# Tuberculosis

# NICE quality standard

## Draft for consultation

July 2016

## Introduction

This quality standard covers preventing, identifying and managing latent and active tuberculosis (TB) in children, young people and adults. For more information see the TB topic overview.

NICE quality standards focus on aspects of health and social care that are commissioned locally. Areas of national policy, such as the UK Bacillus Calmette-Guérin (BCG) immunisation programme, are therefore not covered by this quality standard.

### *Why this quality standard is needed*

TB a curable and preventable infectious disease caused by a type of bacterium. It is spread by droplets containing the bacteria being coughed out by someone with infectious TB, and then being inhaled by other people.

The initial infection clears in over 80% of people but, in a few cases, a defensive barrier is built around the infection and the TB bacteria lie dormant. This is called latent TB; the person is not ill and is not infectious. If the immune system fails to build the defensive barrier, or the barrier fails later, latent TB can spread in the lung (pulmonary TB) or develop in the other parts of the body it has spread to (extrapulmonary TB). Only a small proportion of people with latent TB will develop symptoms ('active TB').

Many cases of TB can be prevented by public health measures and, if clinical disease does occur, most people can be cured if treated properly. Taking medicine in the wrong dose or combination, irregularly or for too short a time can lead to

treatment failure or drug resistance. Drug-resistant strains of TB are much harder to treat and significantly increase a person's risk of long-term complications or death.

The Collaborative tuberculosis strategy for England: 2015 to 2020 reports that drug-resistant TB is an increasing problem in England with numbers of cases of multidrug-resistant TB increasing from 46 (1.2% of cases) in 2004 to 68 (1.6% of cases) in 2013. The increasing numbers of drug- resistant cases present a particular challenge; they need longer and more complex treatment regimens, which are associated with significantly increased side effects and treatment costs, and poorer outcomes.

TB incidence in the UK increased through the 1990s, remained relatively stable from 2005 to 2012, and for the 3 years to 2016 has shown a year-on-year decrease. TB is a notifiable disease, meaning that clinicians have a statutory duty to notify local authorities or a local Public Health England of suspected cases. Public Health England's Reports of cases of tuberculosis to enhanced tuberculosis surveillance systems: United Kingdom, 2000 to 2014 highlighted that in 2014 there were 6,520 new cases of TB recorded in England.

The Collaborative tuberculosis strategy for England: 2015 to 2020 reports that nearly three-quarters of all TB cases in England occur in those born abroad, mainly in high TB burden countries, and most of these cases (85%) occur among settled migrants who have been in the country for more than 2 years, rather than in new entrants. Cases tend to cluster in urban areas where populations of at-risk groups are high. These include areas with many people born in countries with a high incidence of TB, a high level of homelessness, poor housing or poverty, and high rates of problem drug use.

Raising awareness of TB and tackling stigma is particularly important because of the demographics of at-risk groups. Professionals working in relevant statutory, community and voluntary organisations should be able to explain that treatment for TB is free and confidential for everyone (regardless of eligibility for other NHS care). Working in partnership with voluntary organisations and 'community champions' is essential to increase awareness of TB in under-served groups.

The quality standard is expected to contribute to improvements in the following outcomes:

- access to TB services
- early diagnosis of TB
- treatment completion for TB
- incidence of TB
- prevalence of TB
- incidence of drug-resistant TB
- mortality rates for people with TB.

## *How this quality standard supports delivery of outcome frameworks*

NICE quality standards are a concise set of prioritised statements designed to drive measurable improvements in the 3 dimensions of quality – safety, experience and effectiveness of care – for a particular area of health or care. They are derived from high-quality guidance, such as that from NICE or other sources accredited by NICE. This quality standard, in conjunction with the guidance on which it is based, should contribute to the improvements outlined in the following 2 outcomes frameworks published by the Department of Health:

- NHS Outcomes Framework 2016–17
- Public Health Outcomes Framework 2016–19.

Tables 1 and 2 show the outcomes, overarching indicators and improvement areas from the frameworks that the quality standard could contribute to achieving.

**Table 1 NHS Outcomes Framework 2016–17**

| Domain | Overarching indicators and improvement areas |
|---|---|
| 1 Preventing people from dying prematurely | ***Overarching indicators***<br>1a Potential Years of Life Lost (PYLL) from causes considered amenable to healthcare<br>i Adults ii Children and young people<br>1b Life expectancy at 75<br>i Males ii Females<br>***Improvement areas***<br>**Reducing premature mortality from the major causes of** |

| | |
|---|---|
| | **death**<br>1.2 Under 75 mortality rate from respiratory disease*<br>**Reducing mortality in children**<br>1.6 i Infant mortality* |
| 4 Ensuring that people have a positive experience of care | ***Overarching indicators***<br>4b Patient experience of hospital care<br>4c *Friends and family test*<br>*4d Patient experience characterised as poor or worse*<br>*ii Hospital care*<br>***Improvement areas***<br>**Improving people's experience of outpatient care**<br>4.1 Patient experience of outpatient services<br>**Improving children and young people's experience of healthcare**<br>*4.8 Children and young people's experience of inpatient services* |
| **Alignment with Adult Social Care Outcomes Framework and/or Public Health Outcomes Framework**<br>* Indicator is shared<br>Indicators in italics in development | |

