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Clinical Standards ~ July 2008 (new edition)

Management of lung cancer services

NHS Quality Improvement Scotland is committed to equality and diversity. We have assessed this area of work for likely impact on the six equality groups defined by age, disability, gender, race, religion/belief and sexual orientation. An equality and diversity impact assessment report has been published along with these standards and is available online or in hardcopy upon request.

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1 Introduction

Cancer services are provided by a wide range of individuals and organisations (statutory and voluntary), throughout Scotland: from primary care, through secondary care and tertiary hospitals, regional centres such as the Beatson Oncology Centre, Glasgow and local hospices/specialist palliative care units. Cancer treatment and care are highly dependent on other core NHS services, such as diagnostics and imaging, and, therefore, cannot be planned or managed in isolation. The role and importance of others in the delivery of cancer care and the provision of cancer services should also be noted, for example community pharmacists and dentists.

In July 2001, the then Scottish Executive Health Department (SEHD), now the Scottish Government Health Directorates (SGHD), published its cancer strategy, *Cancer in Scotland: Action for Change*¹. This document sets the context in which NHSScotland should plan activity to improve the services for people across Scotland. The commitment of the then SEHD to tackle cancer in Scotland was emphasised by the new resources that accompanied the cancer strategy, and were allocated specifically to improve cancer services. These funds were distributed through Regional Cancer Advisory Groups (RCAGs), supported by Regional Cancer Networks. Each Regional Cancer Network reports to the Scottish Cancer Group (SCG) via its RCAG.

Objective

In May 2004, *Cancer in Scotland: Sustaining Change*² was published by SEHD to highlight progress made since the original strategy was published in 2001, and to identify new challenges facing the service. To support NHSScotland in the continuous improvement of cancer services, NHS Quality Improvement Scotland (NHS QIS) agreed to revise and update four tumour specific cancer standards: breast, colorectal (bowel), lung and gynaecological (ovarian) cancer, first developed in 2001.

2 **Development of the clinical standards for management of lung cancer services**

In 2001, the Clinical Standards Board for Scotland (CSBS, one of the organisations drawn together to form NHS QIS) produced standards for breast, colorectal, gynaecological (ovarian) and lung cancer. Peer review visits, to assess performance against the four cancer standards, were carried out throughout Scotland during 2001. Findings from these reviews were published by CSBS in 2002, in the form of local NHS board reports and a national overview.

The standards for core cancer services draw together common elements of service provision covered by the original standards, and these have been developed in light of developments in the service. Subsequently, revisions of the four original tumour specific cancer standards began later in 2006, with the clinical standards for lung cancer services forming part of this work.

The revision of clinical standards for lung cancer services has been the responsibility of NHS QIS, taking into account advice from SGHD and in consultation with NHS organisations.

Under the direction of the core cancer services working group established by NHS QIS, a clinical adviser was appointed to oversee the revision of the lung cancer standards. A small working group was then convened to re-examine the evidence base on which the 2001 lung cancer standards were developed, and to revise the standards in light of changes in current best practice and clinical advancements.

Evidence base

During the revision of the clinical standards for management of lung cancer services, the working group considered a wide range of evidence, which is fully referenced in Chapter 4 (References).

The following standards and national overview formed the core evidence reviewed by the project group.

- **Clinical standards: lung cancer**³
- **Local reports: lung cancer services**⁴
- **National overview: lung cancer**⁵
- **National Standards: Clinical Governance and Risk Management: Achieving Safe, Effective, Patient-Focused Care and Services**⁶
- **Draft core standards for cancer services**⁷

Relevance to standards development: A review of these documents determined the scope of the clinical standards, to establish equity of care and the best possible condition management for patients, no matter where they live. The group considered how these standards should be applied at an operational level, and ensured that duplication would not occur across the above standards.

- **NHS HDL (2007) 21: Strengthening the role of managed clinical networks**⁸
- **Quality assurance frameworks for north of Scotland cancer network (NOSCAN)**⁹, **south east Scotland cancer network (SCAN)**¹⁰ and **west of Scotland cancer network (WOSCAN)**¹¹

Relevance to standards development: The frameworks provide quality assurance measures for all staff involved in the delivery of care in cancer services and are tailored on a regional basis. The frameworks for the three regional cancer networks were reviewed to prevent duplication within the standards.

- **Cancer Scenarios: An aid to planning cancer services in Scotland in the next decade**¹²
- **Cancer in Scotland: Action for Change**¹
- **Cancer in Scotland: Sustaining Change**²
- **Cancer waiting times: National delivery plan**¹³

Relevance to standards development: These documents guide operating divisions and clinicians to implement the measures necessary to improve cancer services. Awareness of the recognised processes across NHSScotland is important when developing standards. These documents helped the working group to develop a practical tool for supporting continuous quality improvement, taking into account how services are delivered and monitored. Further guidance to support the introduction of Cancer in Scotland: Action for Change is available in two Health Department Letters, HDL(2001)54¹⁴ and HDL(2001)71¹⁵.

