NICE National Institute for Health and Care Excellence

NICE quality standard

Pneumonia: diagnosis and management

Quality standard
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www.nice.org.uk/guidance/qs110

Contents

This standard is based on NG250.

This standard should be read in conjunction with QS97, QS66, QS63, QS61, QS15, QS43, QS121 and QS10.

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Statement 4 People with community-acquired pneumonia are given information on expected recovery timescales and when to seek further medical advice. **[new 2025]**

In 2025 this quality standard was updated and statements prioritised in 2016 were updated (2016, updated 2025) or replaced (new 2025). For more information, see update information.

The previous version of the quality standard for pneumonia in adults is available as a pdf.

Quality statement 1: Mortality risk assessment

Quality statement

Adults diagnosed with community-acquired pneumonia have a mortality risk assessment using CRB65 in primary care or CURB65 in hospital. **[2016, updated 2025]**

Rationale

The CRB65 scoring system in primary care and CURB65 scoring system in hospital can be used to stratify adults with community-acquired pneumonia for risk of death within 30 days. Using clinical judgement together with mortality risk assessment supports stratification of disease severity and informs decisions about place of care.

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.

Process

a) Proportion of adults diagnosed with community-acquired pneumonia in primary care who had a mortality risk assessment using CRB65.

Numerator – the number in the denominator who had a mortality risk assessment using CRB65.

Denominator – the number of adults diagnosed with community-acquired pneumonia in primary care.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from electronic medical records.

b) Proportion of adults diagnosed with community-acquired pneumonia in hospital who had a mortality risk assessment using CURB65.

Numerator – the number in the denominator who had a mortality risk assessment using CURB65.

Denominator – the number of adults diagnosed with community-acquired pneumonia in hospital.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

What the quality statement means for different audiences

Service providers (primary and secondary care services) ensure that adults have a mortality risk assessment when they are diagnosed with community-acquired pneumonia.

Healthcare professionals (such as doctors, nurses and paramedics who are working in primary care) carry out a mortality risk assessment when an adult is diagnosed with community-acquired pneumonia. In primary care, the person should be seen for a face-to-face appointment if pneumonia is suspected.

Commissioners ensure that they commission services in which adults have a mortality risk assessment when they are diagnosed with community-acquired pneumonia.

Adults diagnosed with community-acquired pneumonia have an assessment to find out how serious the pneumonia might be and where they should receive treatment, for example at home or in hospital.

Source guidance

Pneumonia: diagnosis and management. NICE guideline NG250 (2025), recommendations 1.2.1 and 1.2.7

Definitions of terms used in this quality statement

Pneumonia

Pneumonia is an infection of the lung tissue in which the air sacs in the lungs become filled with microorganisms, fluid, and inflammatory cells, affecting the function of the lungs. It is diagnosed clinically based on symptoms such as focal chest signs, increased respiratory rate, low oxygen saturations, illness severity and other features. In secondary care, diagnosis is usually confirmed by chest X-ray. [Adapted from NICE's clinical knowledge summary on chest infections in adults and expert opinion]

Community-acquired pneumonia

Pneumonia that is acquired outside hospital, or within 48 hours of admission. Pneumonia that develops in a nursing home resident is included in this definition. When managed in hospital the diagnosis is usually confirmed by chest X-ray. [NICE's guideline on pneumonia, terms used in this guideline]

Mortality risk assessment

When a clinical diagnosis of community-acquired pneumonia is made, the healthcare professional should assess whether the person is at low, intermediate or high risk of death. In primary care, this is done by calculating the CRB65 score at the initial assessment (box 1). In secondary care, this is done by calculating the CURB65 score (box 2).

Box 1 CRB65 score for mortality risk assessment in primary care

CRB65 score is calculated by giving 1 point for each of the following prognostic features:

- confusion (abbreviated Mental Test score 8 or less, or new disorientation in person, place or time); for guidance on delirium, see NICE's guideline on delirium
- raised respiratory rate (30 breaths per minute or more)
- low blood pressure (diastolic 60 mmHg or less, or systolic less than 90 mmHg)
- age 65 years or more.

