Guidelines for timely initiation of chemotherapy

A proposed framework for access to medical oncology and haematology cancer clinics and chemotherapy services in Victoria

Department of Health & Human Services

State Government Victoria

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Foreword

Victorian cancer services aim to provide the highest quality cancer care for patients across all phases of the cancer journey - from prevention and diagnosis to active treatment and palliation. The improvement of cancer care delivery remains both a State and Federal priority.

Patients waiting to commence treatment for their cancer can feel anxious and fearful. Although delivery of care without undue delay is a recognised quality care indicator, and in contrast to surgery and radiation therapy, there has been no formal guidance about the optimal timing of chemotherapy.

Chemotherapy is a common and important treatment for patients diagnosed with cancer and can be used across all stages of disease including neoadjuvant, adjuvant and palliative treatment settings. Chemotherapy is predominantly delivered in the ambulatory care setting, allowing patients to remain at home throughout their treatment. Projected increases in both cancer incidence and chemotherapy separations suggest that ambulatory cancer treatment centres will face increasing demand and pressure relating to the timeliness of care.

Adoption of these guidelines across Victorian health services will support:

- timely commencement of chemotherapy that maximises individual patient outcomes;
- consistency of access to haematology and medical oncology clinics and chemotherapy day services;
- benchmarking of performance between local and international services;
- efficiency improvements (by providing advanced warning/greater lead time for service capacity planning) to manage caseloads within existing and future services (supporting service planning);
- Improved patient equity and experience of care.

Peter MacCallum Cancer Centre was pleased to lead this important work. The development of this guideline was made possible only through the significant contributions of staff from a wide range of Victorian cancer services, and the assiduous work of the project officers, Ms Marliese Alexander and Ms Natalie Love. We also acknowledge the efforts of the state-wide steering committee in providing valuable contributions and insights, and the multidisciplinary clinical expert writing groups who led the thorough evidence review process.

Professor Danny Rischin
Project Steering Committee Chair
Co-Director, Division of Cancer Medicine
Peter MacCallum Cancer Centre

Dale Fisher
Chief Executive Officer
Peter MacCallum Cancer Centre

Introduction

Internationally, cancer waiting times are routinely measured and publicly reported.[1–3] In Australia there are existing policies and guidelines relating to the timeliness of cancer care for surgery and radiation therapy;[4,5] equivalent guidance for chemotherapy is lacking.

One in 10 hospital admissions across Australia are cancer related, with three-quarters of these admissions representing same-day (outpatient/ambulatory) care.[6] In Victoria the incidence of cancer and chemotherapy separations is projected to rise by between 2.5 and 3.5 per cent a year.[7,8] These projections indicate that ambulatory cancer treatment centres are facing increased demand and pressure relating to the timeliness of care.

Timeliness of care should be informed, where available, by evidence for improved patient outcomes. Independently of this, it should be recognised that shorter waiting periods are likely to reduce patient anxiety. These guidelines, informed by the best available evidence and expert opinion, provide a framework to guide the timely initiation of systemic chemotherapy for treating cancer. These chemotherapy-specific guidelines should be considered alongside existing Optimal Care Pathways (OCPs).[9] The OCPs, developed by the Victorian Department of Health & Human Services and Cancer Council Victoria, describe key principles and practices required for delivering optimal cancer care from prevention and diagnosis to definitive treatment and supportive care.

Target audience and intended use

These guidelines were developed as part of a proposed framework for the department's consideration. They are intended to be used by clinical and administrative staff within Victorian cancer services and may also be useful for primary care providers who often initiate oncology referrals. Adopting these guidelines, which are for the timely triage, review and treatment of cancer patients requiring systemic chemotherapy, aims to ensure that patients receive care within a timeframe that will maximise health outcomes, and that care is consistent and equitable across all Victorian cancer services.

It is intended that health services measure and monitor their own performance against recommendations within these guidelines for the purposes of understanding current service performance and identifying local improvement opportunities. Future opportunities exist for the central reporting of waiting times for the benefits of state-wide capacity planning and benchmarking of health services. Further details are provided in the Measuring performance section.

Scope

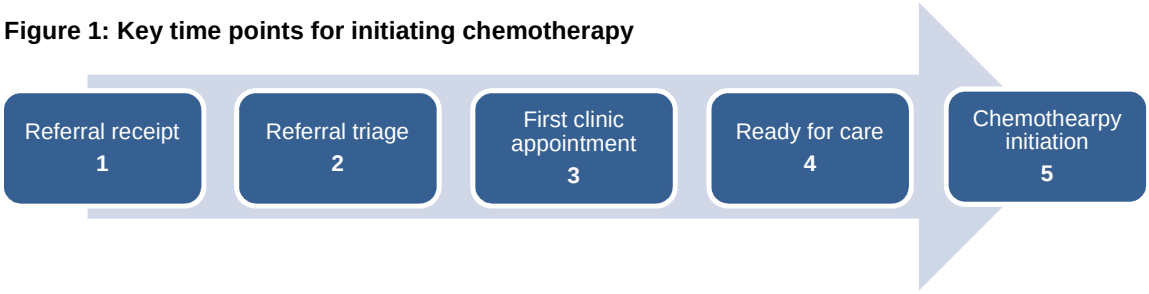
These guidelines are limited to systemic chemotherapy for treating cancer. This includes timely access to medical oncology and haematology cancer clinics (where chemotherapy is prescribed) and chemotherapy day units or inpatient wards (where chemotherapy is administered).

