

# Feverish illness in children

## NICE quality standard

### Draft for consultation

February 2014

## Introduction

This quality standard covers the assessment and initial management of unexplained fever in infants and children (from birth to 5 years). For more information see the [topic overview](#).

### ***Why this quality standard is needed***

Feverish illness is a cause of concern for parents and carers and usually indicates an underlying infection. In most cases this is because of a self-limiting virus infection and recovery can be quick without medical intervention. However, fever may also be the presenting feature of serious bacterial illnesses such as meningitis, septicaemia, urinary tract infections and pneumonia.

Feverish illness is very common in young children, with between 20 and 40% of parents reporting such an illness each year. Fever is the most likely reason for a child to be taken to the doctor and the second most common reason for a child being admitted to hospital.

Feverish illness in infants and children can be a diagnostic challenge for healthcare professionals because it is often difficult to identify the cause. In some there will be symptoms and signs that suggest a particular infection, however a significant number of infants and children will have no obvious cause of fever despite careful assessment and investigation. These cases are a particular concern to healthcare professionals because it is especially difficult to distinguish between simple viral illnesses and life-threatening bacterial infections in this group. The younger the child the more difficult it is to establish a diagnosis and assess the severity of illness.

The clinical picture can often change rapidly. The condition of an infant or child with a serious illness can deteriorate within hours of onset. On the other hand, those who appear ill with a virus infection can make a rapid recovery.

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

- mortality and morbidity in infants and children under 5 years
- reduction in emergency admissions to hospital of infants and children under 5 years
- parent and carer experience of services.

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

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

- [NHS Outcomes Framework 2014–15](#)
- Improving outcomes and supporting transparency: a public health outcomes framework for England 2013–2016, [Part 1 and Part 1A](#).

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

**Table 1 [NHS Outcomes Framework 2014–15](#)**

Domain	Overarching indicators and improvement areas
1 Preventing people from dying prematurely	<p><b>Overarching indicator</b></p> <p>1a Potential Years of Life Lost (PYLL) from causes considered amenable to healthcare</p> <p>ii Children and young people</p> <p><b>Improvement areas</b></p> <p><b>Reducing deaths in babies and young children</b></p> <p>1.6i Infant mortality*</p>
3 Helping people to recover from episodes of ill health or following injury	<p><b>Improvement areas</b></p> <p><b>Preventing lower respiratory tract infections (LRTI) in children from becoming serious</b></p> <p>3.2 Emergency admissions for children with LRTI</p>
4 Ensuring that people have a positive experience of care	<p><b>Improvement areas</b></p> <p><b>Improving children and young people's experience of healthcare</b></p> <p>4.8 Children and young people's experience of outpatient services</p>
<b>Alignment across the health and social care system</b>	
* Indicator shared with Public Health Outcomes Framework (PHOF)	

**Table 2 [Public health outcomes framework for England, 2013-2016](#)**

Domain	Objectives and indicators
4 Healthcare public health and preventing premature mortality	<p><b>Objective</b></p> <p>Reduced numbers of people living with preventable ill health and people dying prematurely, while reducing the gap between communities</p> <p><b>Indicators</b></p> <p>4.1 Infant mortality*</p>
<b>Alignment across the health and social care system</b>	
* Indicator shared with NHS Outcomes Framework (NHSOF)	

### **Coordinated services**

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

The Health and Social Care Act 2012 sets out a clear expectation that the care system should consider NICE quality standards in planning and delivering services, as part of a general duty to secure continuous improvement in quality.

Commissioners and providers of health and social care should refer to the library of NICE quality standards when designing high-quality services. Other quality standards that should also be considered when choosing, commissioning or providing a high-quality feverish illness service are listed in 'Related quality standards'.

### **Training and competencies**

The quality standard should be read in the context of national and local guidelines on training and competencies. All healthcare professionals involved in assessing, caring for and treating infants and children with fever should have sufficient and appropriate training and competencies to deliver the actions and interventions described in the quality standard.

### **Role of families and carers**

The quality standard recognises the important role families and carers have in identifying fever in infants and children. If appropriate, healthcare professionals should ensure that family members and carers are involved in the decision-making process about investigations, treatment and care.

