-4-d similar	1 x 6	1 x 6	2 x 4	2 x 4	
Bay - Pathology	bpath-1-d similar	1 x 1	1 x 1	1 x 1	1 x 3	
Bay - Pneumatic Tube	NS	1 x 1	1 x 1	1 x 1	1 x 1	Optional
Bay - Resuscitation Trolley	bres-d	1 x 1.5	1 x 1.5	1 x 1.5	1 x 1.5	Adult and paediatric trolleys
Clean Utility	clur-8-d clur-12-d	1 x 8	1 x 8	1 x 12	2 x 12	
Cleaner's Room	clrm-6-d	1 x 6	1 x 6	1 x 6	1 x 6	
Dirty Utility	dtur-s-d dtur-12-d similar	1 x 8	1 x 8	1 x 10	2 x 12	
Disposal Room	disp-8-d	shared	shared	1 x 8	1 x 8	
Holding Room - Bodies	NS				1 x 12	Optional; also used as 'Brought in Dead' room
Medication Room	medr-10-d similar		1 x 8	1 x 10	1 x 12	
Office - Write-up, Shared	off-wis-d similar		1 x 10	1 x 12	1 x 12	
Staff Station	sstn-14-d similar sstn-20-d similar	1 x 10	1 x 12	1 x 20	1 x 30	$2m^2$ per staff; may be divided for clusters
Store - Crutches	stgn-8-d similar		1 x 2	1 x 2	1 x 2	
Store - Disaster Equipment	stde-d			1 x 8	1 x 8	
Store - Equipment	steq-10-d similar	1 x 8	1 x 10	1 x 12	1 x 15	
Store - General	stgn-8-d similar stgn-14-d similar	1 x 8	1 x 10	1 x 12	2 x 12	
Paediatric Assessment/ Short Stay				5 spaces	8 spaces	Optional dedicated zone
Patient Bay - Non-Acute Treatment	pbtr-na-d			4 x 10	6 x 10	bed or cot
Patient Bay - Enclosed, Isolation Negative Pressure	pbhe-12-d			1 x 12	1 x 12	includes handbasin within; Qty according to service need
Patient Bay - Enclosed, Isolation - Standard/ Positive Pressure	pbhe-12-d				1 x 12	includes handbasin within; Qty according to service need
Treatment Room - Paediatric	trmt-p-d			1 x 14	1 x 14	may include plaster/ splinting facilities
Play Area	plap-10-d			1 x 10	1 x 10	
Anteroom	anrm-d			1 x 6	2 x 6	For Isolation Room (s)
Bay - Handwashing, Type A	bhws-a-d			1 x 1	2 x 1	
Bay - Linen	blin-d			1 x 2	1 x 2	
Bay - Resuscitation Trolley	bres-d			1 x 1.5	1 x 1.5	For Paediatric

ROOM/ SPACE	Standard Component Room Codes	RDL 1-2 Qty x m^2	RDL 3-4 Qty x m^2	RDL 3-4 Qty x m^2	RDL 5-6 Qty x m^2	Remarks
		Small-10 spaces	Med.-15 spaces	Med.-30 spaces	Large-60 spaces	
Clean Utility -Sub	clur-8-d			1 x 8	1 x 8	
Dirty Utility - Sub	dtur-s-d			1 x 8	1 x 8	
Ensuite - Standard	ens-st-d			1 x 5	2 x 5	For Isolation Room (s)
Toilet - Patient	wcpt-d			1 x 4	1 x 4	
Shower - Patient	shpt-d			1 x 4	1 x 4	May be included with Toilet
Staff Station	sstn-14-d similar			1 x 12	1 x 14	
Store - Equipment/ General	steq-10-d steq-14-d			1 x 10	1 x 14	may include recharging of equipment
Mental Health/ Behavioural Assessment					2 spaces	**Optional dedicated zone**
Treatment Room - Secure Assessment (Mental Health)	trsa-d				1 x 14	
Exam/ Assessment - Mental Health	exas-mh-d				1 x 15	
Staff Station	sstn-5-d				1 x 5	
Staff Areas						
Staff Room	srm-15-d similar srm-25-d similar	shared	1 x 10	1 x 20	1 x 30	1.5m^2 per staff member
Change – Staff (Male/ Female)	chst-12-d similar chst-20-d similar	shared		2 x 14	2 x 20	Size for maximum staff per shift
Office- Single Person	off-s12-d			1 x 12	1 x 12	Director
Office- Single Person,	off-s9-d	1 x 9	2 x 9	3 x 9	5 x 9	Unit Manager, Staff Specialists
Office - Workstations	off-ws-d			4 x 5.5	8 x 5.5	Medical, Allied Health, Nursing, as required
Meeting Room - Medium/ Large	meet-l-15-d meet-l-30-d			1 x 15	1 x 30	
Meeting Room - Small	meet-9-d similar		1 x 9	1 x 12	1 x 12	
Store - Photocopy/ Stationery	stps-8-d			1 x 8	1 x 8	
Property Bay- Staff	prop-3-d		2 x 3			
Toilet - Staff	wcst-d		2 x 3		2 x 3	with close access to treatment areas
Sub Total		**295.5**	**527.5**	**1113**	**1813**	
Circulation %		**40**	**40**	**40**	**40**	
Area Total		**413.5**	**738.5**	**1558.2**	**2538.2**	

