

# Cancer services – haematological malignancy

CSCF v.3.2

## Module overview

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

Clinical haematology is the branch of medicine that assesses and manages patients with haematological malignancies and bone marrow failure, including acute and chronic leukaemias, lymphomas, myelodysplastic and myeloproliferative disorders, myeloma, and severe aplastic anaemia.

This module describes the capability of haematological malignancy services only (rather than clinical haematology services). Clinical haematologists provide a coordinating role in the treatment and management of haematological malignancies. The management of patients with non-malignant haematological disorders, such as haemophilia, bleeding and thrombotic disorders, non-aplastic anaemias, and disorders requiring transfusions are covered in the Medical Services module.

Children and adolescents with haematological conditions have specific needs and supports from health services—please refer to the children’s services modules.

Haematological malignancy service activities include:

- diagnosis and treatment of haematological malignancies
- systemic therapy administration, transfusion of blood and blood products, and apheresis
- supportive cares in response to treatment toxicity
- psycho-social and allied health care
- ongoing assessment and follow-up of patients during and following completion of systemic therapy
- day medical procedures, such as infusion of blood and/or blood products, steroids and other intravenous treatments for stem cell and bone marrow transplantation (specialised services).

Systemic therapy is a significant method of treatment for patients with haematological malignancies. Systemic therapy should be administered in line with published guidelines and standards on the safe handling and disposal of cytotoxics and systemic therapy

consumables. The prescribing and dispensing of oral chemotherapy must be carried out to the same service standards as for parenteral chemotherapy.

This module outlines four levels of complexity for haematological malignancy service provision: Levels 3 to 6. The service levels address the complexity and risk associated with the delivery of clinical haematology to treat malignancies. In particular, the administration of individual systemic therapy protocols has a major impact on service complexity. Despite the non-surgical aspect of systemic therapy, it is nonetheless a procedure. Systemic therapies may be delivered by various routes (e.g. oral or parenteral) and each systemic therapy protocol has different requirements for safe delivery and follow-up. Safe delivery of different systemic therapy protocols requires different levels of support.

The factors contributing to levels of risk in the administration of systemic therapy are discussed in detail in the Medical Oncology Services module. The different levels also address the role of clinical haematologists and registered medical practitioners with an interest in clinical haematology in treating malignancies and supervising the delivery of initial (or first cycle) and maintenance courses of systemic therapy. Throughout this module, reference to initial or first cycle therapy means the first administration of a new systemic therapy protocol within neoadjuvant, adjuvant and palliative treatment care plans.

Consultative haematological malignancy services may be provided by a Level 4, 5 or 6 haematological malignancy service either on-site, or off-site at a Level 3, 4 and/or 5 haematological malignancy service. The levels of complexity for haematological malignancy services, including provision of multidisciplinary-focused consultative services, are illustrated in Table 1.

**Table.1: Levels of complexity for haematological malignancy services**

Service complexity	Level 3	Level 4	Level 5	Level 6
		May provide consultative / outreach services to a lower level of service		
	May host consultative / outreach service from a higher level service			

## Service networks

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

- strong links with Medical Oncology Services, Radiation Oncology Services, diagnostic services (including high-quality Medical Imaging and Pathology services), surgical and medical subspecialties, Medication Services, and allied health and Palliative Care Services, with these interactions based on the principles of multidisciplinary care
- utilisation of cancer care networks to enhance the seamless delivery of cancer services and manage / reduce risks of gaps in treatment
- consultancy (outreach) service provision, where applicable.

## Service requirements

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

- information for patients and their carers about available cancer services, risks, available treatments
- and support services
- risk assessments of all procedures involving handling of cytotoxic chemotherapeutic agents to determine all appropriate risk-control measures are in place
- provide relevant clinical indicator data to satisfy accreditation and other statutory reporting obligations.

## Workforce requirements

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

- all chemotherapy is prescribed by, or under the direct supervision of, a registered medical practitioner and/or specialist with credentials in medical oncology or haematology
- all registered medical practitioners with credentials in systemic therapy treatment must have a broad understanding of both common and unusual toxicities associated with systemic therapy
- all health professionals involved in the patient's treatment are:
  - experienced and competent regarding the consequences of both systemic therapy and underlying disease
  - educated in the psychosocial impacts of cancer on the patient and management of these impacts
- all health professionals involved in systemic therapy treatment must have evidence of ongoing competency in the safe administration, handling, preparation and disposal of cytotoxic and related waste, appropriate to their roles
- all staff involved in systemic therapy treatment have a broad understanding of common and unusual toxicities associated with systemic therapy
- all nursing staff involved in clinically validating prescriptions and supply of cytotoxic drugs must consult with a pharmacist at a higher level service with appropriate competency in oncology / haematology.

