

# Infection prevention and control

Quality standard

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This standard is based on CG139, PH36, NG63 and NG15.

This standard should be read in conjunction with QS49, QS14, QS15, QS72, QS90, QS63, QS66, QS89, QS110, QS113, QS121, QS141, QS161 and QS168.

## Quality statements

Statement 1 People are prescribed antibiotics in accordance with local antibiotic formularies as part of antimicrobial stewardship.

Statement 2 Organisations that provide healthcare have a strategy for continuous improvement in infection prevention and control, including accountable leadership, multi-agency working and the use of surveillance systems.

Statement 3 People receive healthcare from healthcare workers who decontaminate their hands immediately before and after every episode of direct contact or care.

Statement 4 People who need a urinary catheter have their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed.

Statement 5 People who need a vascular access device have their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the device and its removal as soon as it is no longer needed.

Statement 6 People with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), are educated about the safe management of the device or equipment, including techniques to prevent infection.

# Quality statement 1: Antimicrobial stewardship

## Quality statement

People are prescribed antibiotics in accordance with local antibiotic formularies as part of antimicrobial stewardship.

## Rationale

Antibiotic resistance poses a significant threat to public health, particularly because antibiotics underpin routine medical practice in both primary and secondary care. To help prevent the development of current and future bacterial resistance, it is important to prescribe antibiotics according to the principles of antimicrobial stewardship, such as prescribing antibiotics only when they are needed (and not for self-limiting mild infections such as colds and most coughs, sinusitis, earache and sore throats) and reviewing the continued need for them. These principles should be set out within local antibiotic guidelines and pathways and be consistent with the local antibiotic formulary. Local antibiotic formularies should indicate a range of antibiotics for managing common infections, and permit use of other antibiotics only on the advice of the microbiologist or physician responsible for the control of infectious diseases.

## 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 antibiotic formularies governing the use of antibiotics to ensure that people are prescribed antibiotics appropriately.

**Data source:** No routinely collected national data for this measure has been identified.

Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, local formularies.

b) Evidence that local antibiotic formularies are reviewed regularly.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from records of formulary reviews.

c) Evidence of local audits of the appropriateness of antibiotic prescribing.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, records of local audits.

## Outcome

Antibiotic prescribing rates (primary and secondary care).

**Data source for primary care:** National prescribing comparator data available from the [NHS Digital Information Services Portal](#), specifically the number of prescription items for antibacterial drugs per Specific Therapeutic Group Age-sex weightings Related Prescribing Unit (STAR-PU), and the number of prescription items for cephalosporins and quinolones as a percentage of the total number of prescription items for selected antibacterial drugs ([British National Formulary \[BNF\]](#)).

**Data source for secondary care:** No routinely collected national data for secondary care has been identified for this measure. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, records of local prescribing audits.

## What the quality statement means for different audiences

**Service providers** ensure that they have antimicrobial stewardship initiatives in place, including local antibiotic formularies for antibiotic prescribing.

**Healthcare professionals** ensure that when they prescribe antibiotics they do so in accordance with local antibiotic formularies as part of antimicrobial stewardship.

**Commissioners** ensure that they commission services that have antimicrobial stewardship initiatives and in which people are prescribed antibiotics in accordance with local antibiotic formularies.

**People** are offered antibiotics according to local guidance about which ones are most suitable. This includes not being offered antibiotics if they don't need them (for example, if they have a cold, a sore throat, most coughs or earache). This is to try to reduce the problem of antibiotic resistance, which is when an infection no longer responds to treatment with one or more types of antibiotic and so is more likely to spread and can become serious.

