

# Lung cancer in adults

Quality standard

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[www.nice.org.uk/guidance/qs17](http://www.nice.org.uk/guidance/qs17)



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This standard is based on NG122 and NG209.

This standard should be read in conjunction with QS13, QS15, QS124 and QS43.

## Quality statements

Statement 1 Local authorities and healthcare commissioning groups use coordinated campaigns to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to. **[2012, updated 2019]**

Statement 2 Adults with suspected or confirmed lung cancer who smoke receive evidence-based stop-smoking support. **[new 2019]**

Statement 3 Adults with suspected or confirmed lung cancer have access to a named lung cancer clinical nurse specialist. **[2012, updated 2019]**

Statement 4 Adults with lung cancer being considered for treatment with curative intent have investigations to accurately determine diagnosis and stage, and to assess lung function. **[new 2019]**

Statement 5 Adults with non-small-cell lung cancer stage I or II and good performance status have treatment with curative intent. **[new 2019]**

Statement 6 Adults with non-small-cell lung cancer stage III or IV who are having tissue sampling, have samples taken that are suitable for pathological diagnosis and assessment of predictive biomarkers. **[2012, updated 2019]**

In 2019 this quality standard was updated and statements prioritised in 2012 were updated **(2012, updated 2019)** or replaced **(new 2019)**. For more information, see [update information](#).

Statements from the 2012 quality standard for lung cancer in adults that are still supported by the evidence may still be useful at a local level:

- People with a chest X-ray result suggesting lung cancer and people aged 40 and over with unexplained haemoptysis are offered an appointment to see a cancer specialist within 2 weeks.
- People with lung cancer are offered a holistic needs assessment at each key stage of care that informs their care plan and the need for referral to specialist services.
- People with lung cancer, following initial assessment and computed tomography (CT) scan, are offered investigations that give the most information about diagnosis and staging with the least risk of harm.
- People with lung cancer are offered assessment for multimodality treatment by a multidisciplinary team comprising all specialist core members.
- People with non-small-cell lung cancer stage I to III and good performance status who are unable to undergo surgery are assessed for radiotherapy with curative intent by a clinical oncologist specialising in thoracic oncology.
- People with lung cancer stage I to III who are offered radiotherapy with curative intent receive planned treatment techniques that optimise the dose to the tumour while minimising the risks of normal tissue damage.
- People with stage IIIB or IV non-small-cell lung cancer are offered systemic therapy in accordance with NICE guidance, that is directed by histology, molecular markers and PD-L1 expression.
- People with small-cell lung cancer have treatment initiated within 2 weeks of the pathological diagnosis.
- People with lung cancer are offered a specialist follow-up appointment within 6 weeks of completing initial treatment and regular specialist follow-up thereafter, which can include protocol-led clinical nurse specialist follow-up.
- People with lung cancer have access to all appropriate palliative interventions delivered by expert clinicians and teams.

The [2012 quality standard for lung cancer in adults](#) is available as a pdf.

# Quality statement 1: Public awareness

## Quality statement

Local authorities and healthcare commissioning groups use coordinated campaigns to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to. **[2012, updated 2019]**

## Rationale

Diagnosing lung cancer at a late stage is associated with poor health outcomes, including shorter survival. Raising awareness of the symptoms and signs of lung cancer can encourage earlier presentation and diagnosis, including among people who have never smoked. Locally coordinated awareness campaigns can engage groups at risk in the local population. Earlier diagnosis will increase the number of adults with lung cancer able to have treatment with curative intent.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

a) Evidence of local needs assessment to identify population groups for campaigns to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to.

**Data source:** Local data collection, for example, joint strategic needs assessment.

b) Evidence of locally coordinated campaigns to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to.

**Data source:** Local data collection, for example, campaign plans or materials such as

posters, leaflets, and social media messaging.

c) Evidence of evaluation of locally coordinated campaigns to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to.

**Data source:** Local data collection, for example, evaluation reports.

## Outcome

a) Proportion of adults in the population who can recognise and recall the symptoms and signs of lung cancer.

Numerator – the number in the denominator who can recognise and recall the symptoms and signs of lung cancer.

Denominator – the number of adults in the population.

**Data source:** Local data collection, for example, a sample survey based on [Cancer Research UK's Cancer Awareness Measure](#).

b) Proportion of adults with a new diagnosis of lung cancer who were diagnosed via an emergency route.

