Australasian Health Facility Guidelines

Part B - Health Facility Briefing and Planning
0260 - Coronary Care Unit

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Australasian Health Facility Guidelines

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01 INTRODUCTION

01.01 Preamble

PURPOSE OF GUIDELINE
This Health Planning Unit (HPU) has been developed for use by project staff (architects, planners, engineers, project managers and other consultants) and for end users, to facilitate the process of planning and design.
It is intended to assist with the planning and design of a unit that will be fit for purpose in accordance with its designated service delineation / capability and defined catchment population.
It is a new HPU written for Australasian use in 2010 and further reviewed and updated in 2011. Its development has been informed by an extensive background research and consultation process.

01.02 Introduction

GENERAL
This HPU outlines the requirements for a Coronary Care Unit (CCU) including the additional facility requirements for treating cardiac patients (medical and surgical) in a medical or cardiac inpatient unit.
It should be read in conjunction with the Australasian Health Facility Guidelines (AusHFG) generic requirements and Standard Components described in:

- Part A: Introduction and Instructions for Use;
- Part B: Section 80 - General Requirements;
- Part B: Section 90 - Standard Components;
- Part C: Design for Access, Mobility, OHS and Security;
- Part D: Infection Prevention and Control; and
- Part E: Building Services and Environmental Design.

For general information regarding general inpatient unit planning and design, it is recommended that this HPU be read in conjunction with Part B: HPU 340 Inpatient Accommodation Unit, Australasian Health Facility Guidelines (AHIA, 2010).
In situations where the CCU is a component of an Intensive Care or High Dependency Unit, refer to Part B: HPU360 Intensive Care - General, Australasian Health Facility Guidelines (AHIA, 2014).
This HPU should be read in conjunction with HPU 170 Cardiac Investigation Unit that addresses the following investigative and diagnostic components of a cardiac service:

- electrocardiography (ECG);
- echocardiography;
- ambulatory monitoring – Holter and blood pressure; and
- outpatient/ambulatory care clinics.

For the purposes of this guideline, services are defined as primary, secondary and tertiary level. Refer to Operational Models for descriptions of models of care associated with secondary and tertiary level services. Refer also to specific jurisdictional service definitions; role delineations; and capability statements for application to specific projects.

PRIMARY SERVICES
Primary cardiac services may be delivered in small rural hospitals; Multipurpose Service centres (MPS); general practices; and community health clinics, and in the home using telehealth technology.
Rural healthcare facilities and MPS' will require facilities for patient assessment; stabilisation; initial treatment; and short term monitoring prior to transfer to a larger centre. Service links to other centres may be enhanced considerably by telemedicine links for remote monitoring.

SECONDARY AND TERTIARY SERVICES AND FACILITIES
The range of cardiac services to be provided in the CCU itself, and in an adjoining inpatient unit, need to be carefully defined on a project by project basis within the context of a pre-determined service plan and level of service capability.

Options include:

- a dedicated CCU, plus acute step-down beds for monitoring of patients with acute coronary disease, heart failure or life-threatening arrhythmias; and
- possible adjacent beds for cardiac surgery patients (pre and post-operative management).

All units will require access to:

- a range of cardiac investigations depending on the level of service;
- an inpatient and outpatient cardiac rehabilitation program; and
- 'Hospital in the Home' and outreach services.

CARDIAC SURGERY
Historically cardiac surgery has been closely aligned with thoracic and vascular surgery, and cardiac investigations have been largely non-invasive. As cardiac investigations have become more invasive in nature, 'endovascular surgery' is a term increasingly used in many tertiary centres to define the procedures at the point of convergence between the historically separate disciplines: cardiac surgery and cardiac investigations.
Facility requirements for cardiac surgery (intensive care; high dependency beds; operating rooms; and support) are addressed in the HPU360 Intensive Care - General, HPU520 Operating Unit and are excluded from this HPU.
Consideration should be given to the location of inpatient beds, staff offices and clinic needs, in relation to their medical counterparts, to enable access to cardiac diagnostic and rehabilitation services and facilities, and to allow the possible sharing of facilities if beds can be collocated.

01.03 Policy Framework

GENERAL
Policies for the provision of healthcare services are formulated in accordance with the following principles:

- appropriate service models that ensure a comprehensive service network throughout state and regional health jurisdictions;
- provision of a safe and efficient environment that minimises risk to all users of the facility;
- deployment of resources in a fair and cost effective manner to optimise health outcomes; and
- development and support for enhanced information systems to monitor, plan and evaluate healthcare services.

DIVERSITY AND SPECIAL GROUPS
Policy frameworks recognise the diversity of our community. Special groups within the community often require special consideration to meet their needs and to enhance the effectiveness of any services provided. These groups include:

- Aboriginal and Torres Strait Islanders, and in New Zealand Maori and Pacific Islanders (Aboriginal Mental Health and Well Being Policy 2006-2010 (NSW Health, 2007));
- people living in rural and remote areas;
- children and adolescents;
- people including overweight and bariatric (obese) people who may not necessarily be patients (Occupational Health & Safety Issues Associated with Management Bariatric (Severely Obese) Patients (Employee Relations, NSW Health, 2005));
- people with sensory and cognitive disabilities;
- people from culturally and linguistically diverse backgrounds; and
- older people and the frail aged.

OVERARCHING POLICIES
For additional details, refer to the Disability Discrimination Act 1992, Act No. 135 of 1992 as amended (Australian Government, 2013).
Also refer to individual jurisdiction policies and service planning guidelines in the References and Further Reading sections of this HPU.

01.04 Description

DESCRIPTION OF CORONARY CARE HEALTH PLANNING UNIT (HPU)
A CCU is a specially staffed and equipped section of a healthcare facility for the support, monitoring and treatment of highly dependent patients with medical or surgical cardiac conditions, which are life threatening or potentially life-threatening. This HPU range of services addresses the facility requirements for:

- coronary care beds and associated patient amenities;
- additional requirements for cardiac care in a medical or cardiac inpatient unit;
- unit-based procedures;
- cardiac rehabilitation (inpatient unit based);
- staff offices and amenities; and
- teaching and research.

Therapy facilities for cardiac rehabilitation are addressed in HPU 610 Rehabilitation Inpatient Unit.

SERVICES PROVIDED
Depending on the level of the service (tertiary or secondary) and treatments provided, they may include:

- cardiac monitoring: may be invasive and non-invasive; hard wired with or without telemetry;
- invasive haemodynamic monitoring;
- co-ordination and administration of appropriate drug therapies including thrombolysis;
- non-invasive ventilation (CPAP, BiPAP);
- haemodialysis;
- elective cardioversion;
- intra-aortic balloon counter-pulsation;
- transthoracic echocardiography (TTE) - may be performed at the bedside in the process of cardiac rehabilitation;
- exercise stress testing and management of patients with temporary pacing wires; and
- discharge planning and patient education/rehabilitation.

