24.0 Inpatient Unit – General

24.1 Introduction

24.1.1 General

The prime function of the Inpatient Unit is to provide appropriate accommodation for the delivery of health care services including diagnosis, care and treatment to inpatients.

The Unit must also provide facilities and conditions to meet the needs of patients and visitors as well as the workplace requirements of staff.

24.1.2 Description

The Inpatient Accommodation Unit is for general medical and surgical patients. In larger health facilities this Unit includes specialist medical and surgical patients, for example, cardiac, neurology/neurosurgery, integrated palliative care and obstetric patients.
Patients awaiting placement elsewhere may also be accommodated in this type of facility.

24.2 Planning

24.2.1 Models of Care

Models of Care for an Inpatient Unit may vary dependent upon the patients' acuity and numbers of, and skill level of the nursing staff available.
Examples of the models of care that could be implemented include:

- Patient allocation
- Task assignment
- Team nursing
- Case management
- Primary care (comprehensive range of generalist services by multi-disciplinary teams that include not only GPs and nurses but also allied health professionals and other health workers) or
- A combination of these.

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

Levels of Care

The levels of care will range from highly acute nursing and specialist care (high dependency); with a progression to intermediate care prior to discharge of transfer (self-care).

Patients requiring 24-hour medical intervention or cover will generally not be nursed or managed within a general inpatient unit.

24.2.2 Planning Models

Bed Numbers and Complements

Each Inpatient Unit may contain up to 32 patient beds and shall have Bedroom accommodation complying with the Standard Components.

For additional beds up to 16 as an extension of a standard 32 bed Unit, this may be permitted with additional support facilities in proportion to the number of beds, for example 1 extra Sub Clean Utility, Sub Dirty Utility and storage.

For additional beds of more than 16, additional support facilities for a full unit (32 beds) will be required, located to serve the additional beds.

The preferred maximum number of beds in an acute Inpatient Unit in Maternity or Pediatric Units is 20–25 beds.

A minimum of 20 % of the total bed complement shall be provided as Single Bedrooms in an Inpatient Unit used for overnight stay; the current trend is to provide a greater proportion of single bedrooms largely for infection control reasons.

Swing Beds

For flexibility and added options for utilization it may be desirable to include provisions for Swing Beds. This may be a single bed, a group of beds that may be quickly converted from one category of use to another. An example might be long-stay beds which may be converted to acute beds.

At any given time, swing beds are part of an Inpatient Unit in terms of the total number of beds and the components of the unit. For example:
- Ward A + Swing Beds = One Inpatient Unit as per these Guidelines.
- Alternatively: Ward B + the same Swing Beds = One Inpatient Unit as per these Guidelines.

Facility design for swing beds will often require additional corridor doors and provision for switching patient/nurse call operation from one Staff Station to another. Security is also an issue, for example, converting General/Medical beds to Pediatric beds.

Unit Planning Options

There are a number of acceptable planning options for Inpatient Units including:
- Single Corridor – Patient and support rooms are clustered along a single corridor
- Double Corridor – racetrack; patient rooms are located on the external aspects of the space and support rooms are clustered in the central areas in a racetrack configuration
- Combinations: – L, T and Y shaped corridors, patient rooms are located along external aspects, support areas may be located in a central core area.

24.2.3 Functional Areas

The Inpatient Accommodation Unit will comprise the following Functional Areas or zones:
- Patient Areas – areas where patients are accommodated or facilities specifically serve patients
- Staff Areas – areas accessed by staff, including utility and storage areas
- Shared Areas – areas that may be shared by two or more Inpatient Units.

24.2.4 Functional Relationships

External

Principal relationships with other Units include:
- Easy access from the Main Entrance of a facility
- Inpatient Units must not be located so that access to one Unit is via another
- Ready access to diagnostic facilities such as Medical Imaging and Pathology
- Ready access to Emergency and Critical Care Units
- Surgical Units require ready access to Operating/Day Procedures Units
- Ready access to staff amenities.

Internal

Optimum internal relationships include:
- Patient occupied areas as the core of the unit
- The Staff Station and associated areas need direct access and observation of Patient Areas
- Utility and storage areas need ready access to both patient and staff work areas
- Public Areas should be on the outer edge of the Unit
- Shared Areas should be easily accessible from the Units served.

24.3 Design

24.3.1 Environmental Considerations

Acoustics

The Inpatient 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.

Consideration should be given to location of noisy areas or activity away from quiet areas including patient bedrooms and selection of sound absorbing materials and finishes.