Adults are stratified for risk of death (within 30 days) as follows:

- 0: low risk (less than 1% mortality risk)
- 1 or 2: intermediate risk (1 to 10% mortality risk)
- 3 or 4: high risk (more than 10% mortality risk).

Box 2 CURB65 score for mortality risk assessment in hospital

CURB65 score is calculated by giving 1 point for each of the following prognostic features:

- confusion (abbreviated Mental Test score 8 or less, or new disorientation in person, place or time); for guidance on delirium, see NICE's guideline on delirium
- raised blood urea nitrogen (over 7 mmol per litre)
- raised respiratory rate (30 breaths per minute or more)
- low blood pressure (diastolic 60 mmHg or less, or systolic less than 90 mmHg)
- age 65 years or more.

Adults are stratified for risk of death as follows:

- 0 or 1: low risk (less than 3% mortality risk)
- 2: intermediate risk (3 to 15% mortality risk)
- 3 to 5: high risk (more than 15% mortality risk).

[NICE's guideline on pneumonia, recommendations 1.2.1 and 1.2.7]

Equality and diversity considerations

It is important for healthcare professionals to be aware and mindful of any learning disabilities and mental health conditions, including dementia, when assessing confusion. They may need to adapt the assessment approach to meet individual needs. This may include obtaining information from people who know the person well, for example their carer, to inform the assessment.

Some people with a learning disability can present with physical differences affecting respiratory rate and blood pressure. Healthcare professionals should be mindful of this and, where possible, assess for changes against baseline observations. They should also monitor the subtle signs of deterioration with support from family and carers, where possible.

Any language barriers should be considered when assessing confusion. Involving an interpreter can assist with this and it is also helpful to obtain information from people who know the person well.

Healthcare professionals should be aware of the needs of adults at the end of life and agree the approach for managing pneumonia in the context of the person's overall care plan. They should take into account any advance care plan or treatment escalation plan.

Quality statement 2: Chest X-ray and antibiotic treatment

Quality statement

Adults presenting to hospital with suspected community-acquired or hospital-acquired pneumonia receive chest X-ray followed by antibiotic treatment if a diagnosis of pneumonia is confirmed, both within 4 hours of presentation. **[2016, updated 2025]**

Rationale

Early treatment of pneumonia is associated with improved clinical outcomes. Chest X-ray should be undertaken to confirm the diagnosis and appropriate antibiotic treatment started as soon as possible, and within 4 hours of presentation at hospital.

Where a chest CT scan has already been performed, a chest X-ray may not be needed. Lung ultrasound can be used as an adjunct to chest X-ray, particularly in cases where it will be difficult to carry out chest X-ray promptly. This should not replace chest X-ray for confirming a diagnosis of pneumonia.

Although most people will develop hospital-acquired pneumonia while staying in hospital, some may present with hospital-acquired pneumonia 7 to 10 days after being discharged from hospital.

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.

Process

a) Proportion of adults discharged from hospital following an emergency presentation with community-acquired or hospital-acquired pneumonia who had a chest X-ray within

4 hours of presentation.

Numerator – the number in the denominator who had a chest X-ray within 4 hours of presentation.

Denominator – the number of adults discharged from hospital following an emergency presentation with community-acquired or hospital-acquired pneumonia.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

Note: Provision of a chest CT scan may negate the need for chest X-ray, and this should be accounted for when measuring performance.

b) Proportion of adults discharged from hospital with a primary diagnosis of pneumonia who received antibiotic treatment within 4 hours of presentation at hospital.

Numerator – the number in the denominator who received antibiotic treatment within 4 hours of presentation.

Denominator – the number of people discharged from hospital with a primary diagnosis of pneumonia.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient records.

What the quality statement means for different audiences

Service providers (secondary care services) ensure that systems are in place for provision of chest X-ray and antibiotics within 4 hours for people presenting to hospital with community-acquired or hospital-acquired pneumonia.

Healthcare professionals (such as secondary care clinicians including doctors and nurses) ensure that adults presenting to hospital with suspected community-acquired or hospital-acquired pneumonia have a chest X-ray to confirm diagnosis. When a diagnosis of community-acquired or hospital-acquired pneumonia is confirmed, they begin antibiotic

treatment as soon as possible and within 4 hours of the person presenting to hospital. Hospital practitioners ensure that suspected sepsis is treated in accordance with sepsis guidance.