Standards development

To take forward the revision of the standards, NHS QIS appointed a working group to review the evidence and use it to inform the revision of the clinical standards. The group was chaired by Dr Stan Wright, Consultant Physician, NHS Forth Valley. Full membership of the group can be found in Appendix 3.

Consultation

Following publication of the Draft Clinical Standards for Management of Lung Cancer¹⁶ in June 2007, consultation was undertaken. During this period professional groups, health service staff, voluntary organisations and individuals were given the opportunity to influence the development of the standards.

Finalising the standards

Following consultation each written comment and all feedback on the draft standards were used by the working group to produce final standards.

3 Clinical standards for management of lung cancer services

Standard 1 Referral process

Standard 2 Investigations

Standard 3 Multidisciplinary working

Standard 4 Audit

Standard 5 Management

Standard 6 Supportive care and symptom management

Standard 1: Referral process

Standard Statement 1a

Referral guidelines jointly agreed between primary care and secondary care and within secondary care are used for patients suspected of having lung cancer.

Rationale

Prompt referral from general practitioner (GP) or hospital doctor to a respiratory physician is indicated where lung cancer is suspected.

References: 17, 18, 19, 20

Essential Criteria

- 1a.1 Formal written arrangements for urgent and non-urgent referrals jointly agreed between primary care and the hospital multidisciplinary team, are in place.
- 1a.2 There are formal written arrangements, jointly agreed between hospital departments and specialists, working within the multidisciplinary team (MDT), to specify which patients are referred and to whom.
- 1a.3 Arrangements are in place for a respiratory physician to see 90% of patients within 2 weeks of the first referral with a suspicion of lung cancer.
- 1a.4 All patients with a diagnosis of lung cancer have a treatment decision discussed by the MDT within 4 weeks of referral.
Note: previously read as "...within 2 weeks of referral."
- 1a.5 Those patients with lung cancer who require it, have a tissue diagnosis and all non-surgical staging, including positron emission tomography (PET), complete by the MDT meeting, 4 weeks from the time of referral.

Desirable Criterion

- 1a.6 Referral arrangements, for those patients suspected of having lung cancer, include electronic referral to avoid postal delay.

Standard 2: Investigations

Standard Statement 2a

All patients with suspected lung cancer have timely and appropriate investigations carried out to confirm a diagnosis of lung cancer.

Rationale

Rational treatment of lung cancer depends on accurate diagnosis and distinction between different histological types of lung cancer.

Once diagnosis is established, an algorithm of further investigations may be necessary, for appropriate choice of further management.

Reference: 18

Essential Criteria

- 2a.1 A minimum of 75% of all lung cancer patients have their diagnosis confirmed by histology/cytology and the reasons for not having this confirmed are recorded.
- 2a.2 There are locally agreed written investigation protocols.
- 2a.3 All patients referred with a plain chest X-ray, suspicious of lung cancer, have a computed tomography (CT) scan of the thorax available when first seen by a respiratory physician.
- 2a.4 Information about the patient's diagnosis and their understanding of the diagnosis is communicated to the GP within 2 working days of communicating the diagnosis to the patient.
- 2a.5 An outline of treatment options is communicated to the GP within 2 working days of establishing the management plan at the MDT meeting.
- 2a.6 All patients being considered for radical therapy (apart from those with small peripheral tumour (clinically T1)) have a PET scan completed and reported by the MDT within 4 weeks from time of referral.

Standard 3: Multidisciplinary working

Standard Statement 3a

There is a structured network for delivery of care in the region, and locally, with a named lead clinician.

Rationale

To ensure co-ordination and appropriate management of a patient within a multidisciplinary team, it is essential for patients that there is a named lead clinician.

Specialist nurses are an integral part of the multidisciplinary team and provide patient support and care at critical times in the patient journey.

References: 8, 17, 21, 22, 23

Essential Criteria

- 3a.1 There is a named lead clinician with responsibility for co-ordinating a multidisciplinary system of working.
- 3a.2 There is a regional Managed Clinical Network (MCN) for lung cancer.
- 3a.3 Patients have access to a cancer nurse specialist (CNS) with expertise in lung cancer.
- 3a.4 Arrangements are in place to ensure that cover is available for the CNS in their absence.
- 3a.5 There are defined partnership links between hospital-based nursing and palliative care teams and those in general practice and the wider primary care community, as determined locally by the Community Health & Care Partnership (CHCP)/Community Health Partnership (CHP).
- 3a.6 The regional MCN for lung cancer is responsible for reviewing local performance data against the NHS QIS clinical standards for management of lung cancer services.

