

# Neonatal infection

Quality standard

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[www.nice.org.uk/guidance/qs75](http://www.nice.org.uk/guidance/qs75)

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This standard is based on NG195.

This standard should be read in conjunction with QS37, QS15, QS19, QS22, QS36, QS64, QS60, QS46, QS105, QS113, QS121, QS135, QS161, QS192, QS193 and QS57.

## Quality statements

Statement 1 Pregnant women whose babies are at risk of early-onset neonatal infection are offered intrapartum antibiotic prophylaxis and given the first dose as soon as possible.

Statement 2 Pregnant women and newborn babies receive a comprehensive clinical assessment for the risks or indicators of early-onset neonatal infection.

Statement 3 Newborn babies who need antibiotic treatment receive it within 1 hour of the decision to treat.

Statement 4 Newborn babies who start antibiotic treatment for possible early-onset neonatal infection have their need for it reassessed at 36 hours.

Statement 5 Parents or carers of newborn babies in whom early-onset neonatal infection has been a concern are given verbal and written information about neonatal infection before discharge.

Statement 6 (placeholder) Antibiotic treatment for late-onset neonatal infection.

NICE has developed guidance and a quality standard on people's experiences using adult NHS services (see the [NICE Pathway on patient experience in adult NHS services](#)).

Other quality standards that should be considered when commissioning or providing neonatal infection services include:

- [Specialist neonatal respiratory care for babies born preterm. NICE quality standard 193](#)
- [Sepsis. NICE quality standard 161](#)
- [Preterm labour and birth. NICE quality standard 135](#)
- [Antimicrobial stewardship. NICE quality standard 121](#)
- [Intrapartum care. NICE quality standard 105](#)
- [Fever in under 5s. NICE quality standard 64](#)
- [Inducing labour. NICE quality standard 60](#)
- [Multiple pregnancy. NICE quality standard 46](#)
- [Postnatal care. NICE quality standard 37](#)
- [Urinary tract infection in children and young people. NICE quality standard 36](#)
- [Caesarean birth. NICE quality standard 32](#)
- [Antenatal care. NICE quality standard 22](#)
- [Meningitis \(bacterial\) and meningococcal septicaemia in children and young people. NICE quality standard 19](#)

A full list of NICE quality standards is available from the [quality standards topic library](#).

# Quality statement 1: Intrapartum antibiotics

## Quality statement

Pregnant women whose babies are at risk of early-onset neonatal infection are offered intrapartum antibiotic prophylaxis and given the first dose as soon as possible.

## Rationale

Giving intrapartum antibiotic prophylaxis to women whose babies are at risk of early-onset neonatal infection (for example, from group B streptococcus) can prevent early-onset neonatal infection. The first dose should be given as soon as possible after the onset of labour because intrapartum antibiotic prophylaxis is most effective when the baby has sufficient exposure to the antibiotic.

## Quality measures

### Structure

Evidence of local arrangements to ensure that pregnant women whose babies are at risk of early-onset neonatal infection are offered intrapartum antibiotic prophylaxis and given the first dose as soon as possible.

**Data source:** Local data collection.

### Process

a) Proportion of pregnant women whose babies are at risk of early-onset neonatal infection who receive intrapartum antibiotic prophylaxis.

**Numerator** – the number in the denominator who receive intrapartum antibiotic prophylaxis.

**Denominator** – the number of pregnant women whose babies are at risk of early-onset neonatal infection.

**Data source:** Local data collection.

b) Proportion of pregnant women receiving intrapartum antibiotic prophylaxis who are given it as soon as possible.

Numerator – the number in the denominator whose intrapartum antibiotic prophylaxis is given as soon as possible.

Denominator – the number of pregnant women who receive intrapartum antibiotic prophylaxis.

Data source: Local data collection.

## Outcome

Rates of early-onset neonatal infection.

Data source: Local data collection.