The recommendations are currently limited to six priority cancer groups as identified by the project steering committee. Priority was given to commonly diagnosed cancers in which systemic chemotherapy is included as part of the primary cancer treatment plan. This included breast cancer, colorectal cancer, lung cancer (non-small cell and small cell lung cancer), ovarian cancer, lymphoma and myeloma.

The recommendations consider six time points from the date of a new referral to the date of chemotherapy initiation as depicted in Figure 1 and defined in Appendix 4. New referrals to medical oncology and haematology clinics are not limited to those from general practitioners. Particularly for solid

cancers, referrals often come from surgeons who are involved in the diagnosis and/or initial surgical treatment of the cancer. Recommendations relating to referrals are considered to be applicable for all referral avenues. While acknowledging the possibility of delays prior to the first medical oncology or haematology clinic (patient-related days or diagnostic delays), these were beyond the scope of these guidelines.

Figure 1: Key time points for initiating chemotherapy



Guideline development process

These guidelines were developed following the National Health and Medical Research Council (NHMRC) guideline development process.[10] Key principles underpinning the development of these guidelines included a strategy to identify the best available evidence and a governing structure inclusive of multidisciplinary clinical and administrative personnel and consumers.

A project steering committee was formed (Appendix 1) to provide clinical and strategic oversight. Three project writing groups were created (Appendix 2) to provide an expert review of the evidence and to formulate cancer-specific recommendations for the guidelines. A consumer focus group was convened to investigate consumer expectations, opinions and information needs relating to initiating chemotherapy.

The guidelines were constructed on the basis of the best available scientific evidence, with expert opinion provided where scientific evidence was lacking or inadequate to guide practice. Guideline recommendations supported by evidence are annotated with the applicable NHMRC classification.[11] Recommendations based on expert opinion are identified as Good Practice Points. Further details are provided in Review of the scientific evidence.

Draft recommendations were presented at an open consensus meeting held in Melbourne on 3 October 2014, which was attended by 50 representatives from Victorian cancer services and relevant professional organisations. Recommendations were refined based on this consensus process and finalised by the project steering committee prior to dissemination for external review and consultation.

Guideline review process

Following formal review these guidelines have been endorsed by the following listed organisations: Cancer Council Victoria (CCV), Cancer Nurses Society of Australia (CNSA), Clinical Oncological Society of Australia (COSA), COSA Cancer Pharmacists Group (CPG), Medical Oncology Group of Australia (MOGA) and Society of Hospital Pharmacists Australia (SHPA). The guidelines have also been submitted to each of the Victorian Integrated Cancer Services (ICS) for consideration by the relevant governance committee.

Review of the scientific evidence

A series of literature reviews were undertaken to assess the impact of time to chemotherapy for each priority cancer group. Writing group members evaluated the evidence, assigning grades and levels according to the NHMRC criteria (Table 1).[11] A level is given to an individual study based on the methodological approach while a grade is given to a body of evidence (i.e. considering all relevant studies) to describe the confidence or caution of findings. Each recommendation within this guideline is listed with the level and grade of evidence representing the quality of the supporting scientist evidence. Where evidence is absent but where review panels reached consensus based on expert clinical opinion, recommendations are listed as Good Practice Points (GPP).

Full results from each of the literature reviews, including search methods and a discussion of the findings, are available as supporting documents (Table 2).

Table 1: Grades and levels of evidence (from NHMRC)

Grade	Description
A	Body of evidence can be trusted to guide practice
B	Body of evidence can be trusted to guide practice in most situations
C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
D	Body of evidence is weak and recommendation must be applied with caution
Level	**Description**
I	A systematic review of level II studies
II	A randomised controlled trial
III-1	A pseudo-randomised controlled trial (alternate allocation or some other method)
III-2	A comparative study with concurrent controls (non-randomised experimental trial, cohort study, case-control study, interrupted time series with a control group)
III-3	A comparative study without concurrent controls (historical control study, two or more single arm studies, interrupted time series without a parallel control group)
IV	Case series with either post-test or pre-test/post-test outcomes

Supporting documents

The below listed documents are available either as published manuscripts or via the Victorian Department of Health & Human Services website - www.health.vic.gov.au/cancer

Table 2: Supporting documents

Document #	Document
1	Literature Review – Breast cancer
2	Literature Review – Colorectal cancer
3	Literature Review – Non-small cell lung cancer and small cell lung cancer
4	Literature Review – Ovarian cancer
5	Literature Review – Lymphoma and Myeloma
6	Consumer Fact Sheet
7	General Practitioner Fact Sheet

Summary recommendations

These guidelines contain recommendations for timely triage, review and treatment of cancer patients receiving systemic chemotherapy. Overarching and cancer specific recommendations are summarised in Table 3.

Recommendations are provided in the context that chemotherapy has been identified as the likely first treatment required. Such a decision should be guided by a multidisciplinary or coordinated oncology service referral point which will be specific to local health services but which must enable the rapid responsive triaging of patient referrals. It must be acknowledged that in many circumstances chemotherapy is unlikely to be a consideration as first line cancer management. This would include presentations such as spinal cord compression where emergency surgery or radiotherapy is indicated or solid tumours without distant metastases where surgery or radiotherapy are most frequently the appropriate first treatment modality.

The ability for health services to provide care within the recommended time frames necessities coordination of referrals, reviews and treatments. Logistical challenges may be most apparent for rural and regional patients who are travelling to metropolitan centres for their treatments.