Standard 4: Audit

Standard Statement 4a

Prospective clinical audit is an integral part of lung cancer services.

Rationale

Clinical audit is the continuing process that measures and evaluates care against best practice with a view to improving current practice and care delivery. It is, therefore, integral to the process of implementing guidelines and standards.

References: 24, 25

Essential Criteria

- 4a.1 Arrangements are in place for the annual reporting of case-mix (based on data items included in the nationally agreed audit dataset) and outcome including 1, 2, and 5-year survival rate.
- 4a.2 Audit has a minimum of 90% cases with TNM stage recorded at diagnosis.
- 4a.3 Audit has a minimum of 90% cases with WHO performance status recorded at diagnosis.

Standard 5: Management

Standard Statement 5a

All patients are considered for surgical treatment, radiotherapy and chemotherapy appropriate to their stage of disease.

Rationale

Scottish patients with lung cancer have low treatment rates. The reasons for this are likely to be multifactorial, but outcome will not improve unless the proportion of actively treated patients increases.

References: 18, 25, 26, 27, 28

Essential Criteria

- 5a.1 There are written treatment guidelines/protocols in place for lung cancer surgery, radiotherapy and chemotherapy.
- 5a.2 Patients referred to an oncologist and who are suitable for treatment, ie radiotherapy, chemotherapy, commence treatment within 4 weeks of MDT decision.
- 5a.3 The percentage of all patients diagnosed with lung cancer receiving surgery, radiotherapy, chemotherapy and combined modality treatment is recorded.
- 5a.4 The percentage of patients receiving treatment with curative intent is recorded.

Standard 5: Management (Surgery)

Standard Statement 5b

All patients are considered for surgical treatment appropriate to their stage of disease, under the auspices of a consultant cardiothoracic surgeon with an interest in lung cancer.

Rationale

Surgery is the treatment which offers best chance of cure to patients with localised non-small cell lung cancer (NSCLC).

Reference: 18

Essential Criteria

- 5b.1 A minimum of 90% of patients who have surgery will have the operation within 4 weeks of the MDT decision. This time includes mediastinoscopy if required.
- 5b.2 All lung resection for cancer to be performed or supervised by consultant thoracic or cardiothoracic surgeon.
- 5b.3 There are locally agreed protocols for preoperative assessment and surgical technique (including frozen section) in place.
- 5b.4 Less than 10% of patients that undergo surgery are resected by wedge or segmentectomy.
- 5b.5 All potential and/or actual surgical resections are discussed pre and post treatment at MDT where an appropriate management plan is put in place.
- 5b.6 Resection specimens are reported by designated pathologists according to the Royal College of Pathology (RCPATH) minimum datasets and discussed at MDT within 2 weeks.
- 5b.7 Following surgical treatment, an initial treatment summary is sent to the patient's GP and the referring hospital within 2 days of discharge, with a detailed treatment summary, including treatment dates sent within 2 days of MDT.
- 5b.8 Every patient leaving a surgical ward has a named contact and a follow-up management plan.
- 5b.9 The 30-day mortality rate following final lung cancer surgery specific to the procedure performed is recorded and discussed at team meetings.

Standard 5: Management (Radiotherapy)

Standard Statement 5c

All patients considered for radiotherapy have a comprehensive and planned radiotherapy regimen.

Rationale

Radiotherapy is an important treatment option for patients with lung cancer. It prolongs survival of NSCLC patients with early stage disease and small cell lung cancer (SCLC) patients responding to chemotherapy. It also provides valuable palliation for symptoms caused by primary or metastatic tumour.

Reference: 18

Essential Criteria

- 5c.1 Patients do not receive preoperative radiotherapy unless it is a part of externally reviewed research protocol.
- 5c.2 Patients with completely resected N0/N1 tumours do not receive postoperative radiotherapy.
- 5c.3 The percentage of patients with incomplete resection receiving postoperative radiotherapy are recorded.
- 5c.4 A minimum of 10% NSCLC patients receive radical radiotherapy dose.
- 5c.5 A minimum of 60% of those limited (LD) SCLC patients receiving chemotherapy also receive consolidation radiotherapy to the chest.
- 5c.6 The percentages of SCLC patients treated with concurrent chemoradiotherapy are recorded.
- 5c.7 A minimum of 60% of those LD SCLC patients receiving chemotherapy subsequently receive prophylactic cranial irradiation (PCI).
- 5c.8 A minimum of 35% of NSCLC patients receive palliative radiotherapy.
- 5c.9 The percentage of patients eligible for continuous hyperfractionated accelerated radiotherapy (CHART) are recorded.
- 5c.10 The percentage of radically treated NSCLC patients receiving CHART is recorded.

