NICE National Institute for Health and Care Excellence

NICE guideline

# Haematological cancers: improving outcomes

NICE guideline

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# Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

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This guideline replaces CSG3.

This guideline is the basis of QS150.

# Overview

This guideline covers integrated diagnostic reporting for diagnosing haematological cancer in adults, young people and children. It also covers staffing, facilities (levels of care) and multidisciplinary teams needed for adults and young people. It aims to improve care for people with suspected or diagnosed cancer by promoting best practice on the organisation of haematological cancer services.

## Who is it for?

- All healthcare professionals that provide diagnostic and treatment services to adults, young people and children with suspected or diagnosed haematological cancer, including clinical and scientific staff in secondary care.
- All healthcare professionals and scientific staff in haematology wards, units, and specialist integrated haematological malignancy diagnostic services (SIHMDS).
- Commissioners of diagnostic and treatment services for haematological cancer.
- People with suspected or diagnosed haematological cancers, their families and carers.

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# Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

## 1.1 Integrated diagnostic reporting

The recommendations in this section apply to services for adults (over 24 years), young people (16 to 24 years) and children (under 16 years).

1.1.1 Take into account that recommendations 1.1.2 to 1.1.4 are most likely to be achieved if the component parts of the specialist integrated haematological malignancy diagnostic services (SIHMDS) are located at a single site. **[new 2016]**

1.1.2 All SIHMDS should:

- have clearly defined organisational structures
- have a formally appointed SIHMDS director who is responsible for the operation of the service, including the design of the diagnostic pathway, resource use and reporting standards
- have a single quality management system
- be formally accredited as a SIHMDS by a recognised independent organisation
- be managed by a single trust/organisation
- assess the clinical benefit and the financial and resource impact of new diagnostic and therapeutic technologies before introducing them
- have a central reception point for all specimens

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- have a full range of age-appropriate specialist haematology and haematopathology input for diagnosis and the authorisation of integrated reports
- have a full range of protocols covering specimen handling, diagnostic pathways and compilation of integrated reports
- ensure that their location, organisation, infrastructure and culture allow effective day to day and ad hoc communication for rapid resolution of diagnostic uncertainty and accurate diagnosis
- have clear and reliable systems for communicating with relevant healthcare professionals outside the SIHMDS
- produce integrated reports that include all information needed for disease management, and share these with the relevant multidisciplinary team.
- report diagnoses sub-typed by the current World Health Organization (WHO) classification. **[new 2016]**

1.1.3 All SIHMDS should have a predefined diagnostic pathway that is followed for each specimen type or clinical problem. The pathway should ensure that:

- the most appropriate diagnostic platforms are selected for a particular clinical situation to avoid unnecessary duplication
- tests for each specimen are used to provide maximum levels of internal cross-validation, using the current WHO principle of multi-parameter disease definitions
- there is a robust process for report validation, including double reporting. **[new 2016]**

1.1.4 All SIHMDS should have an IT system that allows:

- specimen booking and registration at source
- input and update of clinical information
- integrated reporting
- two-way communication between SIHMDS and healthcare professionals using the SIHMDS. **[new 2016]**

1.1.5 The SIHMDS director should be responsible for the overall quality management system, including:

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- laboratory processes and the quality of diagnostic reporting
- ongoing assessment of staff competencies
- training provision
- communication within the SIHMDS and with relevant healthcare professionals
- audit and quality assurance
- research and development. **[new 2016]**

1.1.6 If an urgent treatment decision is not needed, local diagnostic laboratories should send all specimens (including lymph node and other tissue material) directly to a SIHMDS without any local diagnostic workup:

- as soon as a haematological malignancy is suspected
- during active investigation of a suspected haematological malignancy
- if patients with an established or previous malignancy have suspected relapse or disease progression. **[new 2016]**

1.1.7 If an urgent treatment decision is needed and local diagnostic workup will not reduce the speed or quality of the SIHMDS assessment and integrated reporting, local diagnostic laboratories should process and report on blood film, bone marrow aspirate and cerebrospinal fluid cytology specimens. **[new 2016]**

1.1.8 SIHMDS should release individual laboratory reports before the integrated report is produced, if there is an urgent clinical need. **[new 2016]**

1.1.9 SIHMDS should be responsible for specimens that are sent to external labs and should integrate the results into the relevant report (unless there are exceptional arrangements in place for clinical trials). **[new 2016]**

## Disease monitoring

1.1.10 When flow cytometry, molecular diagnostics or cytogenetics are needed for disease monitoring, local diagnostic laboratories should send all relevant specimens directly to a SIHMDS without any local diagnostic workup. **[new 2016]**

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## 1.2 Staffing and facilities (levels of care) for adults and young people who are having high-intensity non-transplant chemotherapy

In this guideline, ambulatory care is a planned care system in which adults and young people at risk of prolonged neutropenia are based at home or other specified accommodation. There should be specific safeguards to minimise the risk from potentially life-threatening complications of chemotherapy.