**Table 2 Public health outcomes framework for England, 2016–19**

| Domain | Objectives and indicators |
|---|---|
| 3 Health protection | ***Objective***<br>The population's health is protected from major incidents and other threats, whilst reducing health inequalities<br>***Indicators***<br>3.05 Treatment completion for TB |
| 4 Healthcare public health and preventing premature mortality | ***Objective***<br>Reduced numbers of people living with preventable ill health and people dying prematurely, whilst reducing the gap between communities<br>***Indicators***<br>4.01 Infant mortality*<br>4.03 Mortality rate from causes considered preventable**<br>4.07 Under 75 mortality rate from respiratory diseases*<br>4.08 Mortality rate from communicable diseases |
| ***Alignment with Adult Social Care Outcomes Framework and/or NHS Outcomes Framework***<br>* Indicator is shared<br>** Indicator is complementary | |

## *Safety and people's experience of care*

Ensuring that care is safe and that people have a positive experience of care is vital in a high-quality service. It is important to consider these factors when planning and delivering services relevant to TB.

NICE has developed guidance and an associated quality standard on patient experience in adult NHS services (see the NICE pathway on patient experience in adult NHS services), which should be considered alongside this quality standard. They specify that people receiving care should be treated with dignity, have opportunities to discuss their preferences, and be supported to understand their options and make fully informed decisions. They also cover the provision of information to people using services. Quality statements on these aspects of patient experience are not usually included in topic-specific quality standards. However, recommendations in the development sources for quality standards that affect people's experience of using services and are specific to the topic are considered during quality statement development.

## *Coordinated services*

The quality standard for TB specifies that services should be commissioned from and coordinated across all relevant agencies encompassing the whole TB care pathway. A person-centred, integrated approach to providing services is fundamental to delivering high-quality care to people with TB.

The Health and Social Care Act 2012 sets out a clear expectation that the care system should consider NICE quality standards in planning and delivering services, as part of a general duty to secure continuous improvement in quality. Commissioners and providers of health and social care should refer to the library of NICE quality standards when designing high-quality services. Other quality standards that should also be considered when choosing, commissioning or providing a high-quality TB service are listed in related quality standards.

### Training and competencies

The quality standard should be read in the context of national and local guidelines on training and competencies. All health, public health and social care practitioners

involved in assessing, caring for and treating people with TB should have sufficient and appropriate training and competencies to deliver the actions and interventions described in the quality standard. Quality statements on staff training and competency are not usually included in quality standards. However, recommendations in the development sources on specific types of training for the topic that exceed standard professional training are considered during quality statement development.

**Role of families and carers**

Quality standards recognise the important role families and carers have in supporting people with TB. If appropriate, health, public health and social care practitioners should ensure that family members and carers are involved in the decision-making process about investigations, treatment and care.

## List of quality statements

Statement 1. People who have arrived in the country within the past 5 years, from countries with a high incidence of tuberculosis (TB), are tested for latent TB infection when they first present to healthcare services.

Statement 2. People who are referred to a TB service, who meet specific criteria, have rapid diagnostic nucleic acid amplification tests (NAATs) for the *M. tuberculosis* complex on primary specimens.

Statement 3. People who have imaging features suggestive of active TB are assessed within 1 working day by the TB service.

Statement 4. People with TB from under-served groups are offered directly observed therapy as part of enhanced case management.

Statement 5. People with active TB who are homeless are offered accommodation for the duration of their treatment.

Statement 6. Multidisciplinary TB teams take part in cohort review at least quarterly.

# Questions for consultation

## *Questions about the quality standard*

**Question 1** Does this draft quality standard accurately reflect the key areas for quality improvement?

**Question 2** Are local systems and structures in place to collect data for the proposed quality measures? If not, how feasible would it be for these to be put in place?

**Question 3** Do you have an example from practice of implementing the NICE guidelines that underpins this quality standard? If so, please submit your example to the NICE local practice collection on the NICE website. Examples of using NICE quality standards can also be submitted.

**Question 4** Do you think each of the statements in this draft quality standard would be achievable by local services given the net resources needed to deliver them? Please describe any resource requirements that you think would be necessary for any statement. Please describe any potential cost savings or opportunities for disinvestment.

## *Questions about the individual quality statements*

**Question 5** For draft quality statement 1: Is there a need to focus the population more for this statement by specifying an age range?