PATIENT CHARACTERISTICS
Patients will include adults of all ages, acuity, frailty and disability, and increasingly patients with co-morbidities.
Each component of the Unit will need to be able to manage bariatric patients.
Cardiac inpatients have special needs in that they are often fully aware of their surroundings but may be restless, distressed and agitated and may require immediate and critical emergency care.

FUTURE TRENDS
The services provided by a CCU, particularly in the tertiary setting, are evolving as therapies improve. Such advances are reducing the number of patients with significant cardiac damage resulting from a cardiac event such as a heart attack, and as a result, the length of stay in coronary care is decreasing.
The CCU is now the setting for the administration of more complex drugs and therapies. Patients are being transferred to step-down facilities earlier.
However, there is an increasing need for monitoring services to be provided to patients in an adjacent cardiac inpatient unit due to greater levels of complications from cardiac rhythm disturbances. This requires a blend of services to be provided by the CCU and the cardiac inpatient unit.
Future trends may also address:

- the changing role of coronary care and cardiology services, with special regard to the use of cardiac care beds for non-infarct patients, such as those with unstable angina and those recovering after cardiac procedures; and
- the need to link acute coronary care beds to transitional or step-down beds to form integrated CCUs.

Heart failure programmes have resulted in increased survival rates. This has realised cost savings in terms of reduced admission rates. However, the possibility of heart failure increases with age and with the incidence of diabetes. As the general population ages, more patients will require assessment and treatment. Heart failure treatments are becoming more complex resulting in greater levels of ambulatory and inpatient care for heart failure. Reliance on cardiology specialist staff and diagnostic tests is also increasing.

02 PLANNING

02.01 Operational Models

HOURS OF OPERATION
The CCU will provide service 24 hours a day, seven days a week.

MODEL OF CARE - SECONDARY
In smaller healthcare facilities, the CCU may be combined with other critical care units such as high dependency (HDU) and intensive care units (ICU) for purpose of optimising the utilisation of staff skills and equipment.
All secondary units should provide the following:

- invasive and non-invasive monitoring;
- resuscitation and stabilisation of emergencies until transfer or retrieval to a higher level facility can be arranged;
- telemetry for patients who do not require transfer / retrieval to a higher level facility;
- access to a range of cardiac investigations;
- access to a service providing cardiac catheterisation; and
- inpatient and outpatient counselling; information; education; prevention; and rehabilitation services and programmes.

MODEL OF CARE - TERTIARY
A comprehensive service is assumed, with possibly a ‘hub and spoke’ arrangement linking major cardiac centres with secondary units and primary care providers, thus ensuring a continuum of patient care.
Facilities may or may not be collocated depending on the overall size of the service and building restrictions.
The CCU component would:

- be a discrete unit usually associated with a designated cardiac inpatient unit with step-down and telemetry beds for monitoring of patients with acute coronary syndrome, heart failure or life-threatening arrhythmias;
- provide the full range of invasive and non-invasive monitoring for cardiac patients, with access to the full range of cardiac investigations and 24 hour on call echocardiography, angiography, angioplasty and permanent pacemaker services;
- have an inpatient and outpatient cardiac rehabilitation programme; and
- provide Hospital in the Home, outreach and remote monitoring services.

Depending on the model of care, cardiac surgery inpatient beds may be collocated with acute cardiac beds and may share facilities with these.

BED NUMBERS
Coronary care bed numbers may vary from four to eight in small facilities and to twenty or more in large centres. These numbers will need to be determined at the service planning stage of the project.
In smaller units there may be a need to provide 'swing beds' (for example with adjacent ICU or HDU) to allow for expansion or contraction as the need arises.

BED MIX
CCU beds may be arranged in a mix of single and two-bed rooms. Depending on the model of care, the latter may be particularly appropriate for patients only in the Unit for short periods for post-procedure recovery.
All single bedrooms can accommodate patients requiring standard contact isolation, but in large centres at least one negative pressure (Type 5) single bedroom with anteroom should be considered for isolation purposes.
Acute cardiac and cardiac surgery beds may be a mix of single, two and/or four-bed rooms, and may also include a cardiac surgery high dependency unit.
Refer to HPU 340 Inpatient Accommodation Unit, Australasian Health Facility Guidelines (AHIA, 2010) for further information.

02.02 Operational Policies

GENERAL
The development of operational policies is integral to defining how the unit will operate within a healthcare facility or health service, as well as in relation to adjoining health services from where patients may be referred. They impact on the capital and recurrent costs of a facility will vary from unit to unit, depending on a wide range of factors such as the clinical characteristics of the patients, and the defined role of the unit. The cost implications of proposed policies should be fully evaluated to ensure the most cost-effective and efficient design solutions are developed in providing therapeutic and high quality physical environments. Operational policies should be developed for every unit as part of the project planning process. Refer to Part B: Section 80 General Requirements, Australasian Health Facility Guidelines (AHIA, 2010) for further information.
The operational policies described below are unit specific.

CARDIAC REHABILITATION
Cardiac rehabilitation (CR) includes education in risk factor modifications (such as diet); counselling; and physical activity. Inpatient-unit based CR may involve specialist nursing staff, pharmacists, dieticians, clinical psychologists, physiotherapists and occupational therapists.
The involvement of physiotherapists and occupational therapists is occurs most in the outpatient setting. Programmes may be provided on a one-to-one basis or as group sessions.
Cardiac rehabilitation will be inpatient-unit based initially (education) with appropriate access, as indicated, to a cardiac gymnasium also used for outpatient rehabilitation. Refer to HPU 140 Allied Health Therapy Unit. Although members of the multidisciplinary team the allied health staff should have access to workstations within the Unit.

MEDICAL IMAGING
Access will be required to medical imaging (MI) for a range of imaging needs including chest x-rays, CT, MRI, nuclear medicine and PET.
A mobile x-ray machine may be used for inpatients and will be located in the medical imaging unit, unless a dedicated machine on the cardiac floor can be justified.
Echocardiography may be undertaken in the CCU at the bedside for those patients too sick to be transferred to the cardiac investigations unit. Equipment will be stored in the cardiac investigation unit.

PATHOLOGY
Pathology is extensively used by cardiac services and may be facilitated by point-of-care equipment (blood gas analyser) and pneumatic tube system in or near the CCU. This may be shared with an adjoining unit.

BEDSIDE MONITORING
Cardiac monitoring equipment should allow visual display at both the bed location and the staff station. Each coronary care bed should be individually monitored.
Monitors should be mounted so they are visible from the bedroom door, and staff should be able to assess the status of the patient at a glance. Their location should not interfere with physical access to the patient. The addition of ‘slave’ monitors in corridors of larger units should be considered.
As the extent of monitoring equipment is likely to increase in the future, consider the need for increased space for equipment placement and storage, and the impact that extra demand that may place on the electrical supply capacity.