Acoustic treatment will be required to the following:
- Patient bedrooms,
- Interview and meeting rooms
- Consult rooms
- Staff rooms
- Toilets and showers.

Refer also to Part C of these Guidelines.

Natural Light

The use of natural light should be maximized throughout the Unit. Natural light must be available in all bedrooms.

Observation and Privacy

The design of the Inpatient Unit needs to consider the contradictory requirement for staff visibility of patients while maintaining patient privacy. Unit design and location of staff stations will offer varying degrees of visibility and privacy. The patient acuity including high dependency, elderly or intermediate care will be a major influence.

Factors for consideration include:
- Use of windows in internal walls and/or doors
- Location of beds that may affect direct staff visibility
- Provision of bed screens to ensure privacy of patients undergoing treatment;
- Location of sanitary facilities to provide privacy for patients while not preventing observation by staff.

24.3.2 Space Standards and Components

Room Capacity and Dimensions

Maximum room capacity shall be four patients.
Minimum dimensions, excluding such items as ensuites, built-in robes, alcoves, entrance lobbies and floor -mounted mechanical equipment shall be as follows:

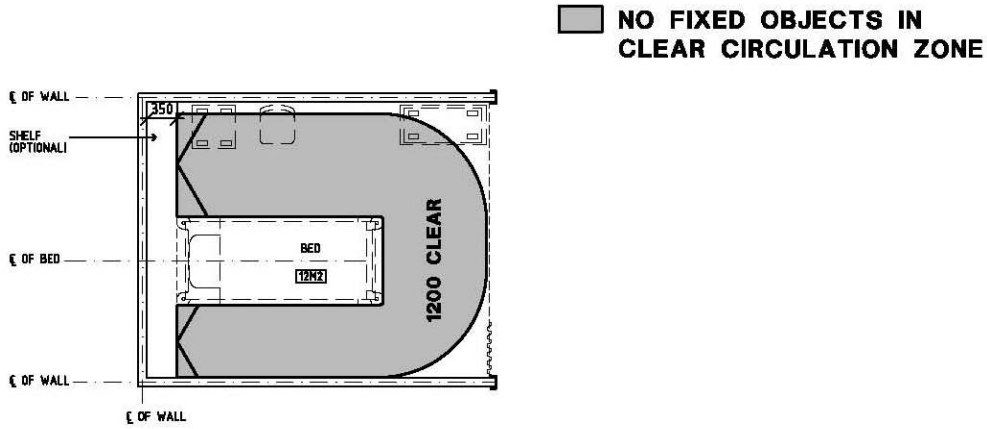
ROOM TYPE	WIDTH	LENGTH
Single Bedroom	3450mm	3600mm
Two Bedroom	3450mm	5600mm
Four Bedroom	6100mm	5600mm

Minimum room dimensions are based on overall bed dimensions (buffer to buffer) of 2250mm long x 1050mm wide. Minor encroachments including columns and hand basins that do not interfere with functions may be ignored when determining space requirements

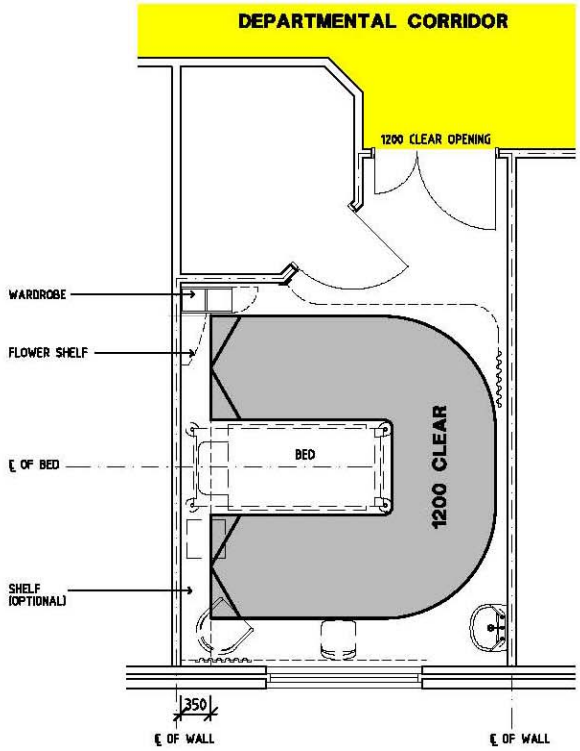
Bed Spacing/Clearances

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.

