

**NATIONAL INSTITUTE FOR HEALTH AND CLINICAL
EXCELLENCE**

**CENTRE FOR CLINICAL PRACTICE
QUALITY STANDARDS PROGRAMME**

Briefing paper

Quality standard topic: Lung cancer

Date of Lung Cancer Topic Expert Group meeting: 7th September 2011

Introduction

This briefing paper presents a structured review to help determine the suitability of recommendations from the key development sources listed below, to be developed into a NICE quality standard. The draft quality statements and measures presented in this paper are based on published recommendations from these key development sources.

Lung cancer. NICE clinical guideline 121 (2011). Available from www.nice.org.uk/guidance/CG121

Referral for suspected cancer. NICE clinical guideline 27 (2005). Available from www.nice.org.uk/guidance/CG27

Supportive and palliative care. NICE cancer service guidance (2004). Available from www.nice.org.uk/guidance/CSGSP

Structure of the briefing paper

The body of the paper presents supporting evidence for the draft quality standard reviewed against the three dimensions of quality: clinical effectiveness, patient experience and safety. Information is also provided on available cost-effectiveness evidence and current practice for the proposed standard. Where possible, evidence from the key development sources is presented. When this is not available, other evidence sources have been used.

1 Early diagnosis – public awareness

1.1 *Clinical guideline 121 recommendation 1.1.1 and clinical guideline 27 recommendation 1.1.15.*

1.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.1.1 (KPI): The public needs to be better informed of the symptoms and signs that are characteristic of lung cancer, through coordinated campaigning to raise awareness.</p> <p>CG27</p> <p>1.1.15: Primary healthcare professionals should promote awareness of key presenting features of cancer where appropriate.</p>
Proposed quality statement	<p>People are aware of the symptoms and signs of lung cancer through coordinated campaigns that encourage early presentation.</p>
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people are aware of the symptoms and signs of lung cancer through coordinated campaigns that encourage early presentation.</p> <p>Process:</p> <p>a) Proportion of people with symptoms suggestive of lung cancer identified as part of an early diagnosis intervention.</p> <p>Numerator: the number of people in the denominator identified as part of an early diagnosis intervention.</p> <p>Denominator: the number of people with symptoms suggestive of lung cancer.</p> <p>b) Proportion of people with lung cancer identified as part of an early diagnosis intervention.</p> <p>Numerator: the number of people in the denominator identified as part of an early diagnosis intervention.</p> <p>Denominator: the number of people with lung cancer.</p> <p>c) Proportion of people with symptoms suggestive of lung cancer self presenting as a result of awareness initiative.</p> <p>Proportion of people self presenting as a result of awareness initiative.</p> <p>Numerator: the number of people in the denominator self presenting as a result of awareness initiative.</p> <p>Denominator: the number of people with symptoms suggestive of lung cancer.</p> <p>d) Proportion of people that self present with warning symptoms of lung cancer that are referred for chest x-ray or fast track clinic.</p> <p>Numerator: the number of people in the denominator who are referred for chest x-ray or fast track clinic.</p> <p>Denominator: the number of people who have self presented with</p>

	warning symptoms of lung cancer. Outcome: One and five year survival rates for lung cancer.
Definitions	Early diagnosis interventions could include ... Awareness initiatives could include ... Warning symptoms of lung cancer include ...

1.1.2 Clinical and cost-effectiveness evidence

Diagnosis of cancer at a later stage is generally agreed to be one of the most important reasons for lower survival rates in England. Emergency presentation is strongly associated with poorer survival by the disparity in one year survival rates (9% for those diagnosed via emergency presentation compared to 26% for all other routes).¹

The GDG acknowledged that it is difficult to assess the effectiveness of awareness raising initiatives, but consensus and professional opinion was that better provision of information to the public on how to recognise symptoms can be a way of getting people with suspected cancer to present to GPs sooner.

1.1.3 Patient experience

Despite the incidence of lung cancer in the UK, a 'Lung Cancer Attitude Assessment' showed that there was consensus surrounding the fact that there is still a lack of awareness of signs and symptoms of lung cancer. 77% of patients stated they were unaware of these critical indicators prior to their diagnoses.²

A report for the National Awareness and Early Diagnosis Initiative on two national surveys using the Cancer Awareness Measure showed that unprompted recall of cancer symptoms was poor (<30%), but recognition of warning signs was higher. Awareness of cancer signs was lower in men, younger people, and those from lower socioeconomic status groups and ethnic minorities. Few respondents anticipated that they would delay seeking help for a potentially serious symptom and the majority said they would contact their doctor within 2 weeks. The most widely-endorsed barriers to help-seeking were difficulty making an appointment, not wanting to waste the doctor's time, worry about what the doctor might find, having too many other

¹ Department of Health (2011) [Improving Outcomes: A Strategy for Cancer](http://www.dh.gov.uk). Available from www.dh.gov.uk

² The Roy Castle Lung Cancer Foundation (2008) [UK Lung Cancer Attitude Assessment](http://www.roycastle.org). Available from www.roycastle.org

things to do and embarrassment. The report recommended that there is a need to raise awareness of several cancer warning signs and risk factors, especially in more deprived areas and in certain ethnic groups in the UK, to facilitate improvements in early presentation and cancer prevention behaviours, and a need to address barriers to seeking help, such as fear and lack of confidence to discuss symptoms with GPs.³

1.1.4 Patient safety

No issues identified relating specifically to public awareness (see full accompanying report from the NPSA for broader themes).

1.1.5 Current practice

The National Lung Cancer Audit 2010 report⁴ showed that a large proportion of patients present with lung cancer at a late stage and with a performance status that makes treatment with curative intent difficult.

A study undertaken by the National Cancer Intelligence Network and the South West Public Health Observatory of over 225,000 patients diagnosed with cancer in 2007 revealed that 38% of lung cancer patients were first diagnosed via emergency presentations.⁵

The National Centre for Health Outcomes Development conducted a study on patients diagnosed between 2001 and 2003 and found that in 2008, for that cohort of patients, the one year survival rate was 27.1% and the five year survival rate 7.2%.⁶

1.1.6 Current indicators

National Centre for Health Outcomes Development (NCHOD) – One- and five-year survival following diagnosis of lung cancer. Available from www.nchod.nhs.uk

NHS Outcomes Framework indicator 1.4.i-vi (Cancer survival) - one- and five-year survival for lung cancer. Available from www.dh.gov.uk/

³ Department of Health (2009) [Public awareness of cancer in Britain](http://www.dh.gov.uk). Available from www.dh.gov.uk

⁴ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

⁵ Department of Health (2011) [Improving Outcomes: A Strategy for Cancer](http://www.dh.gov.uk). Available from www.dh.gov.uk

⁶ Clinical and Health Outcomes Knowledge Base (2010) [Survival following diagnosis of lung cancer](http://www.nchod.nhs.uk). Available from www.nchod.nhs.uk

National Awareness and Early Diagnosis Initiative – Cancer Awareness Measure. Available from www.cancerresearchuk.org

UK Cancer Information Service – Cancer incidence, mortality and survival. Available from www.ncin.org.uk

2 Early diagnosis – referral

2.1 *Clinical guideline 121 recommendations 1.1.2, 1.1.5 and 1.3.31. Clinical guideline 27 recommendations 1.2.3, 1.2.6 and 1.2.14.*

2.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.1.2: Urgent referral for a chest x-ray should be offered when a patient presents with:</p> <p>haemoptysis, or</p> <p>any of the following unexplained or persistent (that is, lasting more than 3 weeks) symptoms or signs:</p> <ul style="list-style-type: none"> - cough - chest/shoulder pain - dyspnoea - weight loss - chest signs - hoarseness - finger clubbing - features suggestive of metastasis from a lung cancer (for example, in brain, bone, liver or skin) - cervical/supraclavicular lymphadenopathy. <p>1.1.5: Patients should be offered an urgent referral to a member of the lung cancer MDT, usually the chest physician, while awaiting the result of a chest x-ray, if any of the following are present:</p> <ul style="list-style-type: none"> - persistent haemoptysis in smokers/ex-smokers older than 40 years - signs of superior vena cava obstruction (swelling of the face/neck with fixed elevation of jugular venous pressure) - stridor. <p>1.3.31: All patients with a likely diagnosis of lung cancer should be referred to a member of a lung cancer MDT (usually a chest physician).</p> <p>CG27</p> <p>1.2.3 (KPI): Primary healthcare professionals should be alert to the possibility of cancer when confronted by unusual symptom patterns or when patients thought not to have cancer fail to recover as expected. In such circumstances, the primary healthcare professional should systematically review the patient's history and examination, and refer urgently if cancer is a possibility.</p> <p>1.2.6 (KPI): Discussion with a specialist should be considered if there is uncertainty about the interpretation of symptoms and signs, and whether a referral is needed. This may also enable the primary healthcare professional to communicate their concerns and a sense of urgency to secondary healthcare professionals when symptoms are not classical (for example, by telephone or email).</p> <p>1.2.14 (KPI): In patients with features typical of cancer, investigations</p>
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	in primary care should not be allowed to delay referral. In patients with less typical symptoms and signs that might, nevertheless, be due to cancer, investigations may be necessary, but should be undertaken urgently to avoid delay. If specific investigations are not readily available locally, an urgent specialist referral should be made.
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Proposed quality statement	People presenting with symptoms suggestive of lung cancer are referred urgently for a chest X-ray or directly to a respiratory physician linked to the lung cancer MDT in accordance with NICE guidance.
Draft quality measures	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people presenting with symptoms suggestive of lung cancer are referred urgently for a chest X-ray or directly to a respiratory physician linked to the lung cancer MDT in accordance with NICE guidance.</p> <p>b) Evidence of local arrangements to ensure that clinical support systems to assist identification of lung cancer are utilised in general practice.</p> <p>Process:</p> <p>Proportion of people with symptoms suggestive of lung cancer who are referred urgently for a chest X-ray or directly to a respiratory physician linked to the lung cancer MDT in accordance with NICE guidance.</p> <p>Numerator – the number of people in the denominator who are referred urgently for a chest X-ray or directly to a respiratory physician linked to the lung cancer MDT in accordance with NICE guidance.</p> <p>Denominator – the number of people with symptoms suggestive of lung cancer.</p>
Definitions	<p>NICE clinical guideline 121 recommends that:</p> <p>Urgent referral for a chest x-ray should be offered when a patient presents with:</p> <p>haemoptysis, or</p> <p>any of the following unexplained or persistent (that is, lasting more than 3 weeks) symptoms or signs:</p> <ul style="list-style-type: none"> - cough - chest/shoulder pain - dyspnoea - weight loss - chest signs - hoarseness - finger clubbing - features suggestive of metastasis from a lung cancer (for example, in brain, bone, liver or skin) - cervical/supraclavicular lymphadenopathy. <p>Patients should be offered an urgent referral to a member of the lung cancer MDT, usually the chest physician, while awaiting the result of a chest x-ray, if any of the following are present:</p> <ul style="list-style-type: none"> - persistent haemoptysis in smokers/ex-smokers older than 40 years - signs of superior vena cava obstruction (swelling of the face/neck with fixed elevation of jugular venous pressure) - stridor. <p>All patients in whom lung cancer is suspected should be referred to a member of a lung cancer MDT (usually a chest physician).</p> <p>An urgent referral would take place within 1 week of the patient's first presentation with the symptoms listed above.</p>

2.1.2 Clinical and cost-effectiveness evidence

The symptoms and signs of lung cancer can be difficult to distinguish from those of other diseases. The 2005 NICE lung cancer guideline found no evidence on whether any symptoms, or combinations of symptoms, can be used to predict the presence of lung cancer. The 2011 guideline did not update this section but endorsed the Referral Guidelines for Suspected Cancer and the British Thoracic Society statement on referral, admission and discharge of respiratory diseases (including lung cancer)⁷.

