

Module overview

Please note: This module must be read in conjunction with the Fundamentals of the Framework (including glossary and acronym list).

Cardiac services are a specialised area of medicine involved in the diagnosis, management and treatment of complications of patients with a wide range of cardiac and/or coronary artery disease—hereafter referred to collectively as cardiac disease.

The management of patients with cardiac disease encompasses the full continuum of care from treatment of early symptoms and risk factors through to the diagnosis and management of chronic disease. It requires high-level and prompt management of acute and critical symptoms to minimise mortality and maximise individual long-term health. Highly specialised management of complex issues necessitates subspecialty expertise to ensure patients receive the highest quality healthcare service.

The cardiovascular continuum of care and management is complex and requires a high degree of specialisation. This continuum includes prevention, screening, diagnosis, acute or ongoing medical care, surgery, rehabilitation and palliative care. As a result, evidence-based care is delivered in a range of settings by a diverse range of health professionals and requires documented processes among providers—including those in the community—across secondary care and among multidisciplinary groups.

The range of settings for the delivery of cardiac services includes public or private hospitals, stand-alone facilities, community healthcare settings and the patient's home. Increasing degrees of patient complexity, acuity and critical illness impact on staffing and service requirements, resulting in complex service delivery implications for facilities.

Children have specific needs in health services—please refer to the relevant children's services modules.

This module outlines four levels of complexity for cardiac service provision: Levels 3 to 6. It is accepted emergency presentations may occur at any facility, requiring temporary management of the patient. In a lower level facility, such care and stabilisation should occur in consultation with a higher level service prior to timely transfer. The focus of this module is on specialised cardiac services, including care provided by public and private health facilities.

The Cardiac Services module contains six sections which should be read collectively, and include:

Section 1: Cardiac (Coronary) Care Unit Services (Levels 4 to 6)

Section 2: Cardiac Diagnostic and Interventional Services (Levels 3 to 6)

Section 3: Cardiac Medicine Services (Levels 3 to 6)

Section 4: Cardiac Rehabilitation Services (Levels 4 to 6, including Ongoing Prevention and Maintenance Services)

Section 5: Cardiac Surgery Services (Level 6)

Section 6: Cardiac Outreach Services

Across the sections, it is a general expectation Level 3 services have access to a registered medical specialist with credentials in internal medicine, have provision for electrocardiography and may provide exercise stress testing. As the levels develop increasing sophistication, it is expected Level 4 services provide echocardiography, exercise stress testing and a cardiac care unit, along with a registered medical specialist with credentials in internal medicine and/or a registered medical specialist with credentials in cardiology. Level 4 services may provide transoesophageal echocardiography (TOE) and cardiac catheterisation, while these services, as well as percutaneous coronary intervention, are expected to be provided at Level 5 and 6 services, along with the development of electrophysiology services. A registered medical specialist with credentials in cardiology is also required at a Level 5 service, along with an on-call echocardiography and catheter lab service. As Level 6 typically provides superspecialty services, cardiac surgery services are provided at this level.

Section 1: Cardiac (coronary) care unit services

Cardiac (coronary) care units (hereafter referred to as cardiac care units) are specialised areas providing intensive care for emergency and acute cardiac illness at a high level of expertise. Cardiac care units receive patients from a variety of sources, including directly from the community, via ambulance services and emergency departments, and as internal and external referrals and transfers. Cardiac care units have advanced monitoring and diagnostic equipment, and access to a variety of multidisciplinary healthcare professionals to ensure provision of the full range of appropriate clinical and associated care.

Section 2: Cardiac diagnostic and interventional services

Cardiac diagnostic and interventional services include the full range of cardiac diagnostic and interventional services. Cardiac diagnostic services vary from exercise stress testing, Holter monitoring and transthoracic echocardiography to radioisotope stress testing, magnetic resonance imaging and positron emission tomography. These non-invasive means of diagnosing a patient's possible cardiac condition are further supported by invasive methods of investigation, including cardiac catheterisation (also known as cardiac angiography) and electrophysiology studies. Highly invasive methods of investigation require teams of specialised medical, nursing and allied health staff, often with specific training and dedicated equipment.

Cardiac catheterisation, electrophysiology or multipurpose laboratories are specialised clinical areas providing advanced monitoring, mapping, radiological, and diagnostic and interventional equipment to support the range of procedures for routine and emergency

cardiac care. All cardiac catheterisation, electrophysiology or multipurpose laboratories must have the capacity to provide resuscitation, the stabilisation of emergencies, and access to a variety of multidisciplinary healthcare professionals to ensure the provision of the full range of appropriate clinical and associated care. Patients requiring these services come from a variety of sources, including directly from the community via ambulance services and emergency departments, and as internal and external referrals and transfers.

Section 3: Cardiac medicine services

Cardiac medicine provides an array of preventative, screening, diagnostic, treatment and rehabilitative services across general and specialised cardiac medical problems. Services may also provide a close observation area for patients with more complex conditions.

Section 4: Cardiac rehabilitation services, and ongoing prevention and maintenance services

Cardiac rehabilitation services, both inpatient and outpatient, encompass all measures used to help people with cardiovascular disease return to an active and satisfying life, and to prevent future cardiac events. Cardiac rehabilitation should be tailored to meet the information, education, support and cultural needs of patients and their families, and align with best practice, such as the National Heart Foundation's 2004 framework.¹

The provision of cardiac rehabilitation services includes a number of elements: physical activity, health education, counselling, behaviour modification strategies and support for self-management. These should be routinely integrated into the management of all patients. All eligible patients should be offered inpatient cardiac rehabilitation, unless there are clinical contraindications. Not all elements of a rehabilitation program may be utilised for every cardiac patient during the inpatient period. However, individuals may access cardiac rehabilitation services at varying stages. Routine referrals to outpatient cardiac rehabilitation programs are increasingly important as part of the cardiovascular health continuum.

Ongoing prevention and maintenance services involve longer term services and/or programs aimed at helping people with cardiovascular disease maintain an active and satisfying life, and decreasing the risk of future cardiovascular events.

Section 5: Cardiac surgery services

Cardiac surgical services act as referral services for cardiac surgical patients and are capable of providing a range of cardiac surgical services with the associated comprehensive cardiac care services, including perioperative and post-operative care, and multisystem life support.

Section 6: Cardiac outreach services

Cardiac outreach services have been established to help improve health outcomes for rural Australians by increasing access to medical specialist services in metropolitan, regional, rural and remote communities. Visiting specialist services in geographical areas of identified need assist in addressing the burden cardiac disease places on people in rural and remote communities.