## List of quality statements

[Statement 1](#). Infants and children under 5 years who are seen by a healthcare professional have their vital signs measured and recorded if fever is suspected.

[Statement 2](#). Infants and children under 5 years with unexplained fever have their risk of serious illness assessed using the [traffic light system](#).

[Statement 3](#). Infants and children presenting with unexplained fever of 38°C or higher have a urine sample tested within 24 hours. See statement [one](#) of the urinary tract infection in infants, children and young people quality standard.

[Statement 4](#). Parents and carers of infants and children under 5 years with unexplained fever who are advised that they can care for their infant or child at home are given safety net advice, including information on when to seek further help.

## Questions for consultation

### *Questions about the quality standard*

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

**Question 2** If the systems and structures were available, do you think it would be possible to collect the data for the proposed quality measures?

## Quality statement 1: Measuring and recording vital signs

### ***Quality statement***

Infants and children under 5 years who are seen by a healthcare professional have their vital signs measured and recorded if fever is suspected.

### ***Rationale***

Measuring and recording vital signs is an essential step in assessing the risk of serious illness, aiding diagnosis and ensuring correct next steps. Measuring vital signs includes taking the child's temperature and measuring heart rate, respiratory rate and capillary refill time. Temperature should be measured using the correct equipment and the correct method. To ensure an accurate reading, it is important that a healthcare professional measures the child's temperature even if the parent or carer has already done this.

### ***Quality measures***

#### **Structure**

Evidence of local arrangements to ensure that correct equipment is available to measure the vital signs of infants and children under 5 years with suspected fever.

**Data source:** Local data collection.

#### **Process**

Proportion of infants and children under 5 years seen by a healthcare professional and suspected of having a fever who have their vital signs measured and recorded.

Numerator – the number of infants and children in the denominator who have their vital signs measured and recorded.

Denominator – the number of infants and children under 5 years seen by a healthcare professional and suspected of having a fever.

**Data source:** Local data collection. Data on the recording of vital signs can be collected using the [NICE clinical guideline 160 audit tools](#) for paediatric or non-paediatric professionals.

**Outcome**

Mortality and morbidity rates in infants and children under 5 years.

**Data source:** Local data collection.

Early identification of serious illness in infants and children under 5 years.

**Data source:** Local data collection.

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

**Service providers** ensure that the correct equipment for measuring the vital signs is available to healthcare professionals who see an infant or child under 5 years they suspect has a fever.

**Healthcare professionals** ensure that they use the correct equipment to measure and record vital signs when they see an infant and children under 5 years they suspect has a fever.

**Commissioners** ensure that the services they commission provide the correct equipment and training so that healthcare professionals can measure and record the vital signs of infants and children under 5 years they see with suspected fever.

***What the quality statement means for patients and carers***

**Infants and children under 5 years with suspected fever** have their temperature, pulse, breathing rate measured when being seen by a healthcare professional. The healthcare professional also checks for signs of dehydration and shock and makes sure that all measurements and observations are added to the patient records.

***Source guidance***

Feverish illness in children (NICE clinical guideline 160), recommendation [1.2.2.6](#) (key priority for implementation).

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

### **Suspected fever**

NICE clinical guideline 160 defines fever as an elevation of body temperature above the normal daily variation. Healthcare professionals should take any parental reports of suspected fever seriously. However, to facilitate replicable measurement, a temperature above 38°C may be used in local audit standards. [Expert opinion]

### **Vital signs**

The measurements that should be taken and recorded as part of the routine assessment of an infant or child with fever:

- temperature
- heart rate
- respiratory rate
- capillary refill time.

[[NICE clinical guideline 160](#) recommendation 1.2.2.6]

Temperature should be measured using appropriate thermometers as described in the recommendations in section 1.1 of [NICE clinical guideline 160](#).

### ***Equality and diversity considerations***

Capillary refill time may be a less useful test of shock and dehydration in infants and children with darker skin tones. Checking capillary refill time on the extremities (such as in the beds of nails) may be preferable to central body areas (such as the chest wall).



## Quality statement 2: Traffic light system

### ***Quality statement***

Infants and children under 5 years with unexplained fever have their risk of serious illness assessed using the [traffic light system](#).

