

# Antimicrobial stewardship

Quality standard

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[www.nice.org.uk/guidance/qs121](https://www.nice.org.uk/guidance/qs121)

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This standard is based on NG15 and NG63.

This standard should be read in conjunction with QS113, QS110, QS90, QS75, QS64, QS61, QS49, QS15, QS122, QS135, QS141, QS161, QS168 and QS186.

## Quality statements

Statement 1 People with a self-limiting condition, as assessed by a primary care prescriber, receive advice about self-management and adverse consequences of overusing antimicrobials.

Statement 2 Prescribers in primary care can use back-up (delayed) antimicrobial prescribing when there is clinical uncertainty about whether a condition is self-limiting or is likely to deteriorate.

Statement 3 People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record.

Statement 4 People in hospital who are prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available.

Statement 5 Individuals and teams responsible for antimicrobial stewardship monitor data and provide feedback on prescribing practice at prescriber, team, organisation and commissioner level.

Statement 6 (developmental statement). Prescribers in secondary and dental care use electronic prescribing systems that link indication with the antimicrobial prescription.

# Quality statement 1: Advice on self-limiting conditions

## Quality statement

People with a self-limiting condition, as assessed by a primary care prescriber, receive advice about self-management and adverse consequences of overusing antimicrobials.

## Rationale

People with common colds, sore throat, flu, otitis media and other self-limiting conditions may not know that they are likely to get better without treatment and they may expect to be prescribed an antimicrobial. Primary care prescribers should manage people's expectations by describing the adverse consequences of using antimicrobials when they are not needed, both for the person and the population as a whole. They should also give advice on what the person can do to help their condition improve (self-management).

## Quality measures

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

## Structure

a) Evidence of local arrangements to ensure that people with a self-limiting condition, as assessed by a primary care prescriber, receive advice about self-management and adverse consequences of overusing antimicrobials.

**Data source:** Local data collection.

b) Evidence of local arrangements to promote self-management of self-limiting conditions and raise awareness of risks associated with overusing antimicrobials.

**Data source:** Local data collection.

## Process

a) Proportion of presentations in primary care assessed as a self-limiting condition with a record stating that advice about self-management was given.

Numerator – the number in the denominator with a record stating that advice about self-management was given.

Denominator – the number of presentations in primary care assessed as a self-limiting condition.

**Data source:** Local data collection and the Royal College of General Practitioners TARGET antibiotics toolkit.

b) Proportion of presentations in primary care assessed as a self-limiting condition with a record stating that advice about the adverse consequences of overusing antimicrobials was given.

Numerator – the number in the denominator with a record stating that advice about the adverse consequences of overusing antimicrobials was given.

Denominator – the number of presentations in primary care assessed as a self-limiting condition.

**Data source:** Local data collection.

## Outcome

Antimicrobial prescribing rates in primary care.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** (such as GP practices, health centres, pharmacies, community services) ensure that systems are in place for people with a self-limiting condition to receive advice about self-management and the adverse consequences of overusing antimicrobials.

**Prescribers in primary care** (such as GPs, nurses and pharmacists) ensure that they provide people with a self-limiting condition with advice on self-management and the adverse consequences of overusing antimicrobials.

**Commissioners** ensure that they commission services that provide people with a self-limiting condition with advice on self-management and the adverse consequences of overusing antimicrobials.

**People with a condition that is likely to get better on its own** (such as cold, flu, earache or tonsillitis) who go to a GP, practice nurse or pharmacist are given advice on what they can do to help their condition improve and why it's important only to use antimicrobials when they are really needed.