## Source guidance

- [Antimicrobial stewardship: changing risk-related behaviours in the general population. NICE guideline NG63](#) (2017), recommendations 1.5.1 and 1.5.3
- [Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15](#) (2015), recommendations 1.1.32 and 1.1.33
- Expert consensus

## Definitions of terms used in this quality statement

### Local antibiotic formulary

A local antibiotic formulary is a local policy document produced by a multi-professional team, usually in a hospital trust or commissioning group, combining best evidence and clinical judgement. [[NICE's full guideline on surgical site infections](#), glossary]

A local antibiotic formulary is defined as 'the output of processes to support the managed introduction, utilisation or withdrawal of healthcare treatments within a health economy, service or organisation. [[NICE's guideline on developing and updating local formularies](#)]

Local policies often limit the antibiotics that may be used to achieve reasonable economy

consistent with adequate cover, and to reduce the development of resistant organisms. A policy may indicate a range of antibiotics for general use, and permit other antibiotics only on the advice of the medical microbiologist or physician responsible for the control of infectious diseases. [[BNF treatment summary: Antibacterials, principles of therapy](#)]

## Antimicrobial stewardship

Antimicrobial stewardship is an organisational or healthcare-system-wide approach to promoting and monitoring judicious use of antimicrobial drugs to preserve their future effectiveness. [Adapted from the [Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection \(ARHAI\)'s antimicrobial prescribing and stewardship competencies](#)]

The approach to prescribing in line with the principles of antimicrobial stewardship recommended for secondary care is as follows:

- Do not start antibiotics without clinical evidence of bacterial infection.
- If there is evidence or suspicion of bacterial infection, use local guidelines to start prompt, effective antibiotic treatment.
- Document the following on the medicines chart and in the person's medical notes: clinical indication, duration or review date, route and dose.
- Obtain cultures – knowing the susceptibility of an infecting organism can lead to narrowing of broad-spectrum therapy, changing therapy to effectively treat resistant pathogens, and stopping antibiotics when cultures suggest an infection is unlikely.
- Prescribe single-dose antibiotics for surgical prophylaxis if antibiotics have been shown to be effective.
- Review the clinical diagnosis and the continuing need for antibiotics by 48 hours from the first antibiotic dose and make a clear plan of action – the 'Antimicrobial Prescribing Decision'. The 5 Antimicrobial Prescribing Decision options are: Stop, Switch Intravenous to Oral, Change, Continue, and Outpatient Parenteral Antibiotic Therapy (OPAT).
- Clearly document the review and subsequent decision in the person's medical notes.

[[ARHAI's guidance on antimicrobial stewardship: Start smart – then focus](#)]



The approach to prescribing in line with the principles of antimicrobial stewardship recommended for primary care is as follows:

- Prescribe an antibiotic only if there is likely to be a clear clinical benefit.
- Consider a no, or delayed, antibiotic strategy for acute self-limiting upper respiratory tract infections.
- Limit prescribing over the phone to exceptional cases.
- Use simple generic antibiotics if possible. Avoid broad-spectrum antibiotics (for example, co-amoxiclav, quinolones and cephalosporins) if narrow-spectrum antibiotics remain effective, because the former increase the risk of *Clostridium difficile*, methicillin-resistant *Staphylococcus aureus* (MRSA) and antibiotic-resistant urinary tract infections.
- Avoid widespread use of topical antibiotics (especially those that are also available as systemic preparations, such as fusidic acid).

[Adapted from [Public Health England's managing common infections: guidance for primary care](#)]

# Quality statement 2: Organisational responsibility

## Quality statement

Organisations that provide healthcare have a strategy for continuous improvement in infection prevention and control, including accountable leadership, multi-agency working and the use of surveillance systems.

## Rationale

It is essential that organisations and agencies work together to coordinate strategies for infection prevention and control across a local area. It is equally important to share information across organisations in order to meet responsibilities for establishing the current position on infection control, monitoring the impact of quality improvement initiatives and ongoing surveillance. Leadership underpins all infection prevention and control, and is vital to ensure that this remains a priority for the organisation as a whole and each person working within it.

## Quality measures

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

## Structure

a) Evidence that the organisation includes infection prevention and control within its overall strategy.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from the local organisational strategy.

b) Evidence that the organisation's board is up to date with, and has a working knowledge and understanding of, infection prevention and control.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from minutes of board meetings.

c) Evidence that a lead for infection prevention and control has been assigned and is taking an active role.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from job descriptions.

d) Evidence of support for, and participation in, joint working initiatives beyond mandatory or contractual requirements, to reduce healthcare-associated infections locally.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from joint working agreements.

e) Evidence of an adequately resourced surveillance system with specific, locally defined objectives and priorities for preventing and managing healthcare-associated infections.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from audits of healthcare-associated infections.