3 *Clinical standards*

- 5c.11 Following radiotherapy treatment, a treatment summary is sent to the patient's GP and the referring hospital within 2 days of completion, with a detailed treatment summary, including treatment dates sent within 2 weeks.
- 5c.12 There is a protocol to record adverse events.
- 5c.13 The 30-day mortality rate following final radiotherapy with curative intent is recorded and analysed.
- 5c.14 Figures from each radiotherapy unit will be compared with other radiotherapy units as part of an annual report.

Standard 5: Management (Chemotherapy)

Standard Statement 5d

All patients considered for chemotherapy have a comprehensive and planned chemotherapy regimen.

Rationale

Chemotherapy is an important treatment option for patients with lung cancer. It prolongs survival in NSCLC patients with early stage disease and SCLC patients responding to chemotherapy. It also provides valuable palliation for symptoms caused by primary or metastatic tumour.

References: 15, 29

Essential Criteria

- 5d.1 A minimum of 60% of SCLC patients receive chemotherapy.
- 5d.2 A minimum of 20% of NSCLC patients receive chemotherapy.
- 5d.3 There is written assessment of treatment response and toxicity in a patient's notes.
- 5d.4 There are protocols for the documentation and management of treatment response and toxicity (including neutropenic sepsis).
- 5d.5 Following chemotherapy treatment, a treatment summary is sent to the patient's GP and the referring hospital within 2 days of completion, with a detailed treatment summary, including treatment dates sent within 2 weeks.
- 5d.6 The 30-day mortality rate following final chemotherapy treatment is recorded and analysed.

Standard 6: Supportive care and symptom management

Standard Statement 6a

Care is provided in accordance with relevant SIGN guidelines or, where these do not exist in accordance with good practice guidelines, which are evidence-based.

Rationale

The use of good practice guidelines has been shown to improve symptom management.

Reference: 30

Essential Criteria

- 6a.1 There are locally agreed written guidelines on the identification and management of symptoms, which are distributed to all relevant primary and secondary care clinicians, in particular, but not exclusively, for:
- anxiety/depression
 - breathlessness
 - fatigue
 - intractable cough
 - pain, and
 - spiritual issues.
- 6a.2 There is a written policy on the management of hypercalcaemia, massive haemoptysis, malignant pleural effusion, superior vena caval (SVC) obstruction and spinal cord compression.

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5 Appendices

Appendix 1 About NHS Quality Improvement Scotland

Appendix 2 NHS Quality Improvement Scotland standards development methodology

Appendix 3 Membership of the clinical standards for management of lung cancer services working group

Appendix 4 Glossary

Appendix 1: About NHS Quality Improvement Scotland

NHS Quality Improvement Scotland (NHS QIS) was set up by the Scottish Parliament in 2003 to take the lead in improving the quality of care and treatment delivered by NHSScotland.

We achieve our objectives through five key functions that link together:

- providing clear advice and guidance on effective clinical practice
- setting clinical and non-clinical standards of care
- reviewing and monitoring the performance of NHS services
- supporting NHS staff in improving services, and
- promoting patient safety and implementation of clinical governance.

We deliver our commitments to the public and to NHSScotland by following an approach that is:

- **independent** – we reach our own conclusions and report on what we find
- **open and transparent** – we explain what we do, how and why we do it, and what we find, using language and formats that are easy to understand and to access
- **sensitive and professional** – we recognise needs, beliefs and opinions and respect and encourage diversity.

Our work is:

- **partnership-focused** – we work with patients and the public, NHSScotland and many organisations to improve the quality of care and avoid duplication
- **evidence-based** – we base our conclusions and recommendations on the best evidence available as indicated in Chapter 2 (Development of the clinical standards for management of lung cancer services : evidence base).
- **quality-driven** – we make sure our own work is monitored and evaluated, internally and externally.

Appendix 2: NHS Quality Improvement Scotland standards development methodology

Basic principles

A major part of our remit is to develop and run a national system of quality assurance of clinical services. Working in partnership with healthcare professionals and members of the public, we set standards for clinical services, assess performance throughout NHSScotland against these standards, and publish the findings. The standards are based on the patient's journey as he or she moves through different parts of the health service. A wide range of conditions and services have already been addressed, including asthma services for children and young people and bowel screening programme.

In fulfilling our responsibility to develop and run a system of quality assurance, we take account of the principles set out in Fair for All³¹ and Partnership for Care³², to ensure that 'our health services recognise and respond sensitively to the individual needs, background and circumstances of people's lives'.