PROCEDURES
The range of procedures may include:

- PICC line (peripherally inserted central catheter) / central line insertion;
- arterial line insertion;
- transoesophageal echo;
- pericardiocentesis;
- intercostal catheter insertion;
- drain removal;
- cardioversion; and
- tilt table testing.

Some procedures may be undertaken in CCU bedrooms, others require a procedure room that may be better located in the cardiac investigation unit.

TELEMEDICINE
Telemedicine is the transmission of images, voice and data between two or more health units via telecommunication channels in order to provide clinical advice and consultation, education and training services. It has particular relevance for rural and remote areas.
Telemedicine links between community centres, ambulance units, emergency departments, cardiac units and the cardiac specialists' homes may considerably enhance the early diagnosis and ongoing treatment of patients.
All units should include information technology infrastructure to support this transfer of information.

TELEMETRY
Telemetry (remote monitoring) is used for patients who do not require a bed in CCU, but do require monitoring. These patients may be in an adjoining inpatient unit, but telemetry may occur in any unit of the healthcare facility. The underlying concept is to take cardiac monitoring to the patient rather than the patient to the monitor.
Locate monitors in the CCU or at the cardiac inpatient unit staff station to ensure appropriate skilled observation.

RENAL DIALYSIS
The provision of dialysis outlets, including a water supply and drainage, to an agreed number of coronary care beds will be determined on a project-by-project basis, in accordance with individual jurisdiction policies.

STORAGE - EQUIPMENT
Only items in constant use for a particular patient should be stored in bedrooms, otherwise store nearby to bring in as required. Equipment storage may be in bays near point of use or in a central store for items used less frequently. Items may include:

- x-ray machine;
- resuscitation trolley;
- BiPAP and CPAP machines (non-invasive ventilation);
- ECG machine/s;
- intra-aortic balloon pump;
- IV stands and infusion pumps;
- procedure trolleys;
- transport defibrillators, transport packs and transport oxygen cylinders;
- battery chargers;
- walking aids; and
- mattresses, pillows and positional aids.

Consideration should be given to the storage of the resuscitation equipment for hospital medical emergencies, if located in the unit.

VISITORS
CCU will have specific policies regarding visiting hours and accommodation for carers guided by the facility’s overall operational policies. Visitor amenities may include:

- visitor lounge with access to beverages;
- toilets and a shower for carers staying overnight;
- overnight bedroom/s;
- facilities for bedside sleeping; and
- interview and grieving / bereavement room/s.

STAFFING
The development of a supported staff establishment early in the planning process should assist when planning for the allocation of office space, workstations and amenities.
Staffing levels may vary for each unit depending on the unit size; the operational policies; availability of staff and differing skill mix; levels of supervision required; clinical case mix and dependency; and unit activity levels.
Provision should be made for sufficient functional areas to support the number of staff in the safe and efficient delivery of care.

The environment should be secure and facilitate effective emergency responses to acute situations on each shift. Designing the unit on this basis will support efficient unit operation without imposing additional costs, whilst enabling compliance with security and OHS requirements.
Unit staff may include (on a permanent and visiting basis):

- cardiology specialists and VMOs;
- registrars and junior medical officers;
- nurse manager;
- nurse practitioner;
- clinical nurse consultant;
- clinical nurse educator;
- general nursing staff;
- cardiac rehabilitation nurse;
- allied health staff;
- case managers;
- ward clerk;
- technicians and other support / hospitality personnel; and
- students - medical, nursing and allied health.

02.03 Planning Models

LOCATION
Locate the CCU in a quiet location that avoids or minimises:

- disturbing sounds (ambulances, traffic, sirens);
- disturbing sights (morgue, cemeteries, etc); and
- problems associated with prevailing weather conditions (excessive wind, sun exposure, etc.).

The location should enable expansion if additional beds are required in the future.
In all instances, by good design and location, the potential for appropriate sharing of facilities with an adjoining unit should be maximised.
Ensure that the CCU and adjoining units do not act as a thoroughfare to other parts of the healthcare facility.

LAYOUT
All coronary care beds should ideally be visible from the staff station. In larger units, where this cannot be achieved, consideration may be given to providing decentralised staff / work stations with computer support. However, all units require a central staff station with central monitors showing cardiac rhythms of all patients (as well as ‘slave’ monitors) to assist with discussion, education and interaction between staff.

02.04 Functional Areas

FUNCTIONAL ZONES
The following features will be required in a CCU. Some will be CCU-specific and some facilities may be shared:

- inpatient areas and dedicated clinical support areas; and
- staff offices and amenities.

INPATIENT AND CLINICAL SUPPORT AREAS
Inpatient accommodation in the CCU may comprise:

- a mix of single and two-bed rooms;
- showers and toilets;
- staff station;
- clean utility room;
- medication room - a secure room with visibility into the unit;
- equipment bay;
- linen trolley bay/s;
- storage; and

- visitor lounge and/or distressed relatives room.

CCU BEDROOM
Refer to Standard Components - Room Data Sheets (RDS) and Room Layout Sheets (RLS), for single and two-bed rooms.

ENSUITE SHOWERS AND TOILETS
Determine on a project by project basis the provision of individual en suite showers / toilets to patient bedrooms for the following reasons:

- many patients are transferred out of the unit as soon as they are past the critical phase and are ambulant;
- patients may only be in the unit for a few hours recovering from a procedure but may require access to a toilet and shower before discharge; and
- the provision of en suites increases the overall size of the unit and subsequent capital costs.

Care should be taken that when an en suite is provided that its location does not inhibit patient observation, both directly and via bedside monitors.

ACUTE CARDIAC AND CARDIAC SURGERY INPATIENT UNIT
In most respects, an acute cardiac and cardiac surgery inpatient unit will be the same as a general medical or surgical inpatient unit with the following additions:

- a procedure room with access for a bed and image intensifier if required (this room is optional);
- telemetry equipment and antenna with monitoring at a staff station that may be in the CCU or in the main ward staff station; and
- access to patient education facilities.

DAY PROCEDURE HOLDING / RECOVERY BEDS
Unless beds in the catheter laboratory, or a day procedure, or 23 hour unit are utilised, the CCU or the acute ward may cater for the recovery of patients following cardiac procedures such as echocardiography; angiography; percutaneous coronary intervention; temporary and permanent pacemaker insertion; cardiac catheterizations and transoesophageal echos (TOE).

STAFF OFFICES AND AMENITIES
Staff offices and amenities will be dictated by staff establishment and may include:

- offices and workstations;
- staff room / beverage bay;
- showers and toilets; and
- property storage.

Provide staff toilets and small lockers that are immediately accessible within the envelope of the CCU. Provide office space / workstations in accordance with each jurisdiction’s office accommodation policies.

SHARED AREAS
The extent of room/s or spaces that may be shared between CCU and an adjoining inpatient unit or ICU should be determined by the size of the overall CCU itself. Large units may be entirely self-contained with regard to clinical spaces, but may still share some staff amenities and teaching spaces. However, consider the following with regard to potential for sharing:

- clean and dirty utility rooms;
- central equipment storage;
- beverage pantry / kitchen;
- reception / ward clerk;
- cleaners' room;
- disposal room;
- visitor waiting;
- public toilets;
- staff education / training room; and
- staff amenities (shower, toilets, locker room and rest area).