The recommendations in this section apply to young people (16–24 years) and adults (over 24 years) with haematological malignancies:

- who are receiving high-intensity (non-transplant) chemotherapy for induction or re-induction of remission or consolidation, and are at risk of more than 7 days of neutropenia of $0.5\times10^9$/litre or lower (see levels of care) **or**
- who are receiving low- or intermediate-intensity chemotherapy but have comorbidities or frailty, or are at increased risk of other organ toxicities.

This includes young people and adults having treatment for:

- acute myeloid leukaemia (including acute promyelocytic leukaemia)
- acute lymphoblastic leukaemia/lymphoblastic lymphoma
- high-risk/hypoplastic myelodysplastic syndrome
- Burkitt lymphoma
- bone marrow failure caused by other haematological malignancy, such as plasma cell leukaemia or other lymphoproliferative disorders.

These recommendations do not apply to adults and young people with relapsed or refractory lymphoma who are having salvage chemotherapy regimens likely to result in fewer than 7 days of neutropenia of $0.5\times10^9$/litre or lower, unless they have comorbidities or frailty, or are at increased risk of other organ toxicities.

1.2.1 For guidance on staffing and facilities for children with cancer see the NICE cancer service guidance on improving outcomes in children and young people with cancer.

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# Centre size

1.2.2 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should provide high-intensity (non-transplant) chemotherapy for induction or re-induction of remission to a minimum of 10 patients per year who have new or relapsed haematological malignancies and who are at risk of more than 7 days of neutropenia of $0.5\times10^9$/litre or lower. **[new 2016]**

# Facilities

## Isolation facilities

1.2.3 Inpatient isolation facilities for adults and young people who have haematological malignancies and are at risk of more than 7 days of neutropenia of $0.5\times10^9$/litre or lower should consist of a single-occupancy room with its own bathroom. **[new 2016]**

1.2.4 Consider installing clean-air systems into isolation facilities for adults and young people who have haematological malignancies and are at risk of more than 7 days of neutropenia of $0.5\times10^9$/litre or lower. **[new 2016]**

## Other facilities

1.2.5 Ensure that there is provision for direct admission to the haematology ward or other facilities equipped to rapidly assess and manage potentially life-threatening complications of chemotherapy (such as neutropenic sepsis or bleeding) in adults and young people, according to agreed local protocols. **[2016]**

1.2.6 Ensure that there are specific beds available in a single dedicated ward within the hospital with the capacity to treat the planned volumes of patients. **[2016]**

1.2.7 Ensure that there is a designated area for outpatient care that reasonably protects the patient from transmission of infectious agents, and provides, as necessary, for patient isolation, long duration intravenous infusions, multiple medications, and/or blood component transfusions. **[2016]**

1.2.8 Ensure that there is rapid availability of blood counts and blood components for

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transfusion. **[2016]**

1.2.9 Ensure that there are on-site facilities for emergency cross-sectional imaging. **[2016]**

1.2.10 Ensure that cytotoxic drug reconstitution is centralised or organised at the pharmacy. **[2016]**

1.2.11 Central venous catheter insertion should be performed by an experienced specialist. **[2016]**

1.2.12 Ensure that there is on-site access to bronchoscopy, intensive care and support for adults and young people with renal failure. **[2016]**

## Ambulatory care

1.2.13 Consider ambulatory care for adults and young people who have haematological malignancies that are in remission and who are at risk of more than 7 days of neutropenia of $0.5\times10^{9}$/litre or lower. **[new 2016]**

1.2.14 Standard operating procedures for all aspects of an ambulatory care programme should be clearly defined and include the following:

- local protocols for patient eligibility, selection and consent
- procedures for patient monitoring
- access to a dedicated 24-hour advice line staffed by specifically trained haematology practitioners
- clear pathways for rapid hospital assessment in the event of neutropenic sepsis or other chemotherapy-related complications or toxicities
- clear pathways for re-admission to haematology units that care for adults and young people who are receiving high-intensity chemotherapy
- written and oral information for adults and young people and their family members or carers
- communication with primary care about the care the adult or young person is receiving, and their need for direct re-admission

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- audit and evaluation of outcomes. **[new 2016]**

1.2.15 Take into account the following when assessing adults and young people to see if ambulatory care is suitable:

- patient preference
- comorbidities
- distance and travel times to treatment in case of neutropenic sepsis and other toxicities (see the NICE guideline on neutropenic sepsis)
- the patient's or carer's understanding of the safety requirements of ambulatory care and their individual treatment plan
- access to and mode of transport
- accommodation and communication facilities
- carer support. **[new 2016]**

1.2.16 For more guidance on providing information to patients and discussing their preferences with them, see the NICE guideline on patient experience in adult NHS services. **[new 2016]**

## Clinical policies and audit

1.2.17 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should have written policies for:

