

## 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](#). This module should also be read in conjunction with the following South Australian standards, plans and care pathways:

- > South Australian Statewide Cancer Control Plan 2011-15
- > Standards for Chemotherapy Services in South Australia 2010
- > South Australian Radiotherapy Service Plan 2014-2015
- > SA Health Cancer Care Pathways

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 have specific needs in 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
- > ongoing assessment and follow-up of patients during and following completion of systemic therapy
- > 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.

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 / tele-medicine services to a lower level of service		
	May host consultative / outreach / tele-medicine 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 Services](#) and [Pathology Services](#)), surgical and medical subspecialties, [Pharmacy 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

The CSCF does not prescribe staffing ratios, absolute skill mix, or clerical and/or administration workforce requirements for a team providing a service, as these are best determined locally and in accordance with relevant industrial instruments. Where minimum standards, guidelines or benchmarks are available, the requirements outlined in this module should be considered as a guide only. All staffing requirements should be read in conjunction with the *Health Care Act 2008*, Awards and relevant Enterprise Agreements including, but not limited to:

- > SA Health Salaried Medical Officers Enterprise Agreement 2013
- > SA Health Visiting Medical Specialists Enterprise Agreement 2012
- > SA Health Clinical Academics Enterprise Agreement 2014
- > Nursing/Midwifery (South Australian Public Sector) Enterprise Agreement 2013
- > SA Ambulance Service Enterprise Agreement 2011
- > SA Public Sector Wages Parity Enterprise Agreement Salaried 2014

In addition to the requirements outlined in the [Fundamentals of the Framework](#), specific workforce requirements include:

- > The workforce employed to provide chemotherapy services must be credentialed and/or educated and assessed as competent according to current SA Health policies, standards and endorsed guidelines or frameworks.
  - > only chemotherapy competent health care professionals prepare or administer chemotherapy
    - > pharmacy staff complete training program endorsed by SA Pharmacy as relevant to scope of work
    - > nurses establish and maintain a minimum level of chemotherapy competence as outlined in the Statewide Framework for Chemotherapy Education and Assessment 2010
    - > all new clinicians commencing in, or transferring to, a chemotherapy service or cancer speciality area must undertake or verify credentialing, chemotherapy education and competency assessment relevant to the risk level of chemotherapy provided within that service or area.
  - > All first cycle chemotherapy protocols/treatment plans are prescribed by a specialist oncologist with access to all relevant patient information.
  - > subsequent orders for administration of parental and oral chemotherapy cycles or doses are prescribed by an appropriately credentialed medical practitioner or authorised nurse practitioner working in collaboration with a specialist oncologist/haematologist
  - > all chemotherapy orders are verified by an appropriately skilled clinical pharmacist with access to the patient information relevant to the treatment.
  - > 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 impact of cancer and management of associated issues
  - > all health professionals involved in systemic therapy treatment must have evidence of ongoing competency in the safe prescribing, administration, handling, preparation and disposal of cytotoxic and related waste, appropriate to their roles
  - > all staff involved in systemic therapy treatment must have a good understanding of both common and unusual toxicities associated with systemic therapy provided in their clinical unit

Haematological Malignancy Services	Level 3	Level 4	Level 5	Level 6
<p><b>Service description</b></p>	<ul style="list-style-type: none"> <li>&gt; provides relatively low-risk ambulatory and/or inpatient care with access to limited support services.</li> <li>&gt; 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>&gt; inpatient care provided under supervision of medical practitioner who may or may not have credentials in haematology.</li> <li>&gt; provides support before, during and after malignant haematology treatment.</li> <li>&gt; capacity to provide day treatment with allocated ambulatory day beds for treatment and palliation (on-site or off-site).</li> <li>&gt; 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>&gt; provides chemotherapy under supervision of a level 5 or 6 Haematology or Oncology service.</li> <li>&gt; may receive outpatient / outreach (visiting or telehealth) medical oncology consultative services by a Level 4, 5 or 6 medical oncology service.</li> <li>&gt; ineligible to apply for accreditation for training in haematological malignancy medicine.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; provides ambulatory care under registered medical specialist with credentials in haematology and inpatient care under medical practitioner.</li> <li>&gt; administers conventional doses of systemic therapy and may operate as a 'cancer unit'.</li> <li>&gt; 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>&gt; provides diagnostics and treatment for haematological malignancies where treatment associated with period of severe myelosuppression of less than one week.</li> <li>&gt; 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</li> <li>&gt; coordinates all definitive diagnostics and development of treatment plan, which may take place at lower level, this level or higher level service.</li> <li>&gt; 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>&gt; provides multidisciplinary management of haematology patients, including case conferences and development of treatment plans.</li> <li>&gt; multidisciplinary team composed of health professionals specialising in medical oncology, radiation oncology, pathology, palliative care, psychosocial support and supportive care.</li> <li>&gt; medical specialist with credentials in clinical haematology may provide consultative service in person or via telehealth, which may include initial assessment and long-term follow-up of patients of lower level services.</li> <li>&gt; may include autologous transplantation, but not allogeneic transplantation.</li> <li>&gt; may provide haematological malignancy consultative services to lower level services.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; provided at large hospital and most likely delivered in a cancer centre.</li> <li>&gt; is a referral centre for low-volume haematological malignancies.</li> <li>&gt; 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>&gt; has critical mass of expertise and work volume.</li> <li>&gt; provides inpatient care under registered medical specialists with credentials in clinical haematology</li> <li>&gt; provides nurse led-late survivorship, late effects and surveillance service (high risk patients)</li> <li>&gt; coordinates all definitive diagnostics and development of treatment plan, which may take place at either lower level or this level service.</li> </ul>

