NICE National Institute for Health and Care Excellence

NICE quality standard

Gastro-oesophageal reflux in children and young people

Quality standard

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Contents

This standard is based on NG1.

This standard should be read in conjunction with QS98, QS96, QS64, QS44, QS38, QS37, QS36, QS19 and QS197.

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Quality statement 1: Information about gastro-oesophageal reflux (GOR) in infants

Quality statement

Parents and carers attending postnatal appointments are given information about gastro-oesophageal reflux (GOR) in infants.

Rationale

Regurgitation of feeds in infants can cause anxiety for parents and carers. Providing information about GOR can reassure parents and carers that, in well infants, effortless regurgitation of feeds is a common and normal occurrence that affects at least 40% of infants and is likely to resolve before the infant is 1.

Quality measures

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

Structure

Evidence of local arrangements to ensure that parents and carers attending postnatal appointments are given information about GOR in infants.

Data source: Local data collection.

Process

Proportion of infants aged 8 weeks and under whose parents or carers received information about GOR during 1 of the postnatal appointments.

Numerator – the number in the denominator whose parents received information about

GOR during 1 of the postnatal appointments.

Denominator – the number of infants aged 8 weeks and under who had at least 1 postnatal appointment.

Data source: Local data collection.

Outcome

a) Parental anxiety around infant GOR.

Data source: Local data collection.

b) GP visits regarding GOR.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (community care trusts, secondary care trusts, specialised women's/ maternity providers) ensure that postnatal appointments include providing information about GOR in infants.

Healthcare professionals (health visitors, midwives, paediatric nurses or GPs) give information to parents and carers attending postnatal appointments about GOR in infants.

Commissioners (clinical commissioning groups, local authorities) ensure that postnatal appointments are commissioned to provide information about GOR in infants.

Parents and carers attending postnatal appointments receive information about reflux (regurgitating, bringing up or vomiting feeds) in babies.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendation 1.1.3 (key priority for implementation) and 1.1.4

Definitions of terms used in this quality statement

Gastro-oesophageal reflux (GOR)

GOR is the passage of gastric contents into the oesophagus. It is a common physiological event that can happen at all ages from infancy to old age, and is often asymptomatic. It occurs more frequently after feeds/meals. In many infants, reflux is associated with a tendency to 'overt regurgitation' – the visible regurgitation of feeds. [NICE's guideline on gastro-oesophageal reflux disease in children and young people]

Information for people attending postnatal appointments

Information should explain that in well infants, effortless regurgitation of feeds:

- is very common (it affects at least 40% of infants)
- usually begins before the infant is 8 weeks old
- may be frequent (5% of infants affected have 6 or more episodes each day)
- usually becomes less frequent with time (it resolves in 90% of affected infants before they are 1 year old)
- does not usually need further investigation or treatment.

[NICE's guideline on gastro-oesophageal reflux disease in children and young people, recommendation 1.1.3 (key priority for implementation) and 1.1.4]

Equality and diversity considerations

This statement relies on parents and carers understanding the information given to them. Healthcare professionals may need to provide support for people who have difficulties understanding the information.

Quality statement 2: Breast-fed infants – feeding assessment

Quality statement

Breast-fed infants with frequent regurgitation associated with marked distress have their feeding assessed.

Rationale

A breastfeeding assessment should be the first step in supporting parents and carers with managing frequent regurgitation of feeds associated with marked distress. Correcting the breastfeeding technique for breast-fed infants (for example, positioning and attachment) can improve or eliminate the symptoms.

Quality measures

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

Structure

Evidence of local arrangements to ensure that breast-fed infants with frequent regurgitation associated with marked distress have their feeding assessed before other treatments are offered.

Data source: Local data collection.

Process

Proportion of breast-fed infants with frequent regurgitation associated with marked distress who have a breastfeeding assessment.

Numerator – number in the denominator who have a breastfeeding assessment.

Denominator – number of breast-fed infants presenting with frequent regurgitation associated with marked distress.

Data source: Local data collection.