Commissioners ensure that they commission services in which adults presenting to hospital with suspected community-acquired or hospital-acquired pneumonia have a chest X-ray to confirm diagnosis. When community-acquired or hospital-acquired pneumonia is diagnosed, the commissioned services give antibiotic treatment as soon as possible and within 4 hours of presentation to hospital.

Adults presenting to hospital with suspected community-acquired or hospital-acquired pneumonia have a chest X-ray to confirm the diagnosis. If the diagnosis is confirmed, they start antibiotic treatment as soon as possible and within 4 hours of arriving at hospital.

Source guidance

Pneumonia: diagnosis and management. NICE guideline NG250 (2025), recommendations 1.4.1, 1.5.1 and 1.5.2

Definitions of terms used in this quality statement

Community-acquired pneumonia

Pneumonia that is acquired outside hospital, or within 48 hours of admission. Pneumonia that develops in a nursing home resident is included in this definition. When managed in hospital the diagnosis is usually confirmed by chest X-ray. [NICE's guideline on pneumonia, terms used in this guideline]

Hospital-acquired pneumonia

Pneumonia that develops 48 hours or more after hospital admission and that was not incubating at hospital admission, or people who present to hospital with pneumonia but who have been discharged within the last 7 to 10 days. When managed in hospital, the diagnosis is usually confirmed by chest X-ray. [NICE's guideline on pneumonia, terms used in this guideline]

Within 4 hours of presentation to hospital

The presentation time is the time that the person presents to hospital. This can be at the emergency department or another department they have been advised to present to, such as a same day emergency care unit.

The Emergency Care Data Set states that the urgent and emergency care activity start date and time is when handover occurs, or 15 minutes after the emergency ambulance arrives at the emergency department, whichever is the sooner, and this is the 'clock start' time. This is the time that can be used for measurement purposes for this quality statement for those arriving by ambulance.

The time the person books in on arrival at the emergency department, or other department, can be used for measurement purposes, if they do not arrive by ambulance. [Adapted from NHS England's Emergency Care Data Set and user guidance and expert opinion]

Quality statement 3: Duration of initial antibiotic treatment

Quality statement

People with community-acquired or hospital-acquired pneumonia are initially prescribed antibiotic treatment for 5 days, or 3 days for children aged 3 months to 11 years with community-acquired pneumonia and non-severe symptoms. **[2016, updated 2025]**

Rationale

Community-acquired and hospital-acquired pneumonia are usually caused by bacteria and should be treated with antibiotic therapy. A single course of antibiotic is usually an effective treatment for community-acquired or hospital-acquired pneumonia unless symptoms do not improve. Prescribing an initial course that is not given for longer than necessary will contribute to effective antimicrobial stewardship. In hospital, a review of antibiotic treatment within 48 to 72 hours is recommended in the UKHSA Start Smart Then Focus guidance in order to review and revise the clinical diagnosis and the continuing need for antimicrobials.

Quality measures

Process

a) Proportion of children aged 3 months to 11 years with non-severe community-acquired pneumonia without complications or underlying disease who were prescribed an initial 3-day course of antibiotic treatment.

Numerator – the number in the denominator who were prescribed an initial 3-day course of antibiotic treatment.

Denominator – the number of children aged 3 months to 11 years with non-severe community-acquired pneumonia without complications or underlying disease.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from electronic patient records.

b) Proportion of people with community-acquired pneumonia or hospital-acquired pneumonia (excluding children aged 3 months to 11 years with non-severe community-acquired pneumonia without complications or underlying disease) who were prescribed an initial 5-day course of antibiotic treatment.

Numerator – the number in the denominator who were prescribed an initial 5-day course of antibiotic treatment.

Denominator – the number of people with community-acquired pneumonia or hospital-acquired pneumonia (excluding children aged 3 months to 11 years with non-severe community-acquired pneumonia without complications or underlying disease).

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from electronic patient records.