We will ensure that consideration of equality and diversity issues feature prominently in the design, development and delivery of all our functions and policies.

The standards are developed in accordance with the commitments of the National Health Service Reform (Scotland) Act 2004³³ which state that 'individual patients receive the service they need in the way most appropriate to their personal circumstances and all policy and service developments are shown not to disadvantage any of the people they serve'.

Process

For each set of standards we develop, we appoint a group representing a range of stakeholders, including healthcare professionals and members of the public, to:

- oversee the development of, and consultation on, the standards and self-assessment framework, and
- recommend an external peer review process.

The way in which standards are developed is a key element of the quality assurance process. Project groups working on our behalf are expected to:

- adopt an open and inclusive process involving members of the public, voluntary organisations and healthcare professionals
- work within NHS QIS policies and procedures, and
- test the measurability of draft standards by undertaking pilot reviews.

The standards are clear and measurable, based on appropriate evidence, and written to take into account other recognised standards and clinical guidelines. The standards are:

- written in simple language and available in a variety of formats
- focused on clinical issues and include non-clinical factors that impact on the quality of care
- developed by healthcare professionals and members of the public, and consulted on widely
- regularly reviewed and revised to make sure they remain relevant and up to date, and
- achievable but stretching.

Format of standards and definition of terminology

All our standards follow the same format.

- Each standard has a **title**, which summarises the area on which that standard focuses.
- This is followed by the **standard statement**, which explains the level of performance to be achieved.
- The **rationale** section provides the reasons why the standard is considered to be important.
- The standard statement is expanded in the section headed **criteria**, which states exactly what must be achieved for the standard to be reached. Criteria are **essential**, in that it is expected that they will be met wherever a service is provided. Other criteria are **desirable**, in that they are being met in some parts of the service and demonstrate levels of quality, which other providers of a similar service should strive to achieve. The criteria are numbered for the sole reason of making the document easier to work with, particularly for the assessment process. The numbering of the criteria is not a reflection of priority.

Clinical governance and risk management standards

Every patient using healthcare services should expect these to be safe and effective. The NHS QIS standards for Clinical Governance and Risk Management⁶ will ensure NHS boards can provide assurance that clinical governance and risk management arrangements are in place, and are supporting the delivery of safe, effective, patient-focused care and services.

These standards underpin all care and services delivered by NHSScotland and provide the context within which NHS QIS service and condition-specific standards apply. They should be read in conjunction with all our standards.

The clinical governance and risk management standards are available on request from NHS QIS or can be downloaded from the website (www.nhshealthquality.org).

Assessment of performance against the standards

The framework for the NHS QIS review process is as follows.

- Once the current cancer standards have been finalised, these will link into the accreditation of regional managed clinical networks for cancer.
- With the need for a cohesive and comprehensive approach to continual improvement based on these standards, the subsequent measurement, and assessment and reporting of the standards from a local, regional and nationwide perspective will be adopted, with support provided by Information Services Division, NHS National Services Scotland.
- Ongoing monitoring of the standards will be a function of the networks with NHS QIS intervening if there were concerns regarding data. Occasional visits may be undertaken by NHS QIS on a regional basis to test the system.

Our processes are subject to internal and external evaluation, to help improve the quality assurance system.

Revision of the standards

NHS QIS standards are considered for revision and updating every 3 years. If a revision of a set of standards is undertaken the original standards will be withdrawn and the revised standards would be considered for further updating every 3 years thereafter. Please check the status of these standards with the Standards Development Unit if they are past the 3 years revision date.

Appendix 3: Membership of the clinical standards for management of lung cancer services working group

Name	Title	NHS board area/ organisation
Dr Stan Wright (Chair)	Consultant Physician	NHS Forth Valley
Mr Bill Barclay	Public Partner	NHS Grampian
Dr George Barlow MBE	General Practitioner	NHS Greater Glasgow and Clyde
Mrs Diana Borthwick	Lung Cancer Support Nurse	Roy Castle Lung Cancer Foundation
Mrs Gill Brown	SCAN Cancer Audit Facilitator	NHS Fife
Mrs Jan Devlin	Clinical Nurse Specialist Lung Cancer	NHS Greater Glasgow and Clyde
Dr Ron Fergusson	Consultant Physician/SCAN Lung Cancer Lead Clinician	NHS Lothian
Mr Peter Gent	Head of Service – ANCHOR Unit	NHS Grampian
Mr Tom Haswell	Public Partner	NHS Greater Glasgow and Clyde
Dr Elizabeth Ireland	General Practitioner	NHS Forth Valley (until November 2006)
Mr Alan Kirk	Consultant Thoracic & Cardiac Surgeon	NHS Greater Glasgow and Clyde
Mrs Fiona Maclean	Lead Cancer Care Pharmacist	NHS Greater Glasgow and Clyde
Dr Robert Milroy	Consultant Physician/Chairman of the Scottish Lung Cancer Forum	NHS Greater Glasgow and Clyde
Dr Marianne Nicolson	Consultant Oncologist/NOSCAN Lung Cancer Lead Clinician	NHS Grampian
Dr Noelle O'Rourke	WOSCAN Lung Cancer Lead Clinician/Consultant Oncologist	NHS Greater Glasgow and Clyde (until October 2007)
Dr John Reid	Consultant Radiologist	NHS Borders
Mrs Allison Smith	Clinical Nurse Specialist Lung Cancer	NHS Greater Glasgow and Clyde
Dr William Wallace	Consultant Pathologist	NHS Lothian