Outcome

Breast-fed infants with frequent regurgitation associated with marked distress presenting in healthcare settings.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (community care providers, secondary care, women's trusts) ensure that healthcare professionals carry out a breastfeeding assessment and offer advice if breast-fed infants have frequent regurgitation associated with marked distress, before other treatments are offered.

Healthcare professionals (health visitors, midwives, paediatric nurses or GPs) carry out a breastfeeding assessment and offer advice if breast-fed infants have frequent regurgitation associated with marked distress, before they offer any other treatments.

Commissioners (clinical commissioning groups, local authorities) ensure that services they commission support parents and carers with guidance and assessments on infant feeding technique.

Breastfeeding mothers receive support and advice about correct breastfeeding techniques for breast-fed babies with reflux (regurgitating, bringing up or vomiting feeds) who are very distressed, for example, if they cry inconsolably and seem to be in pain.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1

(2015, updated 2019), recommendation 1.2.2

Definitions of terms used in this quality statement

Breastfeeding assessment

Breastfeeding assessments should be carried out by a health professional with appropriate expertise and training, for example a midwife, health visitor, breastfeeding specialist or paediatric nurse. [NICE's guideline on gastro-oesophageal reflux disease in children and young people, recommendation 1.2.2]

Marked distress

There is very limited evidence, and no objective or widely accepted clinical definition, for what constitutes 'marked distress' in infants and children who are unable to adequately communicate (expressively) their sensory emotions. NICE's guideline on gastro-oesophageal reflux disease in children and young people describes 'marked distress' as an outward demonstration of pain or unhappiness that is outside what is considered to be the normal range by an appropriately trained, competent healthcare professional, based on a thorough assessment. This assessment should include a careful analysis of the description offered by the parents or carers in the clinical context of the individual child. [NICE's guideline on gastro-oesophageal reflux disease in children and young people]

Regurgitation

The voluntary or involuntary movement of part or all of the stomach contents up the oesophagus at least as far as the mouth, and often emerging from the mouth. Regurgitation is, in principle, clinically observable, so is an overt phenomenon, although lesser degrees of regurgitation into the mouth might be overlooked. [NICE's full guideline on gastro-oesophageal reflux disease in children and young people]

Equality and diversity considerations

Breastfeeding assessments should be carried out in a culturally appropriate manner and any messages communicated in a sensitive way.

Quality statement 3: Formula-fed infants – stepped-care approach

Quality statement

Formula-fed infants with frequent regurgitation associated with marked distress have their symptoms managed using a stepped-care approach.

Rationale

A stepped-care approach enables parents and carers of formula-fed infants to try a sequence of easy modifications to the feeding practice that can help them manage frequent regurgitation with marked distress.

Quality measures

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

Structure

Evidence of local arrangements to ensure that formula-fed infants with frequent regurgitation associated with marked distress have their symptoms managed using a stepped-care approach.

Data source: Local data collection.

Process

a) Proportion of formula-fed infants with frequent regurgitation associated with marked distress that have their feeding history reviewed.

Numerator – number in the denominator who have their feeding history reviewed.

Denominator – number of formula-fed infants presenting with frequent regurgitation associated with marked distress.

Data source: Local data collection.

b) Proportion of formula-fed infants with frequent regurgitation associated with marked distress that had excessive feed volumes reduced.

Numerator – number in the denominator whose excessive feed volumes were reduced.

Denominator – number of formula-fed infants presenting with frequent regurgitation associated with marked distress who receive excessive feed volumes.

Data source: Local data collection.

a) Proportion of formula-fed infants with frequent regurgitation associated with marked distress who received a trial of smaller and more frequent feeds.

Numerator – number in the denominator who received a trial of smaller and more frequent feeds.

Denominator – number of formula-fed infants presenting with frequent regurgitation associated with marked distress receiving appropriate total daily amount of milk.

Data source: Local data collection.

b) Proportion of formula-fed infants with frequent regurgitation associated with marked distress given a trial of thickened formula.

Numerator – number in the denominator given a trial of thickened formula.

Denominator – number of formula-fed infants with frequent regurgitation associated with marked distress receiving appropriate total daily amount of milk and receiving trial of small and frequent feeds.