**Question 6** For draft quality statement 2: Should the statement focus on a specific group?

**Question 7** For draft quality statement 5: Would this statement be achievable by local services given the potential resource impact of providing accommodation?

**Question 8** How would you describe suitable living accommodation for people with active TB?

**Question 9** For draft quality statement 6: Is there a specific action relating to cohort review that the statement could focus on, rather than having a broad statement on this area?

# Quality statement 1: Latent tuberculosis testing

## *Quality statement*

People who have arrived in the country within the last 5 years, from countries with a high incidence of tuberculosis (TB), are tested for latent TB infection when they first present to healthcare services.

## *Rationale*

Detecting latent TB infection in recent arrivals to the country is beneficial because they have a higher relative risk of progression to active, potentially infectious TB than the general population. Early detection can lead to treatment of latent infection before it progresses to active disease. This can prevent onward transmission and the associated harms and costs of active TB.

## *Quality measures*

### Structure

a) Evidence of local arrangements to identify people who have arrived in the country within the past 5 years, from countries with a high incidence of TB, when they first present to healthcare services.

***Data source:*** Local data collection.

b) Evidence of local arrangements to ensure that people who have arrived in the country within the past 5 years, from countries with a high incidence of TB, are tested for latent TB infection when they first present to healthcare services.

***Data source:*** Local data collection.

### Process

Proportion of people who have arrived in the country within the past 5 years, from countries with a high incidence of TB, presenting to healthcare services for the first time who are tested for latent TB infection.

Numerator – the number in the denominator who are tested for latent TB infection.

Denominator – the number of people who have arrived in the country within the past 5 years, from countries with a high incidence of TB, presenting to healthcare services for the first time.

**Outcome**

TB incidence.

***Data source:*** Local data collection. National and regional data on TB incidence in England are collected in the Public Health England TB Strategy Monitoring Indicators.

## *What the quality statement means for service providers, health, public health and social care practitioners, and commissioners*

**Service providers** (such as primary and secondary care services) have systems in place to identify people who have arrived in the country within the past 5 years from countries with a high incidence of TB and to test for latent TB infection in this group.

**Health and social care practitioners** (for example, GPs, dentists and nurses) are aware of and use local referral pathways for people who have arrived in the country within the past 5 years from countries with a high incidence of TB to ensure they are tested for latent TB infection.

**Commissioners** (such as clinical commissioning groups and NHS England) ensure that they commission services that identify people who have arrived in the country within the past 5 years from countries with a high incidence of TB and provide testing for latent TB infection for this group.

## *What the quality statement means for patients, people using services and carers*

**People** who have come to England within the past 5 years from a country where there are a high number of TB cases have a test to find out if they are infected with TB.

## *Source guidance*

- Tuberculosis (2016) NICE guideline NG33, recommendation 1.2.3.1.

## *Definitions of terms used in this quality statement*

**5 years**

The time period of 5 years is based on the Collaborative tuberculosis strategy for England: 2015 to 2020 and consensus of expert opinion.

**High incidence of TB**

A high-incidence country has more than 40 cases of TB per 100,000 people per year. Public Health England lists countries and their estimated TB incidence on the Tuberculosis (TB) by country: rates per 100,000 people section of its website. People may need to be tested more than once if they frequently travel to and from countries with high-incidence of TB. [Adapted from NICE's guideline on tuberculosis, Terms used in this guideline.]

**Testing for latent TB infection**

There are 2 types of test that can be used as the initial diagnostic test for latent TB infection. These are the Mantoux test or the interferon-gamma release assay (IGRA). The Mantoux test is a type of tuberculin skin test in which tuberculin is injected into the skin. The injection site is examined for signs of an immune response after 2–3 days. The IGRA test is a blood test used to diagnose latent TB based on the response of white blood cells to TB antigens. [Adapted from tuberculosis (full guideline) glossary.]

## *Equality and diversity considerations*

When offering testing to people who have arrived in the country within the past 5 years healthcare professionals should be aware that people in this group may not speak or read English or have English as their first language. They should have access to an interpreter or advocate if needed.

## *Question for consultation*

Is there a need to focus the population more for this statement by specifying an age range?

# Quality statement 2: Rapid diagnosis of pulmonary tuberculosis

## *Quality statement*

People who are referred to a tuberculosis (TB) service, who meet specific criteria, have rapid diagnostic nucleic acid amplification tests (NAATs) for the *M. tuberculosis* complex on primary specimens.

## *Rationale*

Diagnostic test accuracy and time to diagnosis or treatment initiation are critical for decision making. The use of NAATs reduces the time for identification of *M. tuberculosis* to just 3 to 6 hours after the specimen is processed. Delayed diagnosis can delay the start of treatment, which may in turn lead to greater risks of morbidity (both long and short term) and mortality.