Services not within the scope of the Cardiac Services module include:

- primary prevention of cardiac disease
- screening, detection and management of early coronary artery and cardiac disease by primary healthcare providers
- cardiac services for children, which are addressed separately in the Children's Services modules.

Service networks

In addition to what is outlined in the Fundamentals of the Framework, specific service network requirements may include access to:

- chronic disease programs
- Heart Support Australia
- Heartline, the COACH Program and 13HEALTH
- the National Heart Foundation
- the Queensland Cardiovascular Health and Rehabilitation Association.

Where cardiac services (e.g. outpatient cardiac rehabilitation services) are outsourced to private organisations, service agreements will be required to ensure alignment with the CSCF.

Service requirements

In addition to what is outlined in the Fundamentals of the Framework, specific service requirements include:

- provide relevant clinical indicator data to satisfy accreditation and other statutory reporting obligations.

Section 1: Cardiac (coronary) care unit services

Cardiac (coronary) care unit services

	Level 4	Level 5	Level 6
Service description	<ul style="list-style-type: none"> • may be collocated within an intensive care service or may be stand-alone unit. • capable of providing high standard of general cardiac care, but does not have level of service to care for critically ill cardiac patients e.g. patients requiring advanced haemodynamic support. • unit managed by registered medical specialist with credentials in cardiology or internal medicine and experience in cardiology. • has on-site non-invasive diagnostic procedures, including exercise stress testing and echocardiography, and access to diagnostic cardiac catheterisation, for low-complexity patients. 	<ul style="list-style-type: none"> • provides comprehensive cardiac care to critically ill and complex cardiac patients. • access—24 hours—to on-site diagnostic and interventional services (cardiac catheterisation and/or multipurpose suite), and undertakes percutaneous coronary intervention on all but highest complexity patients. • may be referral centre for lower level services. 	<ul style="list-style-type: none"> • provides highest level of complex care for patients with serious cardiac conditions requiring continuous cardiac and haemodynamic monitoring. • on-site access to cardiac surgery. • service is staffed by specially trained medical and nursing staff, enabling close monitoring and early intervention. • may be referral service for all lower level coronary care services.
Service requirements	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> • access to diagnostic cardiac angiography for low-complexity adult patients. • on-site non-invasive diagnostic procedures, including transthoracic 	<p>As per Level 4, plus:</p> <ul style="list-style-type: none"> • on-site access to diagnostic and interventional services (cardiac catheterisation). 	<p>As per Level 5, plus:</p> <ul style="list-style-type: none"> • access to electrophysiology services in addition to full range of diagnostic and interventional services (cardiac catheterisation and coronary intervention).

	Level 4	Level 5	Level 6
	<p>echocardiography and exercise stress testing.</p> <ul style="list-style-type: none"> • capacity to insert temporary pacing wire. • access—24 hours—to troponin testing. • cardiac medications, including thrombolytics, on-site 24 hours. • all patients admitted under care of registered medical specialist with credentials in cardiology or internal medicine and experience in cardiology. • where patient throughput is less than recommended by relevant standards, thereby threatening ongoing competence, episodes of practice at higher level service may be required. • desirable for all registered nurses in CCU to be trained in advanced life support. 	<ul style="list-style-type: none"> • on-site access—24 hours—to surgical and medical services. • capacity to provide invasive monitoring and intra-aortic balloon pump management. • access to cardiac surgery via documented processes in place with nearest public or suitably licensed private health facility performing cardiac surgery; this affiliation must include agreed plan for emergency patient transfer to higher level service for emergency cardiac surgery and must be reviewed by both parties at least annually. • patients advised in advance of potential risk of delayed surgical intervention for complication arising from catheterisation procedure due to requirement for emergency transfer of patient to affiliated health facility for cardiac surgery. • evidence of comprehensive, ongoing medical, nursing, allied health and support service education programs, as appropriate, relevant to specialised facilities of the unit. • demonstrable and documented formal audit and review of cardiac care units 	<ul style="list-style-type: none"> • on-site cardiac surgery allowing service provision to higher risk patients (Section 5, Level 6 Cardiac Surgery Service).

	Level 4	Level 5	Level 6
		<p>and quality activities, including at least two targeted clinical audits, annually.</p> <ul style="list-style-type: none"> on-site access—24 hours—to general imaging services, including portable x-ray and computerised tomography (CT) with automatic film processing and/or picture archiving and communications system (PACS) and mobile image intensifier in designated units. transthoracic echocardiography accessible on-site 24 hours. on-site access—during business hours—to transo-esophageal echocardiography. access to cardiac viability assessment via nuclear medicine in addition to exercise stress testing. access to electrophysiology services may be accessible. 	
Workforce requirements	<p>As per module overview, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> access—24 hours—to registered medical specialist with credentials in either cardiology or internal medicine and relevant experience in cardiology. all medical staff trained in advanced life support. 	<p>As per Level 4, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> access—24 hours—to registered medical specialist with credentials in cardiology to cover cardiac care unit. sufficient supporting registered medical specialists with credentials in cardiology to provide sustainable coverage of cardiac care unit. 	As per Level 5 service.

	Level 4	Level 5	Level 6
	<p>Nursing</p> <ul style="list-style-type: none"> suitably qualified and experienced nurse manager (however titled). access to minimum of two nurses at all times, one being a registered nurse. suitably qualified and experienced registered nurse in charge on each shift with ability to interpret 12-lead ECG and administer thrombolysis. <p>Allied health</p> <ul style="list-style-type: none"> access to allied health professionals, as required. <p>Other</p> <ul style="list-style-type: none"> access to technical support staff (e.g. technical, biomedical and radiation safety specialists), as required. 	<ul style="list-style-type: none"> sufficient supporting registered medical specialists with credentials in cardiology to provide sustainable 24-hour coverage. <p>Nursing</p> <ul style="list-style-type: none"> all nursing staff responsible for direct patient care are registered nurses, with enrolled nurses, student nurses and assistants in nursing in this environment under supervision of registered nurse in supportive role. all nursing staff with or working towards relevant competencies in cardiac care nursing. <p>Allied health</p> <ul style="list-style-type: none"> access—24 hours—to identified pharmacist and physiotherapist. access—24 hours—to identified radiographer and echocardiographer or cardiac scientist. 	
Specific risk consideration	Nil	Nil	Nil

Support service requirements for cardiac (coronary) care unit services

	Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible
Anaesthetic		4	4		6	
Cardiac (cardiac diagnostic and interventional)			5			
Cardiac (cardiac surgery)				6	6	
Intensive care		4	4		6	
Medical			4		5	
Medical imaging	4		4		5	
Medication	4		4		5	
Nuclear medicine			4		4	
Palliative care		4		5		5
Pathology		3	4		4	
Surgical			4		6	

Table note: On-site means staff, services and/or resources located within the health facility or adjacent campus including third party providers.