What the quality statement means for different audiences

Service providers (primary and secondary care services) ensure that systems are in place for people diagnosed with community-acquired or hospital-acquired pneumonia to be initially prescribed antibiotic treatment for 3 or 5 days. They ensure that staff are aware that children aged 3 months to 11 years with non-severe community-acquired pneumonia, without complications or underlying disease are prescribed an initial 3-day course of antibiotic. They ensure staff are aware that everyone else with community-acquired pneumonia, and everyone with hospital acquired pneumonia, are prescribed an initial 5-day course of antibiotic treatment.

Healthcare professionals (such as paramedics working in primary care, GPs, secondary and community care doctors and nurses) prescribe an initial 3-day course of antibiotics for children aged 3 months to 11 years with non-severe community-acquired pneumonia, without complications or underlying disease. For everyone else with community-acquired pneumonia, and those with hospital-acquired pneumonia, they prescribe initial antibiotic treatment for 5 days.

Commissioners ensure that they commission services in which people with community-acquired or hospital-acquired pneumonia are initially prescribed antibiotic treatment for 5 days, or 3 days for children aged 3 months to 11 years with non-severe community-acquired pneumonia, without complications or underlying disease.

Children aged 3 months to 11 years with community-acquired pneumonia that is not severe are prescribed initial antibiotic treatment for 3 days if they have no complications or other underlying health conditions. If they do have complications or other underlying health conditions, they are prescribed initial antibiotic treatment for 5 days.

Everyone else with community-acquired pneumonia is prescribed initial antibiotic treatment for 5 days.

People with hospital-acquired pneumonia are prescribed initial antibiotic treatment for 5 days.

Source guidance

Pneumonia: diagnosis and management. NICE guideline NG250 (2025), recommendations 1.6.2, 1.6.4 and 1.7.3

Definitions of terms used in this quality statement

Community-acquired pneumonia

Pneumonia that is acquired outside hospital, or within 48 hours of admission. Pneumonia that develops in a nursing home resident is included in this definition. When managed in hospital the diagnosis is usually confirmed by chest X-ray. [NICE's guideline on pneumonia, terms used in this guideline]

Hospital-acquired pneumonia

Pneumonia that develops 48 hours or more after hospital admission and that was not incubating at hospital admission, or people who present to hospital with pneumonia but who have been discharged within the last 7 to 10 days. When managed in hospital, the diagnosis is usually confirmed by chest X-ray. [NICE's guideline on pneumonia, terms used in this guideline]

Severe community-acquired pneumonia in children and young people

Severe community acquired pneumonia in babies, children and young people is a diagnosis made by the treating physician. Features of this may include difficulty breathing, oxygen saturation less than 90% (percutaneous oxygen saturation monitors may be inaccurate in people with pigmented skin), raised heart rate, grunting, severe chest indrawing, inability to breastfeed or drink, lethargy and a reduced level of consciousness. [NICE's guideline on pneumonia, terms used in this guideline]

Quality statement 4: Information about community-acquired pneumonia

Quality statement

People with community-acquired pneumonia are given information on expected recovery timescales and when to seek further medical advice. **[new 2025]**

Rationale

Giving people with community-acquired pneumonia, and their family and carers if appropriate, advice and information on the expected timeframes for symptoms to improve, can help them to understand their recovery. Whilst there can be variation in the time taken for symptoms to resolve, for most otherwise healthy people, their symptoms will steadily improve after starting treatment. Some symptoms take longer to resolve than people may expect, particularly cough which can take several weeks to resolve. This can contribute to unnecessary repeat visits to the GP. Providing information on expected recovery times can reassure people that symptoms are resolving as would be expected.

People with community-acquired pneumonia, and their family and carers if appropriate, should also receive information that confirms when they should seek further medical advice.

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.

Process

Proportion of people with community-acquired pneumonia who were given information on expected recovery timescales and when to seek further medical advice.

Numerator – the number in the denominator who were given information on expected recovery timescales and when to seek further medical advice.

Denominator – the number of people with community-acquired pneumonia.

Data source: Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example from patient experience audits.

What the quality statement means for different audiences

Service providers (such as primary and secondary care services) ensure that systems are in place to give information on expected recovery timescales to people with community-acquired pneumonia, and their family and carers, if appropriate. The information should also include the symptoms to look out for that should prompt them to seek further medical advice.