2.1.3 Patient experience

The National Cancer Patients' Experience Survey 2010⁸ found that 66% of lung cancer patients had seen their GP only once or twice about the health problem caused by cancer before being referred to hospital, with the remaining 34% having seen their GP more times or not at all. 79% of patients reported there was less than 3 months between the time they first thought something was wrong and the time they were first seen by a hospital doctor.

2.1.4 Patient safety

A patient safety incident is any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS care (see Appendix A). A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identifies the following priority areas relating to patient safety:

- Delayed diagnosis from 'failure to recognise'.

2.1.5 Current practice

See patient experience above.

2.1.6 Current indicators

National Cancer Patients' Experience Survey – Proportion of patients who saw their GP no more than twice before referral to hospital. Available from www.dh.gov.uk

⁷ British Thoracic Society (2008) [Statement on criteria for specialist referral, admission, discharge and follow-up for adults with respiratory disease](http://www.brit-thoracic.org.uk). Available from www.brit-thoracic.org.uk

⁸ Department of Health (2010) [National Cancer Patient Experience Survey Programme 2010 National Survey Report](http://www.dh.gov.uk). Available from www.dh.gov.uk

National Cancer Dataset and Cancer Outcomes and Services Dataset (in development). – Referring organisation, referrer, referral priority type, referral decision date. Available from www.ic.nhs.uk

3 Early diagnosis – chest x-ray

3.1 Clinical guideline 121 recommendation 1.1.6.

3.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	CG121 1.1.6: Where a chest x-ray has been requested in primary or secondary care and is incidentally suggestive of lung cancer, a second copy of the radiologist's report should be sent to a designated member of the lung cancer MDT, usually the chest physician. The MDT should have a mechanism in place to follow up these reports to enable the patient's GP to have a management plan in place.
Proposed quality statement	People with a chest x-ray result incidentally suggestive of lung cancer have a copy of the radiologist's report sent to a member of the lung cancer MDT, which has mechanisms in place to follow up the report.
Draft quality measure	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people with a chest x-ray result incidentally suggestive of lung cancer have a copy of the radiologist's report sent to a member of the lung cancer MDT.</p> <p>b) Evidence of local arrangements for the MDT to follow up radiologists' reports where results are incidentally suggestive of lung cancer.</p> <p>Process:</p> <p>a) Proportion of people with a chest x-ray result incidentally suggestive of lung cancer who have a copy of the radiologist's report sent to a member of the lung cancer MDT.</p> <p>Numerator – the number of people in the denominator who have a copy of the radiologist's report sent to a member of the lung cancer MDT.</p> <p>Denominator – the number of people with a chest x-ray result incidentally suggestive of lung cancer.</p> <p>b) Proportion of people with a chest x-ray result incidentally suggestive of lung cancer who have their radiology report followed up by the lung cancer MDT.</p> <p>Numerator – the number of people in the denominator who have their radiology report followed up by the lung cancer MDT.</p> <p>Denominator – the number of people with a chest x-ray result incidentally suggestive of lung cancer.</p>

3.1.2 Clinical and cost-effectiveness evidence

A systematic review⁹ of 12 studies on diagnostic tests not followed up for

⁹ Callen et al (2011) [The safety implications of missed test results for hospitalised patients: a](#)

hospital patients concluded that failure to follow up test results for hospital patients is a substantial problem and found evidence of negative impacts for patients when important results are not actioned. The review also noted that systems used to manage the follow-up of test results were varied.

3.1.3 Patient experience

None identified.

3.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identifies the following priority areas relating to patient safety:

- Delayed diagnosis due to 'results not reviewed'

3.1.5 Current practice

The Melling et al. 2002 study described in the NICE guideline referring for suspected cancer showed that less than half of lung cancer patients (173, 47.8%) presented to hospital with a chest x-ray diagnosis of lung cancer. A total of 148 patients in the 'without chest x-ray diagnosis group' were referred to hospital because of their symptoms but with no prior chest x-ray. Forty-one (11.3%) presented as self referrals to A&E and the remainder were referred without a diagnosis of lung cancer by other routes, mainly via general practitioners. 80% of the 'with diagnosis group' presented to their general practitioner with mainly lung related symptoms (cough, chest pain or infection, haemoptysis or dyspnoea) compared to 69 (46.6%, CI: 38.4%, 55.0%) of those without a diagnosis.

3.1.6 Current indicators

None identified.

4 Communication

4.1 *Clinical guideline 121 recommendations 1.2.1, 1.2.3 and 1.2.5.*

4.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.2.1: Find out what the patient knows about their condition without assuming a level of knowledge. Provide patients with the opportunity to discuss tests and treatment options in a private environment, with the support of carers, and time to make an informed choice.</p> <p>1.2.3: Offer accurate and easy-to-understand information to patients and their carers. Explain the tests and treatment options, including potential survival benefits, side effects and effect on symptoms.</p> <p>1.2.5: Offer patients a record of all discussions that have taken place with them and a copy of any correspondence with other healthcare professionals. Ensure all communications are worded in such a way to assist understanding.</p>
Proposed quality statement	<p>People with lung cancer are provided with the opportunity to discuss tests and the risks and benefits of treatment options in a private environment, and are offered information that supports them to make an informed choice.</p>
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people are provided with the opportunity to discuss tests and the risks and benefits of treatment options in a private environment, and are offered information that supports them to make an informed choice.</p> <p>Process:</p> <p>Proportion of people who have a discussion about tests and the risks and benefits of treatment options in a private environment.</p> <p>Numerator – the number of people in the denominator who have a discussion about tests and the risks and benefits of treatment options in a private environment.</p> <p>Denominator – the number of people with lung cancer.</p> <p>Proportion of people who receive information that supports them to make an informed choice.</p> <p>Numerator – the number of people in the denominator who receive information that supports them to make an informed choice.</p> <p>Denominator – the number of people with lung cancer.</p> <p>Outcome: Patient satisfaction with involvement in decision making and information received.</p>
Definitions	<p>A private environment is one that allows the patient to speak as openly as they can without this being restricted by feelings of lack of privacy.</p> <p>All communications should be worded in such a way to assist understanding. Information offered to patients and carers should be</p>

	accurate and easy-to-understand.
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4.1.2 Clinical and cost-effectiveness evidence

For the updated guideline the search for evidence was limited to communication methods assisting decisions about treatment. In deciding on treatment, patients and carers require information that they can understand so that they can make an informed decision. This is of particular benefit when the advantages of one option over another are marginal or when there are other complicating factors such as borderline fitness and hence more risk of harm.

The evidence reviewed on use of communication methods assisting decisions about treatment consisted of two phase 1 studies and three cross-sectional survey studies, and showed positive effects of some interventions, such as decision aids assisting patients in understanding the benefits and risks of treatment, and no negative or harmful effects.

The lack of specific evidence limited the recommendations to several good practice points, but the GDG felt the subject was important and that recommendations for good practice and future research should be made.

A systematic review has evaluated methods of giving information to patients with cancer and their carers, with strong evidence that patients and carers value – and benefit from – receiving accurate and relevant information. Outcomes of receiving full and clear information include improvements in knowledge and understanding, reductions in anxiety, increased preparedness for events, enhanced sense of control, enhanced compliance and increased satisfaction with treatment.

4.1.3 Patient experience

The Improving Supportive and Palliative Care for Adults with Cancer guidance notes that research has consistently shown that, in addition to receiving the best possible treatment, patients want and expect to have their voice heard, to be valued for their knowledge and skills and to be able to exercise real choice about treatments and services, and to receive detailed high quality information about their condition and possible treatment, given in an honest, timely and sensitive manner at all stages of the patient pathway.

4.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identifies the following priority areas relating to patient safety:

- Communication skills

4.1.5 Current practice

The National Cancer Patients' Experience Survey 2010¹⁰ found that only 61% of lung cancer patients were given written information about the type of cancer they had. The same survey showed that 81% of lung cancer patients were given a choice about different types of treatment, and 75% reported having side effects of treatment explained to them in a way they could understand.

The National Cancer Peer Review Programme report 2009/10¹¹ for lung MDTs reported that 97% of lung cancer MDTs provided patients with written information.

Good face-to-face communication between health and social care professionals and patients and carers is fundamental to the provision of high quality care, yet patients and carers frequently report communication skills of practitioners to be poor.

4.1.6 Current indicators

National Cancer Patients' Experience Survey – Proportion of patients given written information about the type of cancer they have. Available from www.dh.gov.uk

National Cancer Patients' Experience Survey – Proportion of patients given a choice about different types of treatment. Available from www.dh.gov.uk

National Cancer Patients' Experience Survey – Proportion of patients having side effects of treatment explained to them in a way they could understand. Available from www.dh.gov.uk

National Cancer Peer Review Programme Manual for Cancer Services 2008 – Lung measures:

08-2C-121 The MDT should provide patients and carers with written material which includes:

- Information specific to that MDT about local provision of the services offering the treatment for that cancer site

¹⁰ Department of Health (2010) [National Cancer Patient Experience Survey Programme 2010 National Survey Report](http://www.dh.gov.uk). Available from www.dh.gov.uk

¹¹ National Cancer Peer Review Programme (2010) [National Cancer Peer Review Programme Report 2009-10](http://www.cquins.nhs.uk). Available from www.cquins.nhs.uk

- Information about patients involvement groups and patient self-help groups
- Information about the services offering psychological, social and spiritual/cultural support, if available
- Information specific to the MDT's cancer site or group of cancers about the disease and its treatment options (including names and functions/roles of the team treating them).

Available from www.cquins.nhs.uk

5 Clinical nurse specialist

5.1 Clinical guideline 121 recommendations 1.2.2, 1.3.34, 1.6.2 and 1.6.3.

5.1.1 Relevant NICE recommendations and proposed quality statement

<p>Guideline recommendations</p>	<p>CG121</p> <p>1.2.2 (KPI): Ensure that a lung cancer clinical nurse specialist is available at all stages of care to support patients and carers.</p> <p>1.3.34: All cancer units/centres should have one or more trained lung cancer clinical nurse specialists to see patients before and after diagnosis, to provide continuing support, and to facilitate communication between the secondary care team (including the MDT), the patient's GP, the community team and the patient. Their role includes helping patients to access advice and support whenever they need it.</p> <p>1.6.2: Offer protocol-driven follow-up led by a lung cancer clinical nurse specialist as an option for patients with a life expectancy of more than 3 months.</p> <p>1.6.3: Ensure that patients know how to contact the lung cancer clinical specialist nurse specialist involved in their care between their scheduled hospital visits.</p>
<p>Proposed quality statement</p>	<p>People with lung cancer have access to a clinical nurse specialist who they can contact between scheduled hospital visits, and who provides the option of protocol-driven follow-up and continuing support.</p>
<p>Draft quality measures</p>	<p>Structure: Evidence of local arrangements to ensure people with lung cancer have access to a clinical nurse specialist who they can contact between scheduled hospital visits, and who provides the option of protocol-driven follow-up and continuing support.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who have been given the name of a clinical nurse specialist.</p> <p>Numerator – the number of people in the denominator who have been given the name of a clinical nurse specialist.</p> <p>Denominator – the number of people with lung cancer.</p> <p>b) Proportion of people with lung cancer who know how to contact their clinical nurse specialist between scheduled hospital visits.</p> <p>Numerator – the number of people in the denominator who know how to contact their clinical nurse specialist between scheduled hospital visits.</p> <p>Denominator – the number of people with lung cancer who have been given the name of a clinical nurse specialist.</p> <p>c) Proportion of people with lung cancer receiving nurse led follow-up.</p>

<p>Definitions</p>	<p>Numerator – the number of people in the denominator receiving nurse led follow-up.</p> <p>Denominator – the number of people with lung cancer.</p> <p>Outcome: Patient satisfaction with access to, and support from, clinical nurse specialist.</p> <p>A clinical nurse specialist should see patients before and after diagnosis to provide continuing support and to facilitate communication between the secondary care team (including the MDT), the patient’s GP, the community team and the patient. Their role includes helping patients to access advice and support whenever they need it.</p>
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5.1.2 Clinical and cost-effectiveness evidence

Data from the National Lung Cancer Audit Report 2010¹² suggests that patients seen by a lung cancer nurse specialist were more likely to receive anti-cancer treatment compared to those that were not seen (or those where no data is recorded). The report shows that in 2009 64.8% of patients seen by a LCNS received anti-cancer treatment compared to 30.4% of those who were not seen by the LCNS.