Accessible means ability to utilise a service (either located on-site or off-site) or skills of a suitably qualified person (who may be either on-site or off-site)—without difficulty or delay—via various communication mediums including but not limited to face-to-face, telehealth, telepharmacy, and/or outreach

Section 2: Cardiac Diagnostic and Interventional Services

Cardiac Diagnostic and Interventional Services

	Level 3	Level 4	Level 5	Level 6
Service description	<ul style="list-style-type: none"> provides ambulatory and inpatient diagnostic service to low-risk patients. no interventional service, including cardiac catheterisation, is provided at this level. access to limited support services and may be collocated with other clinical areas. non-invasive diagnostic services include exercise stress testing, Holter monitoring and transthoracic echocardiogram. able to assess, treat and stabilise the patient prior to timely transfer to higher level specialist services, where required. 	<ul style="list-style-type: none"> may be stand-alone cardiac catheterisation, vascular or operating theatre unit with on-site access to intensive care service and cardiac care unit, and may also provide transoesophageal echocardiograms. also provides invasive angiographic diagnostic services (cardiac catheterisation), but not percutaneous coronary intervention or diagnostic electrophysiology. may also insert implantable cardioverter defibrillators, pacemakers and temporary pacing wires, which may be undertaken in cardiac laboratories, an operating 	<ul style="list-style-type: none"> provides comprehensive diagnostic and interventional services to all patients except those at highest level of complexity. on-site access—24 hours—to diagnostic and interventional services (cardiac catheterisation suite), and may have designated electrophysiology or multipurpose laboratory. undertakes elective (and may provide emergency) percutaneous coronary intervention. may also provide electrophysiology services for adult patients. access to inpatient cardiac care unit services providing invasive monitoring, intra- 	<ul style="list-style-type: none"> provides diagnostic and interventional services for patients with highest level of complexities, and provides on-site access—24 hours—to cardiac surgery to enable safe service provision for these patients. acts as referral service for all lower level services. on-site cardiac catheterisation suite, and/or designated electrophysiology and/or multipurpose laboratory. elective and emergency percutaneous coronary intervention and electrophysiology services on adult patients may also be available.

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> delivered predominantly by registered medical practitioner and registered nurses with visiting, day-only, registered medical specialist consultation services. 	<p>theatre or vascular angiography laboratory.</p> <ul style="list-style-type: none"> must have capacity to provide resuscitation and stabilisation of emergencies. 	<p>aortic balloon pump management and access to transoesophageal echocardiography, but does not have on-site cardiac surgical services.</p>	
Service requirements	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> access—24 hours—to range of medical services. on-site access—24 hours—to clinician training in advanced life support. access—24 hours—to troponin testing. on-site access—24 hours—to cardiac medications, including thrombolytic. access to cardiac medicine and cardiac rehabilitation service (Section 3, Level 3 Cardiac Medicine Service and Section 4, Level 3 Cardiac Rehabilitation Service). performance and interpretation of non-invasive monitoring and 12-lead ECG. 	<p>As per Level 3, plus:</p> <ul style="list-style-type: none"> on-site transthoracic echocardiography. patients under care of registered medical specialist with credentials in invasive cardiology. patients have follow-up in 24 hours post-procedure. patients with new pacemaker insertion receive ongoing cardiac telemetry until pacemaker function checked. intra-aortic balloon pump available on-site. documented processes with nearest public or suitably licensed private health facility performing cardiac surgery, which must include documented process for emergency patient transfer 	<p>As per Level 4, plus:</p> <ul style="list-style-type: none"> referral service for lower level units. access to cardiac viability assessment. on-site access—24 hours—to Level 5 cardiac care unit at minimum (Section 1, Level 5 Cardiac Care Unit Service). capacity to provide invasive monitoring, and intra-aortic balloon pump insertion and management. on-site access—24 hours—to transthoracic echocardiography. on-site access—during business hours—to transoesophageal echocardiography. on-site access—24 hours—to diagnostic and interventional 	<p>As per level 5, plus:</p> <ul style="list-style-type: none"> on-site access—24 hours—to cardiac surgery services (Section 5, Level 6 Cardiac Surgery Service). on-site access—24 hours—to cardiac care unit (Section 1, Level 5 Cardiac Care Unit Service). access—during business hours—to electrophysiology services, including epicardial and chronic lead extraction requiring on-site cardiac surgery.

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> Holter monitoring and interpretation, or facilities to transfer data for off-site interpretation. performance and interpretation of exercise stress testing. may provide and interpret transthoracic echocardiography. agreed clinical pathways and/or equivalent care guideline protocols, including use of documented processes for referral to allied health professionals in acute and community settings. 	<p>to higher level service for emergency cardiac surgery.</p> <ul style="list-style-type: none"> patients advised in advance of potential risk of delayed surgical intervention for complication arising from catheter procedure due to requirement for emergency transfer to affiliated health facility for cardiac surgery. all clinical staff have knowledge of radiation and protection practices. all staff have access to radiation safety documentation and attend radiation in-service annually. ongoing training and competency to ensure radiation safety and safe femoral arterial and venous sheath removal. access to post-procedure clinics or post-procedure specialist review. access to cardiac medicine or cardiac care unit service at minimum (refer to Section 1, Level 3 Cardiac Medicine 	<p>services (cardiac catheterisation suite).</p> <ul style="list-style-type: none"> may have designated electrophysiology or multipurpose laboratory. 	

	Level 3	Level 4	Level 5	Level 6
		Service or Section 2, Level 4 Cardiac Care Unit Service).		
Workplace requirements	<p>As per module overview, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> registered medical practitioner available. all registered medical practitioners supervising exercise stress testing trained in advanced life support. <p>Nursing</p> <ul style="list-style-type: none"> suitably qualified and experienced nurse manager (however titled). access to minimum of two nurses at all times, one being a registered nurse. suitably qualified and experienced registered nurse or other appropriately trained health professional in charge on each shift with ability to interpret 12-lead ECG. all registered nursing staff supervising exercise stress 	<p>As per Level 3, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> minimum of two registered medical specialists with credentials in invasive cardiology. all registered medical practitioners trained in advanced life support. <p>Nursing</p> <ul style="list-style-type: none"> suitably qualified and experienced registered nurse in charge on each shift trained in advanced life support. <p>Allied health</p> <ul style="list-style-type: none"> access—24 hours—to radiographer and echocardiographer or cardiac scientist with relevant qualifications and/or experience appropriate to service being provided (e.g. device implantation). 	<p>As per Level 4, plus:</p> <ul style="list-style-type: none"> access—24 hours—to minimum three health professionals in team with qualifications or experience in cardiac diagnostic and interventional procedures, as well as ongoing clinical competency relevant to service being provided, including expertise in managing balloon pump insertion. <p>Medical</p> <ul style="list-style-type: none"> access—24 hours—to registered medical specialist with credentials in invasive cardiology. Access-during business hours-to registered medical specialist with credentials in electrophysiology procedures and/or pacing procedures where electrophysiological procedures and/or pacing procedures provided. 	As per Level 5 service.