- all clinical procedures **and**
- communication with the person's GP and other teams involved in treatment. **[new 2016]**

1.2.18 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should ensure that there is participation in audit of process and outcome. **[2016]**

## Staffing

1.2.19 Haematology units that care for adults and young people who are receiving

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high-intensity chemotherapy should have consultant-level specialist medical staff available 24 hours a day. This level of service demands the equivalent of at least 3 whole-time consultants, all full members of a single haematology multidisciplinary team (MDT) and providing inpatient care at a single site. [2016]

1.2.20 Cover in haematology units that care for adults and young people who are receiving high-intensity chemotherapy should be provided by specialty trainees and specialty doctors who are:

- haematologists or oncologists
- involved in providing care to the patients being looked after by the centre
- familiar with and formally instructed in the unit protocols. [2016]

1.2.21 In haematology units that provide care for adults and young people who are receiving high-intensity chemotherapy:

- there should be adequate nursing staff to provide safe and effective care [new 2016]
- the 2003 NICE cancer service guidance on improving outcomes in haematological cancers recommended that 'The level of staffing required for neutropenic patients is equivalent to that in a high dependency unit'. [2003]

1.2.22 Nursing staff in haematology units that care for adults and young people who are receiving high-intensity chemotherapy should be competent to care for people with a severe and unpredictable clinical status. The nursing staff should be able to deal with indwelling venous catheters, recognise early symptoms of infection, and respond to potential crisis situations at all times. [new 2016]

1.2.23 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should have access to consultant-level microbiological advice at all times. There should be access to specialist laboratory facilities for diagnosing fungal or other opportunistic pathogens. [2016]

1.2.24 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should have access to a consultant clinical oncologist for consultation, although radiotherapy facilities do not need to be on

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site. **[2016]**

1.2.25 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should have access to on-site advice from a specialist haematology pharmacist. **[2016]**

1.2.26 Haematology units that care for adults and young people who are receiving high-intensity chemotherapy should have dedicated clinical and administrative staff to support patient entry into local and nationally approved clinical trials and other prospective studies. **[2016]**

## 1.3 Multidisciplinary teams

The following recommendations were published in chapter 4 of the original improving outcomes in haematological cancers guidance (2003). The evidence for these recommendations has not been reviewed as part of this update, but they have been included in this section as they are still relevant to staffing and facilities (levels of care) for adults (over 24 years) and young people (16–24 years) with haematological cancer.

1.3.1 Clinical services for patients with haematological cancers should be delivered by multidisciplinary haemato-oncology teams. **[2003]**

1.3.2 Haemato-oncology MDTs should serve a population of at least 500,000 people. **[2003]**

1.3.3 Every patient with any form of haematological cancer (as defined by current World Health Organization [WHO] criteria) should be cared for by a haemato-oncology MDT. **[2003, amended 2016]**

1.3.4 All patients should have their care discussed in formal MDT meetings attended by members involved in the diagnosis, treatment, or care of that particular patient, and all the clinicians in the MDT should regularly treat patients with the particular forms of haematological cancer with which that MDT deals. **[2003, amended 2016]**

1.3.5 These MDTs should be responsible not only for initial recommendations about what treatment should be offered, but also for delivery of treatment and long-term support for patients. **[2003, amended 2016]**

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1.3.6 Individual clinicians should be responsible for discussing the MDT's recommendations with their patients, who should have the opportunity to be informed of the outcome of MDT meetings. **[2003]**

1.3.7 Clinicians who are not members of the MDTs should refer any patient with suspected or previously diagnosed haematological cancer to an appropriate haemato-oncology MDT. **[2003, amended 2016]**

1.3.8 Written referral policies should be disseminated both within hospitals (particularly to departments such as gastroenterology, dermatology, rheumatology and medicine for the elderly) and to primary care teams, to promote prompt and appropriate referral. **[2003]**

## Core members

1.3.9 Each haemato-oncology MDT should include sufficient core members for the following people to be present in person or remotely (for example via video conferencing) at every meeting:

- Haemato-oncologists (either haematologists or some medical oncologists): at least two who specialise in each tumour type being discussed at that meeting (e.g. leukaemia or lymphoma). At least one from each hospital site contributing to the MDT.
- Haematopathologist: at least one haematopathologist from the SIHMDS should be present; to provide the diagnostic information.
- Nurses: at least one clinical nurse specialist, also ward sisters from hospitals which provide high-intensity chemotherapy.
- Palliative care specialist: at least one palliative care specialist (doctor or nurse) who liaises with specialists from other sites. If, because of staff shortages, a palliative care specialist cannot regularly attend MDT meetings, the MDT should be able to demonstrate that it reviews patients regularly with such a specialist.
- Support staff: staff to organise team meetings and provide secretarial support. **[2003, amended 2016]**

1.3.10 Teams established to manage patients with lymphoma should include the following additional core members, who should be fully and regularly involved in MDT discussions:

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- Clinical oncologist: at least one.
- Radiologist: at least one, who liaises with radiologists at other sites. **[2003]**

1.3.11 Teams responsible for managing patients with myeloma should include at least one radiologist who liaises with radiologists at other sites and is fully and regularly involved in MDT discussions. Teams that care for patients with myeloma should have rapid access to oncologists for palliative radiotherapy, although it is not necessary for clinical oncologists to regularly attend team meetings. **[2003, amended 2016]**

## Extended MDT members

1.3.12 The MDT should include the following extended team members. They do not have to be present at every MDT meeting:

- clinical member of the transplant team to which patients could be referred
- microbiologist (especially for patients with leukaemia)
- pharmacist
- vascular access specialist
- registered dietitian
- orthopaedic surgeon (myeloma MDT)
- clinical oncologist (myeloma MDT and leukaemia MDT; provision of cranial radiotherapy for patients with acute lymphoblastic leukaemia (ALL) is an important role for a clinical oncologist). **[2003, amended 2016]**

## Other specialists

1.3.13 MDTs should have access to the following specialists:

- dermatologist
- gastroenterologist
- ear, nose and throat (ENT) surgeon
- interventional radiologist

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- renal physician. **[2003, amended 2016]**

1.3.14 All haemato-oncology MDTs should have access to support staff, including:

- allied health professionals including rehabilitation specialists
- liaison psychiatrist and/or clinical psychologist
- social worker
- bereavement counsellor
- support for patients and carers. **[2003, amended 2016]**

1.3.15 A clinical nurse specialist should be the initial point of contact for patients who feel they need help in coping with their disease, its treatment or consequences. This nurse should be able to arrange re-admission, clinical review, or meetings between patients and support staff such as those listed above. Networking between nurses with different types of expertise should be encouraged. **[2003]**

## Responsibilities of haemato-oncology MDTs

1.3.16 Haemato-oncology MDTs should meet weekly, during normal working hours. All core members should have a special interest in haematological cancer and attend MDT meetings as part of their regular work. They should attend at least two-thirds[1] of meetings. **[2003, amended 2016]**

1.3.17 At each meeting, the MDT should:

- Ensure that all new diagnoses have had SIHMDS review and integrated reporting.
- Establish, record and review diagnoses for all patients with the forms of cancer that fit the team's definition criteria.
- Assess the extent of each patient's disease and discuss its probable course.
- Work out treatment plans for all new patients and those with newly-diagnosed relapses.

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- Review decisions about treatment, particularly those made in the interval between MDT meetings. This review should cover not only the clinical appropriateness of the treatment but also the way patients' views were elicited and incorporated in the decision-making process.
- Discuss the response to treatment, both during therapy and when the course of treatment is complete.
- Think about the appropriateness of radiotherapy in the light of the response to chemotherapy.
- Think about the patients' other requirements such as palliative care or referral to other services. MDTs should be able to demonstrate effective systems for collaboration with hospital and community palliative care services.
- Discuss discontinuing treatment. Each MDT should develop a specific process for considering discontinuation of treatment when its effectiveness has become so limited that adverse effects might outweigh potential benefits.
- Agree dates for reviewing patients' progress.
- Discuss clinical trials and audit results. **[2003, amended 2016]**

1.3.18 The MDT should:

- review all SIHMDS reports of borderline conditions such as aplastic anaemia and other non-malignant bone marrow failure syndromes (which overlap with hypoplastic myelodysplastic syndrome), and lymphocyte and plasma cell proliferation of uncertain significance (which overlap with lymphoma and myeloma)
- identify requirements for staff and facilities for any form of treatment it provides
- liaise with primary care teams, palliative care teams, services for the elderly and voluntary organisations such as hospices
- ensure that adequate information, advice and support is provided for patients and their carers throughout the course of the illness
- ensure that GPs are given prompt and full information about the nature of their patients' illness or treatment, any changes in management, and the names of individual MDT members who are primarily responsible for their patients' management

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- record, in conjunction with the cancer registry, the required minimum dataset for all cases of haematological cancer within its specified catchment area, including those cared for by clinicians who are not haemato-oncology MDT members
- identify the training needs of MDT members and make sure these needs are met
- be involved in clinical trials and other research studies
- collaborate in planning, and collecting data for audit. [2003, amended 2016]

1.3.19 One member of each team, usually the lead clinician, should act as the administrative head of the team, taking overall responsibility for the service it delivers. [2003]

1.3.20 Lead clinicians from all haemato-oncology teams in each MDT should collaborate to develop and document evidence-based clinical and referral policies which should be consistently applied across the MDT as a whole. They should agree process and outcome measures for regular audit. All teams should be involved in audit and clinical trials. [2003, amended 2016]

1.3.21 There should be an operational policy meeting at least once a year at which each MDT discusses its policies and reviews the way it functions. [2003]