Numerator – the number in the denominator who were diagnosed via an emergency route.

Denominator – the number of adults with a new diagnosis of lung cancer.

**Data source:** [National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset](#) collects data on the source of referral.

c) Proportion of adults with a new diagnosis of lung cancer diagnosed at stage I or II.

Numerator – the number in the denominator diagnosed at stage I or II.

Denominator – the number of adults with a new diagnosis of lung cancer.

**Data source:** [National Cancer Registration and Analysis Service Cancer Outcomes and](#)



## What the quality statement means for different audiences

**Local authorities and healthcare commissioning groups** work together to develop and implement campaigns, tailored to the needs of the local population, to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to. They may also promote national lung cancer awareness campaigns locally. Local authorities and healthcare commissioning groups evaluate the impact of local campaigns, including the level of engagement with high-risk groups.

**Health and social care practitioners** (such as GPs, practice nurses, district nurses, community pharmacists and social care practitioners) get involved in local campaigns to raise awareness of the symptoms and signs of lung cancer and encourage people to seek medical advice if they need to.

**People** know about the symptoms and signs of lung cancer and are encouraged to get medical advice if they are worried about any symptoms. People know that getting advice quickly means that any cancer is more likely to be treated successfully.

## Source guidance

Lung cancer: diagnosis and management. NICE guideline NG122 (2019), recommendation 1.1.1

## Definitions of terms used in this quality statement

### Symptoms and signs of lung cancer

Symptoms and signs of lung cancer that should be investigated include:

- 2 or more of the following unexplained symptoms in people aged 40 years and over, or 1 or more in people aged 40 years or over who have ever smoked:
  - cough
  - fatigue
  - shortness of breath
  - chest pain
  - weight loss
  - appetite loss
- any of the following in people aged 40 years and over:
  - unexplained haemoptysis
  - persistent or recurrent chest infection
  - finger clubbing
  - supraclavicular lymphadenopathy or persistent cervical lymphadenopathy
  - chest signs consistent with lung cancer
  - thrombocytosis.

[[NICE's guideline on suspected cancer: recognition and referral](#), recommendations 1.1.1 to 1.1.3]

## Equality and diversity considerations

Local authorities and healthcare commissioning groups should ensure that awareness campaigns include approaches that engage people living in socioeconomically deprived areas. Awareness campaigns should also be accessible to people who do not speak or read English.

# Quality statement 2: Stopping smoking

## Quality statement

Adults with suspected or confirmed lung cancer who smoke receive evidence-based stop-smoking support. **[new 2019]**

## Rationale

People with suspected or confirmed lung cancer who smoke should be encouraged to stop smoking to reduce the risk of treatment-related complications and other smoking-related conditions and increase their life expectancy. They should be provided with evidence-based support to help them to stop smoking.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

a) Evidence of local arrangements to ensure that adults with suspected or confirmed lung cancer who smoke are given advice about why it is important to stop smoking.

**Data source:** Local data collection, for example, service protocols.

b) Evidence of local arrangements to provide evidence-based support for adults with suspected or confirmed lung cancer to help them to stop smoking.

**Data source:** Local data collection, for example, service specification and protocols.

## Process

Proportion of adults with suspected or confirmed lung cancer who smoke who receive evidence-based support to stop smoking.

Numerator – the number in the denominator who receive evidence-based support to stop smoking.

Denominator – the number of adults with suspected or confirmed lung cancer who smoke.

**Data source:** Royal College of Physicians' National Lung Cancer Audit (measure in development). Data on smoking status and whether treatment for tobacco addiction was given from National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset.

## Outcome

a) Smoking rates in adults with lung cancer having treatment with curative intent.

**Data source:** Local data collection, for example, audit of patient records.

b) 1-year survival rate for adults with lung cancer treated with curative intent.

**Data source:** National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset.

## What the quality statement means for different audiences

**Service providers** (such as primary care, community services, secondary and tertiary care) ensure that processes are in place to provide advice to adults with suspected or confirmed lung cancer who smoke about why it is important to stop smoking. Providers ensure that they can provide evidence-based support to help people with suspected or confirmed lung cancer to stop smoking. This may also include referral pathways to evidence-based stop-smoking support.

**Healthcare professionals** (such as GPs, pharmacists, clinical nurse specialists, consultants

and radiographers) provide advice to adults with suspected or confirmed lung cancer who smoke about why it is important to stop smoking. They arrange for them to access evidence-based stop-smoking support if they want to stop.