## Outcome

Incidence of healthcare-associated infection.

**Data source:** [2014/15 NHS Outcomes Framework](#) indicator 5.2 and [2014/15 CCG Outcomes Indicator Set](#) indicators 5.3 and 5.4 measure incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*. Data are derived from [UK Health Security Agency's mandatory reporting of healthcare-associated infections](#).

## What the quality statement means for different audiences

**Service providers** ensure that a strategy is in place for continuous improvement in infection prevention and control that includes accountable leadership, multi-agency working and surveillance systems.

**Healthcare professionals** ensure that they implement strategies for continuous improvement in infection prevention and control through accountable leadership, multi-agency working and adhering to the requirements of surveillance systems.

**Commissioners** ensure that they commission services from organisations that have strategies for continuous improvement in infection prevention and control that include accountable leadership, multi-agency working and surveillance systems.

**People** receive healthcare from organisations that aim to continually improve their approach to preventing infection (for example, by sharing information with other organisations and monitoring rates of infection).

## Source guidance

Healthcare-associated infections: prevention and control. NICE guideline PH36 (2011), quality improvement statements 1, 3 and 6

## Definitions of terms used in this quality statement

### Board

A board is defined as a group of members with overall responsibility and accountability for the governance, safety and quality of an organisation. [Expert opinion]

# Quality statement 3: Hand decontamination

## Quality statement

People receive healthcare from healthcare workers who decontaminate their hands immediately before and after every episode of direct contact or care.

## Rationale

Effective hand decontamination, even after wearing gloves, results in significant reductions in the carriage of potential pathogens on the hands and decreases the incidence of preventable healthcare-associated infections, leading in turn to a reduction in morbidity and mortality. Hand decontamination is considered to have a high impact on outcomes that are important to patients. Although hand hygiene has improved over recent years, remaining misconceptions about this standard principle of infection control are reported and good practice is still not universal.

## 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 the availability of facilities for hand decontamination.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by organisations, for example, from procurement records.

b) Evidence of local arrangements to ensure that all healthcare workers receive training in

hand decontamination.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from training records.

c) Evidence of local arrangements to ensure that regular local hand hygiene observation audits are undertaken.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by provider organisations, for example, records of hand hygiene observation audits.

## Outcome

Incidence of healthcare-associated infection.

**Data source:** 2020/21 NHS Outcomes Framework indicator 5.2.

**Service providers** ensure that healthcare workers are trained in effective hand decontamination techniques, and that handrub and handwashing facilities are available so that healthcare workers can decontaminate their hands immediately before and after every episode of direct contact or care.

**Healthcare workers** ensure that they are trained in effective hand decontamination techniques, and that they decontaminate their hands immediately before and after every episode of direct contact or care, even when gloves have been worn.

**Commissioners** ensure that they commission services in which healthcare workers are trained in effective hand decontamination techniques and decontaminate their hands immediately before and after every episode of direct contact or care, and that hand hygiene observation audits are carried out regularly.

**People receiving healthcare** are looked after by healthcare workers who always clean their hands thoroughly (using handrub or soap and water), both immediately before and immediately after coming into contact with the person or carrying out care.

## Source guidance

- [Healthcare-associated infections: prevention and control in primary and community care. NICE guideline CG139 \(2012, updated 2017\), recommendation 1.1.2.1](#)
- [Loveday HP, Wilson JA, Pratt RJ et al. epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England \(2014\), recommendation SP6](#)

## Definitions of terms used in this quality statement

### Hand decontamination

Hand decontamination is the use of handrub or handwashing to reduce the number of bacteria on the hands. The term is often interchangeable with 'hand hygiene'.

An alcohol-based handrub should be used for hand decontamination before and after direct contact or care, except in the following situations when soap and water must be used:

- when hands are visibly soiled or potentially contaminated with body fluids **or**
- when caring for patients with vomiting or diarrhoeal illness, regardless of whether or not gloves have been worn.