### ***Rationale***

The traffic light system helps healthcare professionals to assess the risk of serious illness in a child with unexplained fever and identify the source of fever. It combines vital signs measurements with clinical symptoms to stratify risk into high (red), intermediate (amber) and low (green) and is used to guide further management. The traffic light system can be used both remotely (assessing symptoms only) or during face to face contacts with healthcare professionals.

### ***Quality measures***

#### **Structure**

Evidence of local arrangements to ensure that training is provided to healthcare professionals on using the traffic light system to assess the risk of serious illness in infants and children under 5 years presenting with unexplained fever.

**Data source:** Local data collection.

#### **Process**

Proportion of infants and children under 5 years with unexplained fever who have their risk of serious illness assessed using the traffic light system.

Numerator – the number of infants and children in the denominator who have their risk of serious illness assessed using the traffic light system.

Denominator – the number of infants and children under 5 years with unexplained fever.

**Data source:** Local data collection.

**Outcome**

Mortality and morbidity rates in infants and children under 5 years.

**Data source:** Local data collection.

Early identification of serious illness in infants and children under 5 years.

**Data source:** Local data collection.

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

**Service providers** ensure that the traffic light system is being used by healthcare professionals to assess the risk of serious illness in infants and children under 5 years with unexplained fever.

**Healthcare professionals** ensure that they assess the risk of serious illness in infants and children under 5 years with unexplained fever using the traffic light system.

**Commissioners** ensure that the services they commission can demonstrate the use of the traffic light system to assess the risk of serious illness in infants and children under 5 years with unexplained fever.

***What the quality statement means for patients and carers***

**Infants and children under 5 years with unexplained fever** have their risk of serious illness assessed by a healthcare professional using a system that groups signs and symptoms into high (red), medium (amber) and low (green) risk. This is called the traffic light system.

***Source guidance***

Feverish illness in children (NICE clinical guideline 160), recommendation [1.2.2.1](#) (key priority for implementation).

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

### **Fever**

NICE clinical guideline 160 defines fever as an elevation of body temperature above the normal daily variation. Healthcare professionals should take any parental reports of suspected fever seriously. However, to facilitate replicable measurement, a temperature above 38°C may be used in local audit standards. [Expert opinion]

### **Traffic light system**

A system that stratifies risk of serious illness in infants and children under 5 years presenting with fever according to vital signs and clinical symptoms.

Infants and children under 5 years with fever and any of the 'red' symptoms or signs should be recognised as high risk. Infants and children with fever under 5 years and any of the 'amber' symptoms or signs should be recognised as at intermediate risk. Those with only 'green' symptoms and signs are at low risk. The management of fever in infants and children under 5 years should be directed by the level of risk.

Vital signs can only be measured during face-to-face contact. If an infant or child's condition is being assessed remotely this will rely on identifying symptoms rather than measuring vital signs.

The traffic light system can be found in [table 1](#) of NICE clinical guideline 160.

[Adapted from [NICE clinical guideline 160](#)]

### **Serious illness**

An illness that could cause death or disability if there were a delay in diagnosis and treatment. [[NICE clinical guideline 160](#)]

### ***Equality and diversity considerations***

Care should be taken when using the traffic light system to assess the risk of serious illness in children with learning disabilities and unexplained fever. This is because it may not be possible to apply all parts of the system to these children.

It may be difficult to assess pallor or a pale/mottled/ashen/blue appearance in infants and children with darker skin. Healthcare professionals should be aware that it may be easier to assess pallor on the lips or tongue.

Capillary refill time may be a less useful test of shock and dehydration in infants and children with darker skin tones. Checking capillary refill time on the extremities (such as in the beds of nails) may be preferable to the chest wall.

A non-blanching rash may also be harder to detect in infants and children with darker skin tones, and healthcare professionals should be aware that a rash may be more easily identified on the palms of the hands, the conjunctivae and the soles of the feet.

### **Quality statement 3: Urine testing**

Infants and children presenting with unexplained fever of 38°C or higher have a urine sample tested within 24 hours.

For further details please see [statement one](#) of the quality standard on [urinary tract infection in infants, children and young people under 16](#).

## Quality statement 4: Safety net advice

### ***Quality statement***

Parents and carers of infants and children under 5 years with unexplained fever who are advised that they can care for their infant or child at home are given safety net advice, including information on when to seek further help.