Table 3: Summary recommendations

Triage of referrals		Level-Grade
All Referrals	All new referrals should be triaged within 2 business days of referral receipt	GPP
First medical oncology or haematology clinic appointment		**Level-Grade**
Category 1	Review for patients with urgent presentation should occur immediately, within no longer than 48 hours of referral receipt	GPP
Category 2	Review for patients receiving adjuvant chemotherapy should occur within a suitable timeframe to allow the commencement of chemotherapy according to cancer specific recommendations (see Guidelines: Timely initiation of chemotherapy by cancer type)	GPP
Category 3	Review for all other patients should occur within 14 days of referral receipt	
Timely initiation of chemotherapy		**Level-Grade**
Category 1	For patients with urgent presentation, chemotherapy is clinically indicated immediately, within no longer than 48 hours of the ready for care date	GPP
Category 2	For all other patients, chemotherapy is clinically indicated within two to eight weeks of the ready for care date or date of surgery, depending on the cancer type (see Guidelines: Timely initiation of chemotherapy by cancer type)	IB to GPP

Guidelines: Timely triage of referrals to medical oncology and haematology cancer clinics

All new referrals – triage within two business days [Good Practice Point]

It is recommended that all patients newly referred to medical oncology and haematology cancer clinics should have their referral reviewed by an appropriately qualified clinician and triaged within two business days of referral receipt.

- A referral received at 4 pm on Friday should be triaged by the end of business on Monday. Two business days are counted as Friday and Monday, regardless of the time that the referral was received on Friday. Triage would be considered to fall outside the recommended two business day interval if not triaged by close of business on Monday.

- A referral received at 8 am Monday should be triaged by the end of business on Tuesday. Two business days are counted as Monday and Tuesday, regardless of the time that the referral was received on Monday. Triage would be considered to fall outside the recommended two business day interval if not triaged by close of business on Tuesday.

Referrals for patients with a new diagnosis of cancer or with a high suspicion of cancer should be reviewed in a medical oncology or haematology clinic according to the timelines recommended in Guidelines: Timely access to the first medical oncology and haematology cancer clinic review.

Referrals for patients with clinical features that are not typical of cancer and in whom the triaging clinician does not suspect cancer should be referred to an appropriate health practitioner in a timely fashion. The following recommendations for timely access to medical oncology and haematology clinics and to chemotherapy treatment are not applicable to these patients.

Guidelines: Timely access to the first medical oncology and haematology cancer clinic review

No evidence was identified to inform the optimal interval from referral to the first medical oncology or haematology clinic appointment. In forming consensus recommendations the expert panel considered existing local and international guidelines.[1–3,9]

Category 1: The first medical oncology or haematology review for patients with an urgent presentation should occur immediately, within no longer than 48 hours* of referral receipt [Good Practice Point]

Recommendation: Patients who present with severe and/or imminently life-threatening symptoms or test abnormalities should be regarded as oncological emergencies and be seen without delay. Examples include but are not limited to patients with imminent airway obstruction, spinal cord compression or hypercalcaemia. Highly aggressive and rapidly progressive diseases should also be considered in Category 1. Examples include but are not limited to patients with acute leukaemia's and highly aggressive lymphomas (e.g. Burkitt's lymphoma). If a review cannot occur in an outpatient medical oncology or haematology clinic within a suitable timeframe (no longer than 48 hours from referral receipt), patients should be referred to a hospital emergency department.

Rationale and explanatory notes: This recommendation is based on consensus expert opinion with the aim of achieving an urgent review (and subsequent intervention) to avoid complications and mortality in high-risk patients. Clinical judgement should guide the decision for an outpatient clinic review, emergency department presentation or inpatient admission. While common life-threatening presentations are included in the description of oncological emergency, this is not a definitive list and clinical judgement should inform the triage of patients into category 1.

** The 48-hour review window was selected to provide a measure of performance for timely review of category 1 patients. Where symptoms are life threatening and chemotherapy is likely to be indicated, a review should occur immediately; in this situation a 48-hour delay is unacceptable and **may risk life**.*

Category 2: The first medical oncology or haematology review for patients receiving adjuvant chemotherapy should occur according to cancer type [Good Practice Point]

Recommendation: Patients receiving adjuvant chemotherapy should be seen in a medical oncology or haematology clinic within a suitable timeframe to allow chemotherapy to begin according to cancer-specific recommendations for the timely initiation of systemic chemotherapy (see Guidelines: Timely initiation of chemotherapy by cancer type). Consideration of clinical trial eligibility and time limits may also be important.

Rationale and explanatory notes: This recommendation is based on consensus expert opinion with the aim of facilitating timely initiation of systemic chemotherapy according to evidence for specific cancer groups. While in many cases a referral to medical oncology may be made at the time of surgery, the appropriate time for a medical oncology clinic appointment may not be for several weeks.

Category 3: First medical oncology or haematology review for all other patients should occur within 14 days of referral receipt [Good Practice Point]

Recommendation: All patients not in category 1 or 2 should be seen in a medical oncology or haematology clinic within 14 days of referral receipt. For category 2 patients, where specialist multidisciplinary services are available, the first medical oncology or haematology clinic appointment may be with a non-medically qualified clinician such as a nurse practitioner who can further triage patients and/or organise diagnostic tests or procedures. In this scenario, a subsequent appointment with a medical oncologist or haematologist should occur based on this assessment, and within 28 days of the original referral receipt.