## What the quality statement means for different audiences

**Service providers** (maternity care services) ensure that systems and protocols are in place to enable intrapartum antibiotic prophylaxis to be offered to pregnant women whose babies are at risk of early-onset neonatal infection and ensure that they are given the first dose as soon as possible.

**Healthcare professionals** (for example, midwives and doctors) adhere to protocols and offer intrapartum antibiotic prophylaxis to pregnant women whose babies are at risk of early-onset neonatal infection, ensuring that they are given the first dose as soon as possible and record this.

**Commissioners** (clinical commissioning groups) specify that maternity care providers have systems and protocols in place for healthcare professionals to offer intrapartum antibiotic prophylaxis to pregnant women whose babies are at risk of early-onset neonatal infection and ensure that they are given the first dose as soon as possible.

**Pregnant women whose babies are at risk of early-onset neonatal infection** are offered antibiotics and given the first dose as soon as possible after their labour has started.

## Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.2.1 and 1.2.4

## Definitions of terms used in this quality statement

### As soon as possible

As soon as possible after labour starts or as soon as infection is suspected in the case of chorioamnionitis. A suggested definition for audit purposes is that the first dose is given within 1 hour of the onset of active labour, or within 1 hour of admission if the woman is already in active labour. [[NICE's guideline on neonatal infection](#), recommendation 1.2.4 and expert opinion]

### Babies who are at risk of early-onset neonatal infection

Babies are at risk of early-onset neonatal infection if the mother:

- is in preterm labour, or
- has group B streptococcal colonisation, bacteriuria or infection during the current pregnancy, or
- has had group B streptococcal colonisation, bacteriuria or infection in a previous pregnancy, and has not had a negative test for group B streptococcus by enrichment culture or PCR on rectovaginal swab samples collected between 35 and 37 weeks' gestation or 3 to 5 weeks before the anticipated delivery date in the current pregnancy, or
- has had a previous baby with an invasive group B streptococcal infection, or
- has a clinical diagnosis of chorioamnionitis.

[[NICE's guideline on neonatal infection](#), recommendation 1.2.1]

### Intrapartum antibiotic prophylaxis

The following table indicates which antibiotic to use when giving intrapartum antibiotics for neonatal infection.



## Intrapartum antibiotics for neonatal infection

Allergies	Women without chorioamnionitis	Women with chorioamnionitis
No penicillin allergy	Use: Benzylpenicillin	Use: Benzylpenicillin plus gentamicin plus metronidazole
Penicillin allergy that is not severe	Use: Cephalosporin with activity against group B streptococcus (for example cefotaxime). Use with caution. In April 2021 this was an off-label use of cephalosporins. See <a href="#">NICE's information on prescribing medicines</a> .	Use: Cephalosporin with activity against group B streptococcus (for example cefotaxime) plus metronidazole. Use with caution. In April 2021 this was an off-label use of cephalosporins. See <a href="#">NICE's information on prescribing medicines</a> .
Severe penicillin allergy	Consider: Vancomycin or An alternative antibiotic that would be expected to be active against group B streptococcus based on either sensitivity testing performed on the woman's isolate or on local antibiotic susceptibility surveillance data. In April 2021 this was an off-label use of vancomycin. See <a href="#">NICE's information on prescribing medicines</a> .	Consider: Vancomycin plus gentamicin plus metronidazole or An alternative antibiotic to vancomycin that would be expected to be active against group B streptococcus based on either sensitivity testing performed on the woman's isolate or on local antibiotic susceptibility surveillance data plus gentamicin plus metronidazole. In April 2021 this was an off-label use of vancomycin. See <a href="#">NICE's information on prescribing medicines</a> .

[[NICE's guideline on neonatal infection](#), recommendation 1.2.2]

# Quality statement 2: Clinical assessment for early-onset neonatal infection

## Quality statement

Pregnant women and newborn babies receive a comprehensive clinical assessment for the risks or indicators of early-onset neonatal infection.