**Commissioners** (such as clinical commissioning groups, NHS England and local authorities) ensure that they commission services which provide evidence-based stop-smoking support to adults with suspected or confirmed lung cancer who smoke.

**Adults with suspected or confirmed lung cancer who smoke** are told that it is important to stop smoking to avoid complications during treatment and prevent other smoking-related illnesses. They are told that stopping smoking may improve how long they live, and they are given help if they want to give up.

## Source guidance

- [Tobacco: preventing uptake, promoting quitting and treating dependence. NICE guideline NG209 \(2021\)](#), recommendations 1.12.1, 1.14.1, 1.14.5, 1.14.6, 1.14.10, 1.14.13 to 1.14.15, 1.14.21, 1.14.26 and 1.22.4
- [Lung cancer: diagnosis and management. NICE guideline NG122 \(2019\)](#), recommendations 1.4.1 to 1.4.3

## Definitions of terms used in this quality statement

### Suspected lung cancer

Adults with symptoms and signs of lung cancer who are referred for investigation. [Expert opinion]

### Evidence-based stop-smoking support

Interventions and support to stop smoking, regardless of how services are commissioned or set up.

The following should be accessible to adults who smoke:

- behavioural interventions:
  - behavioural support (individual and group)
  - very brief advice
- medically licensed products:
  - bupropion (see [BNF information on bupropion hydrochloride](#))
  - nicotine replacement therapy (NRT) – short and long acting
  - varenicline (see [BNF information on varenicline](#))
- nicotine-containing e-cigarettes.

In November 2021, varenicline was unavailable in the UK. See the [Medicines and Healthcare products Regulatory Agency \(MHRA\) alert on varenicline](#). [[NICE's guideline on tobacco](#), recommendation 1.12.2 and terms used in this guideline; stop-smoking support]

## Equality and diversity considerations

Information about stopping smoking should be in a format that suits the person's needs and preferences. It should be accessible to people who do not speak or read English, and it should be culturally appropriate. People should have access to an interpreter or advocate if needed. For people with additional needs related to a disability, impairment or sensory loss, information should be provided as set out in [NHS England's Accessible Information Standard](#).

# Quality statement 3: Lung cancer clinical nurse specialist

## Quality statement

Adults with suspected or confirmed lung cancer have access to a named lung cancer clinical nurse specialist. [2012, updated 2019]

## Rationale

Lung cancer clinical nurse specialists can provide specialist guidance and support at all stages of care and treatment for adults with lung cancer and their family and carers. They can act as the key worker, coordinating care between secondary and primary care and providing continuity. Having a named clinical nurse specialist will ensure that adults with lung cancer can access advice and support whenever they need it, helping to improve their quality of life and health outcomes.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

a) Evidence of the availability of clinical nurse specialists who specialise in the care and support of adults with lung cancer.

**Data source:** Local data collection, for example, workforce plans or staff rotas. Clinical advice to cancer alliances for the commissioning of the whole lung cancer pathway (Lung Cancer Clinical Expert Group, 2017) recommends 1 whole-time equivalent nurse for an annual caseload of 80 new patients.

b) Evidence of local arrangements to ensure that adults with lung cancer know how to

contact the lung cancer clinical nurse specialist between hospital visits.

**Data source:** Local data collection, for example, service protocols and information on how to contact a clinical nurse specialist.

## Process

a) Proportion of adults with lung cancer who had a lung cancer clinical nurse specialist present at diagnosis.

Numerator – the number in the denominator who had a lung cancer clinical nurse specialist present at diagnosis.

Denominator – the number of adults with lung cancer.

**Data source:** Royal College of Physicians' National Lung Cancer Audit uses data from National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset on people who had a lung cancer clinical nurse specialist present for diagnosis.

b) Proportion of adults with lung cancer who have had assessment by a lung cancer clinical nurse specialist.

Numerator – the number in the denominator who have had assessment by a lung cancer clinical nurse specialist.

Denominator – the number of adults with lung cancer.

**Data source:** Royal College of Physicians' National Lung Cancer Audit uses data from National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset on people assessed by a lung cancer clinical nurse specialist.

c) Proportion of adults with lung cancer who were given the name of a lung cancer clinical nurse specialist who would support them.

Numerator – the number in the denominator who were given the name of a lung cancer clinical nurse specialist who would support them.

Denominator – the number of adults with lung cancer.



