NICE National Institute for Health and Care Excellence

NICE quality standard

Neonatal infection

Quality standard
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www.nice.org.uk/guidance/qs75

Contents

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 and pregnant people whose babies are at risk of early-onset neonatal infection are offered intrapartum antibiotics and given the first dose within 1 hour of the decision to treat. **[2014, updated 2024]**

Statement 2 Newborn babies are assessed for the risk factors and clinical indicators of early-onset neonatal infection. **[2014, updated 2024]**

Statement 3 Neonates who need intravenous antibiotic treatment for suspected neonatal infection receive it within 1 hour of the decision to treat. **[2014, updated 2024]**

Statement 4 Neonates who start intravenous antibiotic treatment for suspected neonatal infection have their need for it reassessed at 36 hours for early-onset or at 48 hours for late-onset. **[2014, updated 2024]**

Statement 5 Parents or carers of babies that have or have had risk factors for neonatal infection, or whose baby has received intravenous antibiotics, are given verbal and written information about neonatal infection before transfer to community care, before the midwife leaves after a home birth or before discharge. **[2014, updated 2024]**

In 2024 this quality standard was updated, and statements prioritised in 2014 were updated **[2014, updated 2024]**. For more information, see update information.

The previous version of the quality standard for neonatal infection is available as a pdf.

Quality statement 1: Intrapartum antibiotics

Quality statement

Pregnant women and pregnant people whose babies are at risk of early-onset neonatal infection are offered intrapartum antibiotics and given the first dose within 1 hour of the decision to treat. **[2014, updated 2024]**

Rationale

Giving intrapartum antibiotics to pregnant women and pregnant people whose babies are at risk of early-onset neonatal infection (for example, from group B streptococcus or because the pregnant woman or pregnant person may have chorioamnionitis, an infection in their womb) can prevent early-onset neonatal infection. The first dose should be given as soon as possible and within 1 hour of the decision to treat; this will be within 1 hour after the start of labour if the need for intrapartum antibiotics was identified during pregnancy, or within 1 hour of the need for antibiotics being identified if this is after labour has started. This is because intrapartum antibiotics are most effective when the baby has sufficient exposure to the antibiotic. The 1-hour timescale has been derived from expert opinion and has been included to ensure the quality statement is easily measurable.

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.

Process

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

Numerator – the number in the denominator who receive intrapartum antibiotics.

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

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

b) Proportion of pregnant women and pregnant people receiving intrapartum antibiotics who are given them within 1 hour of the decision to treat.

Numerator – the number in the denominator whose intrapartum antibiotics are given within 1 hour of the decision to treat.

Denominator – the number of pregnant women and pregnant people who receive intrapartum antibiotics.

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

Outcome

Rates of early-onset neonatal infection.

Data source:NHS Maternity Statistics include data from hospital episode statistics on the number of 'delivery episodes' where bacterial sepsis of newborn babies is recorded as a birth complication. Data can also 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 (maternity services) ensure that systems are in place to enable intrapartum antibiotics to be offered to pregnant women and pregnant people whose babies are at risk of early-onset neonatal infection and ensure the first dose is given as soon as possible and within 1 hour of the decision to treat. They ensure that systems are in place for antibiotics to be offered and given as soon as possible, and within 1 hour of infection being suspected, in the case of chorioamnionitis.

Healthcare professionals (for example, midwives and obstetricians) identify pregnant women and pregnant people whose babies may be at risk of early-onset neonatal infection. They offer intrapartum antibiotics to those pregnant women and pregnant people and, for those who choose to receive it, ensure that the first dose is given as soon as possible after labour starts and within 1 hour of the decision to treat. If the need for antibiotics is identified after labour has started, they are given as soon as possible and within 1 hour. Healthcare professionals offer and give antibiotics as soon as possible, and within 1 hour of infection being suspected, in the case of chorioamnionitis.

Commissioners ensure that maternity care providers have systems and protocols in place for healthcare professionals to offer intrapartum antibiotics to pregnant women and pregnant people whose babies are at risk of early-onset neonatal infection, and that the first dose is given as soon as possible and within 1 hour of the decision to treat. They ensure that antibiotics are offered and given as soon as possible, and within 1 hour of infection being suspected, in the case of chorioamnionitis.