## Maximising the effectiveness of MDT meetings

1.3.22 Suitable facilities should be provided to support effective and efficient team working. In addition to basic physical facilities such as adequate room and table space, there should be appropriate equipment, for example to allow the group to review pathology slides and imaging results. [2003]

1.3.23 Every MDT meeting should have a designated chairperson. Whilst this may be the lead clinician, teams should consider rotating the role of chairperson between members. Teams should aim for an egalitarian mode of interaction, to facilitate open discussion to which all members feel able to contribute. [2003]

1.3.24 Each MDT should have named support staff who take the roles of team secretary and coordinator. Since these roles overlap, one person may be able to cover both functions in smaller teams. If a team decides that a clinical nurse specialist should be responsible for coordinating meetings, secretarial and administrative support should be provided for this nurse. [2003, amended 2016]

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1.3.25 The team coordinator should arrange meetings, inform all those who are expected to attend, and ensure that all information necessary for effective team functioning and clinical decision-making is available at each meeting. This will include a list of patients to be discussed and the relevant clinical information, along with diagnostic, staging, and pathology information. [2003]

1.3.26 The secretary should take minutes at all meetings, and record and circulate decisions made by the team within the case notes and both to MDT members and to those others identified as appropriate for routine circulation by the MDT, such as GPs, who may require this information. Confidentiality dictates that these records go to relevant clinicians only. [2003]

1.3.27 A designated member of the team's support staff, working with the administrative head of the team, should be responsible for communication with primary care, palliative care, and other site-specific MDTs. [2003, amended 2016]

## Local services

1.3.28 Local services should be developed around MDTs which include at least three haematologists whose sole or main specialist interest is in haemato-oncology. [2003]

1.3.29 Teams should specify which patients they can treat locally and make specific arrangements for the delivery of clinical services which they do not provide. [2003]

1.3.30 All inpatients undergoing intensive forms of treatment such as complex chemotherapy under the care of this team should be treated either at one hospital, or, where there is a locally agreed case for providing this service at more than one hospital, in hospitals which then each must independently meet the full criteria for the safe delivery of these treatments. [2003]

1.3.31 Each haemato-oncology MDT which provides high-intensity chemotherapy should have facilities as specified in section 1.2, and should be able to demonstrate adequate arrangements for 24-hour cover by specialist medical and nursing staff. These arrangements should be sufficiently robust to allow cover for holidays and other absences of team members. [2003, amended 2016]

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1.3.32 All hospitals which give high-intensity (non-transplant) chemotherapy for induction or re-induction of remission, or consolidation, or which are likely to admit patients undergoing chemotherapy as medical emergencies, should have documented clinical policies, agreed with haematology and oncology staff, which clearly specify arrangements for the care of such patients. **[2003, amended 2016]**

## 1.4 Recommendations from the 2003 cancer service guidance

1.4.1 For guidance on access to care, patient-centred care, continuing management, palliative care, and clinical trials and the use of protocols, see the NICE cancer service guidance on improving outcomes in haematological cancers.

# Terms used in this guideline

## Ambulatory care

In this guideline, ambulatory care is a planned care system in which adults and young people at risk of prolonged neutropenia are based at home or in other specified accommodation. There should be specific safeguards to minimise the risk from potentially life-threatening complications of chemotherapy.

## Levels of care

The Guideline Committee redefined levels 2b and 3 from the British Committee for Standards in Haematology (BCSH) guidelines on levels of care, and level 2 care from the original NICE cancer service guidance on improving outcomes in haematological cancers. The new definitions are based only on the depth and duration of expected severe neutropenia.

| | |
|---|---|
| Low- to intermediate-intensity chemotherapy | All other chemotherapy not included in the definitions below. |

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| | |
|---|---|
| High-intensity chemotherapy | Chemotherapy that is anticipated to result in severe neutropenia ($0.5\times10^9$/litre or lower) for 7 or more days. Other potential organ toxicities, comorbidities and frailty should also be considered. The relevant chemotherapy regimens are usually but not exclusively those used for curative treatment of:<br>• acute myeloid leukaemia<br>• high-risk myelodysplastic syndrome<br>• acute lymphoblastic leukaemia<br>• Burkitt lymphoma (and other rare aggressive lymphomas treated on Burkitt-lymphoma-like protocols)<br>• lymphoblastic lymphoma.<br>Salvage treatments for other types of lymphoma would not usually be included in this definition. |
| Autologous and allogeneic haematopoietic stem cell transplantation (HSCT) | Previously referred to as high-dose therapy in the original 2003 NICE guidance on improving outcomes in haematological cancers. Commissioned centrally through specialised commissioning, and centres should meet FACT-JACIE accreditation standards. |

[1] Cancer Quality Improvement Network System (2013) Manual for Cancer Services: haemato-oncology cancer measures – Haemato-oncology MDT Measure 13-2H-104

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# Context

Haematological malignancies are a diverse group of cancers that affect the blood, bone marrow, and lymphatic systems. Some forms are highly aggressive, and others are so benign that they are often only discovered by chance. Symptoms may include:

- lumps caused by enlarged lymph nodes, which are characteristic of lymphomas
- bone fractures and kidney problems, which are characteristic of myeloma
- fatigue and vulnerability to infection and bleeding, which can be caused by most types of haematological cancer but are particularly severe in acute leukaemia.