**Data source:** Local data collection, for example, audit of patient records. The [National Cancer Patient Experience Survey](#) includes data on people with lung cancer who were given the name of a clinical nurse specialist who would support them through their treatment.

## Outcome

a) Proportion of adults with lung cancer who are satisfied with the support provided by a lung cancer clinical nurse specialist.

Numerator – the number in the denominator who are satisfied with the support provided by a lung cancer clinical nurse specialist.

Denominator – the number of adults with lung cancer.

**Data source:** Local data collection, for example, a survey of adults with lung cancer. The [National Cancer Patient Experience Survey](#) includes data on ease of contacting a clinical nurse specialist for people with lung cancer receiving hospital treatment.

b) Health-related quality of life for adults with lung cancer.

**Data source:** Local data collection, for example, a survey of adults with lung cancer or their families and carers including patient-reported outcome measure.

## What the quality statement means for different audiences

**Service providers** (such as secondary and tertiary care) ensure that lung cancer clinical nurse specialists are available to support adults with suspected or confirmed lung cancer throughout their care. Providers ensure that processes are in place for adults with lung cancer to be supported by a lung cancer clinical nurse specialist at diagnosis and for them to have regular assessments with a lung cancer clinical nurse specialist at key points in their care.

**Healthcare professionals** (such as members of the lung cancer multidisciplinary team) ensure that adults with suspected or confirmed lung cancer know how to contact a lung cancer clinical nurse specialist between hospital visits. Healthcare professionals share

information with the lung cancer clinical nurse specialist to allow them to coordinate care for adults with lung cancer. Lung cancer clinical nurse specialists provide support and information to adults with lung cancer and carry out assessments at key points of care.

**Commissioners** (clinical commissioning groups) commission services with enough clinical nurse specialists with expertise in lung cancer to support all adults with lung cancer throughout all stages of care.

**Adults with lung cancer** can contact a clinical nurse specialist (a nurse experienced in treating lung cancer) for information, advice and support throughout their care.

## Source guidance

Lung cancer: diagnosis and management. NICE guideline NG122 (2019), recommendations 1.2.2, 1.3.33 and 1.6.3

## Definitions of terms used in this quality statement

### Suspected lung cancer

Adults with symptoms and signs of lung cancer who are referred for investigation. [Expert opinion]

### Lung cancer clinical nurse specialist

This can include surgical or oncology lung cancer clinical nurse specialists as well as palliative care clinical nurse specialists, depending on the stage of care. [Expert opinion]

## Equality and diversity considerations

Lung cancer clinical nurse specialists should ensure that people are provided with information that they can easily read and understand themselves, or with support, so that they can communicate effectively with health and care services. Information should be in a format that suits their needs and preferences. It should be accessible to people who do not speak or read English, and it should be culturally appropriate. People should have access to an interpreter or advocate if needed. For people with additional needs related to

a disability, impairment or sensory loss, information should be provided as set out in [NHS England's Accessible Information Standard](#).

# Quality statement 4: Investigations

## Quality statement

Adults with lung cancer being considered for treatment with curative intent have investigations to accurately determine diagnosis and stage, and to assess lung function.  
[new 2019]

## Rationale

Undergoing treatment with curative intent when lung cancer has already spread can reduce quality of life without increasing life expectancy. It is important that adults who are being considered for treatment with curative intent have accurate diagnosis and staging. This will ensure that the most appropriate treatment is provided. Risk assessment for people being considered for treatment with curative intent should include assessment of lung function because this is a good predictor of treatment outcomes.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

a) Evidence of local processes to record investigations to accurately determine diagnosis and stage and to assess lung function, for adults with lung cancer who are being considered for treatment with curative intent.

**Data source:** Local data collection, for example, local protocols.

b) Evidence of availability of positron-emission tomography CT (PET-CT) for adults with lung cancer who are being considered for treatment with curative intent.

**Data source:** Local data collection, for example, waiting times for PET-CT (including

results) for adults with lung cancer. [NHS England's Implementing a timed lung cancer diagnostic pathway](#) indicates that investigations should be complete by day 14 in the 28-day pathway.

c) Evidence of availability of brain imaging for adults with non-small-cell lung cancer stage II or III who are being considered for treatment with curative intent.

**Data source:** Local data collection, for example, access to magnetic resonance imaging (MRI) and waiting times for brain imaging (including results) for adults with non-small-cell lung cancer. [NHS England's Implementing a timed lung cancer diagnostic pathway](#) indicates that investigations should be complete by day 14 in the 28-day pathway.