In bed rooms there shall be a clearance of 1200mm available at the foot of each bed to allow for easy movement of equipment and beds.
This is represented diagrammatically below:



1. TYPICAL BED BAY

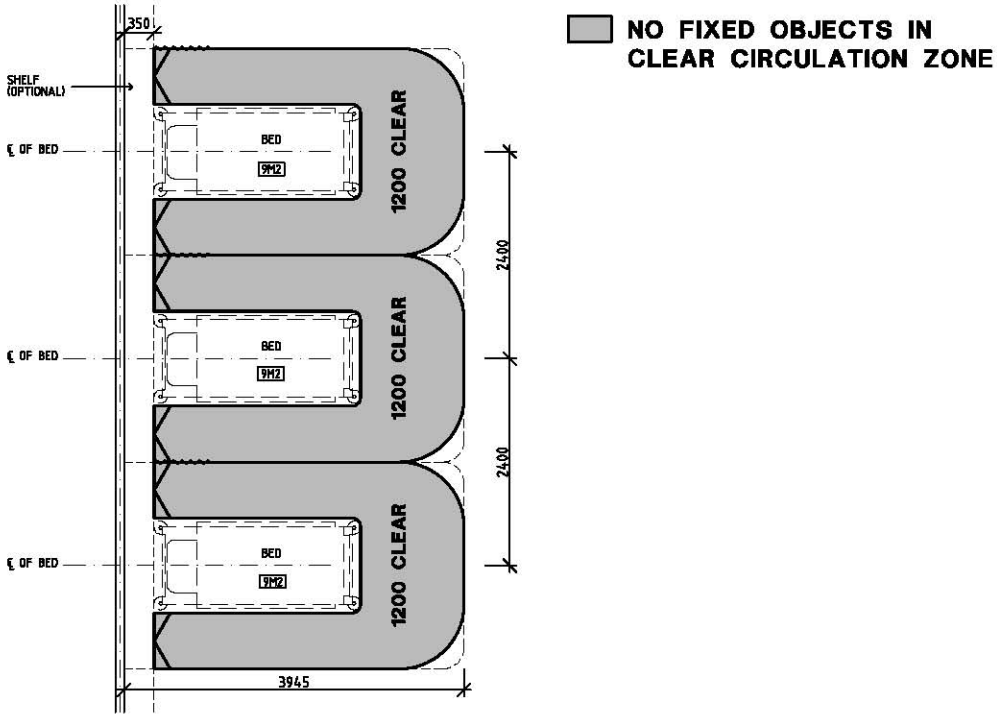


2. TYPICAL BED ROOM

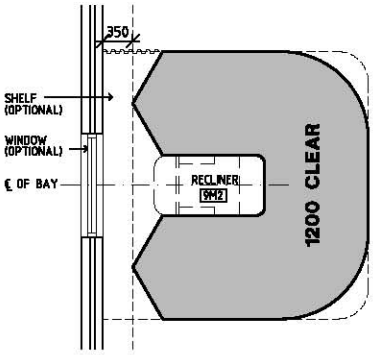
In multiple-bed rooms, the minimum distance between bed center lines shall be 2400mm.

Pediatric bedrooms that contain cots may have reduced bed centers, but consideration must be given to the spatial needs of visiting relatives. To allow for more flexible use of the room the 2400mm center line is still recommended. Consider allowing additional floor area within the room for the children to play.

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



3. TYPICAL OPEN PLAN BED BAYS



4. TYPICAL CHAIR SPACE

Bariatric Patient Facilities

In each Inpatient Unit provide facilities for bariatric patients according to the facility Operational Policy. Provisions will include:

- Large single Bedroom; Bedrooms will require additional space for a bariatric bed and lifter access
- Large single Ensuite, with access door to permit lifter access with staff assisting patient transfers

All fixtures and fittings for bariatric patients will need to accommodate up to 350kg weight
Ceiling suspended lifting system may be considered between the Bedroom bed area and the adjacent Ensuite.

24.3.3 Access, Mobility and OSH (Occupational Safety and Health)

Patient wheelchair access bedrooms and ensuites should enable normalization of activity for wheelchair dependent patients, as opposed to patients who are in a wheelchair as a result of their hospitalization.

24.3.4 Infection Control

Handbasins

Hand-washing facilities shall not impact on minimum clear corridor widths. At least one is to be conveniently accessible to the Staff Station. Handbasins are to comply with Standard Components – Bay – Hand-washing and Part D – Infection Control.