Data source: Local data collection.

Outcome

Infants with frequent regurgitation associated with marked distress presenting in healthcare settings.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (community care providers, secondary care and specialised women's trusts) ensure that healthcare professionals offer a stepped-care approach to managing frequent regurgitation associated with marked distress for formula-fed infants.

Healthcare professionals (health visitors, midwives, paediatric nurses or GPs) use a stepped-care approach to manage frequent regurgitation associated with marked distress for formula-fed infants.

Commissioners (clinical commissioning groups, local authorities, NHS England) ensure that the services they commission use a stepped-care approach to managing frequent regurgitation associated with marked distress for formula-fed infants.

Parents and carers of formula-fed babies with reflux (regurgitating, bringing up or vomiting feeds) who are very distressed, for example, if they cry inconsolably and seem to be in pain, are told about small changes they can make to feeding that are likely to improve their baby's symptoms, such as reducing the amount or frequency of feeds.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendations 1.2.3

Definitions of terms used in this quality statement

Stepped-care approach

In formula-fed infants with frequent regurgitation associated with marked distress, use the following stepped-care approach:

- review the feeding history, then
- reduce the feed volumes only if excessive for the infant's weight, then
- offer a trial of smaller, more frequent feeds (while maintaining an appropriate total daily amount of milk) unless the feeds are already small and frequent, then
- offer a trial of thickened formula (for example, containing rice starch, cornstarch, locust bean gum or carob bean gum).

[NICE's guideline on gastro-oesophageal reflux disease in children and young people, recommendation 1.2.3]

Quality statement 4: Alginate therapy

Quality statement

Infants with frequent regurgitation associated with marked distress have a trial of alginate therapy if first-line management is unsuccessful.

Rationale

By reacting with acidic gastric contents, the alginate forms a viscous gel that stabilises stomach activity, which can be effective in reducing gastro-oesophageal reflux (GOR) in some infants. Alginate therapy should only be tried if first-line management (feeding assessment and advice for breast-fed infants or a stepped-care approach for formula-fed infants) is unsuccessful. In formula-fed infants, thickened formula should be stopped before alginate therapy is offered.

Quality measures

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

Structure

Evidence of local arrangements to ensure that infants with frequent regurgitation associated with marked distress have a trial of alginate therapy if first-line management is unsuccessful.

Data source: Local data collection.

Process

a) Proportion of breast-fed infants with frequent regurgitation associated with marked distress that continues despite a feeding assessment and advice who have a trial of

alginate therapy.

Numerator – number in the denominator who have a trial of alginate therapy.

Denominator – number of breast-fed infants presenting with frequent regurgitation associated with marked distress that continues despite a feeding assessment and advice.

Data source: Local data collection.

b) Proportion of formula-fed infants with frequent regurgitation associated with marked distress that continues despite a feeding assessment and advice who have a trial of alginate therapy.

Numerator – number in the denominator who have a trial of alginate therapy.

Denominator – number of formula-fed infants with frequent regurgitation associated with marked distress that continues despite a stepped-care approach.

Data source: Local data collection.

Outcome

Infants with frequent regurgitation associated with marked distress presenting in healthcare settings.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (community care providers, secondary care and specialised women's trusts) ensure that healthcare professionals offer a trial of alginate therapy for infants with frequent regurgitation associated with marked distress if first-line management is unsuccessful.

Healthcare professionals (health visitors, midwives, paediatric nurses or GPs) offer a trial of alginate therapy for infants with frequent regurgitation associated with marked distress

if first-line management is unsuccessful.

Commissioners (clinical commissioning groups, local authorities, NHS England) ensure that the services they commission offer a trial of alginate therapy for infants with frequent regurgitation associated with marked distress if first-line management is unsuccessful.