## *Quality measures*

### Structure

Evidence of local arrangements to ensure that people who are referred to a TB service, who meet specific criteria, have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

***Data source:*** Local data collection.

### Process

a) Proportion of people referred to TB services, who are aged 15 years or younger, who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Numerator – the number in the denominator who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Denominator – the number of people who are referred to TB services who are aged 15 years or younger.

b) Proportion of people referred to TB services with HIV who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Numerator – the number in the denominator who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Denominator – the number of people who are referred to TB services with HIV.

***Data source:*** Local data collection.

c) Proportion of people referred to TB services, for whom rapid information about mycobacterial species would alter care, who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Numerator – the number in the denominator who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Denominator – the number of people who are referred to TB services for whom rapid information about mycobacterial species would alter care.

***Data source:*** Local data collection.

d) Proportion of people referred to TB services, who are identified as having risk factors for multidrug resistance, who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Numerator – the number in the denominator who have rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens.

Denominator – the number of people who are referred to TB services who are identified as having risk factors for multidrug resistance.

***Data source:*** Local data collection.

e) Proportion of people with pulmonary TB starting treatment within 2 months of symptom onset.

Numerator – the number in the denominator who start treatment within 2 months of symptom onset.

Denominator – the number of people who have pulmonary TB.

***Data source:*** Local data collection. National and regional data on the proportion of pulmonary TB cases starting treatment within 2 months of symptom onset is collected in the Public Health England TB Strategy Monitoring Indicators.

**Outcome**

a) Short-term morbidity in people with pulmonary TB.

***Data source:*** Local data collection.

b) Long-term morbidity in people with pulmonary TB.

***Data source:*** Local data collection.

c) Mortality rates in people with pulmonary TB.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB who had died at last reported outcome is collected in the Public Health England TB Strategy Monitoring Indicators.

## *What the quality statement means for service providers, healthcare professional, and commissioners*

**Service providers** (laboratory services) perform rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens for people who are referred to TB services, who meet specific criteria.

**Healthcare professionals** (such as nurses, secondary care doctors, specialists and paediatricians) request rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens for people who are referred to TB services, who meet specific criteria.

**Commissioners** (clinical commissioning groups) ensure they commission services that can do rapid diagnostic NAATs for the *M. tuberculosis* complex on primary specimens for people who are referred to TB services, who meet specific criteria.

## *What the quality statement means for patients, people using services and carers*

**People** who are suspected as having pulmonary TB, who meet specific criteria, have a sample of sputum that they have coughed up from the lungs tested using a type of test that can quickly confirm if they have TB.

## *Source guidance*

- Tuberculosis (2016) NICE guideline NG33, recommendations 1.3.3.1, 1.3.4.1, 1.3.4.2 and 1.4.1.1.

## *Definitions of terms used in this quality statement*

### Specific criteria

The specific criteria are that there is clinical suspicion of pulmonary TB and:

- the person is aged 15 years or younger
- the person has HIV or
- rapid information about mycobacterial species would alter the person's care or
- the person has had a risk assessment that identifies risk factors for multidrug resistance.

[NICE's guideline on tuberculosis, recommendations 1.3.3.1, 1.3.4.1, 1.3.4.2 and 1.4.1.1.]

### Nucleic acid amplification test

A test to detect fragments of nucleic acid, allowing rapid and specific diagnosis of *M. tuberculosis* directly from a range of clinical samples. [Tuberculosis (full guideline), glossary]

### Primary specimens

This should include three samples of sputum coughed up from the lungs:

- preferably spontaneously-produced, deep cough sputum samples, otherwise induced sputum or bronchoscopy and lavage, or in children, gastric lavage
- preferably 1 early morning sample. [NICE's guideline on tuberculosis, table 1 and expert consensus]

### *Question for consultation*

Should the statement focus on a specific group?

# Quality statement 3: Assessment

## *Quality statement*

People who have imaging features suggestive of active tuberculosis (TB) are assessed within 1 working day by the TB service.

## *Rationale*

Assessing people within 1 working day helps to ensure case management and infection control procedures start promptly. Delayed diagnosis can delay the start of treatment, which may in turn lead to greater risks of morbidity (both long and short term) and mortality.

## *Quality measures*

### Structure

Evidence of TB services having local arrangements in place to ensure that people who have imaging features suggestive of active TB have an assessment within 1 working day.

***Data source:*** Local data collection.

### Process

a) Proportion of people with imaging features suggestive of active TB who are assessed within 1 working day by the TB service.

Numerator – the number in the denominator who are assessed within 1 working day by the TB service.

Denominator – the number of people with imaging features suggestive of active TB.

***Data source:*** Local data collection.

b) Proportion of people with pulmonary TB starting treatment within 2 months of symptom onset.

Numerator – the number in the denominator who start treatment within 2 months of symptom onset.

Denominator – the number of people who have pulmonary TB.