	Level 3	Level 4	Level 5	Level 6
	<p>testing trained in advanced life support.</p> <p>Allied health</p> <ul style="list-style-type: none"> allied health professionals, as required. cardiac scientist or other appropriately trained health professional with ability to interpret 12-lead ECG. 	<ul style="list-style-type: none"> access to allied health professionals via documented process. <p>Other</p> <ul style="list-style-type: none"> access to technical support staff (e.g. technical, biomedical and radiation safety specialists), as required. 	<ul style="list-style-type: none"> sufficient supporting registered medical specialists with credentials in interventional / invasive cardiology to provide sustainable service 24 hours. <p>Nursing</p> <ul style="list-style-type: none"> access—24 hours—to adequate registered nursing staff. all nursing staff responsible for direct patient care are registered nurses, with enrolled nurses, student nurses and assistants in nursing in this environment under supervision of registered nurse in supportive role. two nurses for scrub / scout—at least one being a registered nurse. all registered nurses trained in advanced life support desirable. nursing staff with or working towards relevant competencies and/or education programs 	

	Level 3	Level 4	Level 5	Level 6
			<p>appropriate to specialist service provided.</p> <p>Allied health</p> <ul style="list-style-type: none"> • access—24 hours—to identified pharmacist and physiotherapist. • access to radiographer and echocardiographer or cardiac scientist. • access to radiographer and cardiac scientist with knowledge of, and experience in, complex electrophysiology ablations, where electrophysiology services provided. 	
Specific risk considerations	Nil	<p>In addition to risk management outlined in the Fundamentals of the Framework, specific risk management requirements include:</p> <ul style="list-style-type: none"> • development of interventional service from diagnostic service (should be recognised in process of development of interventional service, facilities may not have case load to allow for minimum 	Nil	Nil

	Level 3	Level 4	Level 5	Level 6
		<p>recommended volumes to be attained in first year).</p> <ul style="list-style-type: none"> • services must comply with minimum patient throughput standards pursuant to section 12(2)(g) of <i>Private Health Facilities Act 1999</i>. • where patient throughput is less than relevant standard, threatening staff skill maintenance and ongoing competence, episodes of practice at higher level service may be required. • in this setting, if minimum case load cannot be achieved, documented process with another cardiac catheter unit is required to ensure staff skill levels maintained. • continued functioning of service will be conditional on acceptable performance, as determined by formal and timely peer-review auditing of institutional and individual procedures. • service should provide at least 12 months of cardiac diagnostic procedures and 		

	Level 3	Level 4	Level 5	Level 6
		then at least 12 months of cardiac therapeutic procedures prior to performing emergency low-risk cases.		

Support service requirements for cardiac diagnostic and interventional services

	Level 3		Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible	On-site	Accessible
Anaesthetic		3	4		4		6	
Cardiac (coronary) care unit		4	4		5		5	
Cardiac (cardiac surgery)				6		6	6	
Intensive care			4		4		6	
Medical	3		4		4		5	
Medical imaging	3		4		4		5	
Medication	4		4		4		5	

	Level 3		Level 4		Level 5		Level 6	
Nuclear medicine					4		4	
Palliative care		3		4		5		5
Pathology		2		3	4		4	
Perioperative (relevant section/s)							5	
surgical			4		4		6	

Table note: On-site means staff, services and/or resources located within the health facility or adjacent campus including third party providers.

Accessible means ability to utilise a service (either located on-site or off-site) or skills of a suitably qualified person (who may be either on-site or off-site)—without difficulty or delay—via various communication mediums including but not limited to face-to-face, telehealth, telepharmacy, and/or outreach

Section 3: Cardiac Medicine Services

Cardiac Medicine Services

	Level 3	Level 4	Level 5	Level 6
Service description	<ul style="list-style-type: none"> provides ambulatory and inpatient services that may require subspecialty outpatient referral. assesses and stabilises patients, and initiates care, 	<ul style="list-style-type: none"> provides inpatient and outpatient care services to patients with moderate level of complexity, delivered by variety of health professionals, including 	<ul style="list-style-type: none"> manages all but most highly complex cardiac medicine patients and procedures. designated cardiology beds providing comprehensive subspecialty services, with 	<ul style="list-style-type: none"> provides highest level of care for complex and critically ill cardiac patients in designated cardiology beds, with full range of support

	Level 3	Level 4	Level 5	Level 6
	<p>prior to transfer for specialist assessment and treatment where appropriate.</p> <ul style="list-style-type: none"> patients who require complex diagnostic investigation will also be referred to higher level cardiac medicine services. may be collocated within a general ward or general clinical area, and may have an acute or observation area or access to high-acuity care / beds. predominantly delivered by registered medical practitioner and registered nurses with visiting, day-only, registered medical specialist consultation services. 	<p>medical, nursing and allied health.</p> <ul style="list-style-type: none"> may be collocated within a general medical unit with on-site access to intensive care service and/or cardiac care unit, but does not have level of service to care for critically ill cardiac medicine patients. patients admitted are managed by cardiologist or internal registered medical specialist with experience in cardiology. has access to some specialised non-invasive diagnostic services, including exercise stress testing and echocardiography. 	<p>advanced range of supporting clinical and diagnostic services to match complexity of patients admitted and referred,</p> <ul style="list-style-type: none"> all admitted patients managed by designated registered medical specialist with credentials in cardiology. may be referral centre for lower level services. 	<p>services accessible on-site 24 hours a day.</p> <ul style="list-style-type: none"> acts as referral service for all lower level cardiac medicine services.
Service requirements	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> performs and interprets non-invasive monitoring and 12-lead electrocardiogram (ECG). 	<p>As per Level 3, plus:</p> <ul style="list-style-type: none"> on-site cardiac care unit (Section 1, Level 4 Cardiac Care Unit Service); if on-site intensive care service provided, requirement for an 	<p>As per Level 4, plus:</p> <ul style="list-style-type: none"> patients individually managed by designated registered medical specialist with credentials in cardiology, with support from multidisciplinary team 	<p>As per Level 5, plus:</p> <ul style="list-style-type: none"> on-site 24 hours Level 5 cardiac care unit (Section 1, Cardiac Care Unit Services). Level 5 diagnostic and interventional service