## Source guidance

- [Antimicrobial stewardship: changing risk-related behaviours in the general population. NICE guideline NG63](#) (2017), recommendations 1.2.1 and 1.5.1
- [Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15](#) (2015), recommendation 1.1.31

## Definitions of terms used in this quality statement

### Self-limiting condition

A condition that resolves on its own and has no long-term harmful effect on a person's health (assuming that they are not immunosuppressed). Examples include colds, flu, oral thrush and winter vomiting bugs. [[NICE's guideline on antimicrobial stewardship: changing risk-related behaviours in the general population](#), terms used in this guideline]

## Advice for people with self-limiting conditions

Prescribers should discuss with the person and/or their family members or carers (as appropriate):

- the likely nature of the condition
- why prescribing an antimicrobial may not be the best option
- alternative options to prescribing an antimicrobial
- their views on antimicrobials, taking into account their priorities or concerns about their current illness and whether they want or expect an antimicrobial
- the benefits and harms of immediate antimicrobial prescribing
- how long they should expect the symptoms of their self-limiting condition to last
- what they should do if their condition gets worse (safety netting advice) or if they have problems as a result of treatment
- what they can do to minimise spreading the infection to others (such as good hand hygiene).

[NICE's guideline on antimicrobial stewardship: systems and processes for effective antimicrobial medicine use, recommendation 1.1.31 and expert opinion]

## Equality and diversity considerations

Healthcare professionals may need to consider how to advise people who have difficulties understanding the information given to them because of difficulty in understanding English or cognitive impairment.



# Quality statement 2: Back-up (delayed) prescribing

## Quality statement

Prescribers in primary care can use back-up (delayed) antimicrobial prescribing when there is clinical uncertainty about whether a condition is self-limiting or is likely to deteriorate.

## Rationale

When there is clinical uncertainty about whether a condition is self-limiting or is likely to deteriorate, back-up prescribing (also known as delayed prescribing) offers healthcare professionals an alternative to immediate antimicrobial prescribing. It encourages self-management as a first step, but allows a person to access antimicrobials without another appointment if their condition gets worse.

## Quality measures

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

## Structure

Evidence of local arrangements to ensure that prescribers in primary care can use back-up (delayed) antimicrobial prescribing if there is uncertainty about whether a condition is self-limiting or is likely to deteriorate.

**Data source:** Local data collection.

## Process

a) Proportion of prescriptions for antimicrobials issued as a back-up (delayed) prescription.

Numerator – the number in the denominator issued as a back-up (delayed) prescription.

Denominator – the number of prescriptions for antimicrobials issued.

**Data source:** Local data collection.

b) Proportion of people issued a back-up (delayed) prescription for antimicrobials who are advised when to use the prescription.

Numerator – the number in the denominator who are told when to use the prescription.

Denominator – the number of people issued a back-up (delayed) prescription for antimicrobials.

**Data source:** Local data collection and Royal College of General Practitioners TARGET antibiotics toolkit.

## Outcome

a) Back-up (delayed) prescriptions for antimicrobials that are dispensed.

**Data source:** Local data collection.

b) Antimicrobial prescribing rates in primary care.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** (such as GP practices, health centres, pharmacies) ensure that systems are in place to allow back-up (delayed) antimicrobial prescribing if there is uncertainty about whether a condition is self-limiting or is likely to deteriorate.

**Prescribers in primary care** (such as GPs, nurses, pharmacists) can use back-up (delayed) antimicrobial prescribing if there is uncertainty about whether a condition is self-limiting or is likely to deteriorate.

**Commissioners** allow and monitor the use of back-up (delayed) antimicrobial prescribing when there is uncertainty about whether a condition is self-limiting or is likely to deteriorate.

**People with conditions that may need antimicrobial treatment**, but may get better without treatment, are told that they can have a prescription for an antimicrobial but they should only use it if their condition gets worse. This is known as a back-up or delayed prescription. They are given clear advice about when they should use the prescription.

## Source guidance

- [Antimicrobial stewardship: changing risk-related behaviours in the general population. NICE guideline NG63 \(2017\), recommendations 1.2.1 and 1.5.1](#)
- [Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15 \(2015\), recommendation 1.1.34](#)

## Definitions of terms used in this quality statement

### Back-up (delayed) prescribing

A back-up (delayed) prescription is a prescription (which can be post-dated) given to a patient or carer, with the assumption that it will not be dispensed immediately, but in a few days if symptoms worsen.

