BMJ Open Respiratory Research

British Thoracic Society Quality Standard for Clinically Significant Bronchiectasis in Adults 2022

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To cite: Hill AT, Grillo L, Gruffydd-Jones K, *et al*. British Thoracic Society Quality Standard for Clinically Significant Bronchiectasis in Adults 2022. *BMJ Open Resp Res* 2022;**9**:e001369. doi:10.1136/bmjresp-2022-001369

► Additional supplemental material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/bmjresp-2022-001369).

Received 18 July 2022
Accepted 19 July 2022

Check for updates

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ABSTRACT

This British Thoracic Society Quality Standard for Clinically Significant Bronchiectasis in Adults 2022 aims to encourage good practice by setting standards of high-quality respiratory care that services should follow.

The British Thoracic Society (BTS) has been at the forefront of the production of guidelines for best clinical practice in respiratory medicine, since the society was established 40 years ago. The society was awarded National Institute for Health and Care Excellence (NICE) accreditation for its guideline production process in November 2011 and the society's Guideline Production Manual setting out the detailed methodology and policy to produce guidelines is reviewed annually by the BTS Standards of Care Committee (SOCC).

A statement on quality standards based on each BTS guideline is a key part of the range of supporting materials that the society produces to assist in the dissemination and implementation of a guideline's recommendations.

A quality standard is a set of specific, concise statements that:

- Act as markers of high-quality, cost-effective patient care across a pathway or clinical area, covering treatment or prevention.
- Are derived from the best available evidence.

NICE Quality Standards and the 2021 NICE Quality Standards Process Guide[1] were used as a model for the development of BTS Quality Standards.

This document contains Quality Standards to be used in primary and secondary care for clinically significant bronchiectasis in adults (patients with the clinical syndrome of regular cough and sputum production, with or without recurrent chest infections and radiological confirmation of bronchiectasis). This document supersedes the BTS Quality Standards for Clinically Significant Bronchiectasis in Adults, published in 2012.[2]

The rationale for these quality standards is drawn from evidence and recommendations summarised in the BTS Guideline for Bronchiectasis in Adults 2019.[3] A link to that document can be found below: https://www.brit-thoracic.org.uk/document-library/guidelines/bronchiectasis/bts-guideline-for-bronchiectasis-in-adults/.

This document aims to improve the standards of care for people with bronchiectasis. The purpose of the document is to provide commissioners, planners and patients with a guide to the minimum standards of care that patients with this particular disease should expect, together with measurable markers of good practice.

BTS Quality Standards are intended for:

- Healthcare professionals to allow decisions to be made about care based on the latest evidence and best practice.
- Patients with bronchiectasis and their carers to enable understanding of what services they should expect from their health and social care provider.
- Service providers to be able to quickly and easily examine the clinical performance of their organisation and assess the standards of care they provide.
- Commissioners so that they can be confident that the services they are purchasing are high quality and cost-effective.

METHOD OF WORKING

The BTS convened a Bronchiectasis Quality Standard Working Group in March 2021, with the following membership:

Name, role and location

Adam T Hill, chair—consultant respiratory physician, Edinburgh.

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Lizzie Grillo—advanced physiotherapist, London.
Kevin Gruffydd-Jones—general practitioner, Wiltshire.
Michael Loebinger—consultant respiratory physician, London.
Karen Payne—adult bronchiectasis nurse specialist, Leicester.
Miguel Souto—head of clinical programmes, BTS.
Anita Sullivan—consultant respiratory physician, Birmingham.
James Wildgoose—patient representative.

We would also like to acknowledge the contributions of the following, who were members of the group that developed the original Quality Standard in 2012: Diana Bilton, Jerry Brown, Graham Burns, James Calvert, Karen Heslop, Wei Shen Lim, Joan Manzie, Mark Pasteur, Frances Sinfield, John White and Sally Welham.

Members of the Quality Standard Working Group submitted declaration of interest forms in line with the BTS Policy and copies of the forms are available on request from BTS head office.

The draft document was considered in detail by the BTS SOCC at its meeting in September 2021.

The document was made available on the BTS website for public consultation for the period from 16 May 2022 to 20 June 2022.

Following further revision, the document was submitted for approval to the BTS SOCC on 1 July 2022

The quality standard document will be reviewed in July 2025 or following the publication of a revised Guideline whichever is the sooner.

Each quality standard includes the following:

- A quality statement, which describes a key marker of high-quality, cost-effective care for this condition.
- Quality measures, which aim to improve the structure, process and outcomes of healthcare.