Pregnant women and pregnant people whose babies are at risk of early-onset neonatal infection are offered antibiotics in labour to help prevent their baby developing infection. They are given the first dose of antibiotics as soon as possible and within 1 hour after the start of labour. If the need for antibiotics is identified after labour has started, they should be given within 1 hour of the decision to treat. If healthcare professionals think that the pregnant woman or pregnant person may have an infection in their womb (chorioamnionitis), they will be offered antibiotics and, if accepted, these will be given as soon as possible and within 1 hour.

Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.2.1, 1.2.4 and expert opinion. The 1-hour timescale has been derived from expert opinion and has been included to ensure the quality statement is easily measurable

Definitions of terms used in this quality statement

Babies who are at risk of early-onset neonatal infection

Babies are at risk of early-onset neonatal infection if the pregnant woman or pregnant

person:

- 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 a rectovaginal swab sample 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 antibiotics

These are antibiotics given throughout labour until the baby is born. [NICE's guideline on neonatal infection, recommendation 1.2.2]

Quality statement 2: Assessment for early-onset neonatal infection

Quality statement

Newborn babies are assessed for the risk factors and clinical indicators of early-onset neonatal infection. **[2014, updated 2024]**

Rationale

Assessment for the risk factors and clinical indicators of early-onset neonatal infection can identify those babies who are at increased risk or who are showing possible signs of infection. Early identification of these risk factors or clinical indicators should prompt a physical examination, which can lead to healthcare professionals starting antibiotic treatment promptly, if needed. A risk assessment tool can be used to help carry out this assessment. The Kaiser Permanente neonatal sepsis calculator, which should be used only as part of a prospective audit, is an example of the type of tool that can be used.

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.

Process

Proportion of newborn babies who are assessed for the risk factors and clinical indicators of early-onset neonatal infection.

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

Denominator – the number of newborn babies.

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 (maternity, paediatric and neonatal services) ensure that processes are in place for risk factors and clinical indicators of early-onset infection in newborn babies to be identified. They also ensure that healthcare professionals are trained to identify these risk factors and clinical indicators in babies of all skin colours.

Healthcare professionals (for example, midwives, neonatal nurses, obstetricians, neonatologists and paediatricians) assess newborn babies for risk factors and clinical indicators of early-onset neonatal infection. If any are present, they perform an immediate physical examination of the baby, including an assessment of the vital signs.

Commissioners ensure that maternity, paediatric and neonatal service providers develop and adhere to protocols to support the identification of risk factors and clinical indicators of early-onset neonatal infection, performing immediate physical assessments of newborn babies if any have been identified.

Newborn babies have an assessment to check if they are at risk of infection.

Source guidance

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

Definitions of terms used in this quality statement

Newborn babies

Babies up to 72 hours old. [Adapted from NICE's guideline on neonatal infection, full guideline]

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 start of labour
- intrapartum fever of more than 38°C if there is suspected or confirmed bacterial infection
- clinical diagnosis of chorioamnionitis.

[NICE's guideline on neonatal infection, box 1]

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 and tachypnoea)
- hypoxia (for example, central cyanosis or reduced oxygen saturation level)
- persistent pulmonary hypertension of newborn babies
- jaundice within 24 hours of birth
- signs of neonatal encephalopathy
- temperature abnormality (less than 36°C or more 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 more).

[NICE's guideline on neonatal infection, box 2]

Equality and diversity considerations

One of the clinical indicators of early-onset neonatal infection is hypoxia, which can present as central cyanosis (a generalised bluish discoloration of the body and the visible mucous membranes). Other changes to skin colour can also be a symptom of neonatal infection, for example where the baby becomes very pale, blue/grey or dark yellow.

It is important that healthcare professionals are aware that central cyanosis may present differently depending on the baby's skin colour and understand how best to identify changes in skin colour on different skin tones, such as where on the body to look for changes in colour.

There are some resources that healthcare professionals can use to help identify skin colour changes because of infection, such as Skin Deep, developed by Don't Forget The Bubbles, Mind the Gap clinical handbook and web resource, developed by Black & Brown Skin, and Symptom spotting on darker skin tones, developed by Bliss. These resources have not been produced by NICE and are not maintained by NICE. NICE has not made any judgement about the quality and usability of the resources. Other resources may also be available.

It is important that healthcare professionals recognise that some pulse oximetry devices have been reported to overestimate oxygen saturation levels in babies with darker skin, especially if the saturation level is borderline. Adjustments should be made when interpreting the test results to ensure that treatment is provided when appropriate. While the effectiveness of pulse oximeters can vary on darker skin, they are more accurate than a visual assessment alone for identifying low oxygen saturation levels.