***Data source:*** Local data collection. National and regional data on the proportion of pulmonary TB cases starting treatment within 2 months of symptom onset is collected in the Public Health England TB Strategy Monitoring Indicators.

**Outcome**

a) Short-term morbidity in people with active TB.

***Data source:*** Local data collection.

b) Long-term morbidity in people with active TB.

***Data source:*** Local data collection.

c) Mortality rates in people with active TB.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB who had died at last reported outcome are collected in the Public Health England TB Strategy Monitoring Indicators.

## *What the quality statement means for service providers, healthcare practitioners, and commissioners*

**Service providers** (secondary care services) have TB services in place that assess people who have imaging features suggestive of active TB no later than 1 working day after their results are received.

**Health and social care practitioners** (members of the TB service or multidisciplinary team) ensure that they assess people who have imaging features suggestive of active TB no later than the next working day after they receive the results.

**Commissioners** (clinical commissioning groups) ensure that providers have TB services in place that have the capacity to assess people who have imaging features suggestive of active TB no later than the next working day after their results are received.

## *What the quality statement means for patients, people using services and carers*

**People** who have a chest X-ray that suggests they have active TB have an assessment no later than the first working day after they get their results.

## *Source guidance*

- Tuberculosis (2016) NICE guideline NG33, recommendation 1.8.9.8.

## *Definitions of terms used in this quality statement*

### Imaging features suggestive of active TB

These include but are not limited to:

- evidence of extensive consolidation or cavities
- predominantly upper lobe involvement.

[NICE's guideline on tuberculosis, adapted from recommendation 1.8.9.8 and expert consensus.]

### Assessment

This type of assessment is done by a member of the TB service or the multidisciplinary team. This may be a TB nurse who triages the person. The assessment is to gather information about symptoms and general clinical information. Samples can be obtained (blood and sputum) and the person may be weighed. The information gathered during the assessment should be used to develop a care plan tailored to the person's needs. Also, the assessment can be used as an opportunity to ask the person about close contacts to establish whether there are other people who need to be tested or treated for TB. Assessments are an ongoing process and should be reviewed and amended during the treatment period. [Expert consensus.]

## *Equality and diversity considerations*

Healthcare professionals who are doing assessments on people who have imaging features suggestive of active TB should be aware that many of these people come from under-served groups. These groups may find it difficult to access TB services

because of a lack of awareness of TB and its treatment and because of the stigma associated with a diagnosis of TB.

# Quality statement 4: Enhanced case management

## *Quality statement*

People with tuberculosis (TB) from under-served groups are offered directly observed therapy as part of enhanced case management.

## *Rationale*

The complex social and clinical interactions surrounding a person with TB can be a challenge to treatment participation and adherence. Suboptimal uptake of, and adherence to, TB treatment for people with active or latent TB can lead to increased morbidity and mortality, increased infectiousness, and the emergence of drug resistance. Enhanced case management including directly observed therapy is key to improving treatment adherence and completion, in particular in relation to vulnerable groups or those at risk of non-adherence.

## *Quality measures*

### Structure

Evidence of local arrangements to ensure that people with TB from under-served groups are offered directly observed therapy as part of enhanced case management.

***Data source:*** Local data collection.

### Process

Proportion of people with TB from under-served groups who have directly observed therapy as part of enhanced case management.

Numerator – the number in the denominator who have directly observed therapy as part of enhanced case management.

Denominator – the number of people with TB from under-served groups.

***Data source:*** Local data collection.

### Outcome

a) Rate of people with TB lost to follow up.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB who were lost to follow up at last reported outcome are collected in the Public Health England TB Strategy Monitoring Indicators.

b) TB treatment completion rates.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB with at least 1 social risk factor who completed treatment within 12 months are collected in the Public Health England TB Strategy Monitoring Indicators.

c) TB treatment completion rates for people with multidrug-resistant TB.

***Data source:*** Local data collection.

d) Mortality rates in people with active TB.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB who had died at last reported outcome are collected in the Public Health England TB Strategy Monitoring Indicators.

## *What the quality statement means for service providers, health, public health and social care practitioners, and commissioners*

**Service providers** (secondary care services) ensure that people with TB from under-served groups are offered directly observed therapy as part of enhanced case management.

**Health and social care practitioners** (such as a nurse or lay person supported by a healthcare professional) offer directly observed therapy as part of enhanced case management to people from under-served groups.

**Commissioners** (clinical commissioning groups) ensure that they commission services that have the capacity to provide directly observed therapy as part of enhanced case management for people from under-served groups.

## *What the quality statement means for patients, people using services and carers*

**People with TB** who are likely to find it difficult to take their medicine regularly are offered the choice of meeting a specific healthcare worker each time they take a dose of anti-TB medicine.

## *Source guidance*

- Tuberculosis (2016) NICE guideline NG33, recommendation 1.7.1.3.

