Queensland Health

Intensive care services

CSCF v3.2

Module overview

Please note: This module must be read in conjunction with the Fundamentals of the Framework (including glossary and acronym list) and Intensive Care Services - Children's module.

The availability of and access to intensive care services is vital to the health of the community and fundamental to the delivery of healthcare in Queensland. An intensive care unit (ICU) is a separate and self-contained section of a hospital staffed and equipped for the management of patients with established life-threatening reversible or potentially reversible, organ failure or with a high risk of life-threatening organ failure.1 An ICU provides specialist expertise and facilities for the support of patients and their families, utilising the skills of medical, nursing and other allied health staff qualified and experienced in the management of critically ill patients.[2]

Intensive care services may be delineated by specific clinical subspecialty (e.g. cardiothoracic ICU, neurosurgical ICU) and/or age groups or may provide general intensive care to a broad mix of patient types and subspecialty. It is preferable neonatal ICUs, paediatric ICUs and cardiac (coronary) care units are separated from general ICUs—although coronary care patients and children may be managed in general ICUs, where necessary.

The level of intensive care services available should be complementary to support the levels of other clinical services provided within a particular facility. The role of the ICU will vary depending on staffing expertise, facilities and support services, as well as the severity of illnesses and number of patients admitted.[1]

This module recognises three levels of complexity for ICU service provision: Levels 4 to 6. The different service levels take into consideration the complexity and risks associated with the delivery of a service and the need for specialised support.

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

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.

Workforce requirements

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

- adequate supply of suitably trained workforce with appropriate credentials and competencies to provide evidence-based, safe, high-quality intensive care practice,[1] with guidance for ICU staffing requirements outlined in various documents.[1, 3]
- specialist intensivist:patient ratios should reflect patient numbers (not capability level of the unit), informed by the following principles:
  - proper staffing impacts patient care
  - large caseloads should not preclude timely and thorough specialist clinical review of each individual critical care patient (minimum daily)
  - staffing levels must factor in surge capacity, provision of non-unit based clinical activity (e.g. Medical Emergency or Rapid Response Team provision, critical care transport services, outreach services) as well as non-direct patient care activities including education, research and essential governance.[4]

Intensive Care Services

	Level 4	Level 5	Level 6
Service description	• capable of providing immediate resuscitation and short-term cardiorespiratory support for critically ill patients. • has major role in monitoring and prevention of complications in at-risk medical and surgical patients. • must be capable of providing ventilation and simple invasive cardiovascular monitoring for period of up to 24 hours (provision of care for more than 24 hours allowed for patients with single-system failure, but only within context of daily consultation with registered intensive care specialist with which host unit has established and documented referral process). • documented processes should include mutual transfer and back-transfer policy, and established joint review process.	• capable of providing complex multisystem general intensive care life support. • should be capable of providing general intensive care multisystem life support including ventilation, renal replacement therapy and invasive cardiovascular monitoring for an indefinite period. • transfer of patients to higher level ICU will primarily be due to unavailability of subspecialty services at home facility.	• highest level referral unit for intensive care patients. • capable of providing tertiary complex and multisystem life support for indefinite period to general and subspecialty critical care patient casemix. • access to on-site subspecialty clinical services.
Service requirements	As per module overview, plus: • all patients admitted to unit must be referred for management to registered medical specialist taking responsibility for unit at time of admission. • some flexibility to accommodate increased patient admissions. • number of admissions sufficient to maintain clinical skills of both medical and nursing staff. • daily consultation with registered intensive care specialist for all patients ventilated for greater than 24 hours and/or with multisystem failure; however, if Fellow of College of Intensive Care Medicine (CICM) is in charge of unit, this provision may be unnecessary	As per Level 4, plus: • must have sufficient clinical workload and case mix of patients to maintain high level of clinical expertise and adequate clinical exposure. • typically can accommodate at least four ventilated patients at one time.	As per Level 5, plus: • typically can accommodate at least eight ventilated patients at one time.

	Level 4	Level 5	Level 6
	except to facilitate access to subspecialty services outside ICU.		
Workforce requirements	As per module overview, plus: **Medical** • lead clinician with responsibility for clinical governance of service who is registered medical specialist with credentials in intensive care medicine, anaesthetics, emergency or general medicine. • support available to unit from registered medical specialist with experience in intensive care medicine; however, if registered medical specialist simultaneously rostered for second clinical area (e.g. operating suites), second registered medical specialist with intensive care medicine experience must be identified to support ICU in event duty specialist unable to attend. • in addition to registered medical specialist, at least one registered medical practitioner with appropriate level of experience on-site 24 hours, exclusively rostered to unit and immediately accessible at all times. • all registered medical practitioners trained in advanced life support. **Nursing** • suitably qualified and experienced nurse manager (however titled) in charge of unit. • registered nurse with suitable qualifications and experience in intensive care in charge of each shift. • minimum nurse–patient ratio of 1:1 for ventilated and similarly critically ill patients.[5]	As per Level 4, plus: **Medical** • lead clinician with responsibility for clinical governance of the service who is Fellow of CICM and is registered medical specialist with credentials in intensive care medicine. • registered medical specialist with credentials in intensive care medicine, anaesthetics, emergency or general medicine rostered and accessible exclusively to cover intensive care unit at all times. • in addition to duty specialist, at least one registered medical practitioner with intensive care experience exclusively rostered and predominantly present in unit at all times. **Nursing** • nursing staff available to ensure patient–nurse ratio greater than 1:1 for patients requiring complex management. • ideally all nursing staff with, or working towards, recognised qualification in intensive care or clinical specialty of unit. **Allied health**	As per Level 5, plus: **Medical** • 80 per cent of registered medical specialists must be Fellows of CICM. • dependent upon unit design, at least one registered medical specialist (FCICM) exclusively rostered to the unit during business hours, and predominantly present within it. • 24/7 on-call service provided by registered medical specialist with credentials in intensive care medicine. **Allied health** • access—24 hours—to allied health professionals, including identified physiotherapist and social worker, as required.