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> • stabilisation of patient where required prior to transfer to higher level service. • agreed clinical pathways and/or care guideline protocols used, including use of referral pathways to allied health professionals who may be hospital- or community-based (including cardiac rehabilitation). • minimum data set of patient information recorded that aligns with facility protocols. • provision of formal patient education regarding patient's condition, lifestyle risk factors and medication management. • access on-site— 24 hours— to individual trained in advanced life support and undertakes refresher training annually. • cardiac medications, including thrombolytics, on-site 24 hours. • defibrillator. 	<p>on-site cardiac care unit will be met.</p> <ul style="list-style-type: none"> • access to non-invasive monitoring. • non-invasive diagnostic procedures, including transthoracic echocardiography and exercise stress testing. • access to qualified staff to provide echocardiography and exercise stress testing. • access to related support services. • may have access to invasive diagnostic services (cardiac catheterisation). 	<p>to enable management of complex patients and multiple comorbidities.</p> <ul style="list-style-type: none"> • on-site access—24 hours—to diagnostic and interventional services (cardiac catheterisation and/or multipurpose suite). • designated cardiac medicine wards and on-site cardiac care unit (Section 1, Level 5 Cardiac Care Unit Service). • access to cardiac and general surgery (Section 5, Level 6 Cardiac Surgery Service). • access to endocrinology, gastroenterology, infectious diseases, neurology, rehabilitation, renal, urology and vascular services. • admitted patients referred to designated registered medical specialist with credentials in cardiology for management of care. • documented audit and review of service-based activity, and outcomes and quality activities, including at 	<p>(Section 2, Cardiac Diagnostic and Interventional Services).</p> <ul style="list-style-type: none"> • access to cardiac surgical service (Section 5, Cardiac Surgery Services).

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> access—24 hours—to troponin and B-type natriuretic peptide testing. access to specialised medical outreach services providing exercise stress testing, and echocardiography and cardiac consultations. 		<p>least two targeted clinical audits, annually.</p> <ul style="list-style-type: none"> in addition to providing general cardiac medicine services, including to patients with heart failure and coronary heart disease, subspecialty service may include, but is not limited to, providing services for adult congenital disease, valvular disease, pulmonary hypertension and genetics, and may provide obstetric cardiac services. may act as referral service for lower level services. 	
Workforce requirements	<p>As per module overview, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> registered medical practitioner available. access—24 hours—to registered medical specialist with credentials in internal medicine. all registered medical practitioners trained in advanced life support and 	<p>As per Level 3, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> access—24 hours—to either registered medical specialist with credentials in cardiology or registered medical specialist with credentials in internal medicine and relevant experience in cardiology. 	<p>As per Level 4, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> access—24 hours—to registered medical specialist with cardiology credentials. sufficient supporting registered medical specialists with credentials in cardiology to provide sustainable 24-hour coverage. 	<p>As per Level 5.</p>

	Level 3	Level 4	Level 5	Level 6
	<p>undertake refresher training annually.</p> <p>Nursing</p> <ul style="list-style-type: none"> • suitably qualified and experienced nurse manager (however titled). • access—24 hours—to minimum two nurses; one being a registered nurse. • suitably qualified and experienced registered nurse in charge on each shift with ability to interpret 12-lead ECG. • at least one registered nurse trained in advanced life support undertakes refresher training annually. <p>Allied health</p> <ul style="list-style-type: none"> • access to allied health professionals, as required. 	<ul style="list-style-type: none"> • access—24 hours—to at least one registered medical practitioner. <p>Allied health</p> <ul style="list-style-type: none"> • access to qualified staff to provide echocardiography and exercise stress testing. 	<ul style="list-style-type: none"> • nominated cardiac medicine unit lead clinician with responsibility for clinical governance of service. <p>Nursing</p> <ul style="list-style-type: none"> • registered nurses responsible for direct patient care, with enrolled nurses, student nurses and assistants in nursing in this environment under supervision of registered nurse. • all nursing staff with or working towards relevant competencies and/or formal education programs in cardiac nursing. <p>Allied health</p> <ul style="list-style-type: none"> • access—24 hours—to identified radiographer, cardiac scientist or echocardiographer, physiotherapist and pharmacist. • access to allied health professionals who may be hospital- or community-based. 	

	Level 3		Level 4		Level 5		Level 6	
					Other <ul style="list-style-type: none"> access to technical support staff (e.g. biomedical engineers and scientific officers), as required. 			
Specific risk considerations	Nil		Nil		Nil		Nil	

Support service requirements for cardiac medicine services

	Level 3		Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible	On-site	Accessible
Anaesthetic		3	4		4		6	
Cardiac (cardiac care unit)		3	4		4		5	
Cardiac (cardiac diagnostic & interventional)				6		6		
Cardiac (cardiac surgery)			4		4		6	

	Level 3		Level 4		Level 5		Level 6	
Intensive care	3		4		4		5	
Medical imaging	3		4		4		5	
Medication	4		4		4		5	
Palliative care					4		4	
Pathology		3		4		5		
Surgical		2		3	4		4	

Table note: On-site means staff, services and/or resources located within the health facility or adjacent campus including third party providers.

Accessible means ability to utilise a service (either located on-site or off-site) or skills of a suitably qualified person (who may be either on-site or off-site)—without difficulty or delay—via various communication mediums including but not limited to face-to-face, telehealth, telepharmacy, and/or outreach

Section 4: Cardiac Rehabilitation Services – Inpatient, Outpatient and Ongoing Prevention & Maintenance Services

Cardiac Rehabilitation Services - Inpatient

	Level 4	Level 5	Level 6
Service description	<ul style="list-style-type: none"> encompasses all measures used to help people with heart disease return to active and satisfying life, and prevent 	As per Level 4 inpatient service.	As per Level 5 inpatient service.