When using back-up (delayed) antibiotic prescribing, patients should be offered:

- reassurance that antibiotics are not needed immediately because they are likely to make little difference to symptoms and may have side effects (for example, diarrhoea, vomiting and rash)
- advice about how to recognise whether they need to use the antimicrobials, and if so:
  - how to get them
  - when to start taking or using them
  - how to take or use them.

- advice about re-consulting if symptoms get significantly worse despite using the back-up (delayed) prescription.

A back-up (delayed) prescription with instructions about use can either be given to the patient or left at an agreed location (for example, the local pharmacy) to be collected at a later date. [[NICE's guideline on antimicrobial stewardship: changing risk-related behaviours in the general population](#), recommendation 1.5.4, and [NICE's guideline on antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#), recommendation 1.1.34 and expert opinion]

## Equality and diversity considerations

Prescribers may need to consider how to advise people who have difficulties in understanding the information given to them because of difficulty in understanding English or cognitive impairment.

# Quality statement 3: Recording information

## Quality statement

People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record.

## Rationale

Recording in patients' records the clinical indication (that is, the results of clinical assessment, symptoms and diagnosis) for an antimicrobial, and the prescribed dose and duration of treatment, allows better management during follow-up of care and transfer of care to another setting. It also supports monitoring of prescribing practice and identification of appropriate and inappropriate prescribing in all settings.

## Quality measures

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

## Structure

Evidence of local arrangements and processes to ensure that all prescribers document the clinical indication, dose and duration of treatment in patients' records when prescribing an antimicrobial.

**Data source:** Local data collection.

## Process

Proportion of prescriptions for antimicrobials with the clinical indication, dose and duration of treatment documented.

**Numerator** – the number in the denominator with the clinical indication, dose and duration of treatment documented.

**Denominator** – the number of prescriptions for antimicrobials.

**Data source:** Local data collection, Public Health England Start smart then focus toolkit and Royal College of General Practitioners TARGET antibiotics toolkit.

## Outcome

Antimicrobial prescribing rates.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** (such as hospitals, walk-in centres, GP practices, health centres, dental care providers, pharmacies, community services) monitor standards of record-keeping to check that clinical indication, dose and duration of treatment are documented when antimicrobials are prescribed.

**Prescribers** document in patients' clinical records the clinical indication, dose and duration of treatment when they prescribe antimicrobials.

**Commissioners** ensure that services monitor standards of record-keeping to check that clinical indication, dose and duration of treatment are documented when antimicrobials are prescribed.

**People who are prescribed an antimicrobial** have the reason recorded in their medical record, as well as how long they should take the antimicrobial and the dose.

## Source guidance

Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15 (2015), recommendations 1.1.26 and 1.1.32

# Quality statement 4: Microbiological samples

## Quality statement

People in hospital who are prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available.

## Rationale

Analysing microbiological samples allows more targeted and effective prescribing of narrow-spectrum antimicrobials or stopping antimicrobials if they are not necessary or effective. In hospital, microbiological samples should be taken before antimicrobials are prescribed. In some situations, it may be necessary to start antimicrobial treatment immediately (for example, in people with severe sepsis or life-threatening infections) but the treatment should be reviewed when the microbiological results are available.

## Quality measures

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

## Structure

Evidence of local arrangements and processes to ensure that people in hospital who are prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available.

**Data source:** Local data collection, Public Health England Start smart then focus toolkit and Royal College of General Practitioners TARGET antibiotics toolkit.

## Process

a) Proportion of prescriptions for antimicrobials issued to people admitted to hospital with a record of a microbiological sample being taken.

Numerator – the number in the denominator with a record of a microbiological sample being taken.