EDUCATION AND STAFF DEVELOPMENT
Unit planning should ensure access to adequate facilities for staff education and meetings.
In larger units staff require access to simulation training and competency assessment, with suitable audiovisual equipment in a training room for use by the multidisciplinary team.

RESEARCH
Research associated with the provision of all cardiac services for CCU and cardiac inpatient units may be undertaken. Spatial provision in the CCU for research, may be justified by service needs and role delineation.
The following facilities may be required for clinical trials, or shared with other cardiac units (including cardiac investigation unit) depending on jurisdictional office accommodation policies:

- offices for senior coordinator/s and research fellow/s;
- shared offices / workstations for other clinical trial research staff;
- shared offices / workstations for registrars and research assistants;
- patient consulting room/s (if the unit is patient-accessed);
- drug monitoring room;
- drugs and research files storage; and
- research laboratories.

02.05 Functional Relationships

EXTERNAL
The CCU will have working relationships with many other units & services including:

- cardiac investigation unit;
- cardiac catheter unit;
- Hospital in the Home services - for chronic diseases such as heart failure;
- cardiac rehabilitation services;
- emergency unit;
- nuclear medicine / PET;
- intensive care unit;
- operating (suite) unit including recovery;
- medical imaging;
- pathology; and
- biomedical engineering.

Linkages to cardiac surgery occur at several operational levels including clinical decision making regarding patients requiring cardiac surgery; joint research projects; and joint management of patients in the post-operative phase including rehabilitation. The unit needs to be well-linked, but not necessarily collocated.

INTERNAL
Optimal internal relationships to be achieved include those between:

- patient occupied areas forming the core of the unit;
- staff station(s) and associated areas that need direct access and observation of patient areas;
- utility and storage areas that need to be readily accessible to both patient and staff work areas;
- public areas located on the perimeter of the unit; and
- shared areas that should be easily accessible from the units served.

03 DESIGN

03.01 Accessibility

EXTERNAL
Provide:

- a separate discrete entry from and to the ward for movement of inpatients
- easy access to the lifts from emergency unit and chest pain assessment unit
- ready access to and from the cardiac catheter laboratory.

Ideally, there should be a separate entry/s for staff and goods and supplies, operated by swipe card or similar to authorised personnel only. A separate entry for patients on beds or trolleys may also be considered.

INTERNAL
There should be only one point of public entry, manned by a ward clerk / receptionist to:

- monitor and / or prevent access by visitors depending on the patient's condition- advise visitors if patients have been moved or are out of the unit for any reason;
- monitor visiting staff and direct them to the appropriate staff member or patient; and
- monitor patient movements in and out of the unit.

03.02 Parking

For staff parking, refer to Part C: Section 790, Safety and Security Precautions, for further information.

03.03 Disaster Planning

Each site and unit will have operational plans and policies detailing the response to a range of emergency situations both internal and external. Consider issues such as the placement of emergency alarms; the need for uninterrupted power supply (UPS) to essential clinical equipment and electronic sensor taps; services such as emergency lighting; telephones; duress alarm systems and computers; and the emergency evacuation of patients, many of whom will require assistance.
A number of items (e.g. duress alarms, central computer, nurse call) require connection to a UPS and a generator to provide continuous power between the time of power failure and the time it takes the generator to provide electricity; otherwise systems have to be re-set and/or do not function during a power failure. The importance of a UPS may not be fully appreciated during procurement / construction.
Refer to Part B: Section 80 General Requirements and Part C: Section 790, Safety and Security Precautions for further information.

03.04 Infection Control

The following aspects of planning and design contribute to the implementation of effective infection prevention and control measures and are relevant within the context of this HPU:

- hand hygiene facilities;
- provision for the isolation of patients with infectious diseases;
- linen handling;
- separation of 'clean' and 'dirty' work flows;
- storage;
- waste management; and
- surface finishes.

Refer to Part D: Infection Prevention and Control and individual jurisdiction policies and guidelines for further details.
Determine on a project by project basis the need for a negative pressure isolation room. Relevant factors for inclusion are: the size of the unit; its location; special needs; and role delineation. It is recommended that tertiary units and units in regional settings have a negative pressure isolation room.
A hand basin should be incorporated at the entry to the unit, and in all clinical areas including:

- bedrooms;
- treatment rooms;
- procedure rooms;
- clean and dirty utility rooms
- medication room; and
- staff station if used for any medication preparation.

See Part D: Infection Prevention and Control for further information.

03.05 Environmental Considerations

ENVIRONMENTALLY SUSTAINABLE DESIGN
Sustainability applies to many areas such as:

- air handling and ventilation;
- thermal integrity (insulation, etc);
- water management;
- choice of sustainable products e.g. low VOC floor finishes; and
- support of operational recycling policies.

Many of these issues will be addressed at overall facility level but may have greater or lesser implications for this HPU.

ACOUSTICS
Alarms and monitors add to the sensory overload in critical care units. Without reducing their importance or sense of urgency, such signals should be modulated to a level that will alert staff, yet be rendered less intrusive. For these reasons, surfaces that absorb sound should be used while keeping infection control, maintenance and equipment movement needs under consideration.

NATURAL LIGHT
Daylight to all bedrooms is essential. Daylight to patient lounge areas and staff rooms is desirable.

PRIVACY
Visual privacy is required for patients, but the higher priority is the requirement for staff to be able to see patients and observe their condition.

INTERIOR DÉCOR
Interior décor includes furnishings, style, colour, textures, ambience, perception and taste. This can help prevent an institutional atmosphere. However, cleaning, infection control, fire safety, patient care and the patients' perceptions of a professional environment should always be considered.
Some colours, particularly the bold primaries and green should be avoided in areas where clinical observation occurs such as bedrooms and treatment areas. Such colours may prevent the accurate assessment of skin tones e.g. yellow / jaundice, blue / cyanosis, red / flushing.
A calming non-threatening environment is desirable using colours that do not mask skin colours. Consideration could be given to ceiling art and murals.

03.06 Space Standards and Components

HUMAN ENGINEERING
Human engineering covers those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. For details refer to Part C: Section 730, Human Engineering.

As the requirements of occupational health and safety (OHS) and antidiscrimination legislation will apply, this section should be read in conjunction with Part C: Section 790, Safety and Security Precautions, in addition to relevant OHS legislation.
Planning should allow for a ceiling mounted hoist to a nominated number of beds. This is in response to an increase in bariatric patients and 'no lift policy' for patients who may be on a balloon pump or otherwise on complete bed rest.
Refer to Part C: Section 730, Human Engineering for details.