Note: A chemotherapy proficient nurse is defined as a nurse who has successfully completed Antineoplastic Drug Administration Course (ADAC) and Central Venous Access Device(CVAD) competency as identified in eviQ and minimum of 3 years' experience; and a chemotherapy capable nurse is defined as a nurse who has successfully completed Antineoplastic Drug Administration Course (ADAC) and Central Venous Access Device(CVAD) competency as identified in eviQ and working with supervision.

## Haematological Malignancy services

	Level 3	Level 4	Level 5	Level 6
Service description	<ul style="list-style-type: none"> <li>provides relatively low-risk ambulatory and/or inpatient care with access to limited support services.</li> <li>provides ambulatory care under direct or indirect supervision of registered medical specialist with credentials in haematology, or registered medical specialist with credentials in internal medicine / oncology under supervision of registered medical specialist with credentials in haematology.</li> <li>inpatient care provided under supervision of registered medical practitioner who may or may not have credentials in haematology.</li> <li>provides support before, during and after malignant haematology treatment.</li> <li>capacity to provide day treatment with allocated ambulatory day beds for</li> </ul>	<ul style="list-style-type: none"> <li>provides ambulatory care under visiting registered medical specialist with credentials in haematology and inpatient care under registered medical practitioner.</li> <li>administers conventional doses of systemic therapy and may operate as a 'cancer unit'. for adult patients</li> <li>also may provide maintenance courses of systemic therapy to adolescents aged 15 to 18 years (please refer to cancer services - children's)</li> <li>part of network with higher level services, ensuring access to information relating to latest evidence-based care and treatment.</li> </ul>	<ul style="list-style-type: none"> <li>provides diagnostics and treatment for haematological malignancies where treatment associated with period of severe myelosuppression of less than one week.</li> <li>manages up to relatively high-risk systemic therapy protocols. In public sector, and provides inpatient care under resident registered medical specialist with credentials in haematology and aligned junior medical staff (resident and registrar).</li> <li>able to provide initial courses of systemic therapy and supervise subsequent maintenance courses provided at Level 3 and 4 haematological malignancy services, except for adolescents 15 years and over</li> <li>coordinates all definitive diagnostics and</li> </ul>	<ul style="list-style-type: none"> <li>provided at large hospital and most likely delivered in a cancer centre.</li> <li>is a referral centre for low-volume haematological malignancies.</li> <li>other cancer specialties provided on-site, including radiation oncology and medical oncology, which are needed to manage this low-volume, specialised, multidisciplinary malignancy service.</li> <li>has critical mass of expertise and work volume.</li> <li>provides inpatient care under registered medical specialists with credentials in clinical haematology, possibly with aligned junior medical staff.</li> <li>coordinates all definitive diagnostics and development of treatment plan, which may take place</li> </ul>

	Level 3	Level 4	Level 5	Level 6
	<p>treatment and palliation (on-site or off-site).</p> <ul style="list-style-type: none"> <li>links with general practitioners, social work services, psychosocial support, supportive care and community services, as required by and appropriate to service being provided.</li> <li>does not provide initial courses of systemic therapy, as such therapies initiated at, and supervised by haematologist from higher level service with subsequent maintenance courses provided at this level.</li> <li>may receive outpatient / outreach (visiting or telehealth) medical oncology consultative services by a Level 4, 5 or 6 medical oncology service.</li> <li>ineligible to apply for accreditation for training in haematological malignancy medicine.</li> </ul>		<p>development of treatment plan, which may take place at lower level, this level or higher level service.</p> <ul style="list-style-type: none"> <li>provides active support for lower level services and is part of service network with Level 6 service, ensuring access to latest evidence-based care and treatment information.</li> <li>provides multidisciplinary management of haematology patients, including case conferences and development of treatment plans.</li> <li>multidisciplinary team composed of health professionals specialising in medical oncology, radiation oncology, pathology, palliative care and supportive care.</li> <li>medical specialist with credentials in clinical haematology may provide consultative service in person or via telehealth, which may include initial assessment and long-term</li> </ul>	<p>at either lower level or this level service.</p>