### ***Rationale***

Sometimes a healthcare professional advises parents and carers to care for their child at home. This may be because the child is at low risk of serious illness or they may have been stratified as medium risk but the decision has been made to care for them at home. Advice about what to do and what to look out for (safety net advice) empowers parents and carers to seek help if the child's condition deteriorates further or if they need more support.

### ***Quality measures***

#### **Structure**

Evidence of local arrangements to ensure that safety net advice about caring for a child with unexplained fever, which includes information on when to seek further help, is available to share with parents and carers of infants and children under 5 years with unexplained fever who are advised they can care for their child at home.

**Data source:** Local data collection.

#### **Process**

Proportion infants and children under 5 years with unexplained fever being cared for at home after assessment by a healthcare professional, whose parents and carers are given safety net advice, including information on when to seek further help.

Numerator – the number of infants and children in the denominator whose parents and carers receive safety net advice, which includes information on when to seek help.

Denominator – the number of infants and children under 5 years with unexplained fever who are being cared for at home after assessment by a healthcare professional.

**Data source:** Local data collection.

### **Outcome**

Parent and carer experience of services.

**Data source:** Local data collection.

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

**Service providers** ensure that written safety net information is available in appropriate formats to give to parents and carers when infants and children under 5 years with unexplained fever are to be cared for at home. This information should explain when the parent or carer should access further help and be available in formats that take account of communication and language barriers.

**Healthcare professionals** ensure they provide parents and carers with safety net advice when they advise that an infant or child under 5 years with unexplained fever can be cared for at home. This advice should include information on when the parent or carer should access further help and should be given in a format the parents and carers can understand.

**Commissioners** ensure that the services they commission can demonstrate that parents and carers are provided with safety net advice when infants and children under 5 years with unexplained fever are to be cared for at home and that this information is in an appropriate format.

### ***What the quality statement means for parents and carers***

**Parents and carers advised that an infant or child under 5 years with unexplained fever can be cared for at home** are given advice about what to do, what to look out for and when to get further help.

## **Source guidance**

Feverish illness in children (NICE clinical guideline 160), recommendation [1.3.1.5](#), [1.4.2.3](#) (key priority for implementation), [1.4.2.4](#) and [1.5.8.2](#).

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

### **Fever**

NICE clinical guideline 160 defines fever as an elevation of body temperature above the normal daily variation. Healthcare professionals should take any parental reports of suspected fever seriously. However, to facilitate replicable measurement, a temperature above 38°C may be used in local audit standards. [Expert opinion]

### **Safety net advice**

Advise parents or carers looking after a feverish child at home:

- to offer the child regular fluids (where a baby or child is breastfed the most appropriate fluid is breast milk)
- how to detect signs of dehydration by looking for the following features:
  - sunken fontanelle
  - dry mouth
  - sunken eyes
  - absence of tears
  - poor overall appearance.
- to encourage their child to drink more fluids and consider seeking further advice if they detect signs of dehydration
- how to identify a non-blanching rash
- to check their child during the night
- to keep their child away from nursery or school while the child's fever persists but to notify the school or nursery of the illness.

[\[NICE clinical guideline 160\]](#) recommendation 1.7.1.2]

### **When to seek further help**

Following contact with a healthcare professional, parents and carers who are looking after their feverish child at home should seek further advice if:



- the child has a fit
- the child develops a non-blanching rash
- the parent or carer feels that the child is less well than when they previously sought advice
- the parent or carer is more worried than when they previously sought advice
- the fever lasts longer than 5 days
- the parent or carer is distressed, or concerned that they are unable to look after their child.

[\[NICE clinical guideline 160\]](#) recommendation 1.7.2.1]

### ***Equality and diversity considerations***

Healthcare professionals should take into consideration the communication needs of the parents and carers when deciding on the best format for safety net advice.

A non-blanching rash may be harder to detect in infants and children with darker skin tones, and healthcare professionals should inform parents and carers that a rash may be more easily identified on the palms of the hands, the conjunctivae and the soles of the feet.

## Status of this quality standard

This is the draft quality standard released for consultation from 27 February to 27 March 2014. It is not NICE's final quality standard on feverish illness in children. The statements and measures presented in this document are provisional and may change after consultation with stakeholders.