## Rationale

A comprehensive clinical assessment can identify babies who are at increased risk, or showing signs, of possible early-onset neonatal infection and enable healthcare professionals to start antibiotic treatment promptly if needed.

## Quality measures

### Structure

Evidence of local arrangements and written protocols to ensure that pregnant women and newborn babies receive a comprehensive clinical assessment for the risks or indicators of early-onset neonatal infection.

**Data source:** Local data collection.

### Process

a) Proportion of pregnant women who are assessed for risk factors for early-onset neonatal infection.

**Numerator** – the number in the denominator who are assessed for risk factors for early-onset neonatal infection.

**Denominator** – the number of pregnant women.

**Data source:** Local data collection.

b) Proportion of newborn babies who are assessed for clinical indicators of early-onset neonatal infection.

Numerator – the number in the denominator who are assessed for clinical indicators of early-onset neonatal infection.

Denominator – the number of newborn babies.

Data source: Local data collection.

c) Proportion of newborn babies with risk factors or clinical indicators of early-onset neonatal infection who receive an immediate physical examination including an assessment of the vital signs.

Numerator – the number in the denominator who receive an immediate physical examination including an assessment of the vital signs.

Denominator – the number of newborn babies identified with risk factors or clinical indicators of early-onset neonatal infection.

Data source: Local data collection.

## What the quality statement means for different audiences

**Service providers** (maternity care services) develop protocols to ensure that healthcare professionals are trained to identify the risk factors and clinical indicators of early-onset neonatal infection and perform a physical examination of the baby (including an assessment of the vital signs) if any have been identified.

**Healthcare professionals** (for example, midwives and doctors) monitor for risk factors and clinical indicators of early-onset neonatal infection and perform an immediate physical examination of the baby (including an assessment of the vital signs) if any have been identified.

**Commissioners** (clinical commissioning groups) specify that maternity care providers develop and adhere to protocols to support the identification of risk factors and clinical indicators of early-onset neonatal infection and perform immediate physical assessments of newborn babies if any have been identified.

Pregnant women and newborn babies have an assessment to check whether the baby is at risk of infection.

## Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.3.1, 1.3.2, and 1.3.3

## Definitions of terms used in this quality statement

### Comprehensive clinical assessment

Comprehensive clinical assessment for early-onset neonatal infection is a continuing process that begins before the baby is born and continues until 72 hours after the birth. It includes identifying whether there are any risk factors or clinical indicators for early-onset neonatal infection and performing a physical examination of the baby (including an assessment of the vital signs) without delay if any are identified. Red flag risk factors and clinical indicators (defined below) prompt a high level of concern. [Expert opinion]

### Risk factors

Red flag risk factor:

- Suspected or confirmed infection in another baby in the case of a multiple pregnancy.

Other risk factors:

- Invasive group B streptococcal infection in a previous baby or maternal group B streptococcal colonisation, bacteriuria or infection in the current pregnancy.
- Preterm birth following spontaneous labour before 37 weeks' gestation.
- Confirmed rupture of membranes for more than 18 hours before a preterm birth.
- Confirmed prelabour rupture of membranes at term for more than 24 hours before the onset of labour.
- Intrapartum fever higher than 38°C if there is suspected or confirmed bacterial infection.
- Clinical diagnosis of chorioamnionitis.

## Clinical indicators

### Red flag clinical indicators:

- Apnoea (temporary stopping of breathing)
- Seizures
- Need for cardiopulmonary resuscitation
- Need for mechanical ventilation
- Signs of shock.