## Process

a) Proportion of adults with lung cancer treated with curative intent who had PET-CT before starting treatment.

Numerator – the number in the denominator who had PET-CT before starting treatment.

Denominator – the number of adults with lung cancer treated with curative intent.

**Data source:** Local data collection, for example, audit of patient records.

b) Proportion of adults with non-small-cell lung cancer stage II or III treated with curative intent who had brain imaging before starting treatment.

Numerator – the number in the denominator who had brain imaging before starting treatment.

Denominator – the number of adults with non-small-cell lung cancer stage II or III treated with curative intent.

**Data source:** Local data collection, for example, audit of patient records.

c) Proportion of adults with non-small-cell lung cancer treated with curative intent who had spirometry and transfer factor (TLCO) before starting treatment.

Numerator – the number in the denominator who had spirometry and TLCO before starting

treatment.

Denominator – the number of adults with non-small-cell lung cancer treated with curative intent.

**Data source:**National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset includes data on diffusion capacity or TLCO, and forced expiratory volume (FEV1). Royal College of Physicians National Lung Cancer Audit uses data from National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset on completeness for FEV1 and FEV1% predicted for people with stage I or II lung cancer and performance status 0 to 1.

d) Proportion of adults with lung cancer who had clinical stage and performance status recorded.

Numerator – the number in the denominator who had clinical stage and performance status recorded.

Denominator – the number of adults with lung cancer.

**Data source:**Royal College of Physicians' National Lung Cancer Audit uses data from National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset on valid performance status and stage.

## Outcome

1-year survival rate for adults with lung cancer treated with curative intent.

**Data source:**National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset.

## What the quality statement means for different audiences

**Service providers** (such as secondary and tertiary care) ensure that processes are in place for adults with lung cancer who are being considered for treatment with curative intent to have investigations to accurately determine diagnosis and stage, and to check

lung function. Providers ensure that adults with lung cancer do not start treatment with curative intent until the results of PET-CT, brain imaging and lung function (if relevant) are available. Providers follow the [NHS England lung cancer diagnostic pathway](#) to ensure investigations are timely and do not lead to treatment being delayed.

**Healthcare professionals** (such as consultants, clinical nurse specialists and consultant radiographers) arrange for adults with lung cancer who are being considered for treatment with curative intent to have investigations to accurately determine diagnosis and stage, and to check lung function. Healthcare professionals give people information about the purpose of the investigations, and discuss the results with them, including what they might mean for their treatment.

**Commissioners** (such as clinical commissioning groups) commission services that ensure adults with lung cancer who are being considered for treatment with curative intent have investigations to accurately determine diagnosis and stage, and to check lung function. Commissioners ensure that providers have the equipment and capacity to carry out PET-CT and brain imaging without delaying the start of treatment with curative intent.

**Adults with lung cancer who may be able to have treatment to cure their cancer** have scans to confirm the diagnosis and stage of the cancer, and tests to check how well their lungs are working. The results will help to identify the most suitable treatment.

### Source guidance

[Lung cancer: diagnosis and management. NICE guideline NG122 \(2019\), recommendations 1.3.4, 1.3.18, 1.3.19, 1.3.22 to 1.3.25 and 1.4.13](#)

## Definitions of terms used in this quality statement

### Investigations to accurately determine diagnosis and stage, and to assess lung function

Investigations should include:

- PET-CT

- Stage-specific brain imaging for people with non-small-cell lung cancer
  - no brain imaging for people with stage I
  - contrast-enhanced brain CT for people with stage II
  - contrast-enhanced brain MRI for people with stage III
- spirometry and TLCO for people with non-small-cell lung cancer

[[NICE's guideline on lung cancer](#), recommendations 1.3.4, 1.3.23 to 1.3.25 and 1.4.13]

## **Treatment with curative intent for lung cancer**

There are a variety of treatment options and combinations of treatment that aim to remove the tumour and effect a cure for adults with lung cancer. These include: surgery, radiotherapy, chemotherapy and chemoradiotherapy. The approach to treatment will depend on the type of lung cancer, the clinical stage of the tumour, the person's performance status, comorbidities and the person's choice. [[NICE's guideline on lung cancer](#) and expert opinion]



# Quality statement 5: Treatment with curative intent

## Quality statement

Adults with non-small-cell lung cancer stage I or II and good performance status have treatment with curative intent. **[new 2019]**

## Rationale

Treatment with curative intent improves survival. There are a variety of options for treatment with curative intent in adults with stage I or II non-small-cell lung cancer who are well enough. Decisions about these treatment options should be taken at multidisciplinary team meetings that include all specialist core members. Adults with lung cancer should be involved in deciding which treatment or combinations of treatment best suit them.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

a) Evidence that lung cancer multidisciplinary team meetings include all specialist core members.