## *Definitions of terms used in this quality statement*

### Under-served groups

This term includes people of any age, and any from ethnic background regardless of migration status. Groups classified as under-served include:

- people who are homeless
- people who misuse substances
- people who have been in prison
- vulnerable migrants. [Adapted from NICE's guideline on tuberculosis, Terms used in this guideline.]

### Directly observed therapy

This involves a trained health professional, or responsible lay person supported by a trained health professional, providing the prescribed TB medicine and watching the person swallow each dose. Directly observed therapy should be considered as an integral part of enhanced case management in complex cases such as those from under-served groups. [Adapted from NICE's guideline on tuberculosis, section 9.2.6 and glossary.]

### Enhanced case management

This is management of TB for someone with clinically or socially complex needs. It starts as soon as TB is suspected. Enhanced case management includes thinking about the need for directly observed treatment, along with creating a package of

supportive care tailored to the person's needs. [NICE's guideline on tuberculosis, Terms used in this guideline.]

### *Equality and diversity considerations*

Healthcare professionals, and lay people supported by healthcare professionals, who are involved in providing directly observed therapy for people with TB from under-served groups should be aware that people from these groups face barriers to treatment completion. They may find it difficult to express what these barriers are and may feel stigmatised because of their diagnosis of TB. All communication with people with TB from under-served groups should be sensitive to their needs. People with active TB should have access to an interpreter or advocate if needed.

# Quality statement 5: Accommodation

## *Quality statement*

People with active tuberculosis (TB) who are homeless are offered accommodation for the duration of their treatment.

## *Rationale*

Rates of active TB are high in people who are homeless. They also have a higher risk of delayed diagnosis, drug resistance, onward transmission and poor treatment outcomes. Providing accommodation for people who are homeless who have active TB helps to ensure they are not lost to follow-up for their TB care, promotes treatment adherence and completion of therapy, and reduces the probability that TB antimicrobial drug resistance will occur. It also helps them to have social stability and space to recover from their disease and to care for themselves.

## *Quality measures*

### Structure

a) Evidence of local arrangements to ensure that people diagnosed with active TB who are homeless are identified.

***Data source:*** Local data collection.

b) Evidence of local arrangements to ensure that people diagnosed with active TB who are homeless are offered accommodation for the duration of their treatment.

***Data source:*** Local data collection.

### Process

Proportion of people with active TB who are homeless who are provided with accommodation for the duration of their treatment.

Numerator – the number in the denominator who are provided with accommodation for the duration of their treatment.

Denominator – the number of people with active TB who are homeless.

***Data source:*** Local data collection.

**Outcome**

a) TB treatment completion rates for people with at least 1 social risk factor.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB and at least 1 social risk factor who completed treatment within 12 months are collected in the Public Health England TB Strategy Monitoring Indicators.

b) TB prevalence rates.

***Data source:*** Local data collection.

c) TB incidence.

***Data source:*** Local data collection. National and regional data on TB incidence in England is collected in the Public Health England TB Strategy Monitoring Indicators.

## *What the quality statement means for service providers, health, public health and social care practitioners, and commissioners*

**Service providers** (secondary care services) have systems in place to identify people with active TB who are homeless and ensure that they are provided with accommodation for the duration of their treatment.

**Health and social care practitioners** (TB multidisciplinary teams) assess the living circumstances of people with active TB. If there is a housing need, they work with allied agencies to ensure that the person who is homeless has accommodation for the duration of their treatment.

**Commissioners** (local government and clinical commissioning groups) fund accommodation for people who are homeless and diagnosed with active TB using health and public health resources, in line with the Care Act 2014.

## *What the quality statement means for patients, people using services and carers*

**People with active TB** who are homeless, or living in overcrowded accommodation with people at high risk of undetected TB, are given somewhere to live while they are receiving treatment for TB.

## *Source guidance*

- Tuberculosis (2016) NICE guideline NG33, recommendations 1.8.11.2 and 1.8.11.3.

## *Definitions of terms used in this quality statement*

### Homeless

For the purposes of TB control, a broad and inclusive definition of homelessness has been adopted that incorporates overcrowded and substandard accommodation. It includes people:

- who share an enclosed air space with people at high risk of undetected active pulmonary TB (that is, people with a history of rough sleeping, hostel residence or substance misuse)
- who are ineligible for state-funded accommodation
- without the means to securely store prescribed medication
- without secure accommodation in which to rest and recuperate in safety and dignity for the full duration of planned treatment. [Adapted from NICE's guideline on tuberculosis, Terms used in this guideline and recommendation 1.8.11.3.]

## *Equality and diversity considerations*

It is important to provide people who are homeless with accommodation for the duration of their treatment in order to prevent their homelessness from being a barrier to accessing services and completing treatment. Providing accommodation helps to remove the inequality between people who are homeless and people with secure accommodation.