Isolation Rooms

At least one 'Class S – Standard' Isolation Room shall be provided for each 32 bed Inpatient Unit. At least one 'Class N – Negative Pressure' Isolation Room shall be provided for each 100 beds in facilities of level four and above. These beds may be used for normal acute care when not required for isolation.

24.3.5 Safety and Security

An Inpatient 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 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, control over access and egress from the Unit and the provision of optimum observation for staff. The level of observation and visibility has security implications

Drug Storage

Each Inpatient Accommodation Unit shall have a lockable storage area or cupboard containing:

- Benches and shelving
- Lockable cupboards for the storage of restricted substances
- A lockable steel cabinet for the storage of drugs of addiction
- A refrigerator, as required; to store restricted substances, it must be lockable or housed within a lockable storage area
- Space for medication trolley.

Note: Storage for dangerous drugs must be in accordance with the relevant legislation.

24.3.6 *Finishes*

Finishes including fabrics, floor, wall and ceiling finishes, should be selected with consideration to infection control, ease of cleaning and fire safety, while avoiding an institutional atmosphere. In areas where clinical observation is critical such as bedrooms and treatment areas, color selected must not impede the accurate assessment of skin tones.

24.3.7 *Fixtures and Fittings*

Bed Screens

In multiple-bed rooms, visual privacy from casual observation by other patients and visitors shall be provided for each patient. The design for privacy shall not restrict patient access to the entrance, toilet or shower.

Curtains/Blinds

Each room shall have partial blackout facilities (blinds or lined curtains) to allow patients to rest during the daytime.

24.3.8 *Building Services Requirements*

Information Technology/Communications

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

- Paperless records
- Hand-held computers
- PACS
- Paging and personal telephones replacing some aspects of call systems
- Data entry including scripts and investigation requests
- Email
- Bar coding for supplies and X-Rays/Records.

Nurse Call

Hospitals must provide an electronic call system that allows patients and staff to alert nurses and other health care staff in a discreet manner at all times. Patient calls are to be registered at the Staff Stations and must be audible within the service areas of the Unit including Clean Utilities and Dirty Utilities. If calls are not answered the call system should escalate the call priority. The Nurse Call system may also use mobile paging systems or SMS to notify staff of a call.

Patient Entertainment Systems

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

- Television
- Telephone
- Radio
- Internet.

Dialysis Stations

The Inpatient Unit should provide one Bedroom with a dialysis drain for use with mobile dialysis equipment, as needed by the Unit Operational Policy.

Pneumatic Tube Systems

The Inpatient 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.

Hydraulics

Warm water supplied to all areas accessed by patients within the Inpatient Unit must not exceed 43^0 C. This requirement included all staff hand wash basins and sinks located within patient accessible areas.

24.4 Components of the Unit

24.4.1 Standard Components

The Inpatient Unit will consist of Standard Components which must comply with details in the Standard Components described in these Guidelines. Refer also to Standard Components Room Data Sheets and Room Layout Sheets

24.5 Schedule of Accommodation

24.5.1 Typical Inpatient Unit suitable for all levels

Although categorized by level of service, this does not necessarily lead to different physical requirements.
The Schedule of Accommodation lists generic spaces that form an Inpatient Unit. Quantities and sizes of some spaces will need to be determined in response to the service needs of each unit on a case by case basis.