The improving supportive and palliative care guidance reports lack of co-ordination between sectors (for instance, hospital and community) and within individual organisations has repeatedly been viewed as a problem in studies of patients’ experience. There is evidence (derived from randomised controlled trials or systematic reviews of randomised trials) that introducing a greater degree of coordination to existing services through organisational interventions such as hospital-based nurse specialists and community-based nurse coordinators leads to positive outcomes.

5.1.3 Patient experience

The Roy Castle Lung Cancer Foundation in association with the National Collaborating Centre for Acute Care collected experiences and opinions from lung cancer patients and carers, the results of which highlighted general themes expressed by the group which included the importance of accessing a lung cancer support nurse throughout the treatment journey.

The National Cancer Patients’ Experience Survey results of 2010 showed the impact of having a Clinical Nurse Specialist on patients’ experience of care, in that patients with a clinical nurse specialist reported more favourably than

¹² NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

those without on a range of items related to information, choice and care.¹³

Just one randomised controlled trial of nurse led follow up appears in the literature. However, this showed that most patients were extremely positive about their experiences under the nurse led follow up system and all requested that their care continued to be managed in this way. Nurse led follow-up was acceptable to both lung cancer patients and GPs.¹⁴

5.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identifies the following priority areas relating to patient safety:

- Patients having a clinical nurse specialist.

5.1.5 Current practice

The National Cancer Patients' Experience Survey 2010¹⁵ found that 91% of patients with lung cancer said that they had been given the name of a Clinical Nurse Specialist, but results from individual Trusts showed significant variation.

The National Lung Cancer Audit Report 2010¹⁶ showed that 64.4% of patients nationally had been assessed by a clinical nurse specialist, while 38.3% had a clinical nurse specialist present at diagnosis.

The National Cancer Peer Review Programme report 2010 showed that 95% of MDTs had an operational policy for a key worker (or clinical nurse specialist).

¹³ Department of Health (2010) [National Cancer Patient Experience Survey Programme: 2010 National Survey Report](#). Available from www.dh.gov.uk

¹⁴ National Lung Cancer Forum for Nurses (2007) [Nurse Led Follow Up Guidelines](#). Available from www.nlcfn.org.uk

¹⁵ Department of Health (2010) [National Cancer Patient Experience Survey Programme: 2010 National Survey Report](#). Available from www.dh.gov.uk

¹⁶ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](#). Available from www.ic.nhs.uk

5.1.6 Current indicators

National Cancer Patients' Experience Survey – Proportion of patients given the name of a Clinical Nurse Specialist. Available from www.dh.gov.uk

National Cancer Patients' Experience Survey – Proportion of patients reporting they find it easy to contact their Clinical Nurse Specialist. Available from www.gov.uk

National Lung Cancer Audit – Proportion of patients submitted to the audit reported as having seen a lung cancer nurse specialist. Available from www.ic.nhs.uk

National Lung Cancer Audit – Proportion of patients with nurse specialist present at diagnosis. Available from www.ic.nhs.uk

National cancer peer review measure 08-2C-111 – There should be an operational policy whereby a single named key worker for the patient's care at a given time is identified by the MDT for each individual patient and the name and contact number of the current key worker is recorded in the patient's notes. Available from www.cquins.nhs.uk

National Cancer Dataset and Cancer Outcomes and Services Dataset (in development) – Was patient seen by a clinical nurse specialist? Was clinical nurse specialist present at time of diagnosis? Available from www.ic.nhs.uk

6 Communication and support – psychological support

6.1 Cancer service guidance recommendations KR2, KR9, KR13, KR14, 5.10 and 5.12.

6.1.1 Relevant NICE recommendations and proposed quality statement

<p>Guideline recommendations</p>	<p>CSGSP</p> <p>KR2: Assessment and discussion of patients' needs for physical, psychological, social, spiritual and financial support should be undertaken at key points (such as at diagnosis; at commencement, during, and at the end of treatment; at relapse; and when death is approaching). Cancer Networks should ensure that a unified approach to assessing and recording patients' needs is adopted, and that professionals carry out assessments in partnership with patients and carers.</p> <p>KR9: Commissioners and providers of cancer services, working through Cancer Networks, should ensure that all patients undergo systematic psychological assessment at key points and have access to appropriate psychological support. A four-level model of professional psychological assessment and intervention is suggested to achieve this.</p> <p>KR13: Primary care teams should institute mechanisms to ensure that the needs of patients with advanced cancer are assessed, and that the information is communicated within the team and with other professionals as appropriate. The Gold Standards Framework provides one mechanism for this.</p> <p>KR14: In all locations, the particular needs of patients who are dying from cancer should be identified and addressed. The Liverpool Care Pathway for the Dying Patient provides one mechanism for achieving this.</p> <p>5.10: The psychological well-being of patients and carers should be explicitly assessed at key points in the patient pathway.</p> <p>5.12: Patients and carers found to have significant levels of psychological distress should be offered prompt referral to services able to provide specialist psychological care.</p>
<p>Proposed quality statement</p>	<p>People with lung cancer have their psychological well-being assessed by their doctor, consultant and/or clinical nurse specialist at all key stages of care, and are offered prompt referral to specialist services when necessary.</p>
<p>Draft quality measures</p>	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people with lung cancer are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at all key stages of care.</p> <p>b) Evidence of local arrangements to ensure that people with lung cancer are offered prompt referral to specialist services when</p>

	<p>necessary.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at diagnosis.</p> <p>Numerator – the number of people in the denominator who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at diagnosis.</p> <p>Denominator – the number of people with lung cancer.</p> <p>b) Proportion of people with lung cancer who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at commencement of treatment.</p> <p>Numerator – the number of people in the denominator who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at commencement of treatment.</p> <p>Denominator – the number of people with lung cancer.</p> <p>c) Proportion of people with lung cancer who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist during treatment.</p> <p>Numerator – the number of people in the denominator who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist during treatment.</p> <p>Denominator – the number of people with lung cancer.</p> <p>d) Proportion of people with lung cancer who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at the end of treatment.</p> <p>Numerator – the number of people in the denominator who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist at the end of treatment.</p> <p>Denominator – the number of people with lung cancer.</p> <p>e) Proportion of people with lung cancer who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist when relapse occurs.</p> <p>Numerator – the number of people in the denominator who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist when relapse occurs.</p> <p>Denominator – the number of people with lung cancer that has relapsed.</p> <p>f) Proportion of people with lung cancer who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist when death is approaching.</p> <p>Numerator – the number of people in the denominator who are assessed for their psychological well-being by their doctor, consultant and/or clinical nurse specialist when death is approaching.</p> <p>Denominator – the number of people with lung cancer at end of life.</p> <p>g) Proportion of people with lung cancer who are referred to specialist services.</p> <p>Numerator – the number of people in the denominator who are referred to specialist services.</p> <p>Denominator – the number of people with lung cancer.</p>
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Definitions	<p>Key stages of care, or key points on the patient pathway, are at diagnosis, at commencement of treatment, during treatment, at the end of treatment, at relapse and when death is approaching.</p> <p>Specialist services include palliative care services and psychological support services.</p> <p>“Prompt” referral.</p> <p>“When necessary”.</p>
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6.1.2 Clinical and cost-effectiveness evidence

There is ample evidence of need for good supportive and palliative care among patients with cancer. This is shown in studies over many years demonstrating problems in communication, information, psychological, social and spiritual support, symptom control, palliative care, care of patients who are dying, bereavement support and care for patients and families.

Studies have reported that the assessment of physical symptoms and psychosocial needs is often inadequate. Patients’ needs will change as they progress through different phases of the patient pathway; re-assessment at regular intervals is therefore essential. Systematic assessment is associated with reduced symptom distress over time (evidence from non-randomised controlled trials or observational studies).

While there is no formal evidence of the benefits of implementing the four level model of psychological assessment and intervention, a considerable body of evidence supports the effectiveness of different elements within it. Of five systematic reviews in this area one was equivocal, but four found evidence of benefit among those affected by cancer in relation to:

- reductions in psychological distress
- improvements in overall quality of life and other functional outcomes
- making the experience of having cancer more acceptable
- improvements in concordance with cancer treatments.

While the exact benefit derived from good communication and psychological interventions is difficult to quantify, counselling and specialist psychological and psychiatric interventions have been found to confer moderate to major benefit on those who receive them. They produce significant improvements in psychosocial functioning and overall quality of life for particular individuals.

6.1.3 Patient experience

Patients with lung cancer have been shown to experience greater levels of unmet psychological, social and economic needs, in addition experiencing

more complex, sometimes intractable symptoms, than other cancer groups. However, psychosocial concerns were also less likely to be mentioned by patients during a medical consultation. This may be because their concerns may not be relevant, doctors and nurses may be reluctant to elicit concerns knowing that they have insufficient time to deal with the issues raised, or because clinics can be noisy and not the best place to facilitate discussion.¹⁷

6.1.4 Patient safety

No issues identified relating specifically to psychological support (see full accompanying report from the NPSA for broader themes).

6.1.5 Current practice

Psychological distress is common among people affected by cancer. In practice, psychological symptoms are often not identified and patients lack sufficient access to psychological support services.

There is fairly strong evidence (non-randomised controlled trials or observational studies) that health care professionals have limited abilities in detecting the psychological needs of people with cancer. Such abilities can be developed through training focusing on the structure and coverage of individual assessments.

The National Cancer Patient Experience Survey 2010 report¹⁸ showed 84% of lung cancer patients reporting that they had been given information about support and self-help groups.