Rationale and explanatory notes: This recommendation is based on consensus expert opinion with the aim of achieving timely specialist review without creating overwhelming pressure for cancer service providers. The 14-day interval was recommended for the benefits of timely and standardised access to care for Victorian patients with suspected cancer, and to align with existing local and international guidelines.[1–3,9] Furthermore, within a consumer focus group formed to help inform these guidelines, a 14-day timeframe was identified by participating consumers as a reasonable interval to limit anxiety associated with their first appointment. Standardised measurement and reporting will allow for future local and international benchmarking of service performance. The rationale for including a preliminary review by a non-medically trained member of the medical oncology or haematology treating team was to create an opportunity to identify any unforeseen issues that require more immediate attention, provide the patient with information, and facilitate relevant diagnostic and prognostic assessments prior to a medical oncologist/haematologist review. This may relieve pressure on oncologists and haematologists and optimise their subsequent appointment (with all relevant test results available). This recommendation was included to reflect the multidisciplinary service model that is increasingly becoming available within Victorian cancer services. Where this model of care and suitable qualified personnel are not available, all first specialist appointments should be with the medical oncologist or haematologist and occur within 14 days of the referral receipt.

Guidelines: Timely initiation of chemotherapy

While providing rapid access to chemotherapy is important for some cancers, the committee found insufficient evidence to support adopting a standard time-to-treatment interval across all cancers. Application of an all-encompassing performance target in the absence of evidence may be excessive for some lower grade cancers, place unnecessary stress on Victorian cancer services, and cause unnecessary distress and anxiety to patients waiting for chemotherapy.

When chemotherapy is the first anti-cancer treatment for a patient, time to chemotherapy should be measured from the date that chemotherapy treatment was decided and the patient was prepared to receive chemotherapy (ready for care) to the date when chemotherapy was first administered (chemotherapy start date).

In the setting of adjuvant chemotherapy, time to chemotherapy should be measured from the date of surgery rather than the date they were ready for care. This reflects current evidence (which reports outcomes based on time from surgery) and aims to prevent additional delays for patients with prolonged recovery after surgery and therefore a delayed ready for care date. These patients, if not ready for care until four weeks after surgery, might then be subject to an additional delay if the time to chemotherapy is measured from the ready for care date.

Where delays are clinically warranted or unavoidable, chemotherapy should begin at the discretion of the oncologist/haematologist if there is no evidence that the chemotherapy would be ineffective beyond the recommended ideal commencement time.

Where the recommended time to chemotherapy is presented in weeks, the interval should be calculated according to calendar days. Two weeks equates to 14 calendar days, three weeks to 21 days, four weeks to 28 calendar days and eight weeks to 56 calendar days.

Patients who require systemic chemotherapy should begin chemotherapy as soon as practical and according to the below timelines, measured from the ready for care date or, if the patient is having surgery first, from the date of surgery.

Category 1: For patients with an urgent presentation, chemotherapy is clinically indicated immediately, within no longer than 48 hours* of the ready for care date [Good Practice Point]

Recommendation: Patients with severe or imminently life-threatening symptoms should be regarded as an oncological emergency and chemotherapy initiated immediately. Examples include but are not limited to patients with imminent airway obstruction, superior vena cava obstruction or hypercalcaemia. Highly aggressive and rapidly progressive diseases should also be considered in Category 1. Examples include but are not limited to patients with acute leukaemia's and highly aggressive lymphomas (e.g. Burkitt's lymphoma). If treatment cannot commence in an outpatient setting (in a chemotherapy day unit) within a suitable timeframe (no longer than two days from the ready for care date), patients should be admitted to hospital to begin chemotherapy. A decision about whether chemotherapy is the appropriate modality to treat these emergencies will depend on the likely chemosensitivity of the cancer and the nature of the emergency.

Rationale and explanatory notes: This recommendation is based on consensus expert opinion with the aim of achieving urgent chemotherapy treatment initiation for high-risk patients. While common life-threatening presentations are included in the description of oncological emergency, this is not a definitive list and, with the emergent presentation likely to vary by cancer type, clinical judgement should inform the triage of patients into category 1.

** The 48-hour chemotherapy treatment window was selected to provide a measure of performance for timely initiation of chemotherapy for category 1 patients. Where symptoms are life threatening and*

*chemotherapy is indicated, chemotherapy should be commenced immediately; in this situation a 48-hour delay is unacceptable and **may risk life**.*

Category 2: For all other patients, chemotherapy is clinically indicated within 2 to 8 weeks depending on the cancer type [evidence level varies according to cancer type – see Guidelines: Timely initiation of chemotherapy by cancer type]

Recommendation: Patients who are not experiencing severe or imminently life-threatening symptoms (patients not in category 1) but in whom chemotherapy is indicated to treat their cancer or to relieve symptoms should commence chemotherapy based on evidence to maximise their outcomes. Chemotherapy is clinically indicated from two to eight weeks from the ready for care date or the date of surgery depending on the cancer diagnosis (refer to Guidelines: Timely initiation of chemotherapy by cancer type) and the nature and severity of their symptoms.

Rationale and explanatory notes: The recommendations are based on evidence for maximising patient outcomes as identified in a series of systematic literature reviews conducted as part of this project (see Supporting documents). For breast, ovarian, colorectal and lung cancers, the impact of delaying chemotherapy was broad but generally of a low level (NHMRC level III evidence). For haematological malignancies, lymphoma and myeloma, the impact of delayed chemotherapy was highly limited. The expert review panel recommends reviewing these guidelines as new evidence becomes available.