### Other clinical indicators:

- Altered behaviour or responsiveness
- Altered muscle tone (for example, floppiness)
- Feeding difficulties (for example, feed refusal)
- Feed intolerance, including vomiting, excessive gastric aspirates and abdominal distension
- Abnormal heart rate (bradycardia or tachycardia)
- Signs of respiratory distress (including grunting, recession, tachypnoea)
- Hypoxia (for example, central cyanosis or reduced oxygen saturation level)
- Persistent pulmonary hypertension of newborns
- Jaundice within 24 hours of birth
- Signs of neonatal encephalopathy
- Temperature abnormality (lower than 36°C or higher than 38°C) unexplained by environmental factors
- Unexplained excessive bleeding, thrombocytopenia, or abnormal coagulation
- Altered glucose homeostasis (hypoglycaemia or hyperglycaemia)
- Metabolic acidosis (base deficit of 10 mmol/litre or greater).

[[NICE's guideline on neonatal infection](#), recommendation 1.3.3]

## Newborn babies

Babies under 72 hours old. [Adapted from [NICE's guideline on neonatal infection](#), terms used in this guideline definition of early-onset neonatal infection]

# Quality statement 3: Prompt antibiotic treatment for early-onset neonatal infection

## Quality statement

Newborn babies who need antibiotic treatment receive it within 1 hour of the decision to treat.

## Rationale

If the decision to treat is made, antibiotic treatment for early-onset neonatal infection should be started without delay (and without waiting for test results) and always within 1 hour to improve clinical outcomes for the baby.

## Quality measures

### Structure

Evidence of local arrangements to ensure that newborn babies who need antibiotic treatment receive it within 1 hour of the decision to treat.

**Data source:** Local data collection.

### Process

Proportion of newborn babies who need antibiotic treatment who receive it within 1 hour of the decision to treat.

**Numerator** – the number in the denominator who receive antibiotics within 1 hour of the decision to treat.

**Denominator** – the number of newborn babies who need antibiotic treatment.

**Data source:** Local data collection.

## What the quality statement means for different

## audiences

**Service providers** (maternity care services) develop protocols to ensure that healthcare professionals give antibiotic treatment to newborn babies who need it within 1 hour of the decision to treat.

**Healthcare professionals** (for example, midwives and doctors) adhere to protocols for antibiotic treatment for newborn babies who need it to be started within 1 hour of the decision to treat and record this.

**Commissioners** (clinical commissioning groups) specify that maternity care providers give antibiotic treatment to newborn babies who need it within 1 hour of the decision to treat the early-onset neonatal infection.

**Newborn babies less than 72 hours old** who need antibiotic treatment for an infection receive it within 1 hour.

## Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.3.5 and 1.3.9

## Definitions of terms used in this quality statement

### Newborn babies

Babies under 72 hours old. [Adapted from [NICE's guideline on neonatal infection](#), terms used in this guideline definition of early-onset neonatal infection]

### Newborn babies who need antibiotic treatment

Babies with any red flag, or with 2 or more 'non-red flag' risk factors or clinical indicators.

### Risk factors

Red flag risk factor:

- Suspected or confirmed infection in another baby in the case of a multiple pregnancy.



Other risk factors:

- Invasive group B streptococcal infection in a previous baby or maternal group B streptococcal colonisation, bacteriuria or infection in the current pregnancy.
- Preterm birth following spontaneous labour before 37 weeks' gestation.
- Confirmed rupture of membranes for more than 18 hours before a preterm birth.
- Confirmed prelabour rupture of membranes at term for more than 24 hours before the onset of labour.
- Intrapartum fever higher than 38°C if there is suspected or confirmed bacterial infection.
- Clinical diagnosis of chorioamnionitis.

## Clinical indicators

Red flag clinical indicators:

- Apnoea (temporary stopping of breathing)
- Seizures
- Need for cardiopulmonary resuscitation
- Need for mechanical ventilation
- Signs of shock.