[Adapted from [NICE's guideline on healthcare-associated infections](#), recommendation 1.1.2.2, and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#), recommendation SP7]

### Direct contact or care

Direct contact or care refers to 'hands on' or face-to-face contact with patients. This encompasses any physical aspect of the healthcare of a patient, including treatments, self-care and administration of medication. [[NICE's guideline on healthcare-associated infections](#)]

# Quality statement 4: Urinary catheters

## Quality statement

People who need a urinary catheter have their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed.

## Rationale

Catheter-associated urinary tract infections comprise a large proportion of healthcare-associated infections, and can occur whether a person has either a short-term or a long-term catheter. There is a strong association between duration of urinary catheterisation and risk of infection, and catheters are sometimes inserted inappropriately or there is a delay in removing them. This risk is greatly reduced by complying with all parts of the process for safe catheter insertion, maintenance and removal as soon as it is no longer needed. This is important in terms of both infection prevention and patient comfort and experience.

## 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 a written protocol to ensure that people who need a urinary catheter have their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by provider organisations, for example, from local protocols.



## Process

a) Proportion of people with a short-term urinary catheter who had their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed.

Numerator – the number of people in the denominator for whom all of the specified procedures were completed for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed.

Denominator – the number of people who have had a short-term urinary catheter.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from patient records.

b) Proportion of people with a long-term urinary catheter who had their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed.

Numerator – the number of people in the denominator for whom all of the specified procedures were completed for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed were completed.

Denominator – the number of people who have had a long-term urinary catheter.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from patient records.

## Outcome

a) Incidence of healthcare-associated infection.

**Data source:** 2020/21 NHS Outcomes Framework indicator 5.2 and 2020/21 CCG Outcomes Indicator Set indicators 5.3 and 5.4 measure incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*. Data are derived from UK Health Security Agency's mandatory reporting of healthcare-associated infections.

b) Incidence of catheter-associated urinary tract infection.

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

## What the quality statement means for different audiences

**Service providers** ensure that systems and facilities are in place to enable staff to complete specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed, in order to minimise the risk of infection.

**Healthcare workers** ensure that they complete specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed, in order to minimise the risk of infection.

**Commissioners** ensure that they commission services in which specified procedures necessary for the safe insertion and maintenance of the catheter and its removal as soon as it is no longer needed are completed, in order to minimise the risk of infection.

**People who need a urinary catheter** have their risk of infection minimised by healthcare workers carrying out procedures to make sure that the catheter is inserted, looked after and removed correctly and safely. These procedures include things like cleaning hands, using a lubricant when inserting the catheter, emptying the drainage bag when necessary, and removing the catheter as soon as it is no longer needed. A urinary catheter is a thin flexible tube used to drain urine from the bladder.

## Source guidance

- [Healthcare-associated infections: prevention and control in primary and community care. NICE guideline CG139](#) (2012, updated 2017), recommendations 1.2.2.1 to 1.2.2.3, 1.2.4.3, 1.2.4.4, 1.2.5.1 to 1.2.5.3, 1.2.5.5, 1.2.5.6, 1.2.5.8 and 1.2.5.9
- [Loveday HP, Wilson JA, Pratt RJ et al. epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#), (2014) recommendations UC1 to UC3, UC8 to UC11, UC13 to UC17 and UC19

## Definitions of terms used in this quality statement

### Urinary catheter

A urinary catheter is a catheter that is inserted in the urethra and remains in place until it is no longer needed. Both short-term (used for 28 days or less) and long-term (used for more than 28 days) urinary catheters are used. [Adapted from [NICE's full guideline on healthcare-associated infections](#) and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#)]

### Specified procedures necessary for the safe insertion, maintenance and appropriate removal of urinary catheters

#### Assessing the need for catheterisation

- Catheterisation should be used only after considering alternative methods of management. The person's clinical need for catheterisation should be reviewed regularly and the urinary catheter removed as soon as possible. The need for catheterisation, as well as details about insertion, changes and care should be documented.