Guidelines: Timely initiation of chemotherapy by cancer type

The following recommendations for initiating chemotherapy are based on evidence derived from the available published literature (see Supporting documents). Cancer-specific recommendations for accessing medical oncology and haematology cancer clinics have not been provided because recommendations are consistent for all cancer types (see Guidelines: Timely triage of referrals to medical oncology and haematology cancer clinics and Guidelines: Timely access to the first medical oncology and haematology cancer clinic review). The strength of each recommendation is listed according to definitions in Review of the scientific evidence.

Where the recommended time to chemotherapy is presented in weeks, the interval should be calculated according to calendar days. Two weeks equates to 14 calendar days, three weeks to 21 days, four weeks to 28 calendar days and eight weeks to 56 calendar days.

In all cases, timing of care should also consider patient expectation and clinical judgement. The role of clinical judgement is emphasised in the setting of limited evidence, for example in haematological malignancies.

Patients should be treated by medical oncologists or haematologists in centres with appropriate expertise and experience in the management of their particular malignancy.

Breast cancer

Table 4: Timely initiation of chemotherapy in breast cancer

Recommendation – breast cancer	Level-Grade
Where systemic chemotherapy is the first anti-cancer treatment modality, in either neoadjuvant or metastatic treatment settings, chemotherapy should commence within four weeks of the ready for care date. Patients with high-risk disease (triple negative, HER2+ or high-grade disease) appear most likely to derive benefit from earlier initiation of chemotherapy and should commence as soon as possible	GPP
Adjuvant chemotherapy should commence within four weeks of the date of surgery. Patients with high-risk disease (triple negative, HER2+ or high-grade disease) appear most likely to derive benefit from quicker access to chemotherapy and should commence as soon as possible	III-C

Colorectal cancer

Table 5: Timely initiation of chemotherapy in colorectal cancer

Recommendation – colorectal cancer	Level-Grade
Neoadjuvant chemotherapy should commence as soon as possible and within three weeks of the ready for care date	GPP
Adjuvant chemotherapy should commence as soon as the patient is medically fit following surgery and within eight weeks of the date of surgery	III-C
Timing of chemotherapy for asymptomatic metastatic colorectal cancer has not been shown to impact on patient survival or quality of life outcomes so chemotherapy should therefore commence based on the discretion of the medical oncologist and according to the patient's symptoms	I-B

Lung cancer

Table 6: Timely initiation of chemotherapy in lung cancer

Recommendation – non-small cell lung cancer	Level-Grade
Where systemic chemotherapy is the first anti-cancer treatment modality, in either definitive or palliative treatment settings, chemotherapy should commence within three weeks of the ready for care date	III-C
Adjuvant chemotherapy should commence as soon as the patient is medically fit following surgery and within eight weeks of the date of surgery.	III-C
Recommendation – small cell lung cancer	**Level-Grade**
Patients with severe or life-threatening symptoms should be regarded as a medical emergency and chemotherapy initiated immediately, within no longer than 48 hours* of the ready for care date – hospitalisation may be required	GPP
All other patients should commence chemotherapy within two weeks of the ready for care date	III-C

** The 48-hour chemotherapy treatment window was selected to provide a measure of performance for timely initiation of chemotherapy for category 1 patients. Where symptoms are life threatening and chemotherapy is indicated, chemotherapy should be commenced immediately; in this situation a 48-hour delay is unacceptable and **may risk life**.*

Ovarian cancer

Table 7: Timely initiation of chemotherapy in ovarian cancer

Recommendation – ovarian cancer	Level-Grade
Where systemic chemotherapy is the first anti-cancer treatment modality, in either neoadjuvant or palliative treatment settings, chemotherapy should commence within four weeks of the ready for care date	GPP
Adjuvant chemotherapy should commence within four weeks of the date of surgery. Patients with residual disease appear most likely to derive benefit from earlier initiation of chemotherapy and should commence as soon as possible	III-C

Lymphoma

Table 8: Timely initiation of chemotherapy in lymphoma

Recommendation – highly aggressive lymphoma and other acute presentations	Level-Grade
This recommendation applies to highly aggressive lymphoma's (e.g. Burkitt's lymphoma, lymphoblastic lymphoma) and urgent presentations of other lymphomas (e.g. severe or life-threatening symptoms such as renal failure or hypercalcaemia, cord compression, superior vena cava or airway obstruction or cardiac tamponade). With no studies identified in this patient cohort, best clinical judgement must guide clinical practice. All patients require immediate referral and treatment. Every hour delay increases the risk of mortality. While these patients are classified in Category 1, it must be understood that the maximal performance measurement interval of 48 hours* is unacceptable for these patients	GPP
Recommendation – aggressive lymphoma	**Level-Grade**
This recommendation applies to aggressive lymphoma's with non-urgent presentation (e.g. Diffuse large B-cell lymphoma / Non Hodgkin lymphoma). Systemic chemotherapy should commence as soon as possible and within no longer than four weeks of the ready for care date	III-C
Recommendation – indolent lymphoma	**Level-Grade**
This recommendation applies to indolent lymphoma's (e.g. follicular lymphoma or chronic lymphocytic leukaemia). Timing of chemotherapy for indolent lymphoma has not been shown to impact on patient survival; chemotherapy should commence based on the medical clinician's judgement and according to the patient's symptoms	III-C