ACCESS AND MOBILITY
Where necessary, design should comply with AS/NZS 1428:2010 Design for Access and Mobility (Set), AS/NZS 1428:2010 Design for Access and Mobility (Set) (Standards Australia, 2010).
Refer to Part C: Section 730, Human Engineering for details.

BUILDING ELEMENTS
Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in the section on Building Elements in Part C: Section 710, Space Standards and Dimensions.
Window sill heights should be low enough to permit a view to the outside by a patient lying in bed. This is usually 600millimetres above the finished floor level.
Ensure that doorways are sufficiently wide and high enough to permit the manoeuvring of beds, wheelchairs, trolleys and equipment without risk of damage or manual handling risks, particularly in rooms designed for bariatric patients.
Corridor widths should accommodate a bed with associated equipment and escorts.

03.07 Safety and Security

RISK / HAZARD MANAGEMENT
Consideration of safety and security risks should begin during the planning and design phase of a healthcare facility and should continue to be considered during the construction, use and post occupancy stages.
Safety considerations need to address the health and safety of the end users, including staff, maintenance personnel, patients, visitors, and those involved in construction.
A safety audit, via a risk analysis, of potential hazards should be undertaken at every stage.

SIGNAGE
'X-Ray in use' sign should be located outside the Procedure Room if an x-ray machine is being used in the room.

SECURITY
Security of the various components/zones should be addressed at each stage of the planning and design process and not imposed on a completed building.
Aspects of security may include:

- the need for fixed and/or personal duress alarms;
- access control particularly at night;
- control and monitoring of visitors;
- monitoring of patient movements into and out of the unit;
- the ability of the design to facilitate emergency responses to threat such as bomb or personal threats; and
- video surveillance.

For further information refer to individual jurisdiction policies and to:

- TS11 - Engineering Services and Sustainable Development Guidelines (NSW Health, 2013): Section 5 – Security systems;
- individual jurisdiction security policies where available; and
- Part C: Section 790, Safety and Security Precautions.

RISK MANAGEMENT
Occupational Health and Safety (OHS) legislation requires designers to identify, assess and control risks in order to provide an optimal ergonomic design and to do this in consultation with stakeholders.

Safety considerations need to address the health and safety of end users, including staff, maintenance personnel, patients and visitors.
By adopting a risk management approach, many safety and security related hazards can be eliminated or minimized at the planning stage before work even begins, reducing the likelihood of adverse incidents occurring.
For further details refer to:

- Part C: Section 730, Human Engineering and Part C: Section 790, Safety and Security Precautions for specific OHS requirements;
- AS/NZS 4360:2004 Risk Management (Standards Australia, 2004);
- TS11 - Engineering Services and Sustainable Development Guidelines (NSW Health, 2013); and
- TS7 - Floor Coverings in Healthcare Buildings, Issue V1.1 (NSW Health, 2009).

03.08 Finishes

GENERAL
Finishes in this context refers to walls, floors, windows and ceilings.
Refer to Part C: Section 710, Space Standards and Dimensions for further details.

WALL FINISHES
Adequate wall protection should be provided to areas that will be regularly subjected to damage. Particular attention should be given to areas where bed or trolley movement occurs such as corridors, bed head walls, treatment areas, equipment and linen trolley bays. Refer to Part C: Section 710, Space Standards and Dimensions.

FLOOR FINISHES
The selection of floor finishes should be appropriate to the function of the space and take into account manual handling issues including the impact of the flooring on push / pull forces for wheeled equipment. Consider acoustic performance, slip resistance, consequences of patient falls, infection control, movement of beds and trolleys, maintenance and cleaning protocols. The flooring selected should be adequate to avoid the potential for slips, trips and falls to occur, including as a result of joints between flooring.
Refer to:

- Part D: Infection Prevention and Control, Australasian Health Facility Guidelines (AHIA, 2015);
- TS7 - Floor Coverings in Healthcare Buildings, Issue V1.1 (NSW Health, 2009); and
- Part C: Section 710, Space Standards and Dimensions.

CEILING FINISHES
Ceiling finishes should be selected with regard to appearance, cleaning, infection control, acoustics and access to services.
Refer to Part C: Section 710, Space Standards and Dimensions.

03.09 Fixtures, Fittings & Equipment

DEFINITIONS
The Room Data and Room Layout Sheets in the Australasian Health Facility Guidelines define fixtures and fittings as follows.

- Fixtures: Items that require service connection (e.g. electrical, hydraulic, mechanical) that include, but are not limited to hand basins, light fittings, medical service panels etc. but exclude fixed items of serviced equipment; and
- Fittings: Items attached to walls, floors or ceilings that do not require service connections such as curtain and IV tracks, hooks, mirrors, blinds, joinery, pin boards etc.

Refer to Part C: Section 710, Space Standards and Dimensions and to the Standard Components - Room Data Sheets (RDS) and Room Layout Sheets (RLS) for further detailed information.
Also refer to Part F: Section 680 Furniture Fittings and Equipment regarding fixtures, fittings and equipment.

03.10 Building Service Requirements

GENERAL
In addition to topics addressed below, project staff may also refer to:

- Part E: Building Services and Environmental Design; and
- TS11 - Engineering Services and Sustainable Development Guidelines (NSW Health, 2013).

AIR HANDLING SYSTEMS
Approach the provision of natural ventilation to patient care areas with caution. The management of airflows and the creation of a stable environment are essential to the control of the spread of infection. Generally air-conditioning should be provided.
Refer to Part D: Infection Prevention and Control and HB 260:2003 Hospital Acquired Infections - Engineering Down the Risk (Standards Australia, 2003).

ELECTRICAL SERVICES
It is essential that services such as emergency lighting, telephones, duress alarm systems (including the central computer) and electronic locks are connected to the emergency power supply.
Other electrical services that are required include:

- emergency power supply for critical equipment;
- cardiac protection to coronary care bedrooms and procedure room (if a procedure room is provided);
- some rooms in the cardiac inpatient unit require cardiac protection for patients with temporary transvenous / epicardial pacing wires;
- cardiac protection - using core balance devices (CBD) or live isolation; and
- surge protection to electronic equipment to ensure that critical data is not lost.

For further information refer to:

- AS/NZS 3003:2011 Electrical Installations - Patient Areas (Standards Australia, 2011); and
- Part E: Section 3, Electrical.

HYDRAULIC SERVICES
The CCU and inpatient area will require temperature controlled water. Water saving devices should be considered.
Dialysis outlets will be provided according to service level and role delineation.
Refer also to Part E: Building Services and Environmental Design, Section 5, Hydraulics, for further details.

LIGHTING
Provide adjustable examination lamps as well as task lighting at the head and foot of each bed.

MEDICAL GASES
Medical gases may be located on wall-mounted service panels, on vertical columns or on ceiling-mounted pendants.
Where inpatient en suites are provided, provision should be made for oxygen and suction outlets.
Refer also to:

- Part E: Building Services and Environmental Design, Section 6; and
- Standard Components - Room Data Sheets (RDS) and Room Layout Sheets (RLS).