Other clinical indicators:

- Altered behaviour or responsiveness
- Altered muscle tone (for example, floppiness)
- Feeding difficulties (for example, feed refusal)
- Feed intolerance, including vomiting, excessive gastric aspirates and abdominal distension
- Abnormal heart rate (bradycardia or tachycardia)
- Signs of respiratory distress (including grunting, recession, tachypnoea)

- Hypoxia (for example, central cyanosis or reduced oxygen saturation level)
- Persistent pulmonary hypertension of newborns
- Jaundice within 24 hours of birth
- Signs of neonatal encephalopathy
- Temperature abnormality (lower than 36°C or higher than 38°C) unexplained by environmental factors
- Unexplained excessive bleeding, thrombocytopenia, or abnormal coagulation
- Altered glucose homeostasis (hypoglycaemia or hyperglycaemia)
- Metabolic acidosis (base deficit of 10 mmol/litre or greater).

[[NICE's guideline on neonatal infection](#), recommendation 1.3.5]

# Quality statement 4: Reassessing antibiotic treatment for early-onset neonatal infection

## Quality statement

Newborn babies who start antibiotic treatment for possible early-onset neonatal infection have their need for it reassessed at 36 hours.

## Rationale

Newborn babies should have their antibiotic treatment reassessed 36 hours after starting treatment to ensure that they are not receiving antibiotics unnecessarily. Reassessment (including consideration of any blood test results) is needed so that antibiotic treatment can be stopped if there are clinical indications that a baby does not have an infection. This will help to improve safety by reducing the likelihood of local antimicrobial resistance as well as improve the experience of the postnatal period for these babies and their parents or carers.

## Quality measures

### Structure

Evidence of local arrangements to ensure that newborn babies who start antibiotic treatment for possible early-onset neonatal infection have their need for it reassessed at 36 hours.

**Data source:** Local data collection.

### Process

Proportion of newborn babies who start antibiotic treatment for possible early-onset neonatal infection who have their need for it reassessed at 36 hours.

**Numerator** – the number in the denominator who have their need for antibiotic treatment reassessed at 36 hours.

**Denominator** – the number of newborn babies who start antibiotic treatment for possible early-onset neonatal infection.

Data source: Local data collection.

## What the quality statement means for different audiences

**Service providers** (maternity care services) have protocols in place to ensure that healthcare professionals reassess antibiotic treatment at 36 hours and have systems in place for blood culture results to be returned within 36 hours.

**Healthcare professionals** (for example, midwives and doctors) adhere to protocols and reassess the need for antibiotic treatment at 36 hours to enable antibiotic treatment to be stopped if there are clinical indications that a baby does not have an infection.

**Commissioners** (clinical commissioning groups) specify that maternity care providers reassess the need for antibiotic treatment at 36 hours and include consideration of blood culture results.

**Newborn babies being given antibiotic treatment for an infection** have their treatment checked at 36 hours to see whether they need to continue it.

## Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendation 1.6.3

## Definitions of terms used in this quality statement

### Newborn babies

Babies under 72 hours old. [Adapted from NICE's guideline on neonatal infection, terms used in this guideline definition of early-onset neonatal infection]

### Reassessment of the need for antibiotic treatment

Includes blood culture, C-reactive protein level, clinical condition and the strength of the initial clinical suspicion of infection. Antibiotic treatment may be stopped if blood culture is negative, initial suspicion of infection was not strong, the baby has no clinical indicators of infection and C-reactive protein levels are reassuring. [NICE's guideline on neonatal infection, recommendation 1.6.3]

Hospitals should consider establishing systems to provide blood culture results 36 hours after starting antibiotic treatment to facilitate the timely discontinuation of treatment. [[NICE's guideline on neonatal infection](#), recommendation 1.6.4]

# Quality statement 5: Information and support for identification of neonatal infection

## Quality statement

Parents or carers of newborn babies in whom early-onset neonatal infection has been a concern are given verbal and written information about neonatal infection before discharge.

## Rationale

Prompt identification of neonatal infection is essential to ensure that babies receive appropriate treatment as soon as possible to prevent complications and achieve the best clinical outcomes. Advising parents or carers about what to look for and when to contact a healthcare professional will help them recognise signs of infection promptly and avoid unnecessary delay in treatment of the baby.