Parents and carers who have had support and advice about correct breastfeeding techniques (for breast-fed babies) or tried using smaller and more frequent feeds followed by thickened formula (for formula-fed babies), but whose baby's symptoms haven't improved are offered a medicine called an alginate for a trial period of 1 to 2 weeks. Alginates may help to reduce reflux.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendations 1.2.3, 1.2.4 and 1.2.5 (key priority for implementation)

Definitions of terms used in this quality statement

Trial of alginate therapy

By reacting with acidic gastric contents the alginate forms a viscous gel that stabilises stomach activity which results in reducing the incidence of GOR.

Infants have alginate therapy for a period of 1 to 2 weeks to assess if GOR improves. After the trial period, the approach needs to be reviewed by the healthcare professional. [NICE's full guideline on gastro-oesophageal reflux disease in children and young people and expert opinion]

First-line management

In breast-fed infants with frequent regurgitation associated with marked distress, first-line management is a breastfeeding assessment carried out by a person with appropriate expertise and training.

In formula-fed infants with frequent regurgitation associated with marked distress,

first-line management is a stepped-care approach, as follows:

- review the feeding history, then
- reduce the feed volumes only if excessive for the infant's weight, then
- offer a trial of smaller, more frequent feeds (while maintaining an appropriate total daily amount of milk) unless the feeds are already small and frequent, then
- offer a trial of thickened formula (for example, containing rice starch, cornstarch, locust bean gum or carob bean gum).

In formula-fed infants, if the stepped-care approach is unsuccessful stop the thickened formula and offer alginate therapy for a trial period of 1 to 2 weeks. [Adapted from NICE's guideline on gastro-oesophageal reflux disease in children and young people, recommendations 1.2.2, 1.2.3 and 1.2.5 (key priority for implementation)].

Quality statement 5: Symptoms that do not need investigation or treatment

Quality statement

Infants and children are not investigated or treated for gastro-oesophageal reflux disease (GORD) if they have no visible regurgitation and only 1 associated symptom.

Rationale

Although a combination of symptoms, such as unexplained feeding difficulties (for example, refusing to feed, gagging or choking), distressed behaviour, faltering growth, chronic cough, hoarseness or a single episode of pneumonia can be associated with GORD, having no visible regurgitation and only 1 of these symptoms does not indicate GORD. Unnecessary investigations cause distress for infants and children, as well as costs to the NHS that can be avoided.

Quality measures

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

Structure

Evidence of local arrangements to ensure that infants and children are not investigated or treated for GORD if they have no visible regurgitation and only 1 associated symptom.

Data source: Local data collection.

Process

Proportion of infants and children with no visible regurgitation and only 1 associated symptom investigated or treated for GORD.

Numerator – number in the denominator who had no visible regurgitation and only 1 associated symptom.

Denominator – number of infants and children investigated or treated for GORD.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (GP practices, community care providers, secondary care) ensure that there are practice arrangements and written clinical protocols to ensure that infants and children are not investigated or treated for GORD if they have no visible regurgitation and only 1 associated symptom.

Healthcare professionals (health visitors, midwives, paediatric nurses or GPs) ensure that they do not investigate or treat infants and children for GORD if they have only 1 associated symptom and no visible regurgitation.

Commissioners (clinical commissioning groups, NHS England, local authorities) ensure that the services they commission do not investigate or treat infants and children for GORD if they have only 1 associated symptom and no visible regurgitation.

Infants and children do not undergo tests or treatments for GORD if they are not regurgitating their feeds and if they only have 1 of the following symptoms: feeding problems such as refusing to feed, gagging or choking, discomfort or pain on a regular basis, poor growth, cough that does not go away, hoarseness or pneumonia.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendation 1.1.6 (key priority for implementation)

Definitions of terms used in this quality statement

Symptoms associated with GORD

Symptoms that infants may present with include:

- unexplained feeding difficulties (for example, refusing to feed, gagging or choking)
- distressed behaviour
- faltering growth
- chronic cough
- hoarseness
- a single episode of pneumonia.

[NICE's guideline on gastro-oesophageal reflux disease in children and young people, recommendation 1.1.6 (key priority for implementation)]

Quality statement 6: Acid-suppressing drugs

Quality statement

Infants and children are not prescribed acid-suppressing drugs if visible regurgitation is an isolated symptom.