TELEMETRY
Telemetry is the transmission of signals to a receiving location via a radio signal, where they are displayed for monitoring purposes.
Telemetry may be helpful for people who:

- are having chest pain or angina;
- have had fainting episodes (syncope) that could be caused by a heart problem;
- have had heart or lung surgery;
- have had a procedure that may cause the potential for irregular heart rhythms, (i.e.: cardiac catheterization, angioplasty or stent insertion);
- have a known or suspected heart or lung disease;

- have had or suspected irregular heart rhythms or heartbeats;
- have a pacemaker/ automatic implantable cardioverter defibrillator (AICD) that needs to be checked; or
- are taking medications that change heart rhythms and rates

The CCU and cardiac inpatient step down areas will require a telemetry monitoring system consisting of (but not limited to) the following:

- sensors appropriate to the particular signals to be monitored;
- battery powered, patient worn transmitters;
- a radio antenna and receiver; and
- a display unit (monitor) capable of concurrently presenting information from multiple patients.

04 COMPONENTS OF THE UNIT

04.01 Standard Components

Rooms / spaces are defined as:

- *standard components* (SC) which refer to rooms / spaces for which room data sheets, room layout sheets (drawings) and textual description have been developed;
- *standard components – derived rooms* are rooms, based on a SC but they vary in size. In these instances, the standard component will form the broad room 'brief' and room size and contents will be scaled to meet the service requirement;
- *non-standard components* which are unique rooms that are usually service-specific and not common.

The standard component types are listed in the attached Schedule of Accommodation.

The current Standard Components can be found at: www.healthfacilityguidelines.com.au/standard-components

04.02 Non-Standard Components

Non-standard components are unit-specific and provided in accordance with specific operational policies and service demand.

All the rooms/spaces in the schedule of accommodation appear as standard components but may need some slight modification such as electrocardiogram (ECG) monitor/printer at the staff station.

AX APPENDICES

AX.01 Schedule of Accommodation

A schedule of accommodation is shown below and lists generic spaces for this HPU. Quantities and sizes of spaces will need to be determined in response to the service needs of each Unit on a case by case basis. Note that:

A schedule is provided for an eight bed CCU, noting that an eight bed unit may share many rooms / spaces with an adjoining unit. Larger units may be self-contained.

The 'Room/ Space' column describes each room or space within the Unit. Some rooms are identified as 'Standard Components' (SC) or as having a corresponding room which can be derived from a SC. These rooms are described as 'Standard Components –Derived' (SC-D). The 'SD/SD-C' column identifies these rooms and relevant room codes and names are provided.

All other rooms are non-standard and will need to be briefed using relevant functional and operational information provided in this HPU.

In some cases, Room/ Spaces are described as 'Optional' or 'o'. Inclusion of this Room/ Space will be dependent on a range of factors such as operational policies or clinical services planning.

CORONARY CARE UNIT (8 BED UNIT)

AusHFG Room Code	Room / Space	SC / SC-D	Qty	m2	Remarks
IBR-SP-B	1 Bed Room - Special Coronary Care, 20m2	Yes	6	20	One (1) of the bedrooms may be a negative pressure (Type 5) isolation room
ANRM	Anteroom	Yes	1	6	Optional to negative pressure isolation room if provided
IBR-SP-B	2 Bed Room, 25m2	Yes	1	32	Optional
ENS-ST	Ensuite - Standard, 5m2	Yes	6	5	
ENS-SR	Ensuite - Special, 6m2	Yes	1	6	Bariatric patients
BPPE	Bay - Handwashing / PPE	Yes	1	2	Recessed outside nominated isolation room/s
SSTN14	Staff Station, 14m2	Yes	1	14	Include space for central monitor, ECG printer
OFF-CLW	Office - Clinical Workroom	Yes	1	15	
CLUR-12	Clean Utility Room / Medication, 12m2	Yes	1	12	Centrally located for ease of access for S8 & S4 pharmacy drugs
	Store - Drugs		1	5	May be included in clean utility
BLIN	Bay - Linen	Yes	1	2	
BMEQ-4	Bay Mobile Equipment, 4m2	Yes	2	4	ECG trolleys, ultrasound machine etc., Storage of mobile x-ray
BRES	Bay - Resuscitation	Yes	1	2	For unit use
BRES	Bay - Resuscitation	Yes	1	3	Optional for hospital use
OFF-S9	Office - Single Person, 9m2	Yes	1	9	For Unit Manager
OFF-2P	Office - 2 Person Shared, 12m2	Yes	1	12	Optional for CNC, CNE
MEET-12	Meeting Room, 12m2	Yes	1	12	Distressed relatives / Family room / Interview
PROP-2	Property Bay - Staff	Yes	1	2	
WCST	Toilet - Staff, 3m2	Yes	2	3	
	Discounted Circulation %			32%	

SHARED WITH ADJOINING UNIT (MAY BE ICU OR CARDIAC IPU)

AusHFG Room Code	Room / Space	SC / SC-D	Qty	m2	Remarks
BBEV-OP	Bay - Beverage, Open Plan, 4m2	Yes	1	5	Enclosed
BMT-4	Bay - Meal Trolley	Yes	1	4	Optional
BPATH	Bay - Pathology	Yes	1	3	Includes pneumatic tube station
DTUR-12	Dirty Utility, 12m2	Yes	1	12	May be shared with adjoining unit
DISP-8	Disposal Room, 8m2	Yes	1	8 to 10	Size will depend on operational policies
CLRM-5	Cleaner's Room, 5m2	Yes	1	5	
STEQ-14	Store - Equipment, 14m2	Yes	1	16	Syringe pumps, wheel chair, portable monitor / defibrillator, pressure relieving equipment, oxygen carrier, 'size C' oxygen cylinders
STGN-9	Store - General, 9m2	Yes	1	16	adjust store sizes to suit
	Pharmacy - Satellite		1	10	Optional
WAIT-10	Waiting, 10m2	Yes	1	15	
WCAC	Toilet - Accessible, 6m2	Yes	1	6	
WSPU-3	Toilet - Public, 3m2	Yes	2	3	
PROC-20	Procedure Room	Yes	1	20	Optional
	Discounted Circulation %			35%	

Will require radiation shielding if x-ray equipment used in the room and lead apron holders outside of the room for the use of staff. Allowance for x-ray machine storage identified in mobile equipment storage as part of inpatient unit.