Haematological Malignancy Services	Level 3	Level 4	Level 5	Level 6
<p><b>Service requirements</b></p>	<p>As per module overview, plus:</p> <ul style="list-style-type: none"> <li>&gt; administration of conventional doses of systemic therapy under protocols not normally expected to produce prolonged neutropenia.</li> <li>&gt; provision of only relatively low-risk systemic therapy limited to mild to moderate bone marrow suppressive protocols.</li> <li>&gt; provision of chemotherapy under supervision of registered medical specialist with credentials in haematology / oncology who reviews patient locally or at higher level service.</li> <li>&gt; 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>&gt; 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>&gt; haematological malignancy complications of treatment requiring admission must have urgent telephone consultation with referring haematological malignancy service.</li> <li>&gt; adherence to protocols for emergency oncology care, intravenous administration of anti-neoplastic agents, cytotoxic handling and disposal, central line care, blood transfusions and infection control.</li> <li>&gt; access to radiation oncology services within 6 hours' transport for urgent treatment (e.g. spinal cord compression).</li> <li>&gt; 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>&gt; may manage appropriate cases locally after consultation with haematologist.</li> </ul>	<p>As per Level 3, plus:</p> <ul style="list-style-type: none"> <li>&gt; administers initial courses of systemic therapy where ordered and is directly supervised by registered medical specialist with credentials in haematology and oncology.</li> <li>&gt; manages relatively moderate-risk systemic therapy protocols with a low risk of neutropenic sepsis.</li> <li>&gt; provides only relatively low- and medium-risk systemic therapy with moderate bone marrow suppressive protocols.</li> <li>&gt; provides early after-care to patients receiving autologous transplants elsewhere.</li> <li>&gt; provides maintenance systemic therapy to patients diagnosed with same conditions described for Level 3 haematological malignancy service.</li> <li>&gt; 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>&gt; access to central venous access service.</li> <li>&gt; access to palliative care, pain management and radiation oncology services.</li> <li>&gt; access to clinical genetics / medical genetics service.</li> <li>&gt; may have outpatient / outreach (visiting / telehealth) services.</li> </ul>	<p>As per Level 4, plus:</p> <ul style="list-style-type: none"> <li>&gt; day treatment area for procedures, such as venepuncture and administration of systemic therapy, biological agents and blood transfusions.</li> <li>&gt; on-site, or documented processes for, access to renal dialysis, respiratory, cardiology, infectious diseases and intensive care services.</li> <li>&gt; on-site access to, or documented processes with, radiotherapy unit for patient referral and transfer.</li> <li>&gt; documented processes for accessing palliative care, pain management and radiation oncology services.</li> <li>&gt; units providing autologous bone marrow transplants with accreditation under relevant national accreditation bodies.</li> </ul>	<p>As per Level 5, plus:</p> <ul style="list-style-type: none"> <li>&gt; 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>&gt; allogeneic transplantation services delivered by small subset of superspecialist haematological malignancy services.</li> <li>&gt; reference centre for all haematological malignancy service levels.</li> <li>&gt; dedicated standard isolation rooms</li> <li>&gt; 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>&gt; access to cardiac, palliative care and radiation oncology services.</li> <li>&gt; on-site renal dialysis, respiratory, pain management and infectious diseases services.</li> <li>&gt; access to advanced diagnostic and interventional imaging services</li> <li>&gt; may manage all high-risk and/or complex protocols, and deliver intensive chemotherapy protocols.</li> <li>&gt; may provide haematological malignancy consultative services to lower level services.</li> <li>&gt; units performing allogeneic transplants have accreditation under relevant national (matched-family donor transplants) and international (unrelated donor transplants) accreditation bodies.</li> <li>&gt; units performing autologous bone marrow transplants have accreditation under relevant national accreditation bodies.</li> <li>&gt; units performing bone marrow transplants have accreditation with Australian Bone Marrow Donor Registry.</li> </ul>