The quality measures are not intended to be new sets of targets or mandatory indicators for performance management that need to be collected. The quality measures are specified in the form of a numerator and a denominator, which define a proportion or ratio (numerator/denominator). It is assumed that the numerator is a subset of the denominator population. The suggested numerator and denominator are provided to allow healthcare professionals and service providers to examine their clinical performance in relation to each quality standard. It is recognised that no national quality indicators will be available for this condition, and institutions will need to agree locally what information is required for the denominator to be used in each case, and what the expected level of achievement should be, given local circumstances. A brief description about the quality standard in relation to each audience is given.

The BTS Guideline for Bronchiectasis in Adults 2019[3] is the main reference for all six quality statements. There is no specific order of priority associated with the list of quality statements.

LIST OF QUALITY STATEMENTS
1. People with bronchiectasis should be investigated for treatable causes of bronchiectasis.
2. People with bronchiectasis should be offered a review by a specialist respiratory physiotherapist or qualified healthcare professional.
3. People with bronchiectasis should have an individualised written self-management plan.
4. Patients with bronchiectasis and three or more exacerbations per year should be considered for long-term antibiotic treatment.
5. Services for people with bronchiectasis should include provision of home nebulised prophylactic antibiotics and home intravenous antibiotic therapy for suitable patients, supervised by a respiratory specialist.
6. All patients with bronchiectasis should receive at least an annual review of their condition when clinically stable.

Quality statement 1	**People with bronchiectasis should be investigated for treatable causes of bronchiectasis.**
Quality measure	**Structure:** ► Evidence of local arrangements for people with bronchiectasis to record confirmed aetiology or relevant negative investigations; and access to relevant tests for clinicians treating patients with bronchiectasis. **Process:** ► Proportion of people with bronchiectasis investigated for aetiology. **Numerator:** ► Number of people with bronchiectasis who have had appropriate aetiological investigations and the results included in the patient record. **Denominator:** ► Total number of people with bronchiectasis.
Description of what the quality statement means for each audience	► **Service providers** ensure systems are in place to carry out appropriate testing that is, immunological investigation for immunodeficiency and allergic bronchopulmonary aspergillosis (ABPA), tests for reflux or aspiration if indicated, screening tests for genetic disease if indicated. ► **Healthcare professionals** ensure that people with bronchiectasis are tested at the time of diagnosis, or at the first referral to specialist services if not already done, and results recorded in the notes. ► **Commissioners** ensure that appropriate services are available to investigate aetiology in people with bronchiectasis: access to immunology advice, sweat testing, nasal nitric oxide testing where available and genetic testing. ► **People with bronchiectasis** will be appropriately investigated and given the results of aetiological investigations.
Relevant existing indicators	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]

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Other possible national data sources	None identified
Source references	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Rationale	The BTS guideline recommends that all people with bronchiectasis have aetiological investigation: ► To prevent further progression if a treatable aetiology is identified. ► To predict whether a progressive course is likely (such patients should have enhanced monitoring). ► To guide family screening. Aetiological tests include: ► Screening for non-tuberculous mycobacteria (treatable). ► Screening for immunodeficiency (treatable in many cases; worse prognosis). ► Screening for ABPA (treatable). ► Screening for reflux/aspiration (treatable). ► Screening for genetic causes (family screening, worse prognosis), that is, cystic fibrosis (requires specialist care and has specific treatment in some cases) and primary ciliary dyskinesia (national service in place and may have specific treatment in future)

Quality statement 2	**People with bronchiectasis should be offered a review by a specialist respiratory physiotherapist or qualified healthcare professional.**
Quality measure	**Structure:** ► Evidence of local arrangements to ensure that all patients with bronchiectasis are reviewed by a specialist respiratory physiotherapist or qualified healthcare professional at initial review and if the patient is thought to be deteriorating. **Process:** ► Proportion of adults with a diagnosis of bronchiectasis who are seen by a respiratory physiotherapist or qualified healthcare professional. **Numerator:** ► The number of people with a diagnosis of bronchiectasis who are seen by a respiratory physiotherapist or qualified healthcare professional. **Denominator:** ► The total number of people with a diagnosis of bronchiectasis.
Description of what the quality statement means for each audience	► **Service providers** ensure systems are in place to allow people with bronchiectasis to see a specialist respiratory physiotherapist or qualified healthcare professional at initial diagnosis and access to review for patients who are deteriorating. ► **Healthcare professionals** ensure that all people with a diagnosis of bronchiectasis are referred to a specialist respiratory physiotherapist or qualified healthcare professional to be taught appropriate airway clearance techniques, which may include adjuncts, and advised of the frequency and duration with which these should be carried out. ► **Commissioners** ensure that access to specialist respiratory physiotherapy services or qualified healthcare professional are available including the use of airways clearance adjuncts and pulmonary rehabilitation. ► **People with a diagnosis of bronchiectasis** to be taught appropriate airway clearance techniques, which may include adjuncts, and advised of the frequency and duration with which these should be carried out.
Relevant existing indicators	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Other possible national data sources	None identified.
Source references	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4] ► Joint BTS/Association of Chartered Physiotherapists in Respiratory Care Guidelines for the Physiotherapy Management of the Adult, Medical, Spontaneously Breathing Patient, 2009.[5]
Rationale	► People with bronchiectasis should be reviewed by a specialist respiratory physiotherapist (band 6 and above) or qualified healthcare professional to optimise airway clearance techniques. Refresher courses may also be of benefit, to ensure techniques are optimised. ► Regular airway clearance is regarded as a key component in the management of bronchiectasis because it may improve symptoms and reduce exacerbation frequency. In patients with more advanced disease, a modified airway clearance regimen may be beneficial. This may include an alternative airway clearance technique or increased frequency and/or duration of current technique. ► Patients who are deteriorating should be offered a review to ensure airway clearance is optimised and for consideration of additional techniques or adjuncts to therapy. ► Specialist respiratory physiotherapists (band 6 and above): further information Specialist Respiratory Physiotherapists section of BTS website. ► The BTS guidelines as a good practice point recommend considering a trial of mucoactive treatment in people with bronchiectasis who have difficulty in sputum expectoration.