## Quality measures

### Structure

Evidence of local arrangements and protocols to ensure that parents or carers of newborn babies in whom early-onset neonatal infection has been a concern are given verbal and written information about neonatal infection before discharge.

**Data source:** Local data collection.

### Process

Proportion of parents or carers of newborn babies in whom early-onset neonatal infection has been a concern who are given verbal and written information about neonatal infection before discharge.

**Numerator** – the number in the denominator whose parents or carers receive verbal and written information about neonatal infection before discharge.

**Denominator** – the number of newborn babies in whom early-onset neonatal infection has been a

concern.

Data source: Local data collection.

## What the quality statement means for different audiences

**Service providers** (secondary care services) ensure that verbal and written information about neonatal infection (including what to look for and who to contact if they are concerned) is available before discharge for parents or carers of newborn babies in whom there have been concerns about early-onset neonatal infection.

**Healthcare professionals** (for example, midwives and doctors) discuss neonatal infection with parents or carers of newborn babies in whom there have been concerns about early-onset neonatal infection, and give them written information before discharge, including what to look for and who to contact if they are concerned.

**Commissioners** (clinical commissioning groups) specify that services have protocols in place to ensure that verbal and written information about neonatal infection is available for parents or carers of newborn babies in whom there have been concerns about early-onset neonatal infection. They also ensure that there is access to relevant healthcare professionals for parents or carers who are concerned about neonatal infection.

**Parents or carers of newborn babies who may be at risk of developing an infection** have a healthcare professional discuss this with them and give them written information about infection in newborn babies before they leave hospital. The information should include how to check whether the baby might have an infection and who to contact if they are concerned.

## Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.1.2, 1.1.5 and 1.1.12

## Definitions of terms used in this quality statement

### Babies in whom early-onset neonatal infection is a concern

Babies with any of the risk factors or clinical indicators below, either before birth or during the first

72 hours after birth. Red flag risk factors and clinical indicators prompt a high level of concern.

## Risk factors

Red flag risk factor:

- Suspected or confirmed infection in another baby in the case of a multiple pregnancy.

Other risk factors:

- Invasive group B streptococcal infection in a previous baby or maternal group B streptococcal colonisation, bacteriuria or infection in the current pregnancy.
- Preterm birth following spontaneous labour before 37 weeks' gestation.
- Confirmed rupture of membranes for more than 18 hours before a preterm birth.
- Confirmed prelabour rupture of membranes at term for more than 24 hours before the onset of labour.
- Intrapartum fever higher than 38°C if there is suspected or confirmed bacterial infection.
- Clinical diagnosis of chorioamnionitis.

## Clinical indicators

Red flag clinical indicators:

- Apnoea (temporary stopping of breathing)
- Seizures
- Need for cardiopulmonary resuscitation
- Need for mechanical ventilation
- Signs of shock.

Other clinical indicators:

- Altered behaviour or responsiveness
- Altered muscle tone (for example, floppiness)



- Feeding difficulties (for example, feed refusal)
- Feed intolerance, including vomiting, excessive gastric aspirates and abdominal distension
- Abnormal heart rate (bradycardia or tachycardia)
- Signs of respiratory distress (including grunting, recession, tachypnoea)
- Hypoxia (for example, central cyanosis or reduced oxygen saturation level)
- Persistent pulmonary hypertension of newborns
- Jaundice within 24 hours of birth
- Signs of neonatal encephalopathy
- Temperature abnormality (lower than 36°C or higher than 38°C) unexplained by environmental factors
- Unexplained excessive bleeding, thrombocytopenia, or abnormal coagulation
- Altered glucose homeostasis (hypoglycaemia or hyperglycaemia)
- Metabolic acidosis (base deficit of 10 mmol/litre or greater).

[Adapted from [NICE's guideline on neonatal infection](#), recommendations 1.1.2, 1.1.5, 1.3.3 and 1.3.4]

## Discharge

When a baby is discharged from the hospital or midwifery led unit or in the immediate postnatal period if the baby is born at home. [[NICE's guideline on neonatal infection](#), recommendation 1.1.5].