** The 48-hour chemotherapy treatment window was selected to provide a measure of performance for timely initiation of chemotherapy for category 1 patients. Where symptoms are life threatening and chemotherapy is indicated, chemotherapy should be commenced immediately; in this situation a 48-hour delay is unacceptable and **may risk life**.*

Myeloma

Table 9: Timely initiation of chemotherapy in myeloma

Recommendation – symptomatic myeloma	Level-Grade
With no studies identified for patients presenting with urgent symptoms (e.g. severe or life-threatening symptoms such as renal failure or hypercalcaemia, cord compression, superior vena cava or airway obstruction or cardiac tamponade), best clinical judgement must guide clinical practice. All patients require immediate referral and treatment. Every hour delay increases the risk of mortality. While these patients are classified in Category 1, it must be understood that the maximal performance measurement interval of 48 hours* is unacceptable for these patients	GPP
All other patients should commence chemotherapy within four weeks of the ready for care date	GPP

- The 48-hour chemotherapy treatment window was selected to provide a measure of performance for timely initiation of chemotherapy for category 1 patients. Where symptoms are life threatening and chemotherapy is indicated, chemotherapy should be commenced immediately; in this situation a 48-hour delay is unacceptable and **may risk life.*

Measuring performance

The committee is currently investigating if existing administrative data sets could be used as reporting mechanisms. While it would be valuable for health services to measure and reflect on service delivery performance across all recommendations within this guideline, for the time being, key performance indicators are suggested for recommendations which are based on the strongest evidence for improved patient outcomes:

- 90 per cent of patients with breast cancer should commence adjuvant chemotherapy within four weeks of the date of surgery.
- 90 per cent of patients with colorectal cancer should commence adjuvant chemotherapy within eight weeks of the date of surgery.
- 90 per cent of patients with intermediate to high-grade lymphoma should commence chemotherapy within four weeks of the ready for care date.

Appendix 1: Steering committee

Name	Position
Prof Danny Rischin	Project Chair, Co-Director Cancer Medicine, Peter MacCallum Cancer Centre
Mrs Sue Kirsa	Project Manager, Director Pharmacy, Peter MacCallum Cancer Centre
Ms Kathryn Whitfield	Project Sponsor, Cancer Strategy & Development unit, Victorian Department of Health & Human Services
Mr Colin Hornby	Project Sponsor, Cancer Strategy & Development unit, Victorian Department of Health & Human Services
Ms Marliese Alexander	Project Officer, Pharmacist, Peter MacCallum Cancer Centre and PhD student, Monash University
Ms Natalie Love	Project Officer, Nurse, Peter MacCallum Cancer Centre
Mrs Danielle Murray	Manager Building Better Care, Peter MacCallum Cancer Centre
Mr Chris Kearny	Business Manager Specialists Clinics, Peter MacCallum Cancer Centre
Ms Nicole Tweddle	Executive Director Victorian Comprehensive Cancer Centre Service Development
Ms Jenny Byrne	Manager Western and Central Integrated Cancer Service
Ms Rhonda Beattie-Manning	Divisional Director Emergency Medicine & Cancer Services, Western Health
A/Prof. Stephen Opat	Unit Head Clinical Haematology, Monash Health
A/Prof. Jeremy L Millar	Director Radiation Oncology, Alfred Health
A/Prof. Phillip Parente	Director Cancer Services, Eastern Health
Dr Craig Underhill	Director Cancer Services, Greater Southern Area Health Service (Border Network) and Director Cancer Services, Hume RICS, East Hume and Border Clinical Network
Dr Robert Blum	Director Oncology, Bendigo Health
Ms Sandy McKiernan	President Cancer Nurses Society of Australia and Director Cancer Information & Support Services Cancer Council WA
Ms Joan Thomas	Nurse Unit Manager, Peninsula Health
Ms Jane McGlashan	Consumer, Cancer Action Victoria & Western and Central Integrated Cancer Service

Appendix 2: Writing groups

Medical Oncology Writing Group 1 (Breast, Ovarian and Prostate Cancer)

Name	Position
Dr Robert Blum	Chair, Director Oncology, Bendigo Health
Ms Marliese Alexander	Project Officer, Pharmacist, Peter MacCallum Cancer Centre and PhD student, Monash University
Ms Natalie Love	Project Officer, Nurse, Peter MacCallum Cancer Centre
Ms Huda Ismail	Pharmacist, The Royal Women's Hospital
A/Prof. Shane White	Medical Oncologist, Austin Hospital and Director Medical Oncology, The Northern Hospital
Mrs Pauline Thomas	Clinical Nurse Consultant, The Royal Women's Hospital
Mr Obaid Fazil	Pharmacist, Monash Health

Medical Oncology Writing Group 2 (Lung and Colorectal Cancer)

Name	Position
A/Prof Phillip Parente	Chair, Director Cancer Services, Eastern Health
Ms Marliese Alexander	Project Officer, Pharmacist, Peter MacCallum Cancer Centre and PhD student, Monash University
Ms Natalie Love	Project Officer, Nurse, Peter MacCallum Cancer Centre
Prof Michael Dooley	Director Pharmacy, Alfred Health
Ms Tina Griffiths	Nurse, Olivia Newton-John Cancer & Wellness Centre, Austin Health
Dr Sachin Joshi	Medical Oncologist, Latrobe Regional Hospital
Mr Jim Siderov	Pharmacist, Austin Health

Haematology Writing Group 1 (Lymphoma and Myeloma)