	Level 4	Level 5	Level 6
	<p>recurrence of cardiac events (also known as phase 1 cardiac rehabilitation).</p> <ul style="list-style-type: none"> • should begin as soon as possible after admission to hospital. • core group of people eligible for cardiac rehabilitation are those who have had: <ul style="list-style-type: none"> • myocardial infarction • cardiovascular diagnostic and interventional procedures • cardiac surgery • stable or unstable angina • stable heart failure • other cardiovascular or coronary heart disease. • in absence of clinical contraindications for participation in inpatient cardiac rehabilitation, all eligible patients should be routinely offered this service. • all cardiac patients and their families require information, education and support based on their individual needs, aimed at identifying and reducing cardiac disease risk, appropriate to their cardiac diagnosis and/or intervention. • medical or formal assessment of patient's level of risk should be 		

	Level 4	Level 5	Level 6
	performed and documented in the patient chart to enable identification of eligibility and referral to appropriate outpatient cardiac rehabilitation service.		
Service requirements	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> • structured education program delivered on needs basis. • cardiovascular patient risk assessment and management plan (verbal and/or written). • patient empowerment to adopt self-management strategies. • basic information on condition and reassurance of common reactions (physiological). • guidelines for return to work and/or driving, activities of daily living and home exercise. • standardised education resource with risk-assessment capacity (e.g. My Heart My Life or equivalent and culturally sensitive resources). • culturally appropriate advice (preferably verbal explanation as well as written documentation), including return to work, activities of daily living and any driving restrictions. 	<p>As per Level 4 inpatient service, plus:</p> <ul style="list-style-type: none"> • structured education program facilitated by multidisciplinary team delivered during set times and dates. • inpatient or timely access to allied health professionals, as required 	<p>As per Level 5 inpatient service, plus:</p> <ul style="list-style-type: none"> • provision of motivational interviewing by trained healthcare professional.

	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> documented processes for referral and/or access to allied health professionals, who may be hospital- or community-based. documented processes for referral to outpatient cardiac rehabilitation service or alternative, which subsequently contacts clients either in person prior to discharge and/or within 2 weeks of discharge from inpatient service via follow-up telephone call and/or home visit and/or letter. 		
Workforce requirements	<p>As per module overview, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> access to registered medical specialist with credentials in cardiac care medicine. <p>Nursing</p> <ul style="list-style-type: none"> access to registered nurse. <p>Allied health</p> <ul style="list-style-type: none"> access to variety of allied health professionals, as required. access to allied health professional with exercise qualification (e.g. physiotherapist, physiologist, occupational therapist). 	<p>As per Level 4 inpatient service, plus:</p> <p>Nursing</p> <ul style="list-style-type: none"> registered nurse with designated time for provision of cardiac rehabilitation services. 	<p>As per Level 5 inpatient service, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> liaison with registered medical specialist with credentials in cardiac care medicine.

	Level 4	Level 5	Level 6
	Other <ul style="list-style-type: none"> access to Aboriginal and Torres Strait Islander health workers, and community support / recreational workers, as required. 		
Specific risk considerations	Nil	Nil	Nil

Support services requirements for inpatient cardiac rehabilitation services

	Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible
Medication	4		5		5	

Table note: On-site means staff, services and/or resources located within the health facility or adjacent campus including third party providers.

Accessible means ability to utilise a service (either located on-site or off-site) or skills of a suitably qualified person (who may be either on-site or off-site)—without difficulty or delay—via various communication mediums including but not limited to face-to-face, telehealth, telepharmacy, and/or outreach

Cardiac Rehabilitation Services - Outpatient

	Level 4	Level 5	Level 6
Service description	<ul style="list-style-type: none"> recognised focal point for development of life-long approach to prevention of cardiovascular disease (also known as phase 2 cardiac rehabilitation). empowering patients to adopt self-management strategies is key objective. indications for outpatient cardiac rehabilitation services include people who have experienced a recent cardiac event, known cardiovascular disease, and, increasingly, those at high risk of developing cardiovascular disease. core group of people eligible for outpatient cardiac rehabilitation are those who have: <ul style="list-style-type: none"> coronary heart disease (i.e. myocardial infarction, coronary artery bypass graft surgery, percutaneous transluminal coronary angioplasty and stable angina) had valvular surgery heart failure congenital heart disease heart and lung transplants 	<ul style="list-style-type: none"> conducted by multidisciplinary team of health professionals in accordance with recommendations for the facility. programs designed to empower patient / client to adopt self-management strategies. as per Level 4 service, but must also include: <ul style="list-style-type: none"> structured education and exercise program facilitated by multidisciplinary team and delivered per group during set times and dates access to exercise equipment formalised, individualised and comprehensive assessment covering physical, psychological and social parameters discharge letter to lead health practitioner, as nominated. 	<ul style="list-style-type: none"> as per Level 5 service, with additional provision of psychosocial counselling, cognitive behavioural therapy, motivational interviewing, psychology or social work services.

Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> – pacemaker or implanted automatic cardioverter defibrillator. • referrals to outpatient cardiac rehabilitation come from variety of sources, including registered medical practitioners, Aboriginal and Torres Strait Islander health workers, endorsed cardiac specialists, primary healthcare centres, community health centres, and inpatient or outpatient hospital clinics. • may be provided in range of settings, including hospitals, community health facilities, recreation centres and general medical practice, or combination of these. • may also be provided on individual basis in patient’s home, and may include combination of home visits, telephone support, videoconferencing and telehealth, or specifically developed self-education materials. • may be conducted by single health professional with documented, annually reviewed emergency protocols where available, consistent with recommendations for facility offering rehabilitation after cardiovascular disease (ACRA Practitioner Guidelines for Cardiac Rehabilitation, 2008).² 	

	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> • Level 4 outpatient service includes: • structured program delivered on needs basis <ul style="list-style-type: none"> – documented entry and exit assessment – clinical pathway or equivalent – education on risk factors and prevention strategies – support to empower patient / client to adopt self-management strategies – exercise component (not mandatory) – standardised education resource (e.g. My Heart My Life or equivalent) and other culturally sensitive resources – follow-up processes / referrals by telephone, by mail or in person. 		
Service requirements	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> • documented emergency management protocols (reviewed annually). • access to oxygen and resuscitation equipment (bag and mask at minimum) and, if providing outpatient cardiac rehabilitation service involving exercise component, minimum of semi- 	<p>As per Level 4 outpatient service, plus:</p> <ul style="list-style-type: none"> • must have staff:patient ratio during exercise sessions of: <ul style="list-style-type: none"> – one health professional if fewer than 10 participants or low-intensity exercise – two health professionals if more than 10 participants or moderate- 	<p>As per Level 5 outpatient service.</p>

	Level 4	Level 5	Level 6
	<p>automatic external defibrillator within facility.</p> <ul style="list-style-type: none"> access to monitoring equipment (blood pressure and blood glucose). 	<p>intensity exercise (National Heart Foundation's 2004 framework).¹</p>	
Workforce requirements	<p>As per module overview, plus:</p> <p>Medical</p> <ul style="list-style-type: none"> access to registered medical practitioner who has access, via documented processes, to registered medical specialist with credentials in cardiac care / rehabilitation medicine to provide advice and guidance, as required. <p>Cardiac Rehabilitation Coordinator</p> <ul style="list-style-type: none"> qualified health professional with degree, diploma or certificate of registration in medicine, nursing, physiotherapy, occupational therapy, exercise physiology, psychology, social work, pharmacy or nutrition, and additional qualifications and/or work experience in cardiac rehabilitation, adult education principles and physical activity programs. in some instances, only one qualified health professional where there is access to medical guidance and 	<p>As per Level 4 outpatient service.</p>	<p>As per Level 5 outpatient service.</p>