Quality statement 3	**People with bronchiectasis should have an individualised written self-management plan.**
Quality measure	**Structure:** ► Evidence of local arrangements to ensure that all people with bronchiectasis are provided with an individualised written self-management plan. **Process:** ► Proportion of people with bronchiectasis who have an individualised written self-management plan. **Numerator:** ► The number of people with bronchiectasis who have an individualised written self-management plan. **Denominator:** ► The total number of people with bronchiectasis.

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Description of what the quality statement means for each audience	► **Service providers** ensure systems are in place to provide people with bronchiectasis with an individualised self-management plan. ► **Healthcare professionals** ensure that all people with bronchiectasis are provided with an individualised written self-management plan. ► **Commissioners** ensure that services record the provision of an individualised written self-management plan. ► **People with bronchiectasis** to be involved in receiving an individualised written self-management plan.
Relevant existing indicators	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Other possible national data sources	None identified.
Source references	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Rationale	► An example of a model self-management plan can be found at online supplemental appendix A. The development of an individualised written self-management plan is intended to allow people with bronchiectasis to manage their condition and to recognise, respond to and reduce the occurrence of exacerbations.

Quality statement 4	**Patients with bronchiectasis and three or more exacerbations per year should be considered for long-term antibiotic treatment.**
Quality measure	**Structure:** ► Evidence of local arrangements to record the number of exacerbations per year in patients with bronchiectasis and record consideration of long-term antibiotic treatment. **Process:** ► Proportion of adults with bronchiectasis and three or more exacerbations per year that are considered for long-term antibiotic treatment. **Numerator:** ► The number of people with a diagnosis of bronchiectasis and three or more exacerbations per year in whom long-term antibiotics are considered. **Denominator:** ► The number of people with a diagnosis of bronchiectasis and three or more exacerbations per year.
Description of what the quality statement means for each audience	**Service providers** ensure systems are in place for recording exacerbation number and consideration of long-term antibiotic treatment. **Healthcare professionals** ensure that a record of the number of exacerbations per year in patients with bronchiectasis is made and that consideration of long-term antibiotic treatment is recorded in those with three or more exacerbations per year. **Commissioners** ensure that appropriate services are available to enable consideration of long-term antibiotic treatment. **People with a diagnosis of bronchiectasis** and three or more exacerbations per year are considered for long-term antibiotic treatment.
Relevant existing indicators	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Other possible national data sources	None identified.
Source references	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Rationale	► The BTS guidelines recommend the consideration of long-term antibiotics in patients with bronchiectasis that experience three or more exacerbations per year. This was a grade A recommendation based on the evidence from randomised controlled trials that long-term antibiotics reduce exacerbations in bronchiectasis.