#### Hand hygiene

- Healthcare workers must decontaminate their hands and wear a new pair of clean, non-sterile gloves before manipulating a person's catheter, and must decontaminate their hands after removing gloves.

#### Catheter insertion

- The meatus should be cleaned before the catheter is inserted, in accordance with local guidelines or policy (for example, with sterile normal saline).
- An appropriate lubricant from a single-use container should be used during catheter insertion to minimise urethral trauma and infection.

## Catheter maintenance

- Indwelling catheters should be connected to a sterile closed urinary drainage system or catheter valve. Healthcare workers should ensure that the connection between the catheter and the urinary drainage system is not broken, except for good clinical reasons (for example, changing the bag in line with the manufacturer's recommendations).
- Urinary drainage bags should be positioned below the level of the bladder, and should not be in contact with the floor. The urinary drainage bag should be emptied frequently enough to maintain urine flow and prevent reflux, and should be changed when clinically indicated. A separate and clean container should be used for each person. Contact between the urinary drainage tap and container should be avoided.
- Urine samples must be obtained from a sampling port using an aseptic technique.
- The meatus should be washed daily with soap and water as part of routine daily personal hygiene.

[Adapted from [NICE's guideline on healthcare-associated infections](#) and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#)]

# Quality statement 5: Vascular access devices

## Quality statement

People who need a vascular access device have their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the device and its removal as soon as it is no longer needed.

## Rationale

Vascular access devices are one of the main causes of healthcare-associated infections, and bloodstream infections associated with central venous device insertion are a major cause of morbidity. The risk of infection is greatly reduced by complying with all parts of the process for safe insertion and maintenance of the device and its removal as soon as it is no longer needed.

## 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 a written protocol to ensure that people who need a vascular access device have their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the device and its removal as soon as it is no longer needed.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by provider organisations, for example, local protocols.

## Process

Proportion of people with a vascular access device who had their risk of infection minimised by the completion of specified procedures necessary for the safe insertion and maintenance of the device and its removal as soon as it is no longer needed.

Numerator – the number of people in the denominator for whom all of the specified procedures were completed for the safe insertion and maintenance of the device and its removal as soon as it is no longer needed.

Denominator – the number of people who have had a vascular access device.

**Data source:** Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from patient records. This is also included in the [UK Renal Registry Annual Report](#).

## Outcome

Incidence of vascular access device-related bloodstream infection.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, patient records.

## What the quality statement means for different audiences

**Service providers** ensure that systems and facilities are in place to enable staff to complete specified procedures necessary for the safe insertion and maintenance of the vascular access device and its removal as soon as it is no longer needed, in order to minimise risk of infection.

**Healthcare workers** ensure that they complete specified procedures necessary for the safe insertion and maintenance of the vascular access device and its removal as soon as it is no longer needed, in order to minimise the risk of infection.

**Commissioners** ensure that they commission services in which specified procedures

necessary for the safe insertion and maintenance of the vascular access device and its removal as soon as it is no longer needed are completed, in order to minimise the risk of infection.

**People who need a vascular access device** have their risk of infection minimised by healthcare workers carrying out procedures to make sure that the device is inserted, looked after and removed correctly and safely. These procedures include things like using sterile procedures when inserting the device, using the correct antiseptics and dressings, and removing the device as soon as it is no longer needed. A vascular access device is a tube that is inserted into a main vein or artery and used to administer fluids and medication, monitor blood pressure and collect blood samples.

## Source guidance

- [Healthcare-associated infections: prevention and control in primary and community care. NICE guideline CG139](#) (2012, updated 2017), recommendations 1.1.2.2, 1.4.2.1, 1.4.2.2, 1.4.3.1 (key priority for implementation), 1.4.3.2, 1.4.3.4, 1.4.4.1, 1.4.4.6 and 1.4.4.12 to 1.4.4.14
- [Loveday HP, Wilson JA, Pratt RJ et al. epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#) (2014), recommendations IVAD4 to IVAD5, IVAD13 to IVAD15, IVAD17, IVAD23 to IVAD24, IVAD28, IVAD30, IVAD34 and IVAD37 to IVAD39