	Level 4	Level 5	Level 6
	• additional supernumerary registered nurse providing assistance to bedside nurses for every four patients requiring 1:1 nursing.[5] • all nursing staff in unit responsible for direct patient care are registered nurses. • minimum of two registered nurses present in unit at all times when patient admitted to unit. • all registered nurses trained in advanced life support. **Allied health** • access—during business hours—to allied health professionals, including identified dietician, occupational therapist, pharmacist, social worker and speech pathologist, as required. • access—24 hours—to physiotherapist on request. **Other** • access to technical support staff (e.g. biomedical engineers and scientific officers), as required.	• access—24 hours—to social work services on request.	
Specific risk considerations	Nil	In addition to what is outlined in the *Fundamentals of the Framework*, specific risk management requirements include: • with regard to lead clinician, acknowledgement by CICM recruitment of Fellows to rural/regional units may be difficult and College supports designation of Level 5 for regional ICU if this were only deficiency, genuine attempts had been made at recruitment of suitable personnel[1,2] and, under such circumstances, appropriately trained and registered	Nil

	Level 4	Level 5	Level 6
		medical specialists (e.g. anaesthetists, general physicians, emergency medicine specialists) were able to provide required medical / specialist coverage.	

Support service requirements for intensive care services

	Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible
Anaesthetic	4		5		5	
Cardiac (cardiac				5	5	
Medical	4		5		5	
Medical imaging	4		4		5	
Medication	4		5		5	
Mental health		4		5		5
Pathology	4		4		5	
Perioperative (relevant	4		5		5	
Renal				5		5
Surgical	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.

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 intensive care services:

- Australasian Health Infrastructure Alliance. Australasian Health Facility Guidelines v2.0. Part B – Health Facility Briefing and Planning, 360 Intensive Care – General. www.healthfacilityguidelines.com.au/AusHFG_Documents/Guidelines/health_facility_guidelines_complete.pdf
- Australian and New Zealand College of Anaesthetists, Joint Faculty of Intensive Care Medicine, Australasian College for Emergency Medicine. Minimum Standards for Intrahospital Transport of Critically Ill Patients. ANZCA, JFICM, ACEM; 2003. www.acem.org.au/media/policies_and_guidelines/min_standard_crit_ill.pdf
- Australian College of Critical Care Nurses. ACCCN Position Statement (2006) on the Use of Healthcare Workers other than Division 1 Registered Nurses in Intensive Care. ACCCN; 2006. www.acccn.com.au/images/stories/downloads/use_of_healthcare_workers.pdf
- Australian College of Critical Care Nurses. ACCCN Resuscitation Position Statement (2006): Adult & Paediatric Resuscitation by Nurses. ACCCN; 2006. www.acccn.com.au/images/stories/downloads/adult__paediatric_resusV2.pdf
- The Australian Council on Healthcare Standards. Intensive Care Indicators. ACHS; nd. www.achs.org.au
- College of Intensive Care Medicine of Australia and New Zealand. Intensive Care Specialist Practice in Hospitals Accredited for Training in Intensive Care Medicine. CICM; 2011. www.cicm.org.au/cms_files/IC-2%20Intensive%20Care%20Specialist%20Practice%20in%20Hospitals%20Accredited%20for%20Training%20in%20Intensive%20Care%20Medicine%20Current%20September%202011.pdf

Reference list

1. College of Intensive Care Medicine of Australia and New Zealand. Minimum Standards for Intensive Care Units: Review IC-1. CICM; 2003.
2. College of Intensive Care Medicine of Australia and New Zealand, Intensive Care Services for Areas of Need. (2010).
3. Victorian Government, Department of Human Services. Victoria's Critical Care Services: Strategic Directions 2007–2012. Melbourne: Department of Human Services, Metropolitan

Health and Aged Care Services Division; 2007. www.health.vic.gov.au/criticalcare/ccare-stratdir.pdf

4. Intensivist/patient ratios in closed ICUs: a statement from the Society of Critical Care Medicine Taskforce on ICU Staffing. Critical Care Medicine. 2013 Feb;41(2):638-45. http://www.ncbi.nlm.nih.gov/pubmed/23263586
5. Australian College of Critical Care Nurses. ACCCN ICU Staffing Position Statement on Intensive Care Nursing Staffing. ACCCN; 2003. www.acccn.com.au/images/stories/downloads/staffing_intensive_care_nursing.pdf