**Data source:** Local data collection, such as attendance monitoring for lung cancer multidisciplinary team meetings.

b) Evidence of local processes for discussing options for treatment with curative intent with adults with stage I or II non-small-cell lung cancer and good performance status.

**Data source:** Local data collection, such as local clinical protocols and patient information resources.

c) Evidence of local arrangements and written clinical protocols to ensure that adults with non-small-cell lung cancer stage I or II and good performance status have treatment with curative intent.

**Data source:** Local data collection, such as local clinical protocols.

## Process

Proportion of adults with non-small-cell lung cancer stage I or II and good performance status who have treatment with curative intent.

Numerator – the number in the denominator who have treatment with curative intent.

Denominator – the number of adults with non-small-cell lung cancer stage I or II and good performance status.

**Data source:** Royal College of Physicians' National Lung Cancer Audit uses data from National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset on people with non-small-cell lung cancer stage I or II and performance status 0 to 2 receiving treatment with curative intent.

## Outcome

a) Proportion of adults with non-small-cell lung cancer stage I or II and good performance status who are satisfied that treatment options were explained to them.

Numerator – the number in the denominator who are satisfied that treatment options were explained to them.

Denominator – the number of adults with non-small-cell lung cancer stage I or II and good performance status.

**Data source:** Local data collection, for example, a survey of adults with non-small-cell lung cancer or their families and carers.

b) 1-year survival rate for adults with non-small-cell lung cancer stage I or II.

**Data source:** National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset.

c) 5-year survival rate for adults with non-small-cell lung cancer stage I or II.

**Data source:** Local data collection, for example, audit of patient review records.

## What the quality statement means for different audiences

**Service providers** (such as secondary and tertiary care) ensure that lung cancer multidisciplinary team meetings include all specialist core members to support decisions on treatment for adults with lung cancer. Service providers ensure that staff are trained to discuss the risks and benefits of treatment options with adults with stage I or II non-small-cell lung cancer and good performance status and to support shared decision making. Service providers ensure that all treatment options are available.

**Healthcare professionals** (such as members of lung cancer multidisciplinary teams) attend lung cancer multidisciplinary team meetings and advise on treatment options for adults with non-small-cell lung cancer. Healthcare professionals discuss the risks and benefits of treatment options with adults with stage I or II non-small-cell lung cancer and good performance status and support them to make decisions about treatment.

**Commissioners** (such as clinical commissioning groups) commission services that ensure that adults with non-small-cell lung cancer stage I or II and good performance status can receive treatment with curative intent. Commissioners ensure that services have expertise to support decisions about optimal treatment for adults with non-small-cell lung cancer and that all suitable treatment options are available.

**Adults who are fit and have early-stage non-small-cell lung cancer** are offered treatment that may cure their cancer. They discuss treatment options with a healthcare professional who explains the risks and benefits of the different options.

## Source guidance

Lung cancer: diagnosis and management. NICE guideline NG122 (2019), recommendations 1.4.20, 1.4.21, 1.4.24, 1.4.27, 1.4.34 and 1.4.35

## Definitions of terms used in this quality statement

### Treatment with curative intent for non-small-cell lung cancer

There are a variety of options for treatment with curative intent for adults with stage I or II non-small-cell lung cancer and good performance status. The approach to treatment will depend on the clinical stage of the tumour, the person's performance status, comorbidities and personal choice. The following options should be available, and the risks and benefits of the options that are suitable should be discussed with the person:

- surgery – lobectomy, sublobar resection, bronchoangioplastic surgery, bilobectomy or pneumonectomy
- radiotherapy – stereotactic ablative radiotherapy (SABR) or conventional or hyperfractionated radiotherapy
- chemoradiotherapy
- multimodality treatment (surgery, radiotherapy and chemotherapy in any combination).