Haematological Malignancy Services	Level 3	Level 4	Level 5	Level 6
<p><b>Workforce requirements</b></p>	<p><b>As per module overview, plus:</b></p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>&gt; medical practitioner available.</li> <li>&gt; access (on site, visiting or tele-medicine) to registered medical specialist with credentials in clinical haematology for advice.</li> <li>&gt; access (on site, visiting or tele-medicine) to registered medical specialist with credentials in microbiology for advice.</li> <li>&gt; access 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>&gt; staffing levels in accordance with relevant industrial instruments</li> <li>&gt; chemotherapy competency for all nursing staff involved in the administration of chemotherapy.</li> <li>&gt; access to registered nurse with specialised knowledge and experience at Level 5 or 6 haematological service for advice, as required.</li> </ul> <p><b>Pharmacy Services</b></p> <ul style="list-style-type: none"> <li>&gt; Access to drugs supplied on individual prescription</li> <li>&gt; Service provided on site, or overseen by pharmacist located elsewhere</li> <li>&gt; Community based medication review services available</li> <li>&gt; access to cancer clinical pharmacist with provision of chemotherapy drug monitoring, utilisation review and adverse drug reaction reporting</li> <li>&gt; Access to chemotherapy production services via pharmacy service</li> </ul> <p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>&gt; access to allied health professionals, as required.</li> </ul>	<p><b>As per Level 3, plus:</b></p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>&gt; access to medical practitioner, where inpatients treated.</li> <li>&gt; access to registered medical specialist with credentials in internal medicine and experience in clinical haematology, with access to Level 5 or 6 haematological malignancy services for emergency advice.</li> <li>&gt; Access 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><b>Allied health</b></p> <ul style="list-style-type: none"> <li>&gt; access to social workers, occupational therapists, physiotherapists, dietitians, podiatrists, speech pathologists, psychological and emotional support services and palliative care, as required.</li> </ul>	<p><b>As per Level 4, plus:</b></p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>&gt; 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>&gt; access to registered medical specialist with credentials in infectious diseases for advice.</li> </ul> <p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>&gt; access to pharmacy production and specialist clinical pharmacist.</li> </ul>	<p><b>As per Level 5, plus:</b></p> <p><b>Medical</b></p> <ul style="list-style-type: none"> <li>&gt; access—24 hours—to registered medical specialist with credentials in clinical haematology.</li> <li>&gt; 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>&gt; access to medical specialist with credentials in clinical haematology and 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>&gt; staffing levels in accordance with relevant industrial instruments</li> <li>&gt; Nurses maintain a credential / demonstrated competence: <ul style="list-style-type: none"> <li>- to collect peripheral blood progenitor cells.</li> <li>- to support patients following high-dose systemic therapy during and following transplantation.</li> <li>- in haematology to support coordination of transplant / haematology (Cancer Care Coordinator).</li> <li>- in apheresis (where apheresis is provided).</li> </ul> </li> </ul> <p><b>Pharmacy Services</b></p> <ul style="list-style-type: none"> <li>&gt; Clinical pharmacy service provided 7 days a week including participation in ward rounds, MDT meetings and outpatient services</li> <li>&gt; Services include specialist cancer clinical pharmacist (on site or visiting)</li> <li>&gt; Provides clinical consultation to other hospitals as required</li> <li>&gt; May provide production pharmacy service for other sites</li> <li>&gt; Appropriate level pharmacy to support intrathecal administration as required</li> <li>&gt; 24 hour pharmacy on call service</li> </ul> <p><b>Allied health</b></p> <ul style="list-style-type: none"> <li>&gt; access to social workers and skilled counsellors, occupational therapist, physiotherapist, speech pathologist, dietitian and clinical scientists.</li> </ul>

Haematological Malignancy Services	Level 3	Level 4	Level 5	Level 6
Specific risk considerations	> 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	
Nuclear medicine		5		5		5	5	
Palliative care		3		4		5		5
Pathology		3		5	5		6	
Pharmacy		5		5		5	6	
Radiation oncology		5		5		5		5
Rehabilitation		1		2		3		3
Renal				4		4	5	

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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.

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## For more information

**SA Health**  
**Telephone: 08 8226 6891**  
**[www.sahealth.sa.gov.au/CSCF](http://www.sahealth.sa.gov.au/CSCF)**

Public I1-1A

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