Quality statement 3: Prompt antibiotic treatment for neonatal infection

Quality statement

Neonates who need intravenous antibiotic treatment for suspected neonatal infection receive it within 1 hour of the decision to treat. **[2014, updated 2024]**

Rationale

If the decision to treat is made, intravenous (IV) antibiotic treatment for neonatal infection should be started without delay, without waiting for test results. This should be as soon as possible and always within 1 hour to improve clinical outcomes for the baby. Most cases of early-onset and late-onset neonatal infection are identified in hospital. For babies with suspected neonatal infection identified outside the hospital setting, the decision to treat with IV antibiotics would be made on admission to hospital.

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.

Process

Proportion of neonates who need IV antibiotic treatment for suspected neonatal infection who receive it within 1 hour of the decision to treat.

Numerator – the number in the denominator who receive IV antibiotic treatment for suspected neonatal infection within 1 hour of the decision to treat.

Denominator – the number of neonates where a decision to treat with IV antibiotic treatment for suspected neonatal infection has been made.

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

Outcome

Neonatal mortality due to neonatal 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 (primary, community, maternity, paediatric and neonatal services) ensure that healthcare professionals can administer IV antibiotic treatment for suspected neonatal infection to neonates as soon as possible and always within 1 hour of the decision to treat. This includes having healthcare professionals available who are trained to obtain venous access and having communication channels in place to ensure medications can be available as needed. Service providers ensure that a paediatrician can be contacted at all times by primary or community care staff to discuss emergency admission and care of those babies identified as having a suspected neonatal infection.

Healthcare professionals (for example, midwives, neonatal nurses, neonatologists and paediatricians) ensure that IV antibiotic treatment for suspected neonatal infection is given to neonates as soon as possible and always within 1 hour of the decision to treat. Healthcare professionals from non-inpatient settings such as GPs and health visitors should seek early advice from a paediatrician if infection is suspected and arrangements can be made for emergency admission and administration of antibiotic treatment.

Commissioners ensure that maternity, paediatric and neonatal providers, working with non-inpatient services where appropriate, give IV antibiotic treatment to neonates for suspected neonatal infection as soon as possible and always within 1 hour of the decision to treat.

Neonates (babies up to 28 days corrected gestational age) with suspected neonatal infection receive antibiotics as soon as possible and always within 1 hour of the need being identified. Antibiotic treatment for neonatal infection is given directly into the vein,

so this needs to be given in hospital.

Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.3.9, 1.5.1, 1.8.4 and 1.10.1

Definitions of terms used in this quality statement

Neonates

Babies of up to and including 28 days corrected gestational age. [NICE's guideline on neonatal infection, overview]

Equality and diversity considerations

One of the clinical indicators of early-onset neonatal infection is hypoxia, which can present as central cyanosis (a generalised bluish discoloration of the body and the visible mucous membranes). Other changes to skin colour can also be a symptom of neonatal infection, for example where the baby becomes very pale, blue/grey or dark yellow.

It is important that healthcare professionals are aware that central cyanosis may present differently depending on the baby's skin colour and understand how best to identify changes in skin colour on different skin tones, such as where on the body to look for changes in colour.

There are some resources that healthcare professionals can use to help identify skin colour changes because of infection, such as Skin Deep, developed by Don't Forget The Bubbles, Mind the Gap clinical handbook and web resource, developed by Black & Brown Skin, and Symptom spotting on darker skin tones, developed by Bliss. These resources have not been produced by NICE and are not maintained by NICE. NICE has not made any judgement about the quality and usability of the resources. Other resources may also be available.

It is important that healthcare professionals recognise that some pulse oximetry devices have been reported to overestimate oxygen saturation levels in babies with darker skin,

especially if the saturation level is borderline. Adjustments should be made when interpreting the test results to ensure that treatment is provided when appropriate. While the effectiveness of pulse oximeters can vary on darker skin, they are more accurate than a visual assessment alone for identifying low oxygen saturation levels.