	Level 3	Level 4	Level 5	Level 6
			<p>follow-up of patients of lower level services.</p> <ul style="list-style-type: none"> <li>• may include autologous transplantation, but not allogeneic transplantation.</li> <li>• may provide haematological malignancy consultative services to lower level services.</li> </ul>	
<b>Service requirements</b>	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> <li>• administration of conventional doses of systemic therapy under protocols not normally expected to produce prolonged neutropenia.</li> <li>• provision of only relatively low-risk systemic therapy limited to mild to moderate bone marrow suppressive protocols.</li> <li>• provision of chemotherapy under supervision of registered medical specialist with credentials in haematology / oncology who reviews patient locally or at higher level service.</li> </ul>	<p>As per Level 3, plus:</p> <ul style="list-style-type: none"> <li>• administers initial courses of systemic therapy where ordered and is directly supervised by registered medical specialist with credentials in haematology and oncology.</li> <li>• manages relatively moderate-risk systemic therapy protocols with a low risk of neutropenic sepsis.</li> <li>• provides only relatively low- and medium-risk systemic therapy with moderate bone marrow suppressive protocols.</li> <li>• provides early after-care to patients receiving</li> </ul>	<p>As per Level 4, plus:</p> <ul style="list-style-type: none"> <li>• at least two single accommodation rooms with ensuite and clinical hand-washing facilities (with number of rooms required based on health service needs).<sup>1</sup></li> <li>• day treatment area for procedures, such as venepuncture and administration of systemic therapy, biological agents and blood transfusions.</li> <li>• on-site, or documented processes for, access to renal dialysis, respiratory, cardiology, infectious diseases and intensive care services.</li> </ul>	<p>As per Level 5, plus:</p> <ul style="list-style-type: none"> <li>• diagnostics and treatment for haematological malignancies where treatment is associated with prolonged period of severe myelosuppression (greater than one week), which, at this level service, may include acute leukaemic induction therapy, autologous transplantation and allogeneic transplantation.</li> <li>• allogeneic transplantation services delivered by small subset of superspecialist haematological malignancy services.</li> </ul>

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> <li>access to support services, particularly to Level 5 and higher medication services, and pathology turnaround time of within 24 hours to manage any complications of treatment, regardless of whether patient receiving palliative or curative treatment.</li> <li>where systemic therapy performed in a day-health service or other ambulatory setting, there must be documented processes with nearby health service for overnight and emergency patient admission.</li> <li>haematological malignancy complications of treatment requiring admission must have urgent telephone consultation with referring haematological malignancy service.</li> <li>adherence to protocols for emergency oncology care, intravenous administration of anti-neoplastic agents, cytotoxic handling and disposal, central line care,</li> </ul>	<ul style="list-style-type: none"> <li>autologous transplants elsewhere.</li> <li>provides maintenance systemic therapy to patients diagnosed with same conditions described for Level 3 haematological malignancy service.</li> <li>has pathology turnaround time of within 2 hours in order to manage any complications of treatment, regardless of whether patient receiving palliative or curative treatment.</li> <li>access to central venous access service.</li> <li>access to palliative care, pain management and radiation oncology services.</li> <li>access to clinical genetics / medical genetics service.</li> <li>may have outpatient / outreach (visiting / telehealth) services.</li> </ul>	<ul style="list-style-type: none"> <li>on-site access to, or documented processes with, radiotherapy unit for patient referral and transfer.</li> <li>documented processes for accessing palliative care, pain management and radiation oncology services.</li> <li>units providing autologous bone marrow transplants with accreditation under relevant national accreditation bodies</li> </ul>	<ul style="list-style-type: none"> <li>reference centre for all haematological malignancy service levels.</li> <li>dedicated standard isolation rooms—at least four single rooms with ensuite and clinical hand-washing facilities and where ratio of number of beds required is one isolation room to five inpatient beds.<sup>2</sup></li> <li>cell separator accessible both for collection of peripheral blood progenitor cells (for units performing bone marrow transplants) and therapeutic apheresis (all Level 6 units), with appropriately trained nursing staff for operation of cell separators.</li> <li>access to cardiac, palliative care and radiation oncology services.</li> <li>on-site renal dialysis, respiratory, pain management and infectious diseases services.</li> <li>may manage all high-risk and/or complex protocols,</li> </ul>

	Level 3	Level 4	Level 5	Level 6
	<p>blood transfusions and infection control.</p> <ul style="list-style-type: none"> <li>access to radiation oncology services within 6 hours' transport for urgent treatment (e.g. spinal cord compression).</li> <li>access to multidisciplinary consultation group, including registered medical specialists with credentials in medical oncology, radiation oncology and clinical haematology (haematological malignancy), who must be involved in development of management strategy.</li> <li>may manage appropriate cases locally after consultation with haematologist.</li> </ul>			<p>and deliver intensive chemotherapy protocols.</p> <ul style="list-style-type: none"> <li>may provide haematological malignancy consultative services to lower level services.</li> <li>units performing allogeneic transplants have accreditation under relevant national (matched-family donor transplants) and international (unrelated donor transplants) accreditation bodies.</li> <li>units performing autologous bone marrow transplants have accreditation under relevant national accreditation bodies.</li> <li>units performing bone marrow transplants have accreditation with Australian Bone Marrow Donor Registry.</li> </ul>
<b>Workforce requirements</b>	<p>As per module overview, plus:</p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>registered medical practitioner available.</li> </ul>	<p>As per Level 3, plus:</p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>all chemotherapy supervised by registered medical</li> </ul>	<p>As per Level 4, plus:</p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>service provided by registered medical specialist</li> </ul>	<p>As per Level 5, plus:</p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>access—24 hours—to registered medical specialist with credentials in clinical haematology and access to</li> </ul>