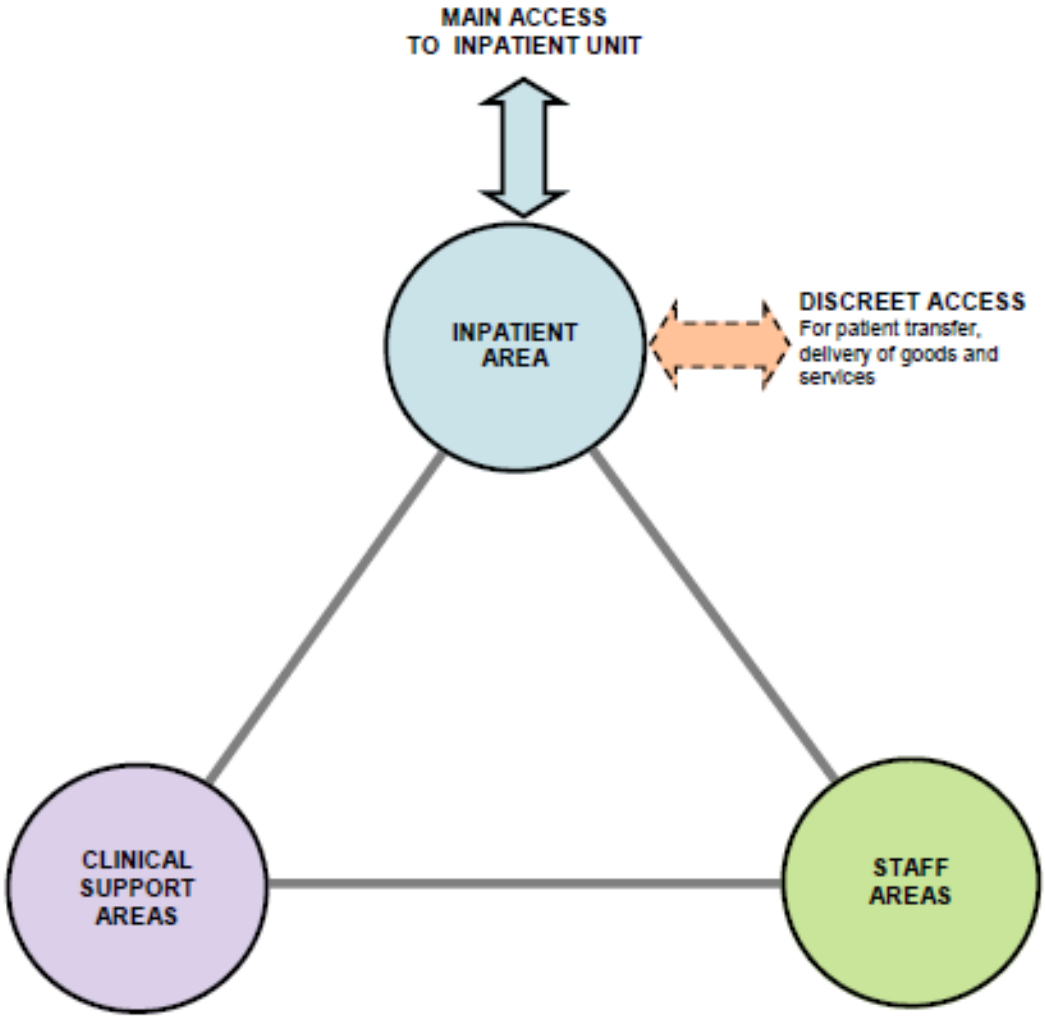
STAFF AREAS (SHARED WITH ADJOINING UNIT)

AusHFG Room Code	Room / Space	SC / SC-D	Qty	m2	Remarks
OFF-S12	Office - Single Person, 12m2	Yes	1	12	For Director
OFF-S9	Office - Single Person, 9m2	Yes	1	9	Nurse Manager, NUM, full time staff specialists etc., depending on staff establishment
OFF-2P	Office - 2 Person Shared, 12m2	Yes	1	12	For registrars, depending on staff establishment
	Workstation, 5.5m2		1	6	Secretary, allied health, depending on staff establishment
MEET-L-20	Meeting Large, 20m2	Yes	1	20	Staff and patient education
SRM-18	Staff Room, 18m2	Yes	1	20	
WCST	Toilet - Staff, 3m2	Yes	2	3	
PROP-2	Property Bay - Staff	Yes	1	2	
SHST	Shower - Staff, 3m2	Yes	1	3	
OVBR	Overnight Stay Bedroom	Yes	1	10	For use by call staff
OVES	Overnight Stay Ensuite	Yes	1	4	For use by call staff
	Discounted Circulation %			32%	

Offices and sizes will depend on overall staff establishment and jurisdiction office accommodation policies – the above are examples only.

AX.02 Functional Relationships / Diagrams

DIAGRAM OF KEY FUNCTIONAL RELATIONSHIPS



AX.03 Checklists

For planning checklists, refer to Parts A, B, C and D of the Guidelines.

AX.04 References

- AHIA, 2010, Part E: Building Services and Environmental Design, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/guidelines.aspx
- AHIA, 2010, AusHFG Part B: Section 90, Standard Components, Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0090%5d%20Standard%20Components.pdf

- AHIA, 2010, Part B: Section 80 General Requirements, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0080%5d%20General%20Requirements.pdf
- AHIA, 2015, Part D: Infection Prevention and Control, Australasian Health Facility Guidelines (AHIA, 2015), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/Part%20D%20-%20Infection%20Prevention%20and%20Control%20(Complete).pdf
- AHIA, 2010, Part C: Section 730, Human Engineering, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bC-0730%5d%20Human%20Engineering.pdf
- AHIA, 2010, Part C: Section 710, Space Standards and Dimensions, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bC-0710%5d%20Space%20Standards%20and%20Dimensions.pdf
- AHIA, 2015, Part C: Section 790, Safety and Security Precautions, Australasian Health Facility Guidelines (AHIA, 2015), Australasian Health Facility Guidelines, AHIA, Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bC-0790%5d%20Safety%20and%20Security%20Precautions.pdf
- AHIA, 2010, Part F: Section 680 Furniture Fittings and Equipment, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bF-0680%5d%20Furniture%20Fittings%20and%20Equipment.pdf
- AHIA, 2015, Part E: Section 3, Electrical, Australasian Health Facility Guidelines (AHIA, 2015), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bE-0003%5d%20Electrical.pdf
- AHIA, 2010, AusHFG Part B: HPU 140 Allied Health Therapy Unit, Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0140%5d%20Allied%20Health%20Therapy%20Unit.pdf
- AHIA, 2012, Part B: HPU 610 Rehabilitation Inpatient Unit, Australasian Health Facility Guidelines (AHIA, 2012), Australasian Health Facility Guidelines, Australasian Health Infrastructure Alliance (AHIA), Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0610%5d%20Rehabilitation%20Inpatient%20Unit.pdf
- AHIA, 2015, Standard Components - Room Data Sheets (RDS) and Room Layout Sheets (RLS), Australasian Health Facility Guidelines (AHIA, 2015), Australasian Health Facility Guidelines, AHIA, North Sydney, NSW http://healthfacilityguidelines.com.au/standard_components_ak.aspx
- AHIA, 2014, Part B: HPU360 Intensive Care - General, Australasian Health Facility Guidelines (AHIA, 2014), Australasian Health Facility Guidelines, AHIA, Sydney. NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0360%5d%20Intensive%20Care%20-%20General.pdf
- AHIA, 2010, Part B: HPU 340 Inpatient Accommodation Unit, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, AHIA, Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0340%5d%20Inpatient%20Accommodation%20Unit.pdf
- AHIA, 2010, Part B: HPU520 Operating Unit, Australasian Health Facility Guidelines (AHIA, 2010), Australasian Health Facility Guidelines, AHIA, Sydney, NSW http://healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/%5bB-0520%5d%20Operating%20Unit.pdf
- Australian Government, 2013, Disability Discrimination Act 1992, Act No. 135 of 1992 as amended (Australian Government, 2013), Disability Discrimination Act 1992, Commonwealth Government of Australia, Canberra, ACT http://www.comlaw.gov.au/Details/C2013C00022
- Employee Relations, NSW Health, 2005, Occupational Health & Safety Issues Associated with Management Bariatric (Severely Obese) Patients (Employee Relations, NSW Health, 2005), pp. 40 - 40, NSW Government, North Sydney, NSW http://www0.health.nsw.gov.au/policies/gl/2005/pdf/GL2005_070.pdf