Support from NHS QIS was provided by the Standards Development Unit: Mrs Sarah Brown (Senior Project Officer) until April 2007, Ms Katy Bullock (Project Officer) until January 2007, Mrs Anne Coote (Project Administrator), Ms Hilary Davison (Head of Standards Development Unit), Ms Clare Echlin (Senior Project Officer) and Miss Ali McAllister (Project Officer).

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- Dr David Dunlop (Consultant Medical Oncologist, NHS Greater Glasgow and Clyde)
- Dr Allan James (Consultant Oncologist, NHS Greater Glasgow and Clyde), and
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Appendix 4: Glossary

acute care	Refers to either a pattern of healthcare in which a patient is treated for an acute (immediate and severe) episode of illness, or to the subsequent treatment of injuries related to an accident or other trauma, or care during recovery from surgery. Acute care is usually given in a hospital by specialised personnel using complex and sophisticated technical equipment and materials, and is often necessary for only a short time.
audit	The measuring and evaluation of care against best practice with a view to improving current practice and care delivery.
bronchoscopy	An examination used for inspection of the interior of the tracheo-bronchial tree, performance of endobronchial diagnostic tests, taking of specimens for biopsy and culture, and removal of foreign bodies.
cancer	The name given to a group of diseases that can occur in any organ of the body, and in blood, and which involve abnormal or uncontrolled growth of cells.
cancer centres	Cancer services are based in cancer centres. Such centres provide the entire spectrum of cancer care - both on-site and to associated cancer units.
cancer nurse specialist	A cancer nurse specialist is a registered nursing professional who has acquired additional knowledge, skills and experience, together with a professionally and/or academically accredited post-registration qualification (if available) in a clinical specialty. They practice at an advanced level and may have sole responsibility for a care episode or defined client/group.
case-mix	Population of patients with different prognostic factors.
chemotherapy	The use of drugs that kill cancer cells, or prevent or slow their growth.
clinical governance	Ensures that patients receive the highest quality of care possible, putting each patient at the centre of his or her care. This is achieved by making certain that those providing services work in an environment that supports them and places the safety and quality of care at the top of the organisation's agenda. Management of clinical risk at an organisational level is an important aspect of clinical governance. Clinical risk management recognises that risk can arise at many points in a patient's journey, and that aspects of how organisations are managed can systematically influence the degree of risk.
Clinical Standards Board for Scotland (CSBS)	The Clinical Standards Board for Scotland was a statutory body, established as a Special Health Board in April 1999. Its role was to develop and run a system of quality control of clinical services designed to promote public confidence that the services provided by the NHS met nationally agreed standards, and to demonstrate that, within the resources available, the NHS was delivering the highest possible standards of care. On 1 January 2003, CSBS was merged, along with four other clinical effectiveness bodies, to form NHS Quality Improvement Scotland (NHS QIS).
combined modality	Integrated use of two or more different treatments (surgery, chemotherapy, radiotherapy) to combat the cancer.