## Definitions of terms used in this quality statement

### Vascular access device

A vascular access device is an indwelling catheter, cannula or other instrument used to obtain venous or arterial access. Both central and peripheral vascular access devices are available. [Adapted from [NICE's full guideline on healthcare-associated infections and epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#), table 3]

## **Specified procedures necessary for the safe insertion, maintenance and appropriate removal of vascular access devices**

### **General asepsis**

- Healthcare workers must decontaminate their hands before accessing or dressing a vascular access device, using an alcohol handrub or by washing with liquid soap and water if hands are contaminated. An aseptic technique must be used for vascular access device catheter site care, when accessing the system and when administering intravenous medication.

### **Skin decontamination**

- The skin should be decontaminated at the insertion site with 2% chlorhexidine gluconate in 70% alcohol and allowed to dry before inserting a vascular access device.

### **Vascular access device site care**

- A sterile transparent semipermeable membrane dressing should be used to cover the vascular access device insertion site. This should be changed every 7 days, or sooner if it is no longer intact or if moisture collects under the dressing.
- A single-use application of 2% chlorhexidine gluconate in 70% alcohol (or aqueous povidone iodine) should be used and allowed to dry when cleaning the insertion site during dressing changes.

### **Vascular access device management**

- A single-use application of 2% chlorhexidine gluconate in 70% alcohol (or aqueous povidone iodine) should be used to decontaminate the access port or catheter hub. The hub should be cleaned for 15 seconds and allowed to dry before accessing the system.
- Preferably, a sterile 0.9% sodium chloride injection should be used to flush and lock catheter lumens.
- Administration sets for blood and blood components should be changed when the transfusion episode is complete or every 12 hours (whichever is sooner), or according



to the manufacturer's recommendations. Administration sets used for total parenteral nutrition infusions should generally be changed every 24 hours. If the solution contains only glucose and amino acids, administration sets in continuous use do not need to be replaced more frequently than every 72 hours.

## **Review of vascular access devices**

- Peripheral vascular catheter insertion sites should be inspected during every shift at a minimum, and a visual phlebitis score should be recorded.
- Central venous catheter insertion sites should be inspected daily.

[Adapted from [NICE's guideline on healthcare-associated infections](#) and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#)]

# Quality statement 6: Educating people about infection prevention and control

## Quality statement

People with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), are educated about the safe management of the device or equipment, including techniques to prevent infection.

## Rationale

Because many people with a urinary catheter, vascular access device or enteral feeding tube manage their own device or equipment, it is important that they and their family members or carers are confident about, and proficient in, infection prevention and control practices and the safe management of the device or equipment.

## 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 for people with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), to be educated about the safe management of their device or equipment, including techniques to prevent infection.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, local protocols.

## Process

Proportion of people with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), who are educated about the safe management of their device or equipment, including techniques to prevent infection.

Numerator – the number of people in the denominator who are educated about the safe management of their device or equipment, including techniques to prevent infection.

Denominator – the number of people with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate).

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from patient records.

## Outcome

a) Incidence of healthcare-associated infection.

**Data source:** [2020/21 NHS Outcomes Framework](#) indicator 5.2 and [2020/21 CCG Outcomes Indicator Set](#) indicators 5.3 and 5.4 measure incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*. Data are derived from [UK Health Security Agency's mandatory reporting of healthcare-associated infections](#).

b) People with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), feel able to manage their device or equipment.

**Data source:** No routinely collected national data for this measure has been identified. Data can be collected from information recorded locally by healthcare professionals and provider organisations, for example, from patient surveys to demonstrate that patients and carers have understood their education.

## What the quality statement means for different audiences

**Service providers** ensure that there are systems in place for people with a urinary

catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), to be educated about the safe management of the device or equipment, including techniques to prevent infection.

**Healthcare workers** ensure that they educate people with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), about the safe management of the device or equipment, including techniques to prevent infection.

**Commissioners** ensure that they commission services in which people with a urinary catheter, vascular access device or enteral feeding tube, and their family members or carers (as appropriate), are educated about the safe management of the device or equipment, including techniques to prevent infection.