	Level 4	Level 5	Level 6
	<p>availability of referral for medical opinion.</p> <p>Allied health</p> <ul style="list-style-type: none"> access and documented processes for referral to variety of allied health professionals, as required. <p>Other</p> <ul style="list-style-type: none"> access to Aboriginal and Torres Strait Islander health workers, and community support / recreational workers (if service predominantly for Aboriginal and Torres Strait Islander peoples). 		
Specific risk considerations	Nil	Nil	Nil

Cardiac Rehabilitation -Ongoing Prevention and Maintenance Services

	Level
Service description	<ul style="list-style-type: none"> ongoing maintenance of behaviour change beyond period of time of ambulatory and/or inpatient rehabilitation critical for long-term health benefits. services or programs offered within this period have emphasis on supporting behaviours and decreasing risks of future cardiovascular events. where programs provided, both patient needs and available resources will determine type of program or service provided.

	Level
Service requirements	<p>As per module overview and outpatient cardiac rehabilitation programs, plus:</p> <ul style="list-style-type: none"> • follow-up processes and/or referrals by telephone, mail or in person, as required. • may include ongoing assessment and management of individual's goals. • may include involvement of registered medical practitioner as an integral part of an ongoing management plan. • may include access to exercise equipment.
Workforce requirements	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> • designated health professional with credentials in, and knowledge of, cardiac rehabilitation or health behaviour / physical activity. • Aboriginal and Torres Strait Islander health workers, and community support workers, with services delivered either from community-controlled Aboriginal and Torres Strait Islander health service or, if service predominantly for Aboriginal and Torres Strait Islander peoples, from within an Aboriginal and Torres Strait Islander community.
Specific risk considerations	Nil

Section 5: Cardiac Surgery Services

Cardiac Surgery Services

	Level 6
Service description	<ul style="list-style-type: none"> • provides comprehensive surgical cardiac care, including complex multisystem life support, to critically ill patients, and on-site access—24 hours—to intra-aortic balloon pump insertion and management. • access to on-site intensive care service to provide pre- and post-operative care for cardiac surgical patients, and access to on-site interventional cardiac services (Section 2, Cardiac Diagnostic and Interventional Services) also available.

Level 6

- therapeutic and diagnostic procedures performed at all levels of patient complexity, as cardiac surgery is available on-site and cardiopulmonary bypass can begin within 2 hours where necessary.
- access within the state to extracorporeal membrane oxygenation and/or ventricular assist devices.

Service requirements

As per module overview, plus:

- documented processes for referral to subspecialist services (e.g. ventricular assist devices, transplant and medical specialists).
- access—24 hours—to perfusionist where extracorporeal membrane oxygenation services provided.
- documented processes for referral to allied health professionals who may be hospital or community-based.
- Royal Australasian College of Surgeons (RACS) accreditation if providing cardiac registrars' surgical training (see www.surgeons.org).
- access to cardiac rehabilitation (Section 4, Cardiac Rehabilitation Services).
- access—24 hours—to relevant equipment to support intra-aortic balloon insertion, extracorporeal membrane oxygenation and ventricular assist devices.

Workplace requirements

As per module overview, plus:

Medical

- access to two registered medical specialists with credentials in cardiac surgery to provide 24-hour cover for cardiac surgical services.
- access—24 hours—to registered medical specialist with credentials in cardiac surgery for consultation and emergency procedures.
- access—24 hours—to registered medical specialist with credentials in cardiology.
- all medical staff trained in advanced life support.

Nursing

- suitably qualified and experienced nurse manager (however titled) in charge of unit.
- all nursing staff responsible for direct patient care are registered nurses, with enrolled nurses, student nurses and assistants in nursing in this environment under supervision of a registered nurse in supportive role.
- at least one registered nurse trained in advanced life support rostered on each separate clinical area at all times.
- all nursing staff with or working towards relevant competencies and/or education programs in post-operative cardiac surgical nursing.

Level 6

- four categories of nursing staff—intensive care, anaesthetic, perioperative and surgical cardiac ward registered nurses (for further information on nursing workforce requirements, refer to relevant Level 6 requirements in relevant modules).

Allied health

- access to allied health professionals (including perfusionist, cardiac scientist, social worker, dietician/nutritionist and occupational therapist, who may be hospital- or community-based), as required.

Other

- access to technical support staff (e.g. biomedical engineers and scientific officers), as required.

Specific risk considerations

In addition to risk management outlined in the Fundamentals of the Framework and set out in the module overview, specific risk management requirements dictate a Level 6 cardiac surgery service must:

- demonstrate processes for formal audit and review of cardiac surgical services and quality activities, including:
 - at least two targeted clinical audits annually
 - compliance with facility, network and/or any external death review processes
 - ideally, participation in Queensland Audit of Surgical Mortality, facilitated by RACS.
- comply with minimum patient throughput standards pursuant to section 12(2)(g) of Private Health Facilities Act 1999 and where patient throughput is less than the relevant standard, thereby threatening staff skill maintenance and ongoing competence, episodes of practice at higher level service may be required.

Support services requirements for cardiac surgery services

Level 6

On-site

Accessible

	Level 6	
Anaesthetic	6	
Intensive care	6	
Medical imaging	5	
Medication	5	
Palliative care		5
Pathology	5	
Perioperative (relevant section/s)	6	
surgical	6	

Table note: On-site means staff, services and/or resources located within the health facility or adjacent campus including third party providers.

Accessible means ability to utilise a service (either located on-site or off-site) or skills of a suitably qualified person (who may be either on-site or off-site)—without difficulty or delay—via various communication mediums including but not limited to face-to-face, telehealth, telepharmacy, and/or outreach

Section 6 Cardiac Outreach Services

Cardiac outreach services will generally be provided on a day-only / consultation basis by a higher level service where local services are unavailable. Outreach services provide a range of timely, safe and efficient services to patients who would otherwise have to travel to metropolitan or major health centres, often at significant personal cost and/or hardship. Outreach services are characterised by a multidisciplinary-care approach involving the visiting medical personnel, local doctors, midwives, and Aboriginal and Torres Strait Islander health workers. Cardiac outreach services also:

- facilitate visiting specialist and local health professional relationships, and communication about ongoing patient care
- increase and maintain the skills of regional, rural and remote health professionals in accordance with local need
- increase visiting specialist services in areas of identified need.