Denominator – the number of prescriptions for antimicrobials issued to people admitted to hospital.

**Data source:** Local data collection.

b) Proportion of prescriptions for antimicrobials issued to people admitted to hospital and reviewed when microbiological results become available.

Numerator – the number in the denominator reviewed when the microbiological results become available.

Denominator – the number of prescriptions for antimicrobials issued to people admitted to hospital with a record of a microbiological sample being taken.

**Data source:** Local data collection.

## Outcome

a) Altered or withdrawn prescriptions for antimicrobials following microbiological results showing lack of effectiveness of initial antimicrobial treatment.

**Data source:** Local data collection.

b) Antimicrobial prescribing rates in hospitals.

**Data source:** Local data collection.

c) Length of hospital stay.

**Data source:** Local data collection.



## What the quality statement means for different audiences

**Service providers** (hospitals) ensure that systems are in place for people in hospital to have a microbiological sample taken before they are prescribed an antimicrobial, and have the treatment reviewed when the microbiological results are available.

**Prescribers in hospitals** ensure that microbiological samples are taken before they prescribe antimicrobials and that they review the treatment when the microbiological results are available.

**Commissioners** ensure that they commission services that take microbiological samples from people in hospital before they are prescribed antimicrobials, and that review the treatment when the microbiological results are available.

**People who are in hospital** have a sample taken before they are prescribed an antimicrobial to find out what is causing the infection. They may be given an antimicrobial immediately, but once the test results come back the prescription is checked to make sure that the antimicrobial is the right one and will work against the infection.

## Source guidance

Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15 (2015), recommendations 1.1.27 and 1.1.29

# Quality statement 5: Data collection and feedback

## Quality statement

Individuals and teams responsible for antimicrobial stewardship monitor data and provide feedback on prescribing practice at prescriber, team, organisation and commissioner level.

## Rationale

Monitoring and reviewing prescribing data enables individuals and teams responsible for antimicrobial stewardship to check adherence to local formularies, provide feedback, recognise good practice and to challenge inappropriate prescribing. It also allows peer review, and identifying training needs and areas for quality improvement.

## Quality measures

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

## Structure

a) Evidence of local arrangements to deliver an antimicrobial stewardship programme.

**Data source:** Local data collection.

b) Evidence of local arrangements and processes to ensure that individuals and teams responsible for antimicrobial stewardship monitor data and provide feedback on prescribing practice at prescriber, team, organisation and commissioner level.

**Data source:** Local data collection.

## Process

a) Proportion of prescribers who receive feedback on their antimicrobial prescribing practice.

Numerator – the number in the denominator who receive feedback on their antimicrobial prescribing practice.

Denominator – the number of prescribers.

**Data source:** Local data collection.

b) Proportion of teams within an organisation that receive feedback on their antimicrobial prescribing practice.

Numerator – the number in the denominator that receive feedback on their antimicrobial prescribing practice.

Denominator – the number of teams prescribing antimicrobials within an organisation.

**Data source:** Local data collection.

c) Proportion of organisations within a specified commissioning area that receive feedback on their antimicrobial prescribing practice.

Numerator – the number in the denominator that receive feedback on their antimicrobial prescribing practice.

Denominator – the number of organisations prescribing antimicrobials within a specified commissioning area.

## Outcome

Antimicrobial prescribing rates.

## What the quality statement means for different audiences

**Service providers** (such as hospitals, GP practices, walk-in centres, dental practices, pharmacies, community health services) ensure that systems are in place for individuals and teams responsible for antimicrobial stewardship within the service to monitor data and provide feedback on prescribing at prescriber, team, organisation and commissioner level. The frequency and specific content of the feedback should be agreed locally between commissioners and service providers.

**Prescribers** receive feedback on their individual antimicrobial prescribing practice and the antimicrobial prescribing practice of their team, organisation and commissioning group from individuals and teams responsible for antimicrobial stewardship within the organisation.