### *Question for consultation*

Would this statement be achievable by local services given the potential resource impact of providing accommodation?

How would you describe suitable living accommodation for people with active TB?

# Quality statement 6: Cohort review

## *Quality statement*

Multidisciplinary tuberculosis (TB) teams take part in cohort review at least quarterly.

## *Rationale*

Data relevant for monitoring TB service performance are generated through local TB cohort reviews. Routine TB cohort review can help to improve local TB prevention and control, and contact investigation, and ensure quality outcomes of contact tracing. Cohort review is a crucial element of TB service delivery to support service evaluation, improvement and standardisation.

## *Quality measures*

### Structure

a) Evidence of local arrangements for doing quarterly cohort review.

***Data source:*** Local data collection.

b) Evidence of local arrangements for feeding back the results of cohort review to local clinical and TB networks.

### Process

a) Proportion of multidisciplinary TB teams taking part in cohort review at least quarterly.

Numerator – the number in the denominator that take part in cohort review at least quarterly.

Denominator – the number of multidisciplinary TB teams.

***Data source:*** Local data collection.

b) Proportion of people with pulmonary or laryngeal TB who have close contacts identified and screened.

Numerator – the number in the denominator who have close contacts identified and screened.

Denominator – the number of people with pulmonary or laryngeal TB.

***Data source:*** Local data collection.

**Outcome**

a) TB treatment completion rates.

***Data source:*** Local data collection. National and regional data on the proportion of people with drug-sensitive TB who completed a full course of treatment within 12 months are collected in the Public Health England TB Strategy Monitoring Indicators.

b) TB incidence.

***Data source:*** Local data collection. National and regional data on TB incidence in England is collected in the Public Health England TB Strategy Monitoring Indicators.

## *What the quality statement means for service providers, health, public health and social care practitioners, and commissioners*

**Service providers** (secondary care services) ensure that their multidisciplinary TB teams, together with Public Health England centres, collate and present cohort review data at review meetings.

**Health and social care practitioners** (multidisciplinary TB teams) together with Public Health England centres, collate and present cohort review data on TB treatment and the outcome of contact investigations and present progress towards national, regional and local service targets.

**Commissioners** (clinical commissioning groups) ensure that TB cohort review is done at least quarterly and fed back to the TB control board, commissioners, TB service provider management and the local directors of public health, and that appropriate action is taken as a result of cohort review.

## *What the quality statement means for patients, people using services and carers*

**People with TB** have their treatment outcomes, contact investigation and management reviewed once at cohort review, 6 to 9 months after starting treatment.

## *Source guidance*

- Tuberculosis (2016) NICE guideline NG33, recommendations 1.8.2.4 and 1.8.6.1.

## *Definitions of terms used in this quality statement*

### Multidisciplinary TB team

A team of professionals with a mix of skills to meet the needs of people with TB, including people with complex physical and psychosocial issues. Members will include a social worker, voluntary sector and local housing representatives, TB lead physician and nurse, a case manager, a pharmacist, an infectious disease doctor or consultant in communicable disease control or health protection, a peer supporter or advocate and a psychiatrist. [Adapted from NICE's guideline on tuberculosis, terms used in this guideline section and expert consensus.]

### Cohort review

This is a systematic quarterly audit of treatment outcome and contact investigation of all people with TB and their contacts. The 'cohort' is a group of cases counted over a specific time, usually 3 months. Brief details of the management and outcomes of each case are reviewed in a group setting. The case manager presents the cases they are responsible for, giving the opportunity to discuss problems and difficulties in case management, service strengths and weaknesses, and staff training needs and enabling solutions to these problems to be collectively found. [Adapted from NICE's guideline on tuberculosis, Terms used in this guideline and expert consensus.]

## *Question for consultation*

Is there a specific action relating to cohort review that the statement could focus on, rather than having a broad statement on this area?

# Status of this quality standard

This is the draft quality standard released for consultation from 12 July to 9 August 2016. It is not NICE's final quality standard on TB. The statements and measures presented in this document are provisional and may change after consultation with stakeholders.

Comments on the content of the draft standard must be submitted by 5pm on 9 August 2016. All eligible comments received during consultation will be reviewed by the Quality Standards Advisory Committee and the quality statements and measures will be refined in line with the quality standards advisory committee's considerations. The final quality standard will be available on the NICE website from January 2017.

# Using the quality standard

## *Quality measures*

The quality measures accompanying the quality statements aim to improve the structure, process and outcomes of care in areas identified as needing quality improvement. They are not a new set of targets or mandatory indicators for performance management.

We have indicated if current national indicators exist that could be used to measure the quality statements. If there is no national indicator that could be used to measure a quality statement, the quality measure should form the basis for audit criteria developed and used locally.

See NICE's What makes up a NICE quality standard? for further information, including advice on using quality measures.