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 treatment spaces
- 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

7.2 Short Stay Unit/ Medical Assessment Unit/ Clinical Decision Unit

This Unit may be located within the Emergency Unit or located adjacent; support facilities may be shared for small units

ROOM/ SPACE	Standard Component Room Codes						RDL 4-6 Qty x m²			RDL 4-6 Qty x m²			Remarks
Size							**5 spaces**			**10 spaces**			
Patient Bay - Non-Acute Treatment	pbtr-na-d similar						4	x	12	8	x	12	Qty according to service plan
Patient Bay - Enclosed, Isolation Negative Pressure	pbhe-12-d						1	x	12	1	x	12	Includes handbasin within; Qty according to service need
Patient Bay - Enclosed, Isolation - Standard / Positive Pressure	pbhe-12-d									1	x	12	Includes handbasin within; Qty according to service need
Anteroom	anrm-d						1	x	6	2	x	6	For Isolation Room/s
Ensuite - Standard	ens-st-d						1	x	5	2	x	5	For Isolation Room/s
Bay - Handwashing, Type A	bhws-a-d						1	x	1	2	x	1	1 per 4 open treatment bays, minimum
Bay - Linen	blin-d						1	x	2	1	x	2	
Bay - Resuscitation Trolley	bres-d						1	x	1.5	1	x	1.5	
Clean Utility -Sub	clur-8-d						1	x	8	1	x	8	
Dirty Utility - Sub	dtur-s-d						shared			1	x	8	
Toilet - Patient	wcpt-d						1	x	4	2	x	4	
Shower - Patient	shpt-d						1	x	4	2	x	4	May be combined with Patient Toilet
Staff Station	sstn-5-d sstn-14-d similar						1	x	5	1	x	12	
Store - Equipment/ General	steq-10-d						shared			1	x	10	
Sub Total							**96.5**			**201.5**			

ROOM/ SPACE	Standard Component Room Codes			RDL 4-6 Qty x m²	RDL 4-6 Qty x m²	Remarks
Size				**5 spaces**	**10 spaces**	
Circulation %				**32**	**32**	
Area Total				**138.4**	**266**	

Refer to Notes on Emergency Unit Schedules of Accommodation.

7.3 Ambulance Base

For an Ambulance base located adjacent to the Emergency Unit or within the hospital precinct

ROOM/ SPACE	Standard Component Room Codes			RDL 3-4 Qty x m²	RDL 5-6 Qty x m²	Remarks
Ambulance Base						**Optional**
Reception/ Clerical	recl-10-d similar			1 x 9	1 x 9	
Bay - Cleaning (Ambulances)	bcl-1.5-d similar			1 x *	1 x *	*Optional, External area for cleaning ambulances
Office – Single Person	off-s9-d			1 x 9	1 x 9	Manager
Communications Base	off-wis-d similar			1 x 12	1 x 20	2, 4 person, shared, respectively
Overnight Accommodation Bedroom/ Ensuite - Staff	ovbr-d similar			1 x 14	1 x 14	As required, on-call staff
Store – General	stgn-8-d similar stgn-14-d			1 x 10	1 x 14	Stock and supplies
Store – Drug	stdr-5-d			1 x 5	1 x 5	
Staff Room	srm-15-d similar			1 x 12	1 x 15	
Change – Staff	chst-12-d similar			2 x 10	2 x 10	Shower, Toilet, Lockers
Sub Total				**91**	**106**	
Circulation %				**20**	**20**	
Area Total				**109.2**	**127.2**	

Refer to Notes on Emergency Unit Schedules of Accommodation.

8 Further Reading

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

- CDC (Center for Disease Control) US. Guidelines for Environmental Infection Control in Health-Care Facilities, US, refer to website: https://www.cdc.gov/infectioncontrol/guidelines/index.html
- Department of Health (UK) HBN 22; Accident and emergency facilities for adults and children; 2005, website: http://www.wales.nhs.uk/sites3/Documents/254/HBN%2022%20v2%20ed2005.pdf
- International Health Facility Guideline (iHFG) www.healthdesign.com.au/ihfg
- Ministry of Health UAE, Unified Healthcare Professional Qualification Requirements, 2017, refer to website: https://www.haad.ae/haad/tabid/927/Default.aspx
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Hospitals, 2018. Refer to website www.fgiguidelines.org
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Outpatient Facilities, 2018. Refer to website www.fgiguidelines.org