- NSW Health, 2013, TS11 - Engineering Services and Sustainable Development Guidelines (NSW Health, 2013), Technical Series TS11 - Engineering Services and Sustainable Development Guidelines, NSW Government, North Sydney, NSW http://www0.health.nsw.gov.au/policies/gl/2008/pdf/GL2008_002.pdf
- NSW Health, 2009, TS7 - Floor Coverings in Healthcare Buildings, Issue V1.1 (NSW Health, 2009), no. V1.1, NSW Government, North Sydney, NSW http://www.healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/aushfg_TS7_FloorCoverings221009.pdf
- NSW Health, 2007, Aboriginal Mental Health and Well Being Policy 2006-2010 (NSW Health, 2007), NSW Government, Sydney, Australia http://www0.health.nsw.gov.au/policies/pd/2007/pdf/PD2007_059.pdf
- Standards Australia, 2004, AS/NZS 4360:2004 Risk Management (Standards Australia, 2004), Standards Australia, Sydney, NSW http://infostore.saiglobal.com/store/Details.aspx?DocN=AS0733759041AT
- Standards Australia, 2011, AS/NZS 3003:2011 Electrical Installations - Patient Areas (Standards Australia, 2011), Standards Australia, Sydney NSW http://infostore.saiglobal.com/store/Details.aspx?ProductID=1458596
- Standards Australia, 2003, HB 260:2003 Hospital Acquired Infections - Engineering Down the Risk (Standards Australia, 2003), Standards Australia, Sydney, Australia http://infostore.saiglobal.com/store/PreviewDoc.aspx?saleItemID=719337
- Standards Australia, 2010, AS/NZS 1428:2010 Design for Access and Mobility (Set), AS/NZS 1428:2010 Design for Access and Mobility (Set) (Standards Australia, 2010), AS/NZS 1428:2010 Design for Access and Mobility (Set), Standards Australia, Sydney, Australia http://infostore.saiglobal.com/EMEA/Details.aspx?ProductID=1407487

AX.05 Further Reading

SERVICE PLANNING
Service Planning

- NSW Health 2002, Guide to the role delineation of health services, 3rd edition, Statewide Services Development Branch, NSW Health;
- NSW Health 2005a, PD 2005_602: Area Healthcare Service Plans - NSW Health Guide for Development, NSW Health;
- Queensland Health 2010, Guide to Health Service Planning, Queensland Health;
- Queensland Health 2011, Clinical Services Capability Framework for Public and Private Licensed Health Facilities version 3.0; V 2 & V 2.01, Queensland Health;
- SA Health 2007, Statewide Service Strategy, Clinical Service Reform, Hospital model of care planning principles: working document, SA Health; and
- WA Health 2010, Clinical Services Framework 2010 – 2020.

Service Planning - HPU Specific

- NSW Health 2004, NSW Framework for the Development of New Cardiac Catheterisation Laboratories, Statewide Services Development Branch, NSW Health.

Design and Technical Guidelines - HPU Specific

- Cardiac Society of Australia and New Zealand, http://www.csanz.edu.au/Education/Guidelines/ClinicalPracticeFiles/tabid/148/Default.aspx

- Department of Human Services 2004, Design Guidelines for Hospitals and Day Procedure Centres: Intensive Care Unit, Department of Human Services Victoria; and
- NHS Estates 2006, Health Building Note 28: Facilities for Cardiac Services, 2nd edition, NHS Estates.

Office Policies

- NSW Health 2005b, PD 2005_576: Office Accommodation Policy - Public Health Organisations and Ambulance Service, NSW Health;

- Queensland Health 2008, Queensland Health Work Place and Office Accommodation Policy and Guidelines, Queensland Department of Health;
- State Government of South Australia 2008, Office Accommodation Guidelines, State Government of South Australia; and
- Victorian Government 2007, Office Accommodation Guidelines, Department of Treasury and Finance, Victorian Government.

Security

- NSW Health 2005c, Policy Directive 2005_339: Protecting People & Property: NSW Health Policy / Guidelines for Security Risk Management in Health Facilities, NSW Health;
- Queensland Health 2007, Occupational Health and Security Management Systems: Security Guidelines, Queensland Health; and
- Queensland Police 2007, Crime Prevention through Environmental Design (CPTED) Guidelines for Queensland, Queensland Police Service.

Standards, Policies, Codes and Legislation

- Commonwealth of Australia 1992, Disability Discrimination Act 1992, Office of Legislative Drafting and Publishing, Canberra;
- Standards Australia 1998, AS/NZS 3811: Hard wired patient alarm systems, SAI Global;
- Standards Australia 2003a. AS/NZS 3003: Electrical installations - Patient treatment areas of hospitals and medical, dental practices and dialyzing locations, SAI Global;
- Standards Australia 2003b, Handbook 260: Hospital acquired infections - Engineering down the risk, SAI Global;
- Standards Australia 2007, AS/NZS 3000: Electrical installations SAI Global;
- Standards Australia 2009, AS/NZS ISO 31000: Risk Management, principles and guidelines, SAI Global; and
- Standards Australia 2010. AS 1428 (Set): Design for Access and Mobility, SAI Global.

Workplace Health and Safety

- NSW Health 2005d, PD 2005_409: Workplace Health and Safety: Policy and Better Practice Guide, NSW Health;
- NSW Health 2005e, GL 2005_070: Occupational Health & Safety Issues Associated with Management Bariatric (Severely Obese) Patients, NSW Health;
- State Government of Queensland 2009, Workplace Health and Safety Act 1995, Office of the Queensland Parliamentary Counsel; and
- Worksafe Victoria 2007, A Guide to Designing Workplaces for Safer Handling of People, 3rd edition, Worksafe Victoria.

Other

- NSW Health 2007b, PD 2007_059: Aboriginal Mental Health and Well Being Policy 2006-2010, NSW Health.