community health partnership (CHP)	A way of organising non-acute care where NHS boards maximise their ability to support integration across health and between health and other agencies such as social services. A CHP covers a geographical area and the number within an NHS board depends on the distribution and size of the population. Website address: www.show.scot.nhs.uk/sehd/chp/index.htm
computed tomography (CT)	An X-ray imaging technique used in diagnosis that can reveal many soft tissue structures not shown by conventional radiography. A computer is used to assimilate multiple X-ray images into a two-dimensional cross-sectional image.
consolidation radiotherapy	Treatment to stop the cancer coming back once it is in remission. The aim is to kill any remaining cancerous cells.
continuous hyperfractionated accelerated radiotherapy (CHART)	A radiotherapy technique aimed at the rapid destruction of tumour cells when they are most sensitive to radiation.
cytology/ cytopathology	The study of the structure and function of cells under the microscope, and of their abnormalities (<i>cytopathology</i>).
cytotoxic agents	Drugs or chemicals that are directly toxic to cells, preventing their reproduction or growth. A side effect can be the damage of healthy, non-cancerous tissues or organs which have a high proportion of actively dividing cells, for example, bone marrow or hair follicles. Such side effects limit the amount and frequency of drug administration.
dataset	A list of required and specific information relating to a single disease.
haemoptysis	Spitting or coughing up of blood or blood-streaked mucus.
Health Department Letter (HDL)	A formal communication from the former Scottish Executive Health Department (SEHD) to NHSScotland, previously known as a Management Executive Letter - MEL.
histology	The study of cells and tissue on the microscopic level.
hypercalcaemia	A medical condition in which abnormally high concentrations of calcium compounds are found in the bloodstream.
Information Services Division (ISD)	Part of NHS National Services Scotland. Health service activity, manpower and finance data are collected, validated, interpreted and distributed by ISD. These data are received from NHS boards and general practices. Website address: www.isdscotland.org
limited small cell lung cancer (LD SCLC)	Limited disease means cancer that can only be seen in one lung, in nearby lymph nodes or in fluid around the lung (<i>pleural effusion</i>).
lobe/lobes	A section of an organ. There are lobes of the brain, thyroid, liver and lungs. The right lung has three lobes and the left only two.
lobectomy	Surgical removal of all or part of a lung. Indicated in some cases of lung cancer, lung abscess, and localised pulmonary tuberculosis.
managed clinical network (MCN)	A formally organised network of clinicians. The main function is to audit performance on the basis of standards and guidelines, with the aim of improving healthcare across a wide geographic area, or for specific conditions.
mediastinoscopy	A procedure in which the doctor inserts a tube into the chest to view the organs in the mediastinum. The tube is inserted through an incision above the breastbone.
mediastinum	The space in the thoracic cavity behind the sternum and in between the two pleural sacs (<i>containing the lungs</i>).
metastatic	The spread of a disease from the organ or tissue of origin to another part of the body.

multidisciplinary team (MDT)	A multiprofessional group of people from different disciplines (both healthcare and non-healthcare) who work together to provide care for patients with a particular condition. The composition of multidisciplinary teams will vary according to many factors. These include: the specific condition; the scale of the service being provided; and geographical/socio-economic factors in the local area.
N0/N1 tumours	N0 means there no lymph nodes containing cancer cells. N1 means there are lymph nodes containing cancer cells and so the cancer is more likely to have spread beyond the original tumour. This way of describing how far a cancer has spread is part of the TNM cancer staging. See TNM classification.
neutropenic sepsis	Neutrophils usually make up 50-70% of circulating white blood cells and serve as the primary defence against infections by destroying bacteria in the blood. Patients with abnormally low levels of neutrophils (neutropenia) are more susceptible to severe infections (neutropenic sepsis).
NHS board	There are 21 NHS boards of two types: 14 territorial boards responsible for healthcare in their areas and seven special health boards which offer supporting services nationally.
non-small cell lung cancer (NSCLC)	A group of lung cancers that are named for the kinds of cells found in the cancer and how the cells look under a microscope. The three main types of non-small cell lung cancer are squamous cell carcinoma, large cell carcinoma, and adenocarcinoma. Non-small cell lung cancer is the most common kind of lung cancer.
oncologist	A doctor who specialises in the treatment of cancer patients. A clinical oncologist, or radiotherapist, specialises in treating cancer with radiation or drugs, and a medical oncologist specialises in treating cancer with drugs.
oncology	The study of the biology and physical and chemical features of cancers. Also the study of the cause and treatment of cancers.
outcome	The end result of care and treatment and/or rehabilitation. In other words, the change in health, functional ability, symptoms or situation of a person, which can be used to measure the effectiveness of care and treatment, and/or rehabilitation.
palliative care	Palliative care is the active total care of patients and their families by a multiprofessional team when the patient's disease is no longer responsive to curative treatment.
pathologist	A qualified medical practitioner trained in the study of disease processes.
pathology	The study of disease processes with the aim of understanding their nature and causes. This is achieved by observing samples of fluid and tissues obtained from the living patient by various methods, or at post mortem.
peer review	Review of a service by those with expertise and experience in that service, either as a provider, user or carer, but who are not involved in its provision in the area under review. In the NHS QIS approach, all members of a review team are equal.
peripheral tumour	An abnormal mass of tissue situated in sub-segmental bronchi and is not usually visible on bronchoscopy.
pleural effusion	A collection of fluid (or blood) in the pleural space (in one side of the chest cavity around the lung). May be secondary to trauma, cancer, nephrotic syndrome, kidney disease, pancreatitis, congestive heart failure and cirrhosis.
pneumonectomy	An operation to remove an entire lung.