## Information about neonatal infection

Verbal and written information for parents and carers that they should seek urgent medical help (for example, from NHS 111, their GP or an accident and emergency department) if they are concerned that the baby:

- is showing abnormal behaviour (for example, inconsolable crying or listlessness) or
- is unusually floppy or

- has an abnormal temperature unexplained by environmental factors (lower than 36°C or higher than 38°C) or
- has abnormal breathing (rapid breathing, difficulty in breathing or grunting) or
- has a change in skin colour (for example where the baby becomes very pale, blue/grey or dark yellow) or
- has developed new difficulties with feeding.

[[NICE's guideline on neonatal infection](#), recommendation 1.1.12]

## Equality and diversity considerations

Information about neonatal infection should be accessible to parents or carers with additional needs such as physical, sensory or learning disabilities, and to parents or carers who do not speak or read English. Parents or carers of babies in whom early-onset neonatal infection has been a concern in any setting should have access to an interpreter or advocate if needed.

# Quality statement 6 (placeholder): Antibiotic treatment for late-onset neonatal infection

## What is a placeholder statement?

A placeholder statement is an area of care that was prioritised by the quality standards advisory committee but for which no source guidance was available. A placeholder statement indicated the need for evidence-based guidance to be developed in this area.

## Rationale

Late-onset neonatal infection (infection arising more than 72 hours after birth) has a higher incidence than early-onset neonatal infection (infection arising within 72 hours of birth) and the spectrum of causative microorganisms is broader than in early-onset infection. A quality statement on the appropriate use of antibiotics in late-onset neonatal bacterial infection could help to improve clinical outcomes for babies and reduce the likelihood of antimicrobial resistance in babies and neonatal units.

The updated NICE guideline on neonatal infection now includes [recommendations on antibiotics for late-onset neonatal infection](#) and [duration of antibiotic treatment for late-onset neonatal infection](#). This placeholder statement will be updated when this quality standard is next reviewed.

# Update information

## Minor changes since publication

**April 2021:** The definitions for statements 1, 2, 3 and 5 have been changed to align with the updated [NICE guideline on neonatal infection: antibiotics for prevention and treatment](#). The rationale for statement 6 was also updated to highlight that new recommendations on late-onset neonatal infection have been included in the updated guideline, which will be considered when this quality standard is reviewed. Source guidance and references have also been updated throughout.

## 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 standard advisory committees](#) for details of standing committee 4 members who advised on this quality standard. Information about the topic experts invited to join the standing members is available from the [webpage for this quality standard](#).

This quality standard has been included in the [NICE Pathway on neonatal infection: antibiotics for prevention and treatment](#), which brings together everything we have said on a topic in an interactive flowchart.

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.

## Improving outcomes

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

- neonatal mortality
- neonatal morbidity
- health-related quality of life of the baby
- antibiotic resistance.

It is also expected to support delivery of the following national frameworks:

- [NHS outcomes framework](#)
- [Public health outcomes framework for England](#)
- [Quality framework for public health.](#)

Equivalent frameworks may be used in the devolved nations.

## Resource impact

NICE quality standards should be achievable by local services. The potential resource impact is considered by the quality standards advisory committee, drawing on resource impact work for the source guidance. Organisations are encouraged to use the [resource impact statement for the source guidance](#) to help estimate local costs.

## Diversity, equality and language

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

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.

- [Bliss](#)
- [Group B Strep Support](#)
- [Meningitis Research Foundation](#)
- [Royal College of General Practitioners \(RCGP\)](#)
- [Royal College of Obstetricians and Gynaecologists](#)
- [Royal College of Paediatrics and Child Health](#)
- [Royal College of Pathologists](#)
- [SANDS](#)
- [UK Clinical Pharmacy Association \(UKCPA\)](#)
- [UK Sepsis Trust](#)