Quality statement 5	**Services for people with bronchiectasis should include provision of home nebulised prophylactic antibiotics and home intravenous antibiotic therapy for suitable patients, supervised by a respiratory specialist.**
Quality measure	**Structure:** ► Evidence of local arrangements to ensure that suitable patients have access to a home nebulised antibiotic service* and/or home intravenous antibiotic therapy**. **Process:** ► Proportion of suitable patients with bronchiectasis who have access to a nebulised antibiotic service* and/or proportion of people with bronchiectasis who are assessed as suitable who have access to home intravenous antibiotic therapy**. **Numerator:** ► The number of suitable patients with bronchiectasis who have access to a nebulised antibiotic service* and/or the number of people with bronchiectasis assessed as suitable by the respiratory healthcare professional and who are offered access to home intravenous antibiotic therapy**. **Denominator:** ► The total number of patients with bronchiectasis assessed as suitable for nebulised prophylactic antibiotics* and/or the total number of people with bronchiectasis requiring intravenous antibiotics who are assessed as suitable for home intravenous antibiotic therapy**.
Description of what the quality statement means for each audience	► **Service providers** ensure that suitable patients with bronchiectasis have access to a nebulised antibiotic service* and/or ensure systems are in place for the provision of home intravenous antibiotic therapy**. ► **Healthcare professionals** ensure that suitable patients with bronchiectasis are referred for nebulised antibiotics if appropriate* and/or ensure that the people with bronchiectasis who are assessed as suitable for home intravenous antibiotic therapy are offered the treatment**. ► **Commissioners** ensure that all aspects of a nebulised antibiotic service are available and/or ensure that appropriate services are available to allow home intravenous antibiotic therapy to be offered. ► **Suitable people with bronchiectasis** to have access to a nebulised antibiotics service* and/or who are assessed as suitable to have access to home intravenous antibiotic therapy**.

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Relevant existing indicators	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Other possible national data sources	None identified.
Source references	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Rationale	The BTS guidelines recommend that clinicians consider long-term nebulised antibiotics in patients having three or more exacerbations per year requiring antibiotic therapy, or patients with fewer exacerbations that are causing significant morbidity . This is particularly used in patients chronically colonised with *Pseudomonas aeruginosa*. The rationale is that long-term prophylactic treatment may improve symptoms and reduce exacerbation frequency. A nebulised antibiotic service should include all aspects of provision including drugs, equipment, needles and syringes, disposables, associated assessment, support and monitoring, maintenance and servicing of equipment. Establish ongoing shared care with the community team, if possible. **The rationale for home-based intravenous treatment is to reduce the need for hospitalisation (which will reduce hospital bed days and the risk of hospital-acquired infection) and promote people-centred care allowing delivery of intravenous treatment safely at home. Domiciliary intravenous treatment may be suitable for exacerbations that: ► Require intravenous treatment (in patients that fail appropriate oral antibiotic therapy from in vitro testing or have organisms that are resistant to oral antibiotic therapy). ► Have no indicators that require hospital admission (unable to cope at home, development of cyanosis or confusion, breathlessness with respiratory rate 25/min or greater, respiratory or circulatory failure, temperature 38°C or over). ► Are assessed as competent for domiciliary intravenous treatment by a multidisciplinary team led by a respiratory healthcare professional (this includes good visual acuity and manual dexterity to perform self administration, adequate facilities in the home (clean environment, refrigeration and a telephone), reliable adherence to therapy, secure venous access, proper training and supervision).

Quality statement 6	**All patients with bronchiectasis should receive at least an annual review of their condition when clinically stable.**
Quality measure	**Structure:** Evidence of local arrangements to ensure that an annual review takes place which includes the following: ► Assessment of symptoms. ► Exacerbation frequency. ► Pulse oximetry. ► Sputum bacteriology culture. ► MRC dyspnoea score. ► Comorbidity assessment. ► Body mass index. ► Spirometry. ► Check that patient has been reviewed by a specialist respiratory physiotherapist or qualified healthcare professional for airways clearance techniques—if not, to refer. **Process:** ► Proportion of adults with a diagnosis of bronchiectasis with a record of annual review in community or hospital care. **Numerator:** ► The number of people with a diagnosis of bronchiectasis with a record of annual review having taken place. **Denominator:** ► The total number of people diagnosed with bronchiectasis.
Description of what the quality statement means for each audience	► **Service providers** ensure systems are in place for annual review to take place. ► **Healthcare professional** ensure that an annual review of patients with bronchiectasis takes place and the quality measures stated above are checked. ► **Commissioners** ensure that an annual review is carried out for all patients with bronchiectasis. ► **People with a diagnosis of bronchiectasis** to have a minimum of annual review carried out when clinically stable and the quality measures stated above are checked.
Relevant existing indicators	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Other possible national data sources	None identified.
Source references	► BTS Guideline for Bronchiectasis in Adults 2019.[2] ► BTS Quality Standard for Bronchiectasis.[3] ► BTS National Audits of Bronchiectasis 2010, 2011.[4]
Rationale	► All patients with bronchiectasis should undergo routine monitoring to identify disease progression, pathogen emergence and modify treatment when needed. The frequency of monitoring in primary or secondary care should be tailored to the patient's disease severity, but should take place at least once a year. ► The routine monitoring tests are based on factors which are known to affect the risk of future exacerbations, hospital admission and death.

Contributors All authors contributed equally to the development of the statement.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Provenance and peer review Commissioned; internally peer reviewed.

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