6.1.6 Current indicators

National Cancer Patient Experience Survey – Proportion of patients reporting that they were given information about support and self-help groups for people with cancer. Available from www.dh.gov.uk

¹⁷ National Lung Cancer Forum for Nurses (2007) [Nurse Led Follow Up Guidelines](http://www.nlcfn.org.uk). Available from www.nlcfn.org.uk

¹⁸ Department of Health (2010) [National Cancer Patient Experience Survey Programme 2010 National Survey Report](http://www.dh.gov.uk). Available from www.dh.gov.uk

7 Smoking cessation

7.1 *Clinical guideline 121 recommendations 1.4.1, 1.4.2, 1.4.3 and 1.4.4.*

7.1.1 **Relevant NICE recommendations and proposed quality statement**

Guideline recommendations	<p>CG121</p> <p>1.4.1: Inform patients that smoking increases the risk of pulmonary complications after lung cancer surgery.</p> <p>1.4.2: Advise patients to stop smoking as soon as the diagnosis of lung cancer is suspected and tell them why this is important.</p> <p>1.4.3: Offer nicotine replacement therapy and other therapies to help patients stop smoking in line with 'Smoking cessation services' (NICE public health guidance 10) and 'Varenicline for smoking cessation' (NICE technology appraisal guidance 123)</p> <p>1.4.4: Do not postpone surgery for lung cancer to allow patients to stop smoking.</p>
Proposed quality statement	<p>People with a suspected or confirmed diagnosis of lung cancer who are current smokers are given smoking cessation advice, offered therapies to help them stop smoking and informed of the risks of smoking after lung cancer surgery, without causing delay to that surgery.</p>
Draft quality measures	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people with a suspected or confirmed diagnosis of lung cancer who are current smokers are given smoking cessation advice.</p> <p>b) Evidence of local arrangements to ensure that people with a suspected or confirmed diagnosis of lung cancer who are current smokers are offered therapies to help them stop smoking.</p> <p>c) Evidence of local arrangements to ensure that people with a suspected or confirmed diagnosis of lung cancer who are current smokers are informed of the risks of smoking after lung cancer surgery.</p> <p>Process:</p> <p>a) Proportion of people with a suspected or confirmed diagnosis of lung cancer who are current smokers who are given smoking cessation advice.</p> <p>Numerator – the number of people in the denominator who are given smoking cessation advice.</p> <p>Denominator – the number of people with a suspected or confirmed diagnosis of lung cancer who are current smokers.</p> <p>b) Proportion of people with a suspected or confirmed diagnosis of lung cancer who are current smokers who receive therapies to help them stop smoking.</p> <p>Numerator – the number of people in the denominator who receive</p>

	<p>therapies to help them stop smoking.</p> <p>Denominator – the number of people with a suspected or confirmed diagnosis of lung cancer who are current smokers.</p> <p>c) Proportion of people with a suspected or confirmed diagnosis of lung cancer who are current smokers who are informed of the risks of smoking after lung cancer surgery.</p> <p>Numerator – the number of people in the denominator who are informed of the risks of smoking after lung cancer surgery.</p> <p>Denominator – the number of people with a suspected or confirmed diagnosis of lung cancer who are current smokers.</p>
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7.1.2 Clinical and cost-effectiveness evidence

These recommendations are based on six low quality observational studies which tried to ascertain the risk of pulmonary complications after surgery for cancer in patients who were active smokers, ex-smokers of various durations and never-smokers. All the studies showed that the biggest difference in this risk was between never-smokers and smokers of any description; there was little improvement in this risk being gained for people who have recently stopped smoking. Patients who continue to smoke after surgery had a shortened lifespan, compared to ex-smokers. The recommendations have therefore been constructed from this evidence.

7.1.3 Patient experience

None identified.

7.1.4 Patient safety

No issues identified relating specifically to smoking cessation (see full accompanying report from the NPSA for broader themes).

7.1.5 Current practice

None identified.

7.1.6 Current indicators

None identified.

8 Diagnosis and staging – choice of investigation

8.1 Clinical guideline 121 recommendations 1.3.2, 1.3.12 and 1.3.32.

8.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.3.2: Patients with known or suspected lung cancer should be offered a contrast-enhanced chest CT scan to further the diagnosis and stage the disease. The scan should also include the liver and adrenals¹⁹.</p> <p>1.3.12 (KPI): Choose investigations that give the most information about diagnosis and staging with least risk to the patient. Think carefully before performing a test that gives only diagnostic pathology when information on staging is also needed to guide treatment.</p> <p>1.3.32: The care of all patients with a working diagnosis of lung cancer should be discussed at a lung cancer MDT meeting.</p>
Proposed quality statement	<p>People with suspected and confirmed lung cancer, following initial assessment and discussion by the multidisciplinary team, are offered tests that give the most information about diagnosis and staging with the least risk, in accordance with the NICE diagnostic and staging algorithm.</p>
Draft quality measures	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer have an initial assessment in accordance with the NICE diagnostic and staging algorithm.</p> <p>b) Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer have their care and treatment discussed by the lung cancer multidisciplinary team.</p> <p>c) Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer are offered tests that give the most information about diagnosis and staging with the least risk, in accordance with the NICE diagnostic and staging algorithm.</p> <p>Process:</p> <p>a) Proportion of people with suspected and confirmed lung cancer who have an initial assessment in accordance with the NICE diagnostic and staging algorithm.</p> <p>Numerator – the number of people in the denominator who have an initial assessment in accordance with the NICE diagnostic and</p>

¹⁹ This recommendations was outside the scope of the 2011 update but the GDG recognised that many centres include the lower neck when performing CT scans for the diagnosis of lung cancer. The GDG also recognised that contrast medium should only be given with caution to patients with known renal impairment.

<p>Definitions</p>	<p>staging algorithm.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>b) Proportion of people with suspected and confirmed lung cancer who have a CT scan available for viewing at the time of the first clinical assessment.</p> <p>Numerator – the number of people in the denominator who have a CT scan available for viewing at the time of the first clinical assessment.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>c) Proportion of people with suspected and confirmed lung cancer who have their care and treatment discussed by the lung cancer multidisciplinary team.</p> <p>Numerator – the number of people in the denominator who have their care and treatment discussed by the lung cancer multidisciplinary team.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>d) Proportion of people with suspected and confirmed lung cancer who receive tests that give the most information about diagnosis and staging with the least risk, in accordance with the NICE diagnostic and staging algorithm.</p> <p>Numerator – the number of people in the denominator who receive tests that give the most information about diagnosis and staging with least risk, in accordance with the NICE diagnostic and staging algorithm.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>e) Proportion of people with suspected and confirmed lung cancer who have 2 or more tests for diagnostic and staging purposes.</p> <p>Numerator – the number of people in the denominator who have 2 or more tests for diagnostic and staging purposes.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>Initial assessment should include contrast enhanced CT of the Thorax, lower neck and upper abdomen.</p> <p>The NICE diagnostic and staging algorithm can be found in NICE clinical guideline 121. Available from www.nice.org.uk/CG121</p>
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8.1.2 Clinical and cost-effectiveness evidence

The evidence reviewed for the accuracy of diagnosis and staging investigations also served to inform about the best sequence of tests, but there was no evidence of sufficient quality that specifically compared different sequences. Expert opinion was used to make recommendations based on consideration of the clinical scenario, accuracy of the test and safety.

8.1.3 Patient experience

None identified.

8.1.4 Patient safety

No issues identified relating specifically to choice of investigation (see full accompanying report from the NPSA for broader themes).

8.1.5 Current practice

None identified.

8.1.6 Current indicators

National Lung Cancer Audit – Proportion of patients receiving a CT scan before bronchoscopy. Available from www.ic.nhs.uk

National Lung Cancer Audit – Proportion of patients discussed at MDT. Available from www.ic.nhs.uk

National Lung Cancer Audit – Proportion of patients submitted to the audit that have stage recorded for their lung cancer. Available from www.ic.nhs.uk

National Cancer Peer Review Programme Manual for Cancer Services 2008: Lung measure 08-2C-109 – There should be an operational policy for the team whereby it is intended that all new cancer patients will be reviewed by a MDT for discussion of initial treatment plan. Available from www.cquins.nhs.uk

9 Diagnosis and staging – access to tests

9.1 Clinical guideline recommendations 1.3.10, 1.3.14, 1.3.16, 1.3.20 and 1.3.23.

9.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.3.10: The local test performance of non-ultrasound-guided TBNA, EBUS and EUS-guided FNA should be the subject of audit.</p> <p>1.3.14: Offer CT- or ultrasound-guided transthoracic needle biopsy to patients with peripheral lung lesions when treatment can be planned on the basis of this test.</p> <p>1.3.16: Offer fiberoptic bronchoscopy to patients with central lesions on CT where nodal staging does not influence treatment. Enlarged lymph nodes (≥ 10 mm maximum short axis on CT) may be simultaneously sampled with TBNA (non-ultrasound-guided) if required for diagnosis.</p> <p>1.3.20: Offer neck ultrasound with biopsy of visible lymph nodes to patients that have neck nodes detected by initial CT. If negative, follow with non-ultrasound-guided TBNA or EBUS-guided TBNA or EUS-guided FNA.</p> <p>1.3.23: Confirm negative results obtained by non-ultrasound-guided TBNA using EBUS-guided TBNA, EUS-guided FNA or surgical staging.</p>
Proposed quality statement	<p>1) People with suspected and confirmed lung cancer are offered comprehensive diagnosis and staging tests within 2 weeks [of their first consultant appointment].</p> <p>2) People with suspected and confirmed lung cancer are offered comprehensive tests that include non-ultrasound-guided TBNA, EBUS, EUS-guided FNA, transthoracic needle biopsy, US-guided neck node sampling and fiberoptic bronchoscopy where appropriate, that are subject to confirmation and audit.</p>
Draft quality measures	<p>Structure:</p> <p>1) Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer are offered comprehensive diagnosis and staging tests within 2 weeks of their first consultant appointment.</p> <p>2a) Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer are offered comprehensive tests that include non-ultrasound-guided TBNA, EBUS, EUS-guided FNA, transthoracic needle biopsy, US-guided neck node sampling and fiberoptic bronchoscopy where appropriate, which are subject to confirmation..</p> <p>2b) Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer are offered tests that are subject to audit.</p> <p>Process:</p>

Definitions	<p>1) Proportion of people with suspected and confirmed lung cancer who receive comprehensive diagnosis and staging tests within 2 weeks of their first consultant appointment.</p> <p>Numerator – the number of people in the denominator who receive comprehensive diagnosis and staging tests within 2 weeks of their first consultant appointment.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>2a) Proportion of people with suspected and confirmed lung cancer who receive comprehensive tests that include non-ultrasound-guided TBNA, EBUS, EUS-guided FNA, transthoracic needle biopsy, US-guided neck node sampling and fiberoptic bronchoscopy where appropriate.</p> <p>Numerator – the number of people in the denominator who receive comprehensive tests that include non-ultrasound-guided TBNA, EBUS, EUS-guided FNA, transthoracic needle biopsy, US-guided neck node sampling and fiberoptic bronchoscopy where appropriate.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>2b) Proportion of people with suspected and confirmed lung cancer with a negative result obtained by non-ultrasound-guided TBNA who have test results confirmed using EBUS-guided TBNA, EUS-guided FNA or surgical staging.</p> <p>Numerator – the number of people in the denominator who have test results confirmed using EBUS-guided TBNA, EUS-guided FNA or surgical staging.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer with a negative result obtained by non-ultrasound-guided TBNA.</p> <p>2c) Proportion of people with suspected and confirmed lung cancer who receive comprehensive tests that are subject to audit.</p> <p>Numerator – the number of people in the denominator who receive comprehensive tests that are subject to audit.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>Tests including non-ultrasound-guided TBNA, EBUS, EUS-guided FNA, transthoracic needle biopsy, US-guided neck node sampling and fiberoptic bronchoscopy should be offered in accordance with NICE clinical guideline 121. Available from www.nice.org.uk/CG121</p> <p>Negative results obtained by non-ultrasound-guided TBNA should be confirmed using EBUS-guided TBNA, EUS-guided FNA or surgical staging.</p> <p>The local test performance of non-ultrasound-guided TBNA, EBUS and EUS-guided FNA should be the subject of audit.</p>
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9.1.2 Clinical and cost-effectiveness evidence

Recommendations about efficacy of tests were based on a review of studies ranging from low to high quality including systematic reviews and prospective/retrospective case series. Studies demonstrate considerable variation insensitivities and specificities for some investigations, especially for

imaging (PET-CT, SPECT, MRI and scintigraphy). Tests that involve tissue sampling generally show better performance, particularly specificity, and on the basis of this a recommendation was made about audit of local performance. The recommendation to use EBUS to sample paratracheal and peribronchial intra-parenchymal lesions was made on the basis of one diagnostic study and expert opinion.