positron emission tomography (PET)	A specialised scintigraphic imaging technique now frequently combined with CT which demonstrates uptake of tracer in areas of high cell metabolism and can help differentiate between benign and malignant masses. It is most frequently used to help stage lung cancer by demonstrating or excluding distant metastases.
primary care	The conventional first point of contact between a patient and the NHS. This is the care given to patients outside hospitals and is typically, though not always, delivered through general practices. Other providers include dentists, pharmacists, optometrists and ophthalmic medical practitioners. Primary care services are the most frequently used of all services provided by the NHS.
primary tumour	Original site of the cancer. The mass of tumour cells at the original site of abnormal tissue growth.
prognosis	An assessment of the expected future course and outcome of a person's disease.
prophylactic cranial irradiation (PCI)	Radiation therapy to the head to prevent cancer spreading to the head.
protocol	Operational instructions to regulate activity. Protocols may be national, or agreed locally to take into account local requirements.
radiologist	A qualified doctor who has specialised in the use of medical imaging techniques such as X-rays, ultrasound, computerised tomography (CT), and magnetic resonance imaging (MRI) and fine needle biopsy. There are specialisations within radiology in diagnosis (diagnostic radiologist), or for assisting treatment when, for example, catheters are inserted into blood vessels or a tumour's blood supply is choked off by the injection of a type of glue (interventional radiologist).
radiotherapy	The use of radiation, usually X-rays or gamma rays, to kill tumour cells.
Regional Cancer Advisory Groups (RCAGS)	There are three Regional Cancer Advisory Groups – North, West and South East Scotland, each providing a strategic, advisory and planning focus for their respective locality cancer services and NHS boards.
resection	Surgical removal of a portion of any part of the body. For example, a section of diseased intestine may be removed and the healthy ends sewn together.
Scottish Cancer Group (SCG)	Leads and directs the cancer services reconfiguration programme in Scotland. The SCG is a multidisciplinary group which advises Ministers, the Chief Medical Officer and the Scottish Government on the strategic priorities and objectives for the development of cancer services, including service quality, research and audit, clinical trial, and clinical effectiveness. The Group also provides advice on trends in incidence and mortality, scientific advances and on the implementation of nationally agreed initiatives for the delivery of cancer services, programmes of prevention and screening. Website address: www.show.scot.nhs.uk/sehd/cancerinscotland/pages/SCgroupmeetings.htm
Scottish Government Health Directorates (SGHD)	The SGHD is responsible for both NHSScotland and for the development and implementation of health and community care policy. It is also responsible for social work policy and for community care and voluntary issues. Website address: www.show.scot.nhs.uk/sehd
secondary care	Hospital-based (acute) health services which are provided on an inpatient or outpatient basis. See acute care.

section	In surgery this is the act of cutting (the cut or division made is also called a section).
segmentectomy	Removal of part of the lung less than a lobe. See lobe.
small cell lung cancer (SCLC)	A type of lung cancer in which the cells are small and round.
spinal cord compression	A condition in which pressure is exerted on the spinal cord, as by a tumour, spinal fracture, etc. Its manifestations, which vary with location and degree of pressure, may include pain, paresthesias (any abnormality of sensation), and sensory and motor disturbances.
staging	The process of determining whether cancer has spread. Staging involves clinical, surgical, radiological and pathological assessment.
superior vena caval (SVC) obstruction	When a tumour or secondary tumours are pressing on the thin walls of the superior vena cava, a large vein that carries blood from the body straight to the heart. The SVC lies in the middle of the chest, behind the breast bone (sternum). Although symptoms from the blocked blood flow can be severe, they can be quickly controlled by treatments.
T1 tumour	The diameter of a tumour measuring three centimetres (cm) (1.2 inches) or smaller.
tertiary care	Specialised consultative care, usually on referral from primary or secondary care personnel, by specialists working in a centre that has personnel and facilities for special investigation and treatment.
thoracic	Relating to the chest.
TNM classification	TNM classification provides a system for staging the extent of cancer. T refers to the size of the primary tumour. N refers to the involvement of the lymph nodes. M refers to the presence of metastases or distant spread of the disease.
toxicity	The quality of being poisonous, especially the degree of virulence of a toxic microbe or of a poison.
tumour	An abnormal mass of tissue. A tumour may be either benign (not cancerous) or malignant. Also known as a neoplasm.
wedge	A surgically removed triangle-shaped portion of lung containing a tumour and a small amount of normal tissue around it. A tissue wedge may also be removed for biopsy.
WHO (World Health Organisation) performance status	An overall assessment of the functional/physical performance of the patient.