**Commissioners** ensure that they commission services that have individuals and teams responsible for antimicrobial stewardship who monitor data and provide feedback on antimicrobial prescribing practice at prescriber, team, organisation and commissioner level. The frequency and specific content of the feedback should be agreed locally between commissioners and service providers.

**People** receive care from healthcare professionals whose prescribing of antimicrobials is monitored to make sure that it is safe and appropriate.

## Source guidance

Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15 (2015), recommendations 1.1.1 and 1.1.3

## Definitions of terms used in this quality statement

### Antimicrobial stewardship

The term 'antimicrobial stewardship' is defined as an organisational or healthcare system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness. [NICE's guideline on antimicrobial stewardship: systems and

processes for effective antimicrobial medicine use]

# Quality statement 6 (developmental statement): electronic prescribing systems

Developmental quality statements set out an emergent area of cutting-edge service delivery or technology currently found in a minority of providers and indicating outstanding performance. They will need specific, significant changes to be put in place, such as redesign of services or new equipment.

## Quality statement

Prescribers in secondary and dental care use electronic prescribing systems that link indication with the antimicrobial prescription.

## Rationale

Although most GP practices already use electronic prescribing systems, many secondary care services (inpatient and outpatient) and dental care settings don't have access to this technology. Linking the indication with the antimicrobial prescription using electronic prescribing supports antimicrobial stewardship by highlighting inappropriate prescribing, and monitoring individual prescribing practice.

## Quality measures

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

## Structure

Evidence of local arrangements to ensure that prescribers of antimicrobials in secondary care and dental care settings have access to electronic prescribing systems that link indication with the antimicrobial prescription.

**Data source:** Local data collection.

## Process

a) Proportion of secondary care services using electronic prescribing systems that link the indication with the antimicrobial prescription.

Numerator – the number in the denominator using electronic prescribing systems that link the indication with the antimicrobial prescription.

Denominator – the number of secondary care services.

**Data source:** Local data collection.

b) Proportion of dental practices using electronic prescribing systems that link the indication with the antimicrobial prescription.

Numerator – the number in the denominator using electronic prescribing systems that link the indication with the antimicrobial prescription.

Denominator – the number of dental practices.

**Data source:** Local data collection.

## Outcome

Antimicrobial prescribing rates.

## What the quality statement means for different audiences

**Service providers** (such as hospitals and dental practices) ensure that prescribers of antimicrobials have access to electronic prescribing systems that link indication with the antimicrobial prescription.

**Prescribers** use electronic prescribing systems that link indication with the antimicrobial prescription.

**Commissioners** ensure that they commission services with electronic prescribing systems that link indication with the antimicrobial prescription.

**People** receive care from healthcare services that have electronic systems for prescribing. These systems support prescribing of antimicrobials according to diagnosis as well as local and national guidance on antimicrobial use.

## Source guidance

Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15 (2015), recommendation 1.1.32



# Update information

## Minor changes since publication

**September 2021:** A reference for the definition on back-up (delayed) prescribing in statement 2 was updated because the guidance has been replaced with recommendations in [NICE's guideline on antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#).

**June 2019:** Changes were made to the source guidance and definitions for statements 1 and 2 to include the [NICE guideline on antimicrobial stewardship: changing risk-related behaviours in the general population](#).

## About this quality standard

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

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

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

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

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

## Diversity, equality and language

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

quality statements are highlighted in each statement.

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

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## Endorsing organisation

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

## Supporting organisations

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

- [MRSA Action UK](#)
- [British Thoracic Society \(BTS\)](#)
- [British Society for Antimicrobial Chemotherapy](#)
- [Royal College of General Practitioners \(RCGP\)](#)
- [Royal College of Nursing \(RCN\)](#)
- [Royal College of Physicians \(RCP\)](#)
- [Royal College of Paediatrics and Child Health](#)
- [College of General Dentistry](#)