The main categories of haematological cancer are lymphoma, myeloma, leukaemia, myelodysplastic syndromes and myeloproliferative neoplasms. These categories vary in prevalence, incidence and survival rates. In addition, there are subtypes of lymphoma and leukaemia, as well as rarer haematological cancers that have their own categories.

There are also borderline conditions such as aplastic anaemia and other non-malignant bone marrow failure syndromes (which overlap with hypoplastic myelodysplastic syndrome), and suspected cutaneous lymphomas that need specialised facilities for diagnosis and treatment.

Different levels of service are needed to manage haematological cancers, depending on the particular cancer in question. Because of the increased complexity of care and changes in the levels of care from those specified in the 2003 NICE cancer service guidance on improving outcomes in haematological cancers, an update was needed.

There has been progressive and variable adoption of specialist integrated haematological malignancy diagnostic services (SIHMDS), aimed at improving diagnostic accuracy and expertise. Integrated diagnostic reports are well established in some centres but not everywhere. In addition, new diagnostic techniques have been developed since 2003. Because of all this, an update to the diagnostic and evaluation sections in the 2003 guidance was needed.

# More information

To find out what NICE has said on topics related to this guideline, see our web page on blood and bone marrow cancers.

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# Putting this guideline into practice

NICE has produced tools and resources to help you put this guideline into practice.

Putting a guideline fully into practice can take months to years. This depends on how much change in practice or services is needed. Implementing change is most effective when aligned with local priorities.

Changes recommended for clinical practice that can be done quickly – like changes in prescribing practice – should be shared quickly. This is because healthcare professionals should use guidelines to guide their work – as is required by professional regulating bodies such as the General Medical and Nursing and Midwifery Councils.

Here are some pointers to help put NICE guidelines into practice:

**1. Raise awareness** through routine communication channels, such as email or newsletters, regular meetings, internal staff briefings and other communications with all relevant partner organisations.

**2. Identify a lead** with an interest in the topic to champion the guideline and motivate others to support its use and make service changes, and to find out any significant issues locally.

**3. Carry out a baseline assessment** against the recommendations to find out if there are gaps in current service provision. Think about what data you need to measure improvement and plan how you will collect it. You may need to work with other health and social care organisations and specialist groups to compare current practice with the recommendations. This may also help identify local issues that will slow or prevent implementation.

**4. Develop an action plan** with the steps needed to put the guideline into practice. Recognise that it may take several years. Include milestones and the business case, which will set out additional costs, savings and possible areas for disinvestment. A small project group should develop the action plan. The group should include the guideline champion, a senior organisational sponsor, staff involved in the associated services, finance and information professionals.

**5. Implement the action plan** with oversight from the lead and the project group with project management support.

**6. Review and monitor** how well the guideline is being implemented through the project group.

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Share progress with those involved in making improvements, a well as relevant boards and local partners.

NICE provides a comprehensive programme of support and resources to maximise uptake and use of evidence and guidance. See our into practice pages for more information.

Also see Leng G, Moore V, Abraham S, editors (2014) Achieving high quality care – practical experience from NICE. Chichester: Wiley.

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# Update information

This guideline is an update of NICE cancer service guidance on improving outcomes in haematological cancers (published October 2003).

New recommendations have been added for the role of integrated diagnostic reporting and the staffing and levels of care needed to treat haematological cancer.

These are marked as:

- **[new 2016]** if the evidence has been reviewed and the recommendation has been added or updated
- **[2016]** if the evidence has been reviewed but no change has been made to the recommended action.

The NICE cancer service guidance on improving outcomes in haematological cancers (2003) was developed using very different methods to the current NICE guideline development process. The 2003 guidance presented recommendations in a paragraph format. The Guideline Committee highlighted some sections of the original guidance as still relevant to clinical practice, and other sections as out of date. Recommendations that are no longer relevant have been deleted. Recommendations that are still relevant to clinical practice have been transferred as individual recommendations labelled **[2003]**, and the evidence for these has not been reviewed. Any amendments that change the meaning of recommendations labelled **[2003, amended 2016]** are explained in Amended recommendation wording (change to meaning). This is an exception to NICE's standard guideline development process and has been done so that relevant recommendations in the chapter not being updated could be carried across into this update.