Comments on the content of the draft standard must be submitted by 5pm on 27 March 2014. All eligible comments received during consultation will be reviewed by the Quality Standards Advisory Committee and the quality statements and measures will be refined in line with the Quality Standards Advisory Committee's considerations. The final quality standard will be available on the [NICE website](#) from July 2014.

## Using the quality standard

### *Quality measures*

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

We have indicated if current national indicators exist that could be used to measure the quality statements. These include indicators developed by the Health and Social Care Information Centre through its [Indicators for Quality Improvement Programme](#). If there is no national indicator that could be used to measure a quality statement, the quality measure should form the basis for audit criteria developed and used locally.

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

### *Levels of achievement*

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of

100% should be aspired to (or 0% if the quality statement states that something should not be done). However, NICE recognises that this may not always be appropriate in practice, taking account of safety, choice and professional judgement, and therefore desired levels of achievement should be defined locally.

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

Other national guidance and current policy documents have been referenced during the development of this quality standard. It is important that the quality standard is considered by commissioners, providers, health, public health and social care practitioners, patients, service users and carers alongside the documents listed in 'Development sources'.

## **Diversity, equality and language**

During the development of this quality standard, equality issues have been considered and [equality assessments](#) are available.

Good communication between healthcare professionals and the parents and carers of infants and children with unexplained fever is essential. Treatment, care and support, and the information given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English. Infants and children with feverish illness and their parents or carers should have access to an interpreter or advocate if needed.

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

## **Development sources**

Further explanation of the methodology used can be found in the quality standards [Process guide](#) on the NICE website.

## **Evidence sources**

The documents below contain recommendations from NICE guidance or other NICE-accredited recommendations that were used by the Quality Standards Advisory Committee to develop the quality standard statements and measures.

- [Feverish illness in children](#). NICE clinical guideline 160 (2013).
- [Urinary tract infection in children](#). NICE clinical guideline 54 (2007).

## **Policy context**

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

- [Report of the children and young people's health outcomes forum](#). Department of Health (2013).
- [Children and young people's health outcomes forum: report by the acutely ill themed group](#). Department of Health (2013).
- [Improving children and young people's health outcomes: a system wide response](#). Department of Health (2013).
- [Standards for assessing, measuring and monitoring vital signs in infants, children and young people: RCN guidance for children's nurses and nurses working with children and young people](#). Royal College of Nursing (2013).
- [Caring for children with fever: RCN good practice guidance for nurses working with infants, children and young people](#). Royal College of Nursing (2013).
- [Standards for children and young people in emergency care settings](#). Royal College of Paediatrics and Child Health (2012).
- [Guidelines for the management of community acquired pneumonia in children: update 2011. British Thoracic Society](#) (2011).
- [Meningococcal meningitis and septicaemia guidance notes: diagnosis and treatment in general practice](#). Meningitis Research Foundation (2011).
- [Achieving equity and excellence for children](#). Department of Health (2010).
- [Getting it right for children and young people: overcoming cultural barriers in the NHS so as to meet their needs. Department of Health](#) (2010)

- [To understand and improve the experience of parents and carers who need advice when a child has a fever \(high temperature\): research report](#). Royal College of Paediatrics and Child Health (2010).
- [Review of patient safety for children and young people](#). National Patient Safety Agency (2009).

## Related NICE quality standards

### *Published*

- [Urinary tract infection in infants, children and young people under 16](#). NICE quality standard 36 (2013).
- [Bacterial meningitis and meningococcal septicaemia in children and young people](#). NICE quality standard 19 (2012).

### *Future quality standards*

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

- Acute medical admissions in the first 48 hours.
- Managing symptoms with an uncertain cause.
- Out of hours care.
- Pneumonia (including community acquired pneumonia).
- Sepsis.
- Tuberculosis.
- Urgent and emergency care.

## Quality Standards Advisory Committee and NICE project team

### *Quality Standards Advisory Committee*

This quality standard has been developed by Quality Standards Advisory Committee 3.

Membership of this committee is as follows:

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**About this quality standard**

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

The methods and processes for developing NICE quality standards are described in the [quality standards process guide](#).

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

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