## *Levels of achievement*

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, NICE recognises that this may not always be

appropriate in practice, taking account of safety, choice and professional judgement, and therefore desired levels of achievement should be defined locally.

NICE's quality standard service improvement template helps providers to make an initial assessment of their service compared with a selection of quality statements. It includes assessing current practice, recording an action plan and monitoring quality improvement. This tool is updated monthly to include new quality standards.

### *Using other national guidance and policy documents*

Other national guidance and current policy documents have been referenced during the development of this quality standard. It is important that the quality standard is considered alongside the documents listed in development sources

## Diversity, equality and language

During the development of this quality standard, equality issues have been considered and equality assessments are available.

Good communication between health, public health and social care practitioners and people with TB, and their parents/families or carers (if appropriate), is essential. Treatment, care and support, and the information given about it, should be both age-appropriate and culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English. People with TB and their parents/families or carers (if appropriate) should have access to an interpreter or advocate if needed.

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.

## Development sources

Further explanation of the methodology used can be found in the quality standard process guide.

### *Evidence sources*

The documents below contain recommendations from NICE guidance or other NICE-accredited recommendations that were used by the quality standards advisory committee to develop the quality standard statements and measures.

- Tuberculosis (2016) NICE guideline NG33

### *Policy context*

It is important that the quality standard is considered alongside current policy documents, including:

- Public Health England (2015) Reports of cases of tuberculosis to enhanced tuberculosis surveillance systems: UK, 2000 to 2014
- Public Health England (2015) Tuberculosis: pre-entry screening in the UK
- Public Health England in partnership with NHS England (2015) Collaborative tuberculosis strategy for England: 2015 to 2020
- Public health England (2014) Tuberculosis in the UK: annual report data up to 2013
- Public Health England (2014) Tuberculosis screening
- Public health England (2014) Tuberculosis (TB) and other mycobacterial diseases: diagnosis, screening, management and data

### *Definitions and data sources for the quality measures*

- NICE (2016) Tuberculosis full guideline
- Public Health England in partnership with NHS England (2015) Collaborative tuberculosis strategy for England: 2015 to 2020
- Public Health England (2015) TB Strategy Monitoring Indicators

## Related NICE quality standards

### *Published*

- Antimicrobial stewardship (2016) NICE quality standard 121
- Infection prevention and control (2014) NICE quality standard 61
- Patient experience in adult NHS services (2012) NICE quality standard 15

### *Future quality standards*

This quality standard has been developed in the context of all quality standards referred to NICE, including the following topics scheduled for future development:

- Disease control programmes: approaches to effective management
- Managing symptoms with an uncertain cause
- Outbreak planning and control
- Vulnerable populations: strategies for tackling inequalities

The full list of quality standard topics referred to NICE is available from the quality standards topic library on the NICE website.

## Quality standards advisory committee and NICE project team

### *Quality standards advisory committee*

This quality standard has been developed by Quality Standards Advisory Committee 1. Membership of this committee is as follows:

**Dr Ivan Benett**
Clinical Director, Central Manchester Clinical Commissioning Group

**Dr Gita Bhutani**
Associate Director for Psychological Professions, Lancashire Care NHS Foundation Trust

**Mrs Jennifer Bostock**
Lay member

**Dr Helen Bromley**
Consultant in Public Health, Cheshire West and Chester Council

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Deputy Chief Nurse, South Lincolnshire Clinical Commissioning Group

**Mr Phillip Dick**

Psychiatric Liaison Team Manager, West London Mental Health Trust

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The following specialist members joined the committee to develop this quality standard:

**Dr Sarah Anderson**

Head of Public Health England National TB Office, Public Health England, London

**Mrs Christine Bell**

Lead TB Nurse, Central Manchester Foundation Trust, Manchester

**Dr Sue Collinson**

TB Case Worker, Homerton University Hospital, London

**Dr Gerry Davies**

Reader in Infection Pharmacology, University of Liverpool, Liverpool

**Professor Francis Drobniewski**

Professor of Global health and Tuberculosis, Imperial College; Honorary Consultant Medical Microbiologist and TB physician, Barts Health NHS Trust, London

**Mr Joe Hall**

TB Social Worker, Find & Treat, London

**Mr Mango Hoto**

Project Lead, Cocoa & Welcome to Birmingham Project, West Midlands

## *NICE project team*

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## 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.

The methods and processes for developing NICE quality standards are described in the quality standards process guide.

This quality standard has been incorporated into the NICE pathway on tuberculosis.

NICE produces guidance, standards and information on commissioning and providing high-quality healthcare, social care, and public health services. We have agreements to provide certain NICE services to Wales, Scotland and Northern Ireland. Decisions on how NICE guidance and other products apply in those countries are made by ministers in the Welsh government, Scottish government, and Northern Ireland Executive. NICE guidance or other products may include references

to organisations or people responsible for commissioning or providing care that may be relevant only to England.

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