9.1.3 Patient experience

None identified.

9.1.4 Patient safety

No issues identified relating specifically to access to tests (see full accompanying report from the NPSA for broader themes).

9.1.5 Current practice

The National Lung Cancer Audit of 2008²⁰ patients showed that 78% of patients reported to the audit had stage recorded for their lung cancer.

9.1.6 Current indicators

National Cancer Peer Review Programme Clinical Lines of Enquiry – Histological confirmation rate. Available from www.cquins.nhs.uk

National Lung Cancer Audit – Proportion of patients submitted to the audit that have stage recorded for their lung cancer. Available from www.ic.nhs.uk

National Lung Cancer Audit – Percentage of patients submitted to the audit reported to have a histologically or cytologically confirmed diagnosis of lung cancer. Available from www.ic.nhs.uk

²⁰ NHS Information Centre (2009) [National Lung Cancer Audit Report 2009](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

10 Diagnosis and staging – adequacy of samples

10.1 Clinical guideline 121 recommendation 1.3.11.

10.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	CG121 1.3.11: Ensure adequate samples are taken without unacceptable risk to the patient to permit pathological diagnosis including tumour sub-typing and measurement of predictive markers.
Proposed quality statement	People with suspected and confirmed lung cancer have diagnosis and staging tests that provide adequate samples to enable pathological diagnosis, including tumour sub-typing and measurement of predictive markers.
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with suspected and confirmed lung cancer have diagnosis and staging tests that provide adequate samples to enable pathological diagnosis, including tumour sub-typing and measurement of predictive markers.</p> <p>Process:</p> <p>a) Proportion of people with suspected and confirmed lung cancer who have diagnosis and staging investigations that provide adequate samples to permit pathological diagnosis.</p> <p>Numerator – the number of people in the denominator who have diagnosis and staging investigations that provide adequate samples to permit pathological diagnosis.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>b) Proportion of people with suspected and confirmed lung cancer who have a second diagnostic test in order to obtain histological information.</p> <p>Numerator – the number of people in the denominator who have a second diagnostic test in order to obtain histological information.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p> <p>c) Proportion of people with suspected and confirmed lung cancer who have a pathological diagnosis that includes tumour sub-type and predictive markers.</p> <p>Numerator – the number of people in the denominator who have a pathological diagnosis that includes tumour sub-type and predictive markers.</p> <p>Denominator – the number of people with suspected and confirmed lung cancer.</p>

10.1.2 Clinical and cost-effectiveness evidence

The results of a questionnaire concerning the adequacy of samples, likely demands on the pathology service, ability of local services to provide the

required expertise and developments in the field likely to be relevant, completed by 3 histopathologists who regularly process diagnostic samples and have considerable expertise in this area, were used to develop a recommendation based on expert opinion.

10.1.3 Patient experience

None identified.

10.1.4 Patient safety

No issues identified relating specifically to adequacy of samples (see full accompanying report from the NPSA for broader themes).

10.1.5 Current practice

There is concern that some minimally invasive diagnostic and staging techniques may yield insufficient material to allow adequate assessment of tumour sub-type and predictive markers. Considerations include the increasing number of predictive markers as well as advances in detection methods. These requirements may mean that a change to the approach to diagnosis and staging is required.

The National Lung Cancer Audit Report 2010²¹ showed that 75.6% of lung cancer patients nationally had a histological diagnosis.

10.1.6 Current indicators

National Cancer Peer Review Programme Clinical Lines of Enquiry – Proportion of Histological Confirmation Rate. Available from www.cquins.nhs.uk

National Lung Cancer Audit – Proportion of patients submitted to the audit reported to have a histologically or cytologically confirmed diagnosis of lung cancer. Available from www.ic.nhs.uk

²¹ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

11 Diagnosis and staging – mediastinal staging

11.1 Clinical guideline 121 recommendations 1.3.3, 1.3.4, 1.3.13, 1.3.15, 1.3.17, 1.3.18, 1.3.19, 1.3.21, 1.3.22 and 1.3.24.

11.1.1 Relevant NICE recommendations and proposed quality statement

<p>Guideline recommendations</p>	<p>CG121</p> <p>1.3.3: In the assessment of mediastinal and chest wall invasion:</p> <ul style="list-style-type: none"> - CT alone may not be reliable - other techniques such as ultrasound should be considered where there is doubt - surgical assessment may be necessary if there are no contraindications to resection. <p>1.3.4: Ensure all patients potentially suitable for treatment with curative intent are offered PET-CT before treatment.</p> <p>1.3.13: Chest CT should be performed before:</p> <ul style="list-style-type: none"> - an intended fiberoptic bronchoscopy - any other biopsy procedure. <p>1.3.15: Biopsy any enlarged mediastinal nodes (≥ 10 mm maximum short axis on CT) or other lesions in preference to the primary lesion if determination of stage affects treatment.</p> <p>1.3.17: Offer PET-CT as the preferred first test after CT showing a low probability of mediastinal malignancy (lymph nodes < 10 mm maximum short axis on CT) for patients who are potentially suitable for treatment with curative intent.</p> <p>1.3.18 (KPI): Offer PET-CT, or EBUS-guided TBNA, or EUS-guided FNA, or non-ultrasound-guided TBNA as the first test for patients with an intermediate probability of mediastinal malignancy (lymph nodes between 10 and 20 mm maximum short axis on CT) who are potentially suitable for treatment with curative intent.</p> <p>1.3.19: Offer neck ultrasound with sampling of visible lymph nodes or non-ultrasound-guided TBNA to patients with a high probability of mediastinal malignancy (lymph nodes > 20 mm maximum short axis on CT). If neck ultrasound is negative, follow with non-ultrasound-guided TBNA, EBUS-guided TBNA or EUS-guided FNA. If non-ultrasound-guided TBNA is negative follow with EBUS-guided TBNA or EUS-guided FNA.</p> <p>1.3.21: Evaluate PET-CT-positive mediastinal nodes by mediastinal sampling (except when there is definite distant metastatic disease or a high probability that N2/N3 disease is metastatic [for example, if there is a chain of lymph nodes with high ^{18}F-deoxyglucose uptake]).</p> <p>1.3.22: Consider combined EBUS and EUS for initial staging of the mediastinum as an alternative to surgical staging.</p> <p>1.3.24: Confirm negative results obtained by EBUS-guided TBNA and/or EUS-guided FNA using surgical staging if clinical suspicion of</p>
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	mediastinal malignancy is high.
Proposed quality statement	People with lung cancer are offered mediastinal staging in accordance with NICE guidance.
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with lung cancer are offered mediastinal staging in accordance with NICE guidance.</p> <p>Process:</p> <p>Proportion of people with lung cancer who require mediastinal staging who receive mediastinal staging in accordance with NICE guidance.</p> <p>Numerator – the number of people in the denominator who receive mediastinal staging in accordance with NICE guidance.</p> <p>Denominator – the number of people with lung cancer requiring mediastinal staging.</p>
Definitions	<p>People requiring mediastinal staging are those with a pre-test probability of mediastinal malignancy (lymph nodes >10 mm maximum short axis on CT).</p> <p>PET-CT, or EBUS-guided TBNA, or EUS-guided FNA, or non-ultrasound-guided TBNA should be offered as the first test for patients with an intermediate probability of mediastinal malignancy, and neck ultrasound with sampling of visible lymph nodes or non-ultrasound-guided TBNA to patients with a high probability of mediastinal malignancy.</p>

11.1.2 Clinical and cost-effectiveness evidence

Although evidence was available about the accuracy of non-US guided TBNA, EBUS-TBNA, EUS-FNA and surgical sampling techniques, there were no studies that provided adequate evidence to suggest the most effective sequence of tests according to the pre-test probability of mediastinal malignancy, and so expert opinion was employed to make recommendations about the sequence of tests.

The health economic model showed that for low probability the test that dominated was PET-CT alone, for intermediate probability, PET-CT followed by non-US guided TBNA and for high probability neck US then non-US guided TBNA PET-CT. For all probabilities of malignancy there were other sequences that were very close to the most cost effective and given the assumptions made in the model, expert opinion was employed to reflect this in the recommendations about the sequence of tests.

11.1.3 Patient experience

None identified.

11.1.4 Patient safety

No issues identified relating specifically to mediastinal staging (see full accompanying report from the NPSA for broader themes).

11.1.5 Current practice

The National Lung Cancer Audit of 2008²² patients showed that 78% of patients reported to the audit had stage recorded for their lung cancer.

11.1.6 Current indicators

National Lung Cancer Audit – Proportion of patients submitted to the audit that have stage recorded for their lung cancer. Available from www.ic.nhs.uk

²² NHS Information Centre (2009) [National Lung Cancer Audit Report 2009](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

12 Diagnosis and staging – fitness assessment

12.1 Clinical guideline 121 recommendations, 1.4.5, 1.4.6, 1.4.7, 1.4.8, 1.4.10, 1.4.11, 1.4.12, 1.4.13, 1.4.14, 1.4.15, 1.4.16, 1.4.17 and 1.4.18.