Rationale

There is no evidence that acid-suppressing drugs such as proton pump inhibitors (PPIs) or H_2 receptor antagonists (H_2RAs) are effective in reducing regurgitation in infants and children. They are generally well tolerated but do have potential adverse effects, and unnecessary use should be avoided.

Quality measures

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

Structure

Evidence of local arrangements to ensure that infants and children with regurgitation as an isolated symptom are not prescribed acid-suppressing drugs.

Data source: Local data collection.

Process

Proportion of infants and children presenting with regurgitation as an isolated symptom prescribed acid-suppressing drugs.

Numerator – number in the denominator prescribed acid-suppressing drugs.

Denominator – number of infants and children presenting with regurgitation as an isolated symptom.

Data source: Local data collection.

Outcome

PPI and H_2RA prescribing rates among infants and children.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (secondary care, community care providers, GP practices) ensure that there are practice arrangements and written clinical protocols to ensure that infants and children with regurgitation as an isolated symptom are not prescribed acid-suppressing drugs.

Healthcare professionals (midwives, paediatric nurses or GPs) do not prescribe acid-suppressing drugs to infants and children with regurgitation as an isolated symptom.

Commissioners (clinical commissioning groups and NHS England) ensure that services they commission do not prescribe acid-suppressing drugs to infants and children with regurgitation as an isolated symptom.

Infants and children who regurgitate food but have no other symptoms are not prescribed medicines that reduce acid production in the stomach.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendation 1.3.1 (key priority for implementation)

Definitions of terms used in this quality statement

Acid-suppressing drugs

Acid-suppressing drugs are a group of medications that reduce gastric acid secretion. They include H_2RAs and PPIs. [NICE's full guideline on gastro-oesophageal reflux disease in children and young people]

Quality statement 7: Upper gastrointestinal (GI) contrast study

Quality statement

Infants, children and young people do not have an upper gastrointestinal (GI) contrast study to diagnose or assess the severity of gastro-oesophageal reflux disease (GORD).

Rationale

Upper GI contrast studies are neither sensitive nor specific enough to diagnose or assess the severity of GORD, and they unnecessarily expose infants, children and young people to radiation.

Quality measures

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

Structure

Evidence of local arrangements to ensure that upper GI contrast studies are not used to diagnose or assess the severity of GORD in infants, children and young people.

Data source: Local data collection.

Process

Proportion of infants, children and young people referred for upper GI contrast study to diagnose or assess the severity of GORD.

Numerator – number in the denominator referred to diagnose or assess the severity of GORD.

Denominator – number of infants, children and young people referred for upper GI contrast study.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (secondary care providers) ensure that there are practice arrangements to ensure that upper GI contrast studies are not carried out to diagnose or assess the severity of GORD in infants, children and young people.

Healthcare professionals (midwives, paediatric nurses or GPs) do not refer infants, children and young people for upper GI contrast studies to diagnose or assess the severity of GORD.

Commissioners (clinical commissioning groups) ensure that services they commission have protocols that do not allow healthcare professionals to carry out upper GI contrast studies to diagnose or assess the severity of GORD in infants, children and young people.

Infants, children and young people do not have a type of scan called an upper gastrointestinal contrast study to assess how serious their reflux is.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendation 1.1.15 (key priority for implementation)

Quality statement 8: Domperidone, metoclopramide and erythromycin

Quality statement

Infants, children and young people are not prescribed domperidone, metoclopramide or erythromycin to manage gastro-oesophageal reflux (GOR) or gastro-oesophageal reflux disease (GORD) without specialist paediatric advice.

Rationale

Prokinetics such as domperidone and metoclopramide are associated with a range of risks such as neurological and cardiac adverse events. Domperidone, metoclopramide and erythromycin (which is used in GOR and GORD for its prokinetic properties) should only be prescribed for infants, children and young people if there is an agreement for its use by a specialist paediatric healthcare professional.

Quality measures

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

Structure

Evidence of local arrangements to ensure that infants, children and young people are not prescribed domperidone, metoclopramide or erythromycin to manage GOR or GORD without specialist paediatric advice.