Healthcare professionals (such as GPs, emergency department clinicians and other secondary care doctors and nurses) provide people with community-acquired pneumonia, and their family and carers if appropriate, with information on expected recovery timescales. The information should also include the symptoms to look out for that should prompt them to seek further medical advice. They provide this information and refer people to online resources that are available, such as the Asthma and Lung UK webpage on recovering from pneumonia.

Commissioners ensure they commission services that give information to people with community-acquired pneumonia, and their family and carers if appropriate, on expected recovery timescales and when to seek further medical advice.

People with community-acquired pneumonia and, if appropriate, their family and carers, are given information about how long their symptoms are expected to last and when they can expect to start to feel better. The information also explains which signs and symptoms they need to look out for, and when they should seek further medical attention. They are also told about online resources that may be helpful, such as the Asthma and Lung UK webpage on recovering from pneumonia.

Source guidance

Pneumonia: diagnosis and management. NICE guideline NG250 (2025), recommendations 1.10.1 to 1.10.4

Definitions of terms used in this quality statement

Community-acquired pneumonia

Pneumonia that is acquired outside hospital, or within 48 hours of admission. Pneumonia that develops in a nursing home resident is included in this definition. When managed in hospital the diagnosis is usually confirmed by chest X-ray. [NICE's guideline on pneumonia, terms used in this guideline]

Expected recovery timescales

Parents or carers of children with community-acquired pneumonia are informed that after starting treatment their child's symptoms should steadily improve, although the rate of improvement will vary and some symptoms will persist after stopping antibiotics. For most children:

- fever (without use of antipyretics) and difficulty breathing should have resolved within 3 to 4 days
- cough should gradually improve but may persist for up to 4 weeks after discharge and does not usually require further review if the child is otherwise well.

Adults with community-acquired pneumonia, and their family and carers if appropriate, are informed that after starting treatment their symptoms should steadily improve, although the rate of improvement will vary with the severity of the pneumonia. Most adults can expect that by:

- 1 week: fever should have resolved
- 4 weeks: chest pain and sputum production should have substantially reduced
- 6 weeks: cough and breathlessness should have substantially reduced
- 3 months: most symptoms should have resolved but fatigue may still be present

- 6 months: they will feel back to normal.

[Adapted from NICE's guideline on pneumonia, recommendations 1.10.1 and 1.10.2]

When to seek further medical advice

People with community-acquired pneumonia, and their family and carers if appropriate, are informed that they should seek further medical advice if the person is receiving treatment in the community or via hospital at home service and:

- symptoms worsen rapidly or significantly or
- symptoms do not start to improve within 3 days or
- the person becomes systemically unwell.

Parents or carers of children with community-acquired pneumonia are also informed to seek further advice if there is persisting fever combined with:

- increased work of breathing or
- reduced fluid intake for children or poor feeding for infants or
- unresolving fatigue.

[Adapted from NICE's guideline on pneumonia, recommendations 1.10.3 and 1.10.4 and expert opinion]

Update information

September 2025: This quality standard was updated and statements prioritised in 2016 were replaced. The topic was identified for update because the NICE guideline has been updated to include recommendations on babies, children and young people and hospital-acquired pneumonia.

Statements are marked as:

- **[new 2025]** if the statement covers a new area for quality improvement
- **[2016, updated 2025]** if the statement covers an area for quality improvement included in the 2016 quality standard and has been updated.

The previous version of the quality standard for pneumonia in adults is available as a pdf.

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 high-quality external 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 standards advisory committees for details about our standing committees. Information about the topic experts invited to join the standing members is available from the webpage for this quality standard.

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.

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.

For all quality statements where information is given, it is important that people are provided with information that they can easily read and understand themselves, or with support, so they can communicate effectively with healthcare 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 and age appropriate. People should have access to an interpreter if needed. People should also have access to an advocate, if needed, as set out in NICE's guideline on advocacy services for adults with health and social care needs.

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 or the equivalent standards for the devolved nations.

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 organisation

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.

- Asthma and Lung UK