12.1.1 Relevant NICE recommendations and proposed quality statement

<p>Guideline recommendations</p>	<p>CG121</p> <p>1.4.5: When evaluating surgery as an option for patients with NSCLC, consider using a global risk score such as Thoracoscore to estimate the risk of death. Ensure the patient is aware of the risk before giving consent for surgery.</p> <p>1.4.6: Avoid surgery within 30 days of myocardial infarction.</p> <p>1.4.7: Seek a cardiology review in patients with an active cardiac condition, or three or more risk factors, or poor cardiac functional capacity.</p> <p>1.4.8: Offer surgery without further investigations to patients with two or fewer risk factors and good cardiac functional capacity.</p> <p>1.4.10: Continue anti-ischaemic treatment in the perioperative period, including aspirin, statins and beta-blockers.</p> <p>1.4.11: If a patient has a coronary stent, discuss perioperative anti-platelet treatment with a cardiologist.</p> <p>1.4.12: Consider revascularisation (percutaneous intervention or coronary artery bypass grafting) before surgery for patients with chronic stable angina and conventional indications for revascularisation.</p> <p>1.4.13: Perform spirometry in all patients being considered for treatment with curative intent. Measure TLCO if breathlessness is disproportionate or there is other lung pathology (for example, lung fibrosis).</p> <p>1.4.14: Offer patients surgery if they have an FEV1 within normal limits and good exercise tolerance.</p> <p>1.4.15: Offer patients with predicted postoperative FEV1 or TLCO below the recommended limit of 30% the option of undergoing surgery if they accept the risks of dyspnoea and associated complications.</p> <p>1.4.16: When considering surgery perform a segment count to predict postoperative lung function.</p> <p>1.4.17: Consider using shuttle walk testing (using a distance walked of more than 400 m as a cut-off for good function) to assess fitness of patients with moderate to high risk of postoperative dyspnoea.</p> <p>1.4.18: Consider cardiopulmonary exercise testing to measure VO2 max and assess lung function in patients with moderate to high risk of postoperative dyspnoea, using more than 15 ml/kg/minute as a cut-off for good function.</p>
<p>Proposed quality</p>	<p>People with lung cancer who are potentially suitable for treatment</p>

statement	with surgery are offered a comprehensive tripartite assessment of risk of a cardiac event, perioperative mortality and post-operative dyspnoea.
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with lung cancer who are potentially suitable for treatment with surgery are offered a comprehensive tripartite assessment of risk of a cardiac event, perioperative mortality and post-operative dyspnoea.</p> <p>Process: Proportion of people with lung cancer who are potentially suitable for treatment with surgery receive a comprehensive tripartite assessment of risk of a cardiac event, perioperative mortality and post-operative dyspnoea.</p> <p>Numerator – the number of people in the denominator who receive a comprehensive tripartite assessment of risk of a cardiac event, perioperative mortality and post-operative dyspnoea.</p> <p>Denominator – the number of people with lung cancer who are potentially suitable for treatment with surgery.</p> <p>Outcome: Deaths within 30 days of surgery.</p>
Definitions	A comprehensive tripartite assessment should be conducted in accordance with NICE clinical guideline 121. Available from www.nice.org.uk/CG121

12.1.2 Clinical and cost-effectiveness evidence

Recommendations about risk assessment for post operative morbidity and mortality were made after review of the evidence for a variety of risk scores. This evidence consisted largely of retrospective analyses and some prospective. In interpreting this evidence, the GDG considered, as well as the quality the studies, the validity of outcome measures employed in terms of their relevance to clinical practice.

Studies looking at lung function testing and predicted post operative FEV1 showed variable results but overall, a correlation with post operative outcomes (not all studies). Review of the evidence did not show a reliable lower limit of lung function and so the GDG made a consensus statement concerning this. Studies of exercise testing were found to be variable in quality and difficult to compare. Thus recommendations were confined to the use of CPET to clarify whether borderline patients are likely to have a good outcome and for other less complex exercise tests to be considered, with only one having an adequately evidence-based cut-off.

12.1.3 Patient experience

None identified.

12.1.4 Patient safety

No issues identified relating specifically to fitness assessment (see full

accompanying report from the NPSA for broader themes).

12.1.5 Current practice

In-hospital death after lobectomy for cancer in the UK was reported as 2.6% in 2003. The 30-day mortality for lobectomy and pneumonectomy in England from the National Lung Cancer Audit is 2.3% and 5.8% respectively.

Myocardial infarction is a major cause of mortality after non-cardiac surgery. The risk of cardiac death or non-fatal myocardial infarction associated with lung resection is generally 1-5%.²³

²³ British Thoracic Society and the Society for Cardiothoracic Surgery in Great Britain and Ireland (2010) [Guidelines on the Radical Management of Patients with Lung Cancer](#). Available from www.brit-thoracic.org.uk

13 Treatment – access to specialist assessment

13.1 *Clinical guideline 121 recommendations 1.4.19, 1.4.31 and 1.4.33.*

13.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.4.19: A clinical oncologist specialising in thoracic oncology should determine suitability for radiotherapy with curative intent, taking into account performance status and comorbidities.</p> <p>1.4.31: Offer patients with stage I-III NSCLC who are not suitable for surgery an assessment by a clinical oncologist specialising in thoracic oncology for radiotherapy with curative intent.</p> <p>1.4.33 (KPI): Ensure all patients potentially suitable for multimodality treatment (surgery, radiotherapy and chemotherapy in any combination) are assessed by a thoracic oncologist and by a thoracic surgeon.</p>
Proposed quality statement	<p>People with lung cancer have their suitability for radiotherapy with curative intent assessed by a clinical oncologist specialising in thoracic oncology and those considered for multimodality treatment are assessed by a thoracic oncologist and a thoracic surgeon.</p>
Draft quality measures	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people with lung cancer have their suitability for radiotherapy with curative intent assessed by a clinical oncologist specialising in thoracic oncology.</p> <p>b) Evidence of local arrangements to ensure that people with lung cancer considered for multimodality treatment are assessed by a thoracic oncologist and a thoracic surgeon.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who have their suitability for radiotherapy with curative intent assessed by a clinical oncologist specialising in thoracic oncology.</p> <p>Numerator – the number of people in the denominator who have their suitability for radiotherapy with curative intent assessed by a clinical oncologist specialising in thoracic oncology.</p> <p>Denominator – the number of people with lung cancer.</p> <p>b) Proportion of people with lung cancer considered for multimodality treatment who are assessed by a thoracic oncologist and a thoracic surgeon.</p> <p>Numerator – the number of people in the denominator who are assessed by a thoracic oncologist and a thoracic surgeon.</p> <p>Denominator – the number of people with lung cancer considered for multimodality treatment.</p>
Definitions	<p>Performance status and comorbidities are considered in reaching</p>

	decisions on treatment.
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13.1.2 Clinical and cost-effectiveness evidence

Guideline recommendations are based on consensus and professional opinion.

13.1.3 Patient experience

None identified.

13.1.4 Patient safety

No issues identified relating specifically to access to specialist assessment (see full accompanying report from the NPSA for broader themes).

13.1.5 Current practice

None identified.

14 Treatment – access to surgery

14.1 *Clinical guideline 121 recommendations 1.4.20, 1.4.21, 1.4.22, 1.4.23, 1.4.34, 1.4.35 and 1.4.48.*

14.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.4.20 (KPI): Offer patients with NSCLC who are medically fit and suitable for treatment with curative intent, lobectomy (either open or thoracoscopic) as the treatment of first choice. For patients with borderline fitness and smaller tumours (T1a-b, N0, M0), consider lung parenchymal-sparing operations (segmentectomy or wedge resection) if a complete resection can be achieved.</p> <p>1.4.21: Offer more extensive surgery (bronchoangioplastic surgery, bilobectomy, pneumonectomy) only when needed to obtain clear margins.</p> <p>1.4.22: Perform hilar and mediastinal lymph node sampling or en bloc resection for all patients undergoing surgery with curative intent.</p> <p>1.4.23: For patients with T3 NSCLC with chest wall involvement who are undergoing surgery, complete resection of the tumour should be the aim by either extrapleural or en bloc chest wall resection.</p> <p>1.4.34: Offer postoperative chemotherapy to patients with good performance status (WHO 0 or 1) and T1-3 N1-2 M0 NSCLC.</p> <p>1.4.35: Consider postoperative chemotherapy in patients with good performance status (WHO 0 or 1) and T2-3 N0 M0 NSCLC with tumours greater than 4 cm in diameter.</p> <p>1.4.48: Consider surgery in patients with early-stage SCLC (T1-2a, N0, M0).</p>
Proposed quality statement	<p>People with lung cancer who are medically fit and suitable for treatment with curative intent, including people with borderline fitness and smaller tumours, are offered surgery with the aim of complete resection and postoperative chemotherapy where the patient has a good performance status and stage as specified in NICE guidance.</p>
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with lung cancer who are medically fit and suitable for treatment with curative intent, including people with borderline fitness and smaller tumours, are offered surgery with the aim of complete resection and postoperative chemotherapy where the patient has a good performance status and stage as specified in NICE guidance.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who receive surgical resection with curative intent.</p> <p>Numerator – the number of people in the denominator who receive surgical resection with curative intent.</p> <p>Denominator – the number of people with lung cancer.</p> <p>b) Proportion of people with lung cancer and an FEV1 <40%</p>

	<p>predicted or 2 or more comorbidities as well as tumours <40cm who receive surgery with the aim of complete resection.</p> <p>Numerator – the number of people in the denominator who receive surgery with the aim of complete resection.</p> <p>Denominator – the number of people with lung cancer and an FEV1 <40% predicted or 2 or more comorbidities as well as tumours <4cm.</p> <p>c) Proportion of people with lung cancer who have had surgery and have a good performance status and stage as specified in NICE guidance who receive postoperative chemotherapy.</p> <p>Numerator – the number of people in the denominator who receive postoperative chemotherapy.</p> <p>Denominator – the number of people with lung cancer who have had surgery and have a good performance status and stage as specified in NICE guidance.</p> <p>Outcome: Complete resection rates.</p>
Definitions	<p>Postoperative chemotherapy should be offered to patients with a performance status of WHO 0 or 1, and stage T1-3 N1-2 M0, and should be considered for patients with a stage of T2-3 N0 M0 NSCLC.</p>

14.1.2 Clinical and cost-effectiveness evidence

These recommendations are largely based on a Cochrane systematic review which found a lack of good trial data supporting surgical resection against other forms of treatment. Early stage (I&II) lung cancer, if resected, is associated with long term survival, as evidenced from the recent data from the IASLC 7th staging project, but surgery is accepted as the treatment of choice by consensus rather than from high quality trials. Higher stage (IIIA-specifically N2) has a better evidence base from two randomised trials which demonstrated no particular advantage for surgery over chemoradiotherapy. However, survival in the surgical arms remained acceptable and is an alternative to that treatment.

14.1.3 Patient experience

None identified.

14.1.4 Patient safety

No issues identified relating specifically to access to surgery (see full accompanying report from the NPSA for broader themes).

14.1.5 Current practice

The National Lung Cancer Audit Report 2010²⁴ showed that 13.7% of patients with lung cancer in England received an operation in 2009. Although a 2.9 percentage point increase on 2008, the audit shows significant variation across trusts and networks; the rate of surgery being four times higher in some parts of the country than others.

The audit report also showed that nationally, 18.3% of histologically confirmed NSCLC patients receive surgery.

14.1.6 Current indicators

National Lung Cancer Audit – Proportion of patients receiving surgery.