[NICE's guideline on lung cancer, recommendations 1.4.20, 1.4.21, 1.4.24, 1.4.27, 1.4.32 to 1.4.35]

### Good performance status

A measure of how well a patient can perform ordinary tasks and carry out daily activities. A good performance status in this context is defined as a World Health Organization (WHO) score of 0 to 2:

- 0, able to carry out all normal activity without restriction
- 1, restricted in strenuous activity but ambulatory and able to carry out light work

- 2, ambulatory and capable of all selfcare but unable to carry out any work activities; up and about more than 50% of waking hours.

[[NICE's 2011 full guideline on lung cancer](#), glossary (appendix 6) and [Royal College of Physicians' National Lung Cancer Audit](#)]

## Equality and diversity considerations

Healthcare professionals should ensure that people with non-small-cell lung cancer are not excluded from treatment with curative intent because of their age. They should support older people to consider all the treatment options carefully before deciding which option suits them best.

# Quality statement 6: Tissue sampling

## Quality statement

Adults with non-small-cell lung cancer stage III or IV who are having tissue sampling, have samples taken that are suitable for pathological diagnosis and assessment of predictive biomarkers. [2012, updated 2019]

## Rationale

Drug treatments for non-small-cell lung cancer work best if they are targeted according to the histological sub-type and predictive biomarkers of the tumour. Obtaining a pathological diagnosis and assessment of predictive biomarkers for a lung tumour in people with good performance status ensures that the most appropriate treatment regimen is offered. It is important that samples taken for diagnosis and staging yield enough material for pathology tests and immunohistochemical and/or genetic analysis. This will reduce delays to treatment by minimising the need for further sampling before making treatment decisions.

## Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

## Structure

a) Evidence of the availability of radiologists and respiratory specialists experienced in performing lung biopsies for adults with lung cancer.

**Data source:** Local data collection, for example, workforce plans or staff rotas.

b) Evidence of local processes to ensure that adults with non-small-cell lung cancer stage III or IV who are having tissue sampling, have samples taken that are suitable for pathological diagnosis and assessment of predictive biomarkers.

**Data source:** Local data collection, for example, service protocols.

c) Evidence of audit of the local test performance of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) and endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) for people with lung cancer.

**Data source:** Local data collection, for example, audit reports. Specific details of audit for EBUS-TBNA are included in the [British Thoracic Society quality standards for diagnostic flexible bronchoscopy in adults](#) (statements 5a and b).

## Process

a) Proportion of adults with non-small-cell lung cancer stage III or IV who have a second diagnostic test in order to determine histological sub-type or predictive biomarkers.

Numerator – the number in the denominator who have a second diagnostic test in order to determine histological sub-type or predictive biomarkers.

Denominator – the number of adults with non-small-cell lung cancer stage III or IV.

**Data source:** Local data collection, for example, audit of patient records. For measurement purposes, this measure aims to identify where suitable samples have not been taken, making it necessary for a second test to be carried out.

b) Proportion of adults with non-small-cell lung cancer stage III or IV for whom the reported tumour sub-type is 'not otherwise specified'.

Numerator – the number in the denominator for whom the reported tumour sub-type is 'not otherwise specified'.

Denominator – the number of adults with non-small-cell lung cancer stage III or IV.

**Data source:** [National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset](#). For measurement purposes, this measure aims to identify where suitable samples have not been taken, resulting in a sub-type 'not otherwise specified'.

c) Proportion of adults with non-small-cell lung cancer stage III or IV and performance status 0 to 2 who are successfully tested for all relevant biomarkers.

Numerator – the number in the denominator who are successfully tested for all relevant biomarkers.

Denominator – the number of adults with non-small-cell lung cancer stage III or IV and performance status 0 to 2.

**Data source:** National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset includes data on epidermal growth factor receptor mutational status, ALK fusion status, ROS1 Fusion status and PD-L1 expression.

## Outcome

a) Proportion of adults with non-small-cell lung cancer stage III or IV and performance status 0 to 2 who have a pathological diagnosis.

Numerator – the number in the denominator who have a pathological diagnosis.

Denominator – the number of adults with non-small-cell lung cancer stage III or IV and performance status 0 to 2.

**Data source:** National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset.

b) 1-year survival rate for adults with non-small-cell lung cancer stage III or IV.