Data source: Local data collection.

Process

Proportion of infants, children and young people prescribed domperidone, metoclopramide

or erythromycin to manage GOR or GORD on the basis of specialist paediatric advice.

Numerator – number in the denominator who were prescribed domperidone, metoclopramide or erythromycin on the basis of specialist paediatric advice.

Denominator – number of infants, children and young people prescribed domperidone, metoclopramide or erythromycin to manage GOR or GORD.

Data source: Local data collection.

Outcome

Domperidone, metoclopramide and erythromycin prescribing among infants, children and young people.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (secondary care, community care providers, GP practices) ensure that there are practice arrangements and written clinical protocols to ensure that infants, children and young people are not prescribed domperidone, metoclopramide or erythromycin to manage GOR or GORD without specialist paediatric advice.

Healthcare professionals (midwives, paediatric nurses or GPs) do not prescribe domperidone, metoclopramide or erythromycin to manage GOR or GORD in infants, children and young people without specialist paediatric advice.

Commissioners (clinical commissioning groups and NHS England) ensure that services they commission do not prescribe domperidone, metoclopramide or erythromycin to manage GOR or GORD in infants, children and young people without specialist paediatric advice.

Infants, children and young people are not prescribed medicines called domperidone, metoclopramide or erythromycin to manage reflux unless a specialist advises it.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendation 1.3.7 (key priority for implementation)

Definitions of terms used in this quality statement

Specialist

Specialist refers to a paediatrician with the skills, experience and competency necessary to deal with the particular clinical concern that has been identified by the referring healthcare professional. In this guidance this is most likely to be a consultant general paediatrician. Depending on the clinical circumstances, 'specialist' may also refer to a paediatric surgeon, paediatric gastroenterologist or a doctor with the equivalent skills and competency. [NICE's guideline on gastro-oesophageal reflux disease in children and young people, definitions section]

Quality statement 9: 'Red flag' symptoms and suggested actions

Quality statement

Infants, children and young people with vomiting or regurgitation and any 'red flag' symptoms are referred to specialist care with investigations as appropriate.

Rationale

Some symptoms that are commonly mistaken for gastro-oesophageal reflux disease (GORD) may be 'red flag' symptoms for other problems. These problems need action to be taken, such as further investigations or specialist referral.

Quality measures

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

Structure

Evidence of local arrangements to ensure that infants, children and young people with vomiting or regurgitation and any 'red flag' symptoms are further investigated or referred to specialist care with investigations as appropriate.

Data source: Local data collection.

Process

a) Proportion of infants, children and young people with vomiting or regurgitation and any 'red flag' symptoms who had further investigations and specialist referral.

Numerator – number in the denominator who had further investigations and specialist

referral.

Denominator – number of infants, children and young people presenting with vomiting or regurgitation and any 'red flag' symptoms.

Data source: Local data collection.

b) Proportion of infants, children and young people with vomiting or regurgitation and any 'red flag' symptoms who had appropriate investigations and specialist referral.

Numerator – number in the denominator who had appropriate investigations and specialist referral.

Denominator – number of infants, children and young people with vomiting or regurgitation and any 'red flag' symptoms who had further investigations and specialist referral.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers ensure that there are practice arrangements and written clinical protocols to ensure that healthcare professionals look out for 'red flag' symptoms in infants, children and young people with vomiting or regurgitation, and carry out further investigations or arrange specialist referrals depending on the symptoms.

Healthcare professionals (midwives, paediatric nurses or GPs) look out for 'red flag' symptoms in infants, children and young people with vomiting or regurgitation and carry out further investigations or arrange specialist referrals depending on the symptoms.

Commissioners (clinical commissioning groups and NHS England) ensure that services they commission have pathways for healthcare professionals to carry out further investigations or arrange specialist referrals for infants, children and young people with vomiting or regurgitation and 'red flag' symptoms.

Infants, childrenand young people have tests or are referred to a specialist if their symptoms show that they might have another problem than reflux.

Source guidance

Gastro-oesophageal reflux disease in children