Name	Position
A/Prof Stephen Opat	Chair, Unit Head Clinical Haematology, Monash Health
Ms Marliese Alexander	Project Officer, Pharmacist, Peter MacCallum Cancer Centre and PhD student, Monash University
Ms Natalie Love	Project Officer, Nurse, Peter MacCallum Cancer Centre
Dr Kate Burbury	Haematologist, Peter MacCallum Cancer Centre
Ms Natalie Porter	Clinical Haematology Administrator, Monash Health
Mr John Coutsouvelis	Senior Haematology Pharmacist, Alfred Health
Mr Eldene Ross	Chemotherapy Clinical Liaison Nurse, The Royal Melbourne Hospital

Appendix 3: Data definitions

Where relevant data definitions exist in published documents or data dictionaries these were adopted to facilitate consistent reporting of quality indicators and for the purposes of local, national and international benchmarking. Particular emphasis was given to definitions within the Victorian Integrated Non-Admitted Health (VINAH) dataset, the Victorian Admitted Episodes Dataset (VAED), the Victorian *Elective surgery access policy*, and the Australian and New Zealand College of Radiologists Radiotherapy Quality Indicators.

Data points marked with an asterisk (*) are required to measure timely access to medical oncology and haematology cancer clinics and chemotherapy treatment and are further detailed in Appendix 4: Data reporting elements.

Data definitions

Term	Definition
Chemotherapy	**Systemic Chemotherapy** In the context of this guideline systemic chemotherapy refers to any chemotherapy administered via the parenteral route. Although oral chemotherapy is also a systemic treatment, this guideline specifically addresses the timely initiation of parenteral chemotherapy. **Neoadjuvant Chemotherapy** Chemotherapy given prior to surgery or radiotherapy **Adjuvant chemotherapy** Chemotherapy given after surgery
Chemotherapy start date*	The date of commencement of the first day of the first cycle of chemotherapy given to a patient who is receiving care for cancer.
Clinician **See also** Medical Clinician	A clinician is a person mainly involved in the area of clinical practice – that is, diagnosis, care and treatment, including recommended preventative action, to patients or clients. Clinical practice may involve direct client contact or may be practised indirectly through individual case material (as in radiology and laboratory medicine).[12] This definition of clinician includes medically qualified personal (see medical clinician) and non-medically qualified healthcare personnel. In the cancer setting non-medically qualified clinicians include healthcare personnel with suitable oncology training including but not limited to a nurse practitioner. *As defined in Australian Institution of Health and Welfare (AIHW) meta-data online registry*[12]
First appointment date*	Refers specifically to medical oncology and haematology cancer clinics. The date of the patient's/client's first appointment.[13] *As defined in VINAH as 'episode first appointment booked date*[13]
High suspicion of cancer	The person presents with clinical features typical of cancer, or has less typical signs and symptoms but the triaging clinician suspects that this may be cancer.[14] *As defined in New Zealand Ministry of Health National Cancer Programme 2014 Update*[14]

Term	Definition
Medical clinician **See also** Clinician	A person whose primary employment role is to diagnose physical and mental illnesses, disorders and injuries and prescribe medications and treatments that promote or restore good health.[15] In the chemotherapy treatment setting this most likely refers to medical oncologists and haematologists. *As defined in Australian Institution of Health and Welfare (AIHW) medical practitioner-related definitions*[15]
Oncological emergency	Severe and/or imminently life-threatening symptoms or test abnormalities that the triaging clinician perceives to be directly or indirectly related to a patient's cancer or its treatment, and to be potentially life threatening if not treated immediately. Oncological emergencies may include but are not limited to: febrile neutropenia and sepsis; superior vena cava syndrome; metastatic spinal cord compression; hypercalcaemia; disseminated intravascular coagulation; and tumour lysis syndrome.[16] *As defined by Cancer Council Australia*[16]
Ready for care*	Patients who are assessed as able and are prepared to receive chemotherapy or to begin the pre-chemotherapy assessment process.[4] *Adapted from definition in Victorian Government Department of Human Services Elective surgery access policy*[4]
Referral receipt*	The date that a referral, either written or verbal, is received. For specialist (outpatient) clinics, this could be a request for a booking, where the referral will be provided at the first contact.[13] *As defined in VINAH as 'referral in received date'*[13]
Medical oncology or haematology cancer clinic	A review by a member of an oncology treating team who is most likely a medical oncologist or haematologist but may include another suitably qualified non-medical clinician such as a nurse practitioner. The review may occur in any hospital clinic. With the provision that the consultation must occur with a member of the oncology team, this may occur in the setting of a general non-cancer clinic.
Surgery date*	The date on which surgery was performed on a patient who is receiving care for cancer.
Time to chemotherapy	When chemotherapy is the first anti-cancer treatment for a patient, time to chemotherapy is measured from the date that chemotherapy treatment was decided and the patient was prepared to receive chemotherapy (ready for care) to the date when chemotherapy was first administered (chemotherapy start date). In the setting of adjuvant chemotherapy, time to chemotherapy is measured from the date of surgery to the chemotherapy start date.
Triage category (referral)	This triage classification is to be used in medical oncology and haematology cancer clinics. Patients will be triaged into one of three referral categories according to the triageur's response to the question: 'This patient should wait for specialist review no longer than ...?'. The triage category is allocated by an experienced clinician. If the triage category changes, both triage categories can be captured, but the original category must be reported in this data element. [17] *Adapted from definition in Australian Institution of Health and Welfare (AIHW) meta-data online registry: triage category*[17]

Term	Definition
Triage category (chemotherapy treatment)	This triage classification is to be used to guide time to chemotherapy. Patients will be triaged into one of two chemotherapy treatment categories according to the triageur's response to the question: 'This patient should wait for commencement of chemotherapy no longer than ...?'. The triage category is allocated by an experienced clinician. If the triage category changes, both triage categories can be captured, but the original category must be reported in this data element. [17] *Adapted from definition in Australian Institution of Health and Welfare (AIHW) meta-data online registry: triage category*[17]

Appendix 4: Data reporting elements

Referral receipt date

Metadata type:	Data element
Definition:	The date that a referral, either written or verbal, is received. For specialist (outpatient) clinics, this could be a request for a booking, where the referral will be provided at the first contact.
Justification:	This item is collected to analyse waiting times.