Available from www.ic.nhs.uk

National Lung Cancer Audit – Proportion of NSCLC patients receiving surgery. Available from www.ic.nhs.uk

National Lung Cancer Audit – Proportion of histologically confirmed NSCLC patients receiving surgery. Available from www.ic.nhs.uk

National Lung Cancer Audit – Proportion of NSCLC receiving chemotherapy stratified by stage. Available from www.ic.nhs.uk

National Cancer Peer Review Programme Clinical Lines of Enquiry – Proportion of patients undergoing surgical resection. Available from www.cquins.nhs.uk

²⁴ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

15 Treatment – access to radical radiotherapy

15.1 *Clinical guideline 121 recommendations 1.4.24, 1.4.25, 1.4.26, 1.4.27, 1.4.28, 1.4.29, 1.4.30, 1.4.36 and 1.4.38.*

15.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.4.24 (KPI): Radical radiotherapy is indicated for patients with stage I, II or III NSCLC who have good performance status (WHO 0, 1) and whose disease can be encompassed in a radiotherapy treatment volume without undue risk of normal tissue damage.</p> <p>1.4.25: All patients should undergo pulmonary function tests (including lung volumes and transfer factor) before having radical radiotherapy for NSCLC.</p> <p>1.4.26: Patients who have poor lung function but are otherwise suitable for radical radiotherapy should still be offered radiotherapy, provided the volume of irradiated lung is small.</p> <p>1.4.27: Patients with stage I or stage II NSCLC who are medically inoperable but suitable for radical radiotherapy should be offered the CHART regimen.²⁵</p> <p>1.4.28: Patients receiving radiotherapy with curative intent should be part of a national quality assurance programme.</p> <p>1.4.29: Patients with stages IIIA or IIIB NSCLC who are eligible for radical radiotherapy and who cannot tolerate or do not wish to have chemoradiotherapy should be offered the CHART regimen.</p> <p>1.4.30: If CHART is not available, conventionally fractionated radiotherapy to a dose of 64-66 Gy in 32-33 fractions over 61/2 weeks or 55 Gy in 20 fractions over 4 weeks should be offered.</p> <p>1.4.36: Offer a cisplatin-based combination chemotherapy regimen for adjuvant chemotherapy.</p> <p>1.4.38: Ensure eligible patients have the benefit of detailed discussion of the risks and benefits of adjuvant chemotherapy.</p>
Proposed quality statement	<p>People with lung cancer who are unsuitable or unable to undergo surgery are offered radiotherapy with curative intent, employing the latest radiotherapy techniques that give maximal dose to the tumour whilst limiting normal tissue damage.</p>
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with lung cancer who are unsuitable or unable to undergo surgery are offered radiotherapy with curative intent, employing the latest radiotherapy techniques that give maximal dose to the tumour whilst</p>

²⁵ The GDG recognises that radiotherapy techniques have advanced considerably since the 2005 guideline and centres would reasonably wish to offer these techniques (including SBRT and 4-D planning) to patients. These treatments have the advantage of reducing the risk of damage to normal tissue (estimated by using measurements such as V20).

	<p>limiting normal tissue damage.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who receive radiotherapy with curative intent.</p> <p>Numerator – the number of people in the denominator who receive radiotherapy with curative intent.</p> <p>Denominator – the number of people with lung cancer.</p> <p>b) Proportion of people with lung cancer who receive new radiotherapy techniques.</p> <p>Numerator – the number of people in the denominator who receive new radiotherapy techniques.</p> <p>Denominator – the number of people with lung cancer receiving radiotherapy with curative intent.</p>
Definitions	New radiotherapy techniques include SBRT and 4-D planning.

15.1.2 Clinical and cost-effectiveness evidence

Radiotherapy may be the treatment of choice for patients with early stage lung cancer and co-morbidity who present a high surgical risk or where the patient makes an informed choice not to have surgery. Radiotherapy can also be given with potential curative intent in patients with locally advanced NSCLC usually in combination with chemotherapy and occasionally surgery.

15.1.3 Patient experience

None identified.

15.1.4 Patient safety

No issues identified relating specifically to access to radical radiotherapy (see full accompanying report from the NPSA for broader themes).

15.1.5 Current practice

The National Lung Cancer Audit report 2010²⁶ showed that 28.9% of lung cancer patients nationally are in receipt of radiotherapy.

15.1.6 Current indicators

National Lung Cancer Audit – Proportion of patients receiving radiotherapy. Available from www.ic.nhs.uk

²⁶ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

16 Treatment - chemotherapy

16.1 *Clinical guideline 121 recommendations 1.4.40, 1.4.41, 1.4.42 and 1.4.43.*

16.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	<p>CG121</p> <p>1.4.40: Chemotherapy should be offered to patients with stage III or IV NSCLC and good performance status (WHO 0, 1 or a Karnofsky score of 80-100), to improve survival, disease control and quality of life.</p> <p>1.4.41: Chemotherapy for advanced NSCLC should be a combination of a single third-generation drug (docetaxel, gemcitabine, paclitaxel or vinorelbine) plus a platinum drug. Either carboplatin or cisplatin may be administered, taking into account of their toxicities, efficacy and convenience.</p> <p>1.4.42: Patients who are unable to tolerate a platinum combination may be offered single-agent chemotherapy with a third-generation drug.</p> <p>1.4.43: Docetaxel monotherapy should be considered if second-line treatment is appropriate for patients with locally advanced or metastatic NSCLC in whom relapse has occurred after previous chemotherapy.</p>
Proposed quality statement	People with lung cancer are offered chemotherapy tailored to the histological type and sub-type of the tumour, and individual genetic predictive factors.
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with lung cancer are offered chemotherapy tailored to the histological type and sub-type of the tumour, and individual genetic predictive factors.</p> <p>Process: Proportion of people with lung cancer who receive chemotherapy tailored to the histological type and sub-type of the tumour, and individual genetic predictive factors.</p> <p>Numerator – the number of people in the denominator who receive chemotherapy tailored to the histological type and sub-type of the tumour, and individual genetic predictive factors.</p> <p>Denominator – the number of people with lung cancer.</p>
Definitions	Chemotherapy regimen defined for each histological type and sub-type and notes on genetic predictive factors?

16.1.2 Clinical and cost-effectiveness evidence

See NICE technology appraisal 192 Gefitinib for the first-line treatment of locally advanced or metastatic non-small-cell lung cancer. Available from www.nice.org.uk/TA192

NICE technology appraisal 190 Pemetrexed for the maintenance treatment of non-small-cell lung cancer. Available from www.nice.org.uk/TA190

NICE technology appraisal 227 Lung cancer (non-small-cell, advanced or metastatic maintenance treatment) - erlotinib (monotherapy): guidance. Available from www.nice.org.uk/TA227

16.1.3 Patient experience

None identified.

16.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identifies the following priority areas relating to patient safety.

- Chemotherapy

16.1.5 Current practice

The National Lung Cancer Audit Report 2010²⁷ shows that 25% of all NSCLC cases were treated with chemotherapy.

16.1.6 Current indicators

National Lung Cancer Audit – Proportion of NSCLC patients receiving chemotherapy, stratified by stage. Available from www.ic.nhs.uk

²⁷ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

17 Treatment – Small cell lung cancer

17.1 *Clinical guideline 121 recommendations 1.4.44, 1.4.45, 1.4.46, 1.4.47, 1.4.49, 1.4.50, 1.4.51, 1.4.53, 1.4.54, 1.4.57 and 1.4.58.*

17.1.1 Relevant NICE recommendations and proposed quality statement

<p>Guideline recommendations</p>	<p>CG121</p> <p>1.4.44 (KPI): Arrange for patients with small-cell lung cancer (SCLC) to have an assessment by a thoracic oncologist within 1 week of deciding to recommend treatment.</p> <p>1.4.45: Offer patients with limited-stage disease SCLC (broadly corresponding to T1-4, N0-3, M0) four to six cycles cisplatin-based combination chemotherapy. Consider substituting carboplatin in patients with impaired renal function, poor performance status (WHO 2 or more) or significant comorbidity.</p> <p>1.4.46: Offer concurrent chemoradiotherapy to patients with limited-stage disease SCLC (broadly corresponding to T1-4, N0-3, M0) and a WHO performance status of 0 or 1 if they present with disease that can be encompassed in a radical thoracic radiotherapy volume. Start the radiotherapy during the first or second cycle of chemotherapy.</p> <p>1.4.47: Offer sequential radical thoracic radiotherapy to patients with limited-stage disease SCLC (broadly corresponding to T1-4, N0-3, M0) who are unfit for concurrent chemoradiotherapy but who respond to chemotherapy.</p> <p>1.4.49: Offer platinum-based combination chemotherapy to patients with extensive-stage disease SCLC (broadly corresponding to T1-4, N0-3, M1a/b - including cerebral metastases) if they are fit enough.</p> <p>1.4.50: Assess the patient's condition before each cycle of chemotherapy for extensive-stage disease SCLC (broadly corresponding to T1-4, N0-3, M1a/b) and offer up to a maximum of six cycles, depending on response and toxicity.</p> <p>1.4.51: For patients with extensive-stage disease SCLC, thoracic radiotherapy should be considered after chemotherapy if there has been a complete response at distant sites and at least a good partial response within the thorax.</p> <p>1.4.53: Offer prophylactic cranial irradiation at a dose of 25 Gy in 10 fractions to patients with limited-stage disease SCLC and WHO performance status 2 or less, if their disease has not progressed on first-line treatment.</p> <p>1.4.54: Offer prophylactic cranial irradiation to patients with extensive-stage disease SCLC and WHO performance status 2 or less, if their disease has not progressed on first-line treatment.</p> <p>1.4.57: Offer patients with relapsed SCLC, who are suitable for chemotherapy, treatment with an anthracycline-containing regimen or further treatment with a platinum-based regimen to a maximum of six cycles.</p> <p>1.4.58: Offer radiotherapy for palliation of local symptoms to patients</p>
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	with SCLC that has relapsed after first-line treatment.
Proposed quality statement	People with small-cell lung cancer are assessed by a thoracic oncologist within 1 week of the decision to recommend treatment and are offered chemotherapy, sequential or concurrent chemoradiotherapy in accordance with NICE guidance.
Draft quality measures	<p>Structure: Evidence of local arrangements to ensure that people with small-cell lung cancer are assessed by a thoracic oncologist within 1 week of the decision to recommend treatment and are offered, chemotherapy, sequential or concurrent chemoradiotherapy in accordance with NICE guidance.</p> <p>Process:</p> <p>a) Proportion of people with small-cell lung cancer who are assessed by a thoracic oncologist within 1 week of the decision to recommend treatment.</p> <p>Numerator – the number of people in the denominator who are assessed by a thoracic oncologist within 1 week of the decision.</p> <p>Denominator – the number of people with small-cell lung cancer with a decision to recommend treatment.</p> <p>b) Proportion of people with small-cell lung cancer who receive chemotherapy, sequential or concurrent chemoradiotherapy in accordance with NICE guidance.</p> <p>Numerator – the number of people in the denominator who receive chemotherapy, sequential or concurrent chemoradiotherapy in accordance with NICE guidance.</p> <p>Denominator – the number of people with small-cell lung cancer.</p>
Definitions	Treatment for people should be given in accordance with NICE clinical guideline 121. Available from www.nice.org.uk/CG121

17.1.2 Clinical and cost-effectiveness evidence

While there is no direct clinical trial evidence supporting the time from diagnosis to assessment for treatment as influencing whether patients are offered chemotherapy the GDG agreed that SCLC frequently progresses rapidly and that patients' fitness for treatment can change over a short period of time. The expert opinion was that, in order to facilitate patients being appropriately assessed for chemotherapy, this recommendation should include a specific time frame that emphasises to clinical teams the need to avoid delays and for patients to be rapidly referred for review by specialist oncologists.

17.1.3 Patient experience

None identified.

17.1.4 Patient safety

No issues identified relating specifically to small cell lung cancer (see full

accompanying report from the NPSA for broader themes).

17.1.5 Current practice

Data from the National Lung Cancer Audit suggests that, despite SCLC being a chemotherapy sensitive cancer, at least one third of patients do not receive any chemotherapy. The 2010 audit²⁸ reported a national average of 65.7% SCLC patients receiving chemotherapy.