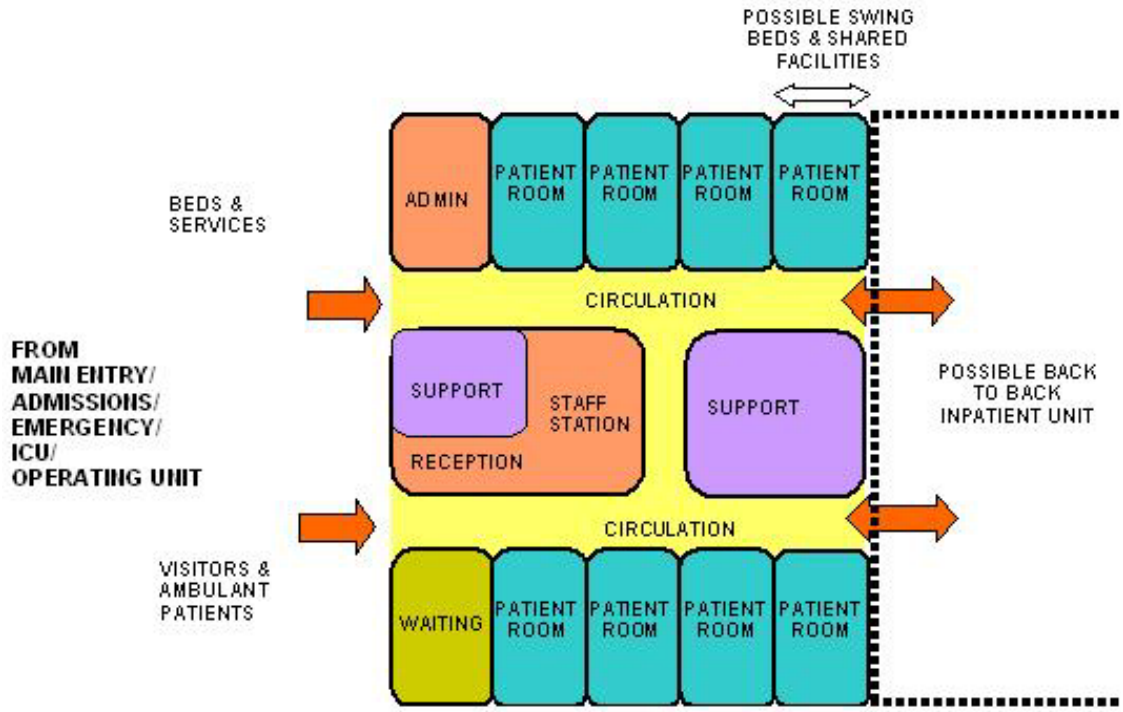
ROOM/SPACE	Standard Component							ALL Levels Qty x m²			Remarks
Patient Areas											
1 Bed Room – Standard	1 BR-ST-SJ							8	x	18	Mix and no. depend on service demand
1 Bed Room – Large	1 BR-LG-SJ							2	x	28	Min. one per facility; May be used for Bariatric/special patients
2 Bed Room	2 BR-ST-SJ							7	x	28	Mix and no. depend on service demand
4 Bed Room								1	x	49	Optional, depends on service demand
1 Bed Room – Isolation – Negative Pressure	1 BR-IS-N-SJ							2	x	28	Class N; As required by service demand
Anteroom	ANRM-SJ							2	x	6	For 1 Bed Isolation Negative Pressure; as needed
Ensuite – Standard	ENS-ST-SJ							17	x	5	1 each for 1 Bed and 2 Bed rooms, 2 for 4 Bed Rooms
Ensuite – Super	ENS-SP-SJ							2	x	6	For 1 Bed Room – Large; Special fittings for Bariatrics
Lounge – Patient	LNPT-15-SJ							1	x	20	May be shared between Units
Laundry – Patient	LAUN-PT-SJ							1	x	6	For Specialist areas e.g. Rehab; As needed by service demand
Staff Areas											
Bay – Beverage	BBEV-OP-SJ							1	x	4	Open bay. Increase area to 5m² if enclosed room
Bay – Flowers, Open	BFLW-OP-SJ							1	x	2	Optional
Bay – Handwashing, Type B	BHWS-B-SJ							5	x	1	Unit entrance and corridor recesses, as required.
Bay – Linen	BLIN-SJ							2	x	2	At least one bay per 15 beds
Bay – Meal Trolley	BMEQ-4-SJ Similar							1	x	4	Size may vary depending on size of meal trolley
Bay – Mobile Equipment	BMEQ-4-SJ							1	x	4	Number depends on equipment to be stored and frequency of use
Bay – PPE	BPPE-SJ							6	x	1	Shared between single and Isolation rooms, as required; Refer to Part D
Bay – Resuscitation Trolley	BRES-SJ							1	x	1	
Cleaner's Room	CLRM-5-SJ							1	x	5	Include cupboard for dry goods
Clean Utility	CLUR-12-SJ Similar							1	x	14	With two door access, includes medication
Dirty Utility	DTUR-12-SJ Similar							1	x	14	More than one may be required to minimise travel distances
Disposal Room	DISP-8-SJ							1	x	8	May be shared between units
Meeting Room – Small	MEET-9-SJ							1	x	9	Interview function, small meetings
Office – Single Person	OFF-S9-SJ							1	x	9	Nurse Manager
Office – Clinical/Handover	OFF-CLN-SJ							1	x	15	Locate near staff station
Office – 2-Person Shared	OFF-2P-SJ							1	x	12	Nursing/Medical; Depends on service demand and operational policy.
Office – 3-Person Shared	OFF-3P-SJ							1	x	15	Allied Health/Medical; May be allocated as write up bays
Office – Workstation	OFF-WS-SJ							1	x	5	For ward clerk unless accommodated at Staff Station
Property Bay – Staff	PROP-3-SJ							2	x	3	Number of lockers depends on staff complement per shift