# Amended recommendation wording (change to meaning)

| Recommendation in 2003 guideline | Recommendation in current guideline | Reason for change |
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| Every patient with any form of haematological cancer (including myelodysplasias and chronic myeloproliferative disorders) should be managed by a haemato-oncology MDT. | 1.3.3 Every patient with any form of haematological cancer (as defined by current World Health Organization [WHO] criteria) should be cared for by a haemato-oncology MDT. | This reference has been added to confirm how all haematological cancers are defined. |

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| Each haemato-oncology MDT must include sufficient core members for the following people to be present at every meeting:<br>• Haemato-oncologists (principally haematologists, some medical oncologists)<br>— At least two who specialise in each tumour type being discussed at that meeting(e.g. leukaemia or lymphoma). At least one from each hospital site contributing to the MDT<br>• Haemato-pathologist<br>— At least one specialist in haematopathology who liaises with pathologists from other hospital sites;<br>• Nurses<br>— At least one clinical nurse specialist, also ward sisters from hospitals which provide services at BCSH Level 2 or above. | 1.3.9 Each haemato-oncology MDT should include sufficient core members for the following people to be present in person or remotely (for example via video conferencing) at every meeting:<br>• Haemato-oncologists (either haematologists or some medical oncologists): at least two who specialise in each tumour type being discussed at that meeting (e.g. leukaemia or lymphoma). At least one from each hospital site contributing to the MDT.<br>• Haematopathologist: at least one haematopathologist from the SIHMDS should be present; to provide the diagnostic information.<br>• Nurses: at least one clinical nurse specialist, also ward sisters from hospitals which provide high-intensity chemotherapy.<br>• Palliative care specialist: at least one palliative care specialist (doctor or nurse) who liaises with specialists from other sites. If, because of staff shortages, a palliative care specialist cannot regularly attend MDT meetings, the MDT should be able to demonstrate that it reviews patients regularly with such a specialist. | The opening paragraph has been amended to show that MDT members can be present at meetings remotely.<br>The first bullet point has been amended to avoid showing a preference for haematologists as this was unnecessary.<br>The second bullet has been amended to reference the SIHMDS recommended in this update.<br>The BCSH Levels of Care have been replaced, as they are no longer applicable. |

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| • Palliative care specialist<br>— At least one palliative care specialist(doctor or nurse) who liaises with specialists from other sites. If, because of staff shortages, a palliative care specialist cannot regularly attend MDT meetings, the MDT must be able to demonstrate that it reviews patients regularly with such a specialist<br>• Support staff<br>— Staff to organise team meetings and provide secretarial support. | • Support staff: staff to organise team meetings and provide secretarial support. | |
| Teams responsible for managing patients with myeloma should include at least one radiologist who liaises with radiologists at other sites and is fully and regularly involved in MDT discussions. It is not necessary for clinical oncologists to regularly attend team meetings for discussion of myeloma patients, although teams which manage these patients need rapid access to oncologists for palliative radiotherapy. | 1.3.11 Teams responsible for managing patients with myeloma should include at least one radiologist who liaises with radiologists at other sites and is fully and regularly involved in MDT discussions. Teams that care for patients with myeloma should have rapid access to oncologists for palliative radiotherapy, although it is not necessary for clinical oncologists to regularly attend team meetings. | The second sentence of this recommendation has been amended to give it a clear action. |

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| MDT meetings have the following functions:<br>• To establish, record and review diagnoses for all patients with the forms of cancer that fit the team's definition criteria;<br>• To assess the extent of each patient's disease and discuss its probable course;<br>• To work out treatment plans for all new patients and those with newly-diagnosed relapses;<br>• To review decisions about treatment, particularly those made in the interval between MDT meetings. This review should cover not only the clinical appropriateness of the treatment but also the way patients' views were elicited and incorporated in the decision-making process;<br>• To discuss patients' responses to treatment, both during therapy and when the course of treatment is complete Lymphoma MDTs should review each patient's progress after three cycles of chemotherapy and again at the end of the prescribed course. The appropriateness of radiotherapy should be considered in the light of the response to chemotherapy; | 1.3.17 At each meeting, the MDT should:<br>• ensure that all new diagnoses have had SIHMDS review and integrated reporting<br>• establish, record and review diagnoses for all patients with the forms of cancer that fit the team's definition criteria<br>• assess the extent of each patient's disease and discuss its probable course<br>• work out treatment plans for all new patients and those with newly-diagnosed relapses<br>• review decisions about treatment, particularly those made in the interval between MDT meetings. This review should cover not only the clinical appropriateness of the treatment but also the way patients' views were elicited and incorporated in the decision-making process<br>• discuss the response to treatment, both during therapy and when the course of treatment is complete<br>• think about the appropriateness of radiotherapy in the light of the response to chemotherapy | This recommendation has been changed to give it a clear action. In addition, a reference to SIHMDS review has been added to match the recommendation on diagnostic reporting in this update.<br>Reference to lymphoma MDTs has been removed because the recommendations will be superseded by the NICE guideline on non-Hodgkin's lymphoma (publication expected July 2016).<br>'consider' has been changed to 'think about' to avoid confusion with current NICE style for actions in recommendations.<br>'must' has been changed to 'should' to match current NICE style |