Quality statement 4: Reassessing antibiotic treatment for neonatal infection

Quality statement

Neonates who start intravenous antibiotic treatment for suspected neonatal infection have their need for it reassessed at 36 hours for early-onset or at 48 hours for late-onset. **[2014, updated 2024]**

Rationale

Neonates should have their intravenous (IV) antibiotic treatment reassessed 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 neonate does not have an infection. If antibiotic treatment needs to be continued, it will also ensure the correct antibiotics can be given, based on the blood culture findings. In both cases, this will help improve safety by reducing the likelihood of local antimicrobial resistance, as well as improving the experience of the postnatal period for these babies and their parents or carers.

The timescale for review is later for late-onset infection because it may be caused by different bacteria. Some of these may grow more slowly, and it can take longer for a blood culture to become positive. This means treatment needs to continue for longer until a negative blood culture result can be confirmed.

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 that hospitals and laboratories have systems in place to return blood culture

results within 36 hours of bloods being taken for early-onset neonatal infection, and within 48 hours of bloods being taken for late-onset neonatal infection.

Data source: Evidence can be collected locally from service level agreements and pathways.

Process

a) Proportion of neonates who start IV antibiotic treatment for suspected 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 neonates who start IV antibiotic treatment for suspected early-onset neonatal infection.

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

b) Proportion of neonates who start IV antibiotic treatment for suspected late-onset neonatal infection who have their need for it reassessed at 48 hours.

Numerator – the number in the denominator who have their need for antibiotic treatment reassessed at 48 hours.

Denominator – the number of neonates who start IV antibiotic treatment for suspected late-onset neonatal 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 (maternity, paediatric, neonatal and laboratory services) have protocols in place to ensure that healthcare professionals reassess IV antibiotic treatment for early-

onset neonatal infection at 36 hours and for late-onset neonatal infection at 48 hours. They ensure there are systems in place for blood culture results to be returned within these timescales to allow the reassessment to take place.

Healthcare professionals (for example, midwives, neonatal nurses, microbiologists, paediatricians and neonatologists) reassess the need for IV antibiotic treatment for early-onset neonatal infection at 36 hours and for late-onset neonatal infection at 48 hours. They stop antibiotic treatment at that time if there are clinical indications that a baby does not have an infection. If further antibiotic treatment is needed, the most appropriate antibiotics can be given based on the blood culture findings. If antibiotics are continued, the need for them is reassessed every 24 hours until they are stopped.

Commissioners ensure that maternity, paediatric, neonatal and laboratory providers reassess the need for IV antibiotic treatment for early-onset neonatal infection at 36 hours and for late-onset neonatal infection at 48 hours, taking blood culture results into account.

Neonates (babies up to 28 days corrected gestational age) receiving intravenous antibiotic treatment for suspected neonatal infection have their treatment checked to see if they need to continue it. If they are receiving antibiotic treatment for suspected early-onset neonatal infection, this check will take place 36 hours after they started treatment. If they are receiving antibiotic treatment for suspected late-onset neonatal infection, this check will take place 48 hours after they started treatment. If they carry on receiving antibiotics after this, their need for them will be reassessed every 24 hours until they are stopped.

Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.6.3 and 1.11.3

Definitions of terms used in this quality statement

Neonates

Babies of up to and including 28 days corrected gestational age. [NICE's guideline on neonatal infection, overview]

Reassessment of the need for intravenous antibiotic treatment

This 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 the levels and trends of C-reactive protein concentrations are reassuring. [NICE's guideline on neonatal infection, recommendations 1.6.3 and 1.11.3]

Quality statement 5: Information and support for parents and carers

Quality statement

Parents or carers of babies that have or have had risk factors for neonatal infection, or whose baby has received intravenous antibiotics, are given verbal and written information about neonatal infection before transfer to community care, before the midwife leaves after a home birth or before discharge. **[2014, updated 2024]**

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 treating the baby.

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.

Process

Proportion of parents or carers of babies that have or have had risk factors for neonatal infection, or where their baby has received intravenous (IV) antibiotics, who are given verbal and written information about neonatal infection before transfer to community care, before the midwife leaves after a home birth or before discharge.

Numerator – the number in the denominator whose parents or carers receive verbal and written information about neonatal infection before transfer to community care, before the midwife leaves after a home birth or before discharge.

Denominator – the number of babies that have or have had risk factors for neonatal infection, or who have received IV antibiotics.

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

What the quality statement means for different audiences

Service providers (maternity and neonatal services) ensure that verbal and written information about neonatal infection, including what signs and symptoms to look for and who to contact if they are concerned, is given to parents or carers of babies who have or have had risk factors for neonatal infection or have received IV antibiotics. The information should be given before transfer to community care, before the midwife leaves after a home birth or before discharge and should also include information on organisations and groups they can contact if they need support.