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> <li>local supervision by registered medical practitioner responsible for overall continuity of patient care.</li> <li>access—24 hours—to registered medical specialist with credentials in clinical haematology for advice.</li> <li>access—24 hours—to registered medical specialist with credentials in microbiology for advice.</li> <li>access within 24 hours to outpatient and/or ambulatory consultative services by registered medical specialist with credentials in medical oncology or clinical haematology for treatment of complications and/or admission for complications.</li> </ul> <p><b>Nursing</b></p> <ul style="list-style-type: none"> <li>suitably qualified and experienced registered nurse (however titled) in charge of each shift.</li> <li>access to minimum two registered nurses.</li> </ul>	<p>specialist with credentials in oncology or haematology.</p> <ul style="list-style-type: none"> <li>local supervision by registered medical specialist with credentials in internal medicine, and interest and experience in clinical haematology.</li> <li>access—24 hours—to registered medical practitioner, where inpatients treated.</li> <li>access—24 hours—to registered medical specialist with credentials in internal medicine and experience in clinical haematology, with access—24 hours—to Level 5 or 6 haematological malignancy services for emergency advice.</li> <li>access—24 hours—to ambulatory services by registered medical specialist with credentials in clinical haematology or medical oncology for emergency advice about treatment complications and/or admission.</li> </ul>	<p>with credentials in clinical haematology.</p> <ul style="list-style-type: none"> <li>access—24 hours—to registered medical specialist with credentials in clinical haematology, a responsibility that may be shared with registered medical specialist with credentials in medical oncology at the service.</li> <li>access to registered medical specialist with credentials in infectious diseases for advice.</li> </ul> <p><b>Nursing</b></p> <ul style="list-style-type: none"> <li>minimum one additional registered nurse on-site each shift as required.<sup>2</sup></li> </ul> <p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>pharmacist.</li> </ul>	<p>at least two registered medical specialists with credentials in clinical haematology.</p> <ul style="list-style-type: none"> <li>registered medical practitioner with credentials in haematology to act as designated transplant coordinator to liaise with patients, relatives, nursing and medical staff, and other professional groups (e.g. scientists).</li> <li>access to medical specialist with credentials in clinical haematology and at least 5 years' experience in allogeneic bone marrow transplants in centres performing matched unrelated donor transplants.</li> </ul> <p><b>Nursing</b></p> <ul style="list-style-type: none"> <li>suitably qualified and experienced nurse manager (however titled) in charge of unit.</li> <li>suitably qualified and experienced registered nurses for collection of</li> </ul>

	Level 3	Level 4	Level 5	Level 6
	<ul style="list-style-type: none"> <li>two suitably qualified and experienced registered nurses for checking chemotherapy prescriptions before treatment administered.</li> <li>access to registered nurse with specialised knowledge and experience at Level 5 or 6 haematological service for advice, as required.</li> </ul> <p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>access to allied health professionals, as required.</li> </ul>	<p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>access to social workers, occupational therapists, physiotherapists, speech pathologists, psychological and emotional support services, palliative care and nutrition team, as required.</li> </ul>		<p>peripheral blood progenitor cells.</p> <ul style="list-style-type: none"> <li>nursing staff with demonstrated evidence of knowledge and skills to support patients following high-dose systemic therapy during and following transplantation.</li> <li>registered nurse or health professional with demonstrated competence in haematology to support coordination of transplant / haematology (highly desirable).</li> </ul> <p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>social workers and skilled counsellors, occupational therapist, physiotherapist, speech pathologist, nutrition team and clinical scientists on-site.</li> </ul>
<b>Specific risk considerations</b>	Nil	Nil	Nil	Nil

## Support services requirements for haematological malignancy services

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

	Level 3		Level 4		Level 5		Level 6	
	On-site	Accessible	On-site	Accessible	On-site	Accessible	On-site	Accessible
<b>Palliative care</b>		3		4		5		5
<b>Pathology</b>		3		5	5		6	
<b>Radiation oncology</b>		5		5		5		5
<b>Rehabilitation</b>		1		2		3		3
<b>Renal</b>				4		4	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

Refer to the Fundamentals of the Framework and Cancer Services Preamble for details.

## Reference list

1. Australasian Health Infrastructure Alliance. Australasian Health Facility Guidelines v2.0. AHFG; 2007. [www.healthfacilityguidelines.com.au/guidelines.htm](http://www.healthfacilityguidelines.com.au/guidelines.htm)
2. Cancer Australia. The National Cancer Nursing Education Project (EdCaN): A National Professional Development Framework for Cancer Nursing. Canberra: Cancer Australia; 2008.