Cardiac outreach services must be safe and provided within the capability of the host service, which may be temporarily upgraded due to the extra personnel, equipment and support services being provided by the outreach service. When providing cardiac outreach services, the following should be considered:

- planning for outreach services must be realistic (e.g. it needs to be recognised some patient referral to a larger or higher level service will be necessary)
- must be appropriate patient assessment and referral from local healthcare providers
- services should be designed to meet a local priority and deemed necessary for the local population, as they cannot reasonably be provided by existing medical staff
- clinical support structures and processes must be in place at the local level, and these services must be staffed and resourced
- services must be planned and coordinated
- services should build on the local services and contribute to the local capacity, with sustainability being paramount
- provision of specialist cardiac services to an outreach location must take into consideration the after-care available and level of workforce skill provided on a routine basis
- procedures and treatments should only be undertaken when on-site personnel, equipment and facilities are adequate for the purpose
- consultative services provided at the outreach location by a health professional will be of a higher level than the service capability of the local service
- services are usually provided on a day-only, outpatient basis
- all registered medical practitioners providing cardiac outreach services must have appropriate credentials in the procedures or treatments offered
- on-site equipment and facilities must be adequate for the diagnostic procedure
- cardiac outreach consultation must have documented protocols and processes between the outreach service and the local facility, which should be reviewed annually

- adequate processes for the communication of consultation outcome, diagnoses and results, and ongoing patient management must be in place.

Telehealth services may be offered as an alternative. These are defined as any health delivery service where healthcare and health-related activities are provided at a distance, usually with the aid of telecommunications technology. Telemedicine is a sub-term of telehealth that relates specifically to medical practice, as opposed to other areas of healthcare, by removing physical and social distances between health professionals and their patients. The term telehealth is used throughout this document to encompass the full multidisciplinary range of services that may be provided. Telehealth is an extension of the way patients and nurses, doctors and other specialists may communicate. Telehealth has enabled:

- better access to specialist services for rural and remote communities, enabling patients to receive follow-up care and other specialist services closer to home
- provision of coordinated, timely patient care for more remote clients
- participation in education and training sessions, and case conferences, peer support sessions and meetings, without the need to leave critical clinical and administrative areas for long periods of time
- reduction in cost, time and travel burdens to patients and healthcare professionals.³

Legislation, regulations and legislative standards

Refer to the Fundamentals of the Framework for details.

Non-mandatory standards, guidelines, benchmarks, policies and frameworks

(not exhaustive & hyperlinks current at date of release of CSCF v3.2)

In addition to what is outlined in the Fundamentals of the Framework, the following are relevant to cardiac medical services:

- Australasian Society for Ultrasound in Medicine. Policies and Statements B1. Policy on Diagnostic Ultrasound Services. ASUM; 1999. www.asum.com.au/newsite/files/documents/policies/PS/B1_policy.pdf
- Queensland Government. HQCC Standards Version 2: Management of Acute Myocardial Infarction on and Following Discharge or Transfer Standards. Health Quality and Complaints Commission; 2010. www.hqcc.qld.gov.au/Quality/Documents/Healthcare-standards-standard-AMI.pdf
- Queensland Government. Selected Specialist Services Direction Statement 2001- 2010 (includes solid organ transplant services and organ donation services). Queensland Health; 2001.
- Therapeutic Goods Administration. Regulatory guidelines and standards for medical devices. www.tga.gov.au/

Non-mandatory standards, guidelines, benchmarks, policies and frameworks

(not exhaustive & hyperlinks current at date of release of CSCF v3.2)

In addition to what is outlined in the Fundamentals of the Framework, the following are relevant to cardiac diagnostic and interventional services:

- Australasian Sonographer Accreditation Registry. Program Accreditation Guidelines. ASAR; 2007. www.asar.com.au/program-accreditation
- Australian College of Operating Room Nurses. Standards for Perioperative Nursing for Registered and Enrolled Nurses in Australia. www.acorn.org.au/
- Cardiac Society of Australia and New Zealand. Guidelines for Ambulatory Electrocardiographic Monitoring. CSANZ; 2009. [www.csanz.edu.au/Portals/0/Guidelines/Procedures/Guidelines%20for%20Investigation%20and%20Procedures%20-%20Ambulatory%20ECG%20Monitoring%20\(2009\).pdf](http://www.csanz.edu.au/Portals/0/Guidelines/Procedures/Guidelines%20for%20Investigation%20and%20Procedures%20-%20Ambulatory%20ECG%20Monitoring%20(2009).pdf)
- Cardiac Society of Australia and New Zealand. Guidelines for Competency in Adult Diagnostic Cardiac Catheterisation and Coronary Angiography. CSANZ; 2008. www.csanz.edu.au/
- Cardiac Society of Australia and New Zealand. Guidelines for Competency in Percutaneous Coronary Intervention. CSANZ; 2008. www.csanz.edu.au/
- Cardiac Society of Australia and New Zealand. Guidelines for Training Requirements to Insert Implantable Defibrillators for Primary Prevention Indications. CSANZ; 2005. www.csanz.edu.au/
- Cardiac Society of Australia and New Zealand. Guidelines on Support Facilities for Coronary Angiography and Percutaneous Coronary Intervention including Guidelines on the Performance of Procedures in Rural Sites. CSANZ; 2008. www.csanz.edu.au/
- Cardiac Society of Australia and New Zealand. Recommended Guidelines for Subspecialty Training in Adult Cardiac Electrophysiology. CSANZ; 2007. www.csanz.edu.au/
- Cardiac Society of Australia and New Zealand. Recommended Guidelines for Subspecialty Training in Cardiac Implantable Electronic Devices: Selection, Implantation and Follow Up. CSANZ; 2005. www.csanz.edu.au/
- Cardiac Society of Australia and New Zealand. Training Guidelines in Adult Echocardiography. CSANZ; 2009. www.csanz.edu.au/

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1. Nation Heart Foundation of Australia and Australian Cardiac Rehabilitation Association. Recommended Framework for Cardiac Rehabilitation '04. National Heart Foundation, 2004. www.heartfoundation.org.au/SiteCollectionDocuments/cr%2004%20rec.pdf
2. Australian Cardiovascular Health & Rehabilitation Association (ACRA). Practitioner's Guide to Cardiac Rehabilitation. ACRA; 2008. www.acra.net.au/images/news/Section_1March_2008.pdf

3. Queensland Government: Begg S, Khor SL, Bright M, Stanley L, O'Brien J, Harper C. Differentials in the burden of disease and injury in Queensland, 2003. Queensland Burden of Disease and Injury Circular Series 1, no 5. Brisbane: Queensland Health; 2008. www.health.qld.gov.au/ph/documents/pdu/c5_differential_final.pdf