**People who have a urinary catheter, a vascular access device or an enteral feeding tube, and any family members or carers who help them with this equipment**, are given information and advice about how to look after the equipment safely and effectively. This includes advice about how to prevent infection. Enteral feeding is a type of feeding used for people who cannot eat normally in which liquid food is given through a tube directly into the gut.

## Source guidance

- [Healthcare-associated infections: prevention and control in primary and community care. NICE guideline CG139](#) (2012, updated 2017), recommendations 1.2.1.1, 1.3.1.1 and 1.4.1.1
- [Loveday HP, Wilson JA, Pratt RJ et al. epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#) (2014), recommendations UC22 and IVAD3

## Definitions of terms used in this quality statement

### Urinary catheter

A urinary catheter is a catheter that is inserted in the urethra and remains in place until it is no longer needed. Both short-term (used for 28 days or less) and long-term (used for

more than 28 days) urinary catheters are used. [Adapted from [NICE's full guideline on healthcare-associated infections](#) and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#)]

## Vascular access device

A vascular access device is an indwelling catheter, cannula or other instrument used to obtain venous or arterial access. Both central and peripheral vascular access devices are available. [Adapted from [NICE's full guideline on healthcare-associated infections](#) and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#), table 3]

## Enteral feeding

Enteral feeding is feeding via a tube that can include any method of providing nutrition via the gastrointestinal tract. [[NICE's full guideline on healthcare-associated infections](#)]

## Education about infection prevention and control

Education for people and their carers about infection prevention and control should always cover the techniques of hand decontamination. In addition, education should be provided as follows:

For people with a urinary catheter, education should cover insertion of intermittent catheters where applicable, how to manage the catheter and drainage system, how to minimise the risk of urinary tract infections and how to obtain additional supplies suitable for individual needs. [[NICE's guideline on healthcare-associated infections](#), recommendation 1.2.1.1, and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#), recommendation UC22]

For people with a vascular access device, education should cover any technique needed to prevent infection and safely manage the device. [[NICE's guideline on healthcare-associated infections](#), recommendation 1.4.1.1, and [epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England](#), recommendation IVAD3]

For people needing enteral feeding, education should cover techniques of feeding and management of the administration system. [[NICE's guideline on healthcare-associated](#)

infections, recommendation 1.3.1.1]

## Equality and diversity considerations

People with a cognitive impairment or a lack of mobility may need additional support to undertake hand decontamination and other techniques to prevent infection. Language barriers should not be a reason for not providing advice.

If religious beliefs are a source of concern in relation to the use of alcohol hand rubs for hand decontamination, people could be made aware of the official views of religious bodies about the products. If information is available, people should be directed to these sources.

# Update information

## Minor changes since publication

**March 2022:** The source guidance section for statement 5 was updated. Data sources and links have been updated throughout.

**September 2021:** The source guidance for statement 1 was updated because it was replaced by recommendations in the [NICE guidelines on antimicrobial stewardship: changing risk-related behaviours in the general population and antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#).

**April 2019:** References and source guidance sections have been updated throughout to align this quality standard with updated NICE guidance.

**December 2016:** Data source updated for statement 5.

## 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 NHS England, as required by the Health and Social Care Act (2012)

## Supporting organisations

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

- [Independent Healthcare Advisory Services](#)
- [MRSA Action UK](#)
- [Royal College of Anaesthetists](#)
- [Royal College of General Practitioners \(RCGP\)](#)
- [Royal College of Nursing \(RCN\)](#)
- [Royal College of Pathologists](#)
- [Royal College of Physicians \(RCP\)](#)
- [Royal Pharmaceutical Society](#)
- [UK Clinical Pharmacy Association \(UKCPA\)](#)
- [Association of Physicians' Assistants \(Anaesthesia\)](#)
- [Association for Safe Aseptic Practice](#)
- [Healthcare Infection Society](#)
- [Infection Prevention Society](#)
- [St John Ambulance](#)
- [College of General Dentistry](#)