ROOM/SPACE	Standard Component							ALL Levels Qty x m²			Remarks
Staff Station – Main	SSTN-14-SJ							1	x	14	Size, location determine for each facility
Staff Station – Satellite	SSTN-5-SJ							1	x	5	Optional decentralised bays; Location and number depends on unit plan
Store – Drugs	STDR-5-SJ							1	x	5	Medication Room (if not included in Clean Utility Room)
Store – Equipment	STEQ-16-SJ Similar							1	x	20	Access to patient areas, size depends on equipment stored
Store – General	STGN-8-SJ Similar							1	x	9	Size in accordance with service demand and operational policies
Store – Photocopy/Stationery	STPS-8-SJ							1	x	8	Collocate with Ward Clerk
Staff Room	SRM-15-SJ							1	x	15	Unit-specific space, with beverage bay
Toilet – Staff	WCST-SJ							2	x	3	
Shared Areas											
Bathroom	BATH-SJ							1	x	15	Provide one per floor, or as required by service demand
Lounge – Patient/Family Room	LNPT-15-SJ Similar							1	x	20	Optional. Dependent on service demand, proportion of single rooms
Multi-purpose Room	MEET-L-15-SJ							1	x	15	Size depends on room usage requirements
Treatment Room	TRMT-SJ							1	x	14	For specialist units, or shared; Depends on operational policy
Toilet – Public	WCPU-3-SJ							2	x	3	May share general public amenities
Toilet – Accessible (Public)	WCAC-SJ							1	x	6	May share general public amenities
Super VIP Suite (Optional)											
1 Bed Room – Super VIP	1 BR-SVIP-SJ							1	x	50	Provide according to service demand
Ensuite – Super VIP	ENS-SVIP-SJ							1	x	20	Provide according to service demand
Store – Equipment	STEQ-10-SJ							1	x	10	Provide according to service demand
Pantry – Super VIP	PTRY-SVIP-SJ							1	x	12	Provide according to service demand
Lounge/Dining – Super VIP	LD-SVIP-SJ							1	x	37	Provide according to service demand
Family/Carer Room								1	x	33	Provide according to service demand
Ensuite – Visitor	ENS-VIS-SJ							1	x	5	Provide according to service demand
Net Department Total										1103. 0	
Circulation %										32	
Grand Total										1456. 0	

Notes:

- *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 staffing establishment; Executives and Managers may be responsible for more than one area but should have only one office assigned within the campus*
- *Staff and support rooms may be shared between Functional Planning Units dependent on location and accessibility to each unit and may provide scope to reduce duplication of facilities.*

24.6 Functional Relationship Diagram



24.7 Further Reading

- Australasian Health Infrastructure Alliance (Aus.). *'Australasian Health Facility Guidelines'.* Retrieved from website: www. healthfacilityguidelines. com. au 2014
- Bunker-Hellmich, L. '*Patient Focus: Developments in Inpatient Unit Design'* Health Facilities Management 2010. Retrieved from website: http://www. hfmmagazine. com/hfmmagazine/jsp/articledisplay. jsp?dcrpath=HFMMAGAZINE/Article/data/03MAR2010/1003HFM_FEA_Interiors 2014
- Cohen, EL. and Cesta, TG. '*Case Management in the Acute Care Setting: A Model for Health Care Reform. '* Journal of Case Management 3(3): 110–116 National Library of Medicine (US) 1994
- DH (Department of Health) (UK). '*Health Building Note 04–01: Adult In-patient Facilities'* 2013. Retrieved from website: http://www. dhsspsni. gov. uk/hbn_04-01_adult_in-patient_facilities_final. pdf 2014
- Grube, M. , Kaufman, K. and York, R. '*Decline in Utilization Rates Signals a Change in the Inpatient Business Model'* HealthAffairs Blog (US) 2013. Retrieved from website: http://healthaffairs. org / blog / 2013/03/08/decline-in-utilization-rates-signals-a-change-in-the-inpatient-business-model/ 2014
- The Facility Guidelines Institute (US). '*Guidelines for Design and Construction of Health Care Facilities'* 2010 Edition. Retrieved from website: www. fgiguidelines. org 2014.