Healthcare professionals (midwives, neonatal nurses, neonatologists and paediatricians) discuss neonatal infection with parents or carers of babies who have or have had risk factors for neonatal infection or have received IV antibiotics, and give them written information, including what signs and symptoms to look for and who to contact if they are concerned. This information is given before transfer to community care, before the midwife leaves after a home birth or before discharge.

Commissioners ensure that maternity and neonatal services provide verbal and written information about neonatal infection to parents or carers of babies who have or have had risk factors for neonatal infection or have received IV antibiotics.

Parents or carers of babies (up to 28 days corrected gestational age) who have or have had risk factors for infection, or who have received intravenous antibiotics, are given written information about infection in babies before the midwife leaves if the baby was born at home or before they leave hospital. Their baby's healthcare professional will also discuss this with them. The information should include how to check if the baby might have an infection and who to contact if they are concerned. This should also include information on organisations and groups they can contact if they need support.

Source guidance

Neonatal infection: antibiotics for prevention and treatment. NICE guideline NG195 (2021), recommendations 1.1.2, 1.1.5 and 1.1.15

Definitions of terms used in this quality statement

Risk factors for neonatal infection

Risk factors for neonatal infection include:

- the pregnant woman or pregnant person having:
  - group B streptococcal colonisation, bacteriuria or infection during the current pregnancy, or
  - group B streptococcal colonisation, bacteriuria or infection in a previous pregnancy, and no negative test for group B streptococcus by enrichment culture or PCR on a rectovaginal swab sample collected between 35 and 37 weeks' gestation or 3 to 5 weeks before the anticipated delivery date in the current pregnancy, or
  - a previous baby with an invasive group B streptococcal infection, or
  - a clinical diagnosis of chorioamnionitis
- preterm birth
- the baby needing or having had mechanical ventilation
- the baby having a history of surgery
- the baby having central catheter
- infection in another baby from a multiple birth.

[NICE's guideline on neonatal infection, recommendations 1.2.1 and 1.8.1]

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 (less than 36°C or more than 38°C), or
- has abnormal breathing (rapid breathing, difficulty 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.

In addition, if parents are concerned that their baby is unwell but they do not have any of the symptoms listed, the verbal and written information they are given should encourage them to seek urgent medical help. This includes any change of skin colour from the baby's usual skin colour. [NICE's guideline on neonatal infection, recommendation 1.1.15 and expert opinion]

Equality and diversity considerations

One of the symptoms of neonatal infection that should be included in the information to parents is a change in skin colour (for example, where the baby becomes very pale, blue/grey or dark yellow). It is important that the information clearly explains how this symptom may present differently on babies depending on their skin colour, and how best to identify changes in skin colour on different skin tones, such as where on the body to look for changes in colour. It could also include links to any resources that can help parents identify a change in colour in their baby, such as Symptom spotting on darker skin tones, developed by Bliss. This resource has not been produced by NICE and is not maintained by NICE. NICE has not made any judgement about the quality and usability of the resource. Other resources may also be available.

Parents and carers should be provided with information about neonatal infection that they

can easily read and understand themselves, or with support, so they can communicate effectively with healthcare services. Information should be in a format that suits their needs and preferences. It should be accessible to people who do not speak or read English, and it should be culturally appropriate. People should have access to an interpreter or advocate if needed.

For people with additional needs related to a disability, impairment or sensory loss, information should be provided as set out in NHS England's Accessible Information Standard or the equivalent standards for the devolved nations.

Update information

January 2024: This quality standard was updated, and statements prioritised in 2014 were updated. The topic was identified for update following a review of quality standards. The review identified new guidance on late-onset neonatal infection in NICE's guideline on neonatal infection.

Statements are marked as **[2014, updated 2024]** if the statement covers an area for quality improvement included in the 2014 quality standard and has been updated.

The previous version of the quality standard for neonatal infection is available as a pdf.

Minor changes since publication

March 2024: Changes have been made to align this quality standard with the updated NICE guideline on neonatal infection. Source guidance references in statement 5 have been updated.

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, 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.

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 products for NICE's guideline on neonatal infection 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.

- Group B Strep Support
- British Infection Association
- Royal College of Paediatrics and Child Health