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| • To consider patients' other requirements such as palliative care or referral to other services. MDTs must be able demonstrate effective systems for collaboration with hospital and community palliative care services;<br>• To discuss discontinuing treatment. Each MDT should develop a specific process for considering discontinuation of treatment when its effectiveness has become so limited that adverse effects might outweigh potential benefits;<br>• To agree dates for reviewing patients' progress;<br>• To discuss clinical trials and audit results. | • think about the patients' other requirements such as palliative care or referral to other services. MDTs should be able to demonstrate effective systems for collaboration with hospital and community palliative care services<br>• discuss discontinuing treatment. Each MDT should develop a specific process for considering discontinuation of treatment when its effectiveness has become so limited that adverse effects might outweigh potential benefits<br>• agree dates for reviewing patients' progress<br>• discuss clinical trials and audit results. | for actions in recommendations. |

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| The MDT is also responsible for:<br><br>• Identifying requirements for staff and facilities for any form of treatment it provides (see Topic 5, Treatment, excluding high dose therapy, and Topic 6, High dose therapy).<br><br>• Liaison with primary care teams, palliative care teams, services for the elderly and voluntary organisations such as hospices;<br><br>• Ensuring that adequate information, advice and support is provided for patients and their carers throughout the course of the illness;<br><br>• Ensuring that GPs are given prompt and full information about the nature of their patients' illness or treatment, any changes in management, and the names of individual MDT members who are primarily responsible for their patients' management;<br><br>• Recording, in conjunction with the cancer registry, the required minimum dataset for all cases of haematological cancer within its specified catchment area, including those cared for by clinicians who are not haematological cancer MDT members; | 1.3.18 The MDT should:<br><br>• review all SIHMDS reports of borderline conditions such as aplastic anaemia and other non-malignant bone marrow failure syndromes (which overlap with hypoplastic myelodysplastic syndrome), and lymphocyte and plasma cell proliferation of uncertain significance (which overlap with lymphoma and myeloma)<br><br>• identify requirements for staff and facilities for any form of treatment it provides<br><br>• liaise with primary care teams, palliative care teams, services for the elderly and voluntary organisations such as hospices<br><br>• ensure that adequate information, advice and support is provided for patients and their carers throughout the course of the illness<br><br>• ensure that GPs are given prompt and full information about the nature of their patients' illness or treatment, any changes in management, and the names of individual MDT members who are primarily responsible for their patients' management | This has been updated to reflect the recommendations made in section 1.1.<br><br>The reference to Topics 5 and 6 has been removed because these chapters have been deleted. |

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| • Identifying training needs of MDT members and making sure these needs are met;<br>• Involvement in clinical trials and other research studies;<br>• Collaboration in planning, and collecting data for, network-wide audit. | • record, in conjunction with the cancer registry, the required minimum dataset for all cases of haematological cancer within its specified catchment area, including those cared for by clinicians who are not haemato-oncology MDT members<br>• identify the training needs of MDT members and make sure these needs are met;<br>• be involved in clinical trials and other research studies<br>• collaborate in planning, and collecting data for audit. | |
| A designated member of the team's support staff, working with the administrative head of the team, should be responsible for communication with primary care, palliative care, and other MDTs in the network | 1.3.27 A designated member of the team's support staff, working with the administrative head of the team, should be responsible for communication with primary care, palliative care, and other site-specific MDTs. | The reference to networks has been amended, as these no longer exist. |

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| Each haemato-oncology MDT which provides treatment at BCSH Level 2 or above must have facilities as specified by BCSH and must be able to demonstrate adequate arrangements for 24-hour cover by specialist medical and nursing staff. These arrangements must be sufficiently robust to allow cover for holidays and other absences of team members. | 1.3.31 Each haemato-oncology MDT which provides high-intensity chemotherapy should have facilities as specified in section 1.2, and should be able to demonstrate adequate arrangements for 24-hour cover by specialist medical and nursing staff. These arrangements should be sufficiently robust to allow cover for holidays and other absences of team members. | The BCSH Levels of Care have been replaced, as they are no longer applicable.<br>In addition, 'must' has been changed to 'should' to match current NICE style for actions in recommendations. |
| All hospitals which give chemotherapy, or which are likely to admit patients undergoing chemotherapy as medical emergencies, should have documented clinical policies, agreed with haematology and oncology staff, which clearly specify arrangements for the care of such patients. | 1.3.32 All hospitals which give high-intensity (non-transplant) chemotherapy for induction or re-induction of remission, or consolidation, or which are likely to admit patients undergoing chemotherapy as medical emergencies, should have documented clinical policies, agreed with haematology and oncology staff, which clearly specify arrangements for the care of such patients. | The reference to chemotherapy has been amended to match the levels of care defined in this update. |

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