**Data source:** National Cancer Registration and Analysis Service Cancer Outcomes and Services Dataset.

## What the quality statement means for different audiences

**Service providers** (such as secondary and tertiary care) ensure that adults with non-small-cell lung cancer stage III or IV who are having tissue sampling, have samples taken that are suitable for pathological diagnosis and assessment of predictive biomarkers. Providers ensure that lung cancer multidisciplinary teams include radiologists and respiratory specialists experienced in performing lung biopsies for adults with lung cancer. Providers also audit local test performance for EBUS-TBNA and EUS-FNA to assess the



sensitivity of the procedures and the suitability of samples.

**Healthcare professionals** (such as respiratory specialists and radiologists) take tissue samples from adults with non-small-cell lung cancer stage III or IV that are suitable for pathological diagnosis and assessment of predictive biomarkers.

**Commissioners** (such as clinical commissioning groups) commission services that ensure that adults with non-small-cell lung cancer stage III or IV have tissue samples taken that are suitable for pathological diagnosis and assessment of predictive biomarkers.

**Adults with advanced non-small-cell lung cancer** have tissue samples taken that give enough information for a complete diagnosis and to guide treatment options.

## Source guidance

Lung cancer: diagnosis and management. NICE guideline NG122 (2019), recommendation 1.3.11

## Definitions of terms used in this quality statement

### Samples suitable for pathological diagnosis and assessment of predictive biomarkers

Providing there is no risk to the person, tissue samples of sufficient size and quality should be taken to support pathological diagnosis, including tumour sub-typing and assessment of predictive biomarkers. The samples should:

- allow pathologists to classify non-small-cell lung cancer into squamous cell carcinoma or adenocarcinoma wherever possible
- support stage-appropriate immunohistochemical and/or genetic analysis to detect specific biomarkers that predict whether targeted treatments are likely to be effective, for example, epidermal growth factor receptor (EGFR) mutations, anaplastic lymphoma kinase (ALK) gene rearrangement, programmed death-ligand 1 (PD-L1) expression or ROS-1 gene mutation.

[NICE's 2011 full guideline on lung cancer and expert opinion]

## Update information

**December 2019:** This quality standard was updated, and statements prioritised in 2012 were replaced.

Statements are marked as:

- **[new 2019]** if the statement covers a new area for quality improvement
- **[2012, updated 2019]** if the statement covers an area for quality improvement included in the 2012 quality standard and has been updated.

Statements numbered 1, 4 and 7 in the 2012 version have been updated and are included in the updated quality standard, marked as **[2012, updated 2019]**.

Statements from 2012 that are still supported by the evidence may still be relevant to existing local quality improvement projects, and are listed in the [quality statements section](#).

The [2012 quality standard for lung cancer in adults](#) is available as a pdf.

### Minor changes since publication

**November 2021:** Quality statement 2 has been amended to ensure alignment with [NICE's guideline on tobacco](#). The source guidance recommendations and definitions have been amended to align with this guideline.

## About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision-making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about [how NICE quality standards are developed](#) is available from the NICE website.

See our [webpage on quality standard advisory committees](#) for details of standing committee 3 members who advised on this quality standard. Information about the topic experts invited to join the standing members is available from the [webpage for this quality standard](#).

This quality standard has been included in the [NICE Pathways on lung cancer and tobacco use](#) which bring together everything we have said on a topic in an interactive flowchart.

NICE has produced a [quality standard service improvement template](#) to help providers make an initial assessment of their service compared with a selection of quality statements. This tool is updated monthly to include new quality standards.

NICE guidance and quality standards apply in England and Wales. Decisions on how they apply in Scotland and Northern Ireland are made by the Scottish government and Northern Ireland Executive. NICE quality standards may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

## Resource impact

NICE quality standards should be achievable by local services. The potential resource impact is considered by the quality standards advisory committee, drawing on resource impact work for the source guidance. Organisations are encouraged to use the resource impact products for the source guidance to help estimate local costs:

- [resource impact statement for the NICE guideline on lung cancer](#)
- [resource impact template and report for the NICE guideline on tobacco.](#)

## Diversity, equality and language

Equality issues were considered during development and [equality assessments for this quality standard](#) are available. Any specific issues identified during development of the quality statements are highlighted in each statement.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.

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## Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)

## Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- British Thoracic Society
- British Thoracic Oncology Group (BTOG)
- Society and College of Radiographers (SOR)
- Society for Cardiothoracic Surgery in Great Britain and Ireland
- British Society of Thoracic Imaging
- Royal College of General Practitioners (RCGP)
- Primary Care Respiratory Society UK
- Royal College of Pathologists