17.1.6 Current indicators

National Lung Cancer Audit – Proportion of patients with SCLC receiving chemotherapy. Available from www.ic.nhs.uk

National Cancer Peer Review Programme Clinical Lines of Enquiry – Proportion of small cell lung cancer cases receiving chemotherapy. Available from www.cquins.nhs.uk

²⁸ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

18 Follow up

18.1 *Clinical guideline 121 recommendation 1.6.1.*

18.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	CG121 1.6.1 (KPI): Offer all patients an initial specialist follow-up appointment within 6 weeks of completing treatment to discuss ongoing care. Offer regular appointments thereafter, rather than relying on patients requesting appointments when they experience symptoms.
Proposed quality statement	People with lung cancer are offered a specialist follow-up appointment within 6 weeks of completing treatment to discuss ongoing care, and regular appointments thereafter.
Draft quality measures	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people with lung cancer are offered a specialist follow-up appointment within 6 weeks of completing treatment to discuss ongoing care.</p> <p>b) Evidence of local arrangements to ensure that people with lung cancer are offered regular follow-up appointments after having completed treatment.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who receive a specialist follow-up appointment within 6 weeks of completing treatment to discuss ongoing care.</p> <p>Numerator – the number of people in the denominator who receive a specialist follow-up appointment within 6 weeks of completing treatment to discuss ongoing care.</p> <p>Denominator – the number of people with lung cancer who have completed treatment.</p> <p>b) Proportion of people with lung cancer who receive regular follow-up appointments after having completed treatment.</p> <p>Numerator – the number of people in the denominator who receive regular follow-up appointments.</p> <p>Denominator – the number of people with lung cancer who have completed treatment.</p> <p>Outcome: Emergency admission rates</p>
Definitions	Regular follow-up appointments are

18.1.2 Clinical and cost-effectiveness evidence

These recommendations are based on low quality comparative studies. The paucity of evidence precludes firm evidence-based recommendations. However the evidence did show that regular follow-up results in fewer crisis

driven health related episodes. Such episodes are distressing to patients and carers not least because the emergency admission process is often difficult and in the UK at least, often leads to inpatient management by non-specialists. It is therefore likely that this recommendation will benefit patients and lead to more effective use of NHS resources. There were several studies identified that have looked at the use of specific interventions in the setting of follow-up. Unfortunately none of the studies is of sufficient quality to allow evidence based recommendations.

The GDG made consensus recommendations about the timing of follow-up.

18.1.3 Patient experience

Macmillan's research highlighted the feeling of "being cast adrift" by the hospital team after primary treatment had finished. The possibility of continuity of care was appealing to patients and carers.²⁹

18.1.4 Patient safety

No issues identified relating specifically to follow up (see full accompanying report from the NPSA for broader themes).

18.1.5 Current practice

None identified.

18.1.6 Current indicators

None identified.

²⁹ National Lung Cancer Forum for Nurses (2009) [Good Practice Guide: \(Leading the Way to an Ideal Lung Cancer Service\)](#). Available from www.nlcn.org.uk

19 Palliative care – endobronchial treatment

19.1 *Clinical guideline 121 recommendations 1.5.4, 1.5.5 and 1.5.6.*

19.1.1 Relevant NICE recommendations and proposed quality statement

Guideline recommendations	CG121 1.5.4: When patients have large airway involvement, monitor (clinically and radiologically) for endobronchial obstruction to ensure treatment is offered early. 1.5.5: Offer external beam radiotherapy and/or endobronchial debulking or stenting to patients with impending endobronchial obstruction. 1.5.6 (KPI): Every cancer network should ensure that patients have rapid access to a team capable of providing interventional endobronchial treatments.
Proposed quality statement	People with lung cancer are offered early endobronchial treatment when endobronchial obstruction is identified.
Draft quality measures	Structure: Evidence of local arrangements to ensure that people with lung cancer are offered early endobronchial treatment when endobronchial obstruction is identified. Process: Proportion of people with lung cancer who receive early endobronchial treatment. Numerator – the number of people in the denominator who receive early endobronchial treatment. Denominator – the number of people with lung cancer.
Definition	Endobronchial treatment should be offered within 1-4 weeks of the identification of endobronchial obstruction.

19.1.2 Clinical and cost-effectiveness evidence

The evidence review found only poor quality studies for the majority of endobronchial treatments and one randomised trial comparing brachytherapy with external beam radiotherapy. The recommendations were therefore based on expert opinion and the randomised trial.

19.1.3 Patient experience

None identified.

19.1.4 Patient safety

No issues identified relating specifically to endobronchial treatment (see full accompanying report from the NPSA for broader themes).

19.1.5 Current practice

None identified.

19.1.6 Current indicators

None identified.

20 Palliative care – comprehensive treatments

20.1 *Clinical guideline 121 recommendations 1.5.3, 1.5.7, 1.5.8, 1.5.9, 1.5.10, 1.5.11, 1.5.12, 1.5.13, 1.5.14, 1.5.15, 1.5.16, 1.5.17 and 1.5.18.*

20.1.1 Relevant NICE recommendations and proposed quality statement

<p>Guideline recommendations</p>	<p>CG121</p> <p>1.5.3: Patients who cannot be offered curative treatment, and are candidates for palliative radiotherapy, may either be observed until symptoms arise and then treated, or be treated with palliative radiotherapy immediately.</p> <p>1.5.7: Pleural aspiration or drainage should be performed in an attempt to relieve the symptoms of a pleural effusion.</p> <p>1.5.8: Patients who benefit symptomatically from aspiration or drainage of fluid should be offered talc pleurodesis for longer-term benefit.</p> <p>1.5.9: Non-drug interventions based on psychosocial support, breathing control and coping strategies should be considered for patients with breathlessness.</p> <p>1.5.10: Non-drug interventions for breathlessness should be delivered by a multidisciplinary group, coordinated by a professional with an interest in breathlessness and expertise in the techniques (for example, a nurse, physiotherapist or occupational therapist). Although this support may be provided in a breathlessness clinic, patients should have access to it in all care settings.</p> <p>1.5.11: Opioids, such as codeine or morphine, should be considered to reduce cough.</p> <p>1.5.12: Patients with troublesome hoarseness due to recurrent laryngeal nerve palsy should be referred to an ear, nose and throat specialist for advice.</p> <p>1.5.13: Patients who present with superior vena cava obstruction should be offered chemotherapy and radiotherapy according to the stage of disease and performance status.</p> <p>1.5.14: Stent insertion should be considered for the immediate relief of severe symptoms of superior vena caval obstruction or following failure of earlier treatment.</p> <p>1.5.15: Offer dexamethasone to patients with symptomatic brain metastases and reduce to the minimum necessary maintenance dose for symptomatic response.</p> <p>1.5.16: Consider palliative whole-brain radiotherapy for patients with symptomatic brain metastases with good performance status (WHO 0 or 1).</p> <p>1.5.17: For patients with bone metastasis requiring palliation and for whom standard analgesic treatments are inadequate, single-fraction radiotherapy should be administered.</p> <p>1.5.18: Other symptoms, including weight loss, loss of appetite,</p>
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	depression and difficulty swallowing, should be managed by multidisciplinary groups that include supportive and palliative care professionals.
Proposed quality statement	People with lung cancer have access to all appropriate palliative care treatments including chemotherapy, radiotherapy, pleural aspiration or drainage, non-drug interventions, opioids and stent insertion, which are delivered by expert clinicians.
Draft quality measures	<p>Structure:</p> <p>a) Evidence of local arrangements to ensure that people have access to all appropriate palliative care treatments including chemotherapy, radiotherapy, pleural aspiration or drainage, non-drug interventions, opioids and stent insertion.</p> <p>b) Evidence of local arrangements to ensure that people have palliative care treatments delivered by expert clinicians.</p> <p>Process:</p> <p>a) Proportion of people with lung cancer who receive palliative chemotherapy.</p> <p>Numerator – the number of people in the denominator who receive palliative chemotherapy.</p> <p>Denominator – the number of people with lung cancer.</p> <p>b) Proportion of people with lung cancer who receive palliative radiotherapy.</p> <p>Numerator – the number of people in the denominator who receive palliative radiotherapy.</p> <p>Denominator – the number of people with lung cancer.</p> <p>c) Proportion of people with lung cancer who receive pleural aspiration or drainage.</p> <p>Numerator – the number of people in the denominator who receive pleural aspiration or drainage.</p> <p>Denominator – the number of people with lung cancer.</p> <p>d) Proportion of people with lung cancer who receive non-drug palliative interventions.</p> <p>Numerator – the number of people who receive non-drug palliative interventions.</p> <p>Denominator – the number of people with lung cancer.</p> <p>e) Proportion of people with lung cancer who receive palliative opioids.</p> <p>Numerator – the number of people in the denominator who receive palliative opioids.</p> <p>Denominator – the number of people with lung cancer.</p> <p>f) Proportion of people with lung cancer who receive palliative stent insertion.</p> <p>Numerator – the number of people in the denominator who receive palliative stent insertion.</p> <p>Denominator – the number of people with lung cancer.</p> <p>g) Proportion of people who receive palliative care treatments delivered by expert clinicians.</p>

	Numerator – the number of people in the denominator who receive palliative care treatments delivered by expert clinicians. Denominator – the number of people with lung cancer.
Definitions	“Expert clinicians”.

20.1.2 Clinical and cost-effectiveness evidence

Guideline recommendations are based on consensus and professional opinion. The management of pain was recognised by the GDG to be of particular importance and the Group placed great emphasis on the prompt evaluation and effective treatment of pain.

20.1.3 Patient experience

Many symptoms of lung cancer can be very debilitating and considerably reduce quality of life.

20.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identifies the following priority areas relating to patient safety.

- Palliative care

20.1.5 Current practice

The National Lung Cancer Audit Report 2010³⁰ shows that 22.8% of lung cancer patients nationally are receiving palliative care.

There is survey evidence that common symptoms of lung cancer, particularly breathlessness and pain, are currently poorly controlled.

There is also evidence of a lack of recognition of the severity of pain experienced by patients and an under-use of appropriate drugs leading to poor pain relief.

20.1.6 Current indicators

National Lung Cancer Audit – Proportion of patients receiving palliative care. Available from www.ic.nhs.uk

³⁰ NHS Information Centre (2010) [National Lung Cancer Audit Report 2010](http://www.ic.nhs.uk). Available from www.ic.nhs.uk

QOF Palliative Care 2 - The practice has regular (at least three monthly) multidisciplinary case review meetings where all patients on the palliative care register are discussed. Available from www.qof.ic.nhs.uk/

QOF Palliative Care 3 - The practice has a complete register available of all patients in need of palliative care/support irrespective of age. Available from www.qof.ic.nhs.uk/

Appendix A: Definition of patient safety

The National Patient Safety Agency (NPSA) defines patient safety in the following terms:

Every day more than a million people are treated safely and successfully in the NHS, but the evidence tells us that in complex healthcare systems things will and do go wrong, no matter how dedicated and professional the staff. When things go wrong, patients are at risk of harm, and the effects are widespread and often devastating for patients, their families and the staff involved. Safety incidents also incur costs through litigation and extra treatment, and in 2009/10 the NHSLA paid out approximately £827, 000,000 in litigation costs and damages. These incidents are often caused by poor system design rather than the error of individuals i.e. 'they are an accident waiting to happen'.

In short patient safety could be summarised as 'The identification and reduction of risk and harm associated with the care provided to patients 'or 'Preventing patients from being harmed by their treatment'. Examples of this might be 'operating on or removing the wrong organ, ten times the dose of an opioid, giving a colonoscopy to the wrong patient with the same name as someone else in the waiting room etc.' These risks are unlikely to be identified through clinical trials or traditional evidence bases and so other evidence sources, such as the National Reporting and Learning System, need to be analysed to highlight the risks and improve system development. This does not however give an accurate picture of prevalence in that way that methods such as casenote review may do.