Representation

Data type:	Numeric			
Field size:	Min:	8	Max:	8
Format:	DDMMYYY			
Data domain:	Valid date			
Guide for use:	If the referral is updated or renewed, this date should not be changed and should reflect the original referral clinical referral date.			

Validation rules

Verification rules:	This field must be equal to or earlier than the ready for care (RFC) date.
Source:	As defined in VINAH as 'referral in received date'.[13]

Referral triage date

Metadata type:	Data element
Definition:	The date that a referral, either written or verbal, is reviewed and triaged. A referral is triaged when the patient has been formally assigned into a triage category.
Justification:	This item is collected to analyse waiting times.

Representation

Data type:	Numeric			
Field size:	Min:	8	Max:	8
Format:	DDMMYYY			
Data domain:	Valid date			
Guide for use:	If the triage category is updated or renewed, this date should not be changed and should reflect the original date of referral triage.			

Validation rules

Verification rules:	This field must be equal to or earlier than the ready for care (RFC) date.
Source:	This is a new data element.

First clinic appointment date

Metadata type:	Data element
Definition:	The date of the patient's/client's first appointment booking, referring specifically to medical oncology and haematology cancer clinics.
Justification:	This item is collected to analyse waiting times.

Representation

Data type:	Numeric			
Field size:	Min:	8	Max:	8
Format:	DDMMYYY			
Data domain:	Valid date			
Guide for use:	Record the first booking date for the first appointment. This is not the date on which that booking was entered into the booking system. Subsequent changes to the date of the first appointment date must not be submitted.			

Validation rules

Verification rules:	This field must be equal to or after the referral receipt date.
Source:	As defined in VINAH as 'episode first appointment booked date'.[13]

Ready for care date

Metadata type: Data element

Definition: Ready for care patients are those who are assessed as able, and are prepared to receive chemotherapy or to begin the pre-chemotherapy assessment process. This includes investigations being completed that can be performed on an outpatient basis within the usual preparation process. Examples include pre-chemotherapy diagnostic imaging or blood tests.

'Not ready for care' patients are those who are not in a position to commence chemotherapy or to begin the pre-chemotherapy assessment process. Patients can be not ready for care for any of the following reasons:

Clinical:

i. Unfit for chemotherapy. The patient's health status has temporarily declined to the extent it is inadvisable to proceed with the planned chemotherapy; or

The patient is awaiting investigations that cannot be performed on an outpatient basis within the usual pre-chemotherapy assessment process.

ii. Staged chemotherapy treatments. There is a planned clinical pathway that requires a predictable series of treatments on successive occasions with each treatment depending on the successful completion of the previous, for example, a patient who is planned for adjuvant chemotherapy after they have recovered from surgery.

iii. Future chemotherapy treatments. A patient will not require chemotherapy until some future date, for example, those with a cancer diagnosis where chemotherapy has not been shown to improve outcomes but which may be used at some time in the future to relieve newly developed symptoms.

Personal:

iv. Deferred procedures. The patient is not yet prepared to commence chemotherapy due to social, work or other commitments that prevent them from commencing chemotherapy for a time.

Justification: This item is collected to analyse waiting times.

Representation

Data type: Numeric

Field size: Min: 8 Max: 8

Format: DDMMYYY

Data domain: Valid date

Guide for use: If the ready for care date is updated or renewed, this date should not be changed and should reflect the original ready for care date.

Validation rules

Verification rules: This field must be equal or more than the date of diagnosis.

Source: This is a new data element and has been adapted from a definition in the Department of Human Services Elective surgery access policy.[4]

Surgery date

Metadata type:	Data element
Definition:	The date on which surgery was performed on a patient who is receiving care for cancer.
Justification:	This item is collected to analyse waiting times and start to therapy times.

Representation

Data type:	Numeric			
Field size:	Min:	8	Max:	8
Format:	DDMMYYY			
Data domain:	Valid date			
Guide for use:	If the referral is updated or renewed, this date should not be changed and should reflect the original referral decision to treat.			

Validation rules

Verification rules:	This field must be equal to or after the ready for care and decision to treat dates.
Source:	This is a new data element

Chemotherapy start date

Metadata type:	Data element
Definition:	The date of commencement of the first cycle of chemotherapy given to a patient who is receiving care for cancer.
Justification:	This item is collected to analyse waiting times and start to therapy times.

Representation

Data type:	Numeric			
Field size:	Min:	8	Max:	8
Format:	DDMMYYY			
Data domain:	Valid date			
Guide for use:	If the referral is updated or renewed, this date should not be changed and should reflect the original referral decision to treat.			

Validation rules

Verification rules:	This field must be more or equal to the ready for care date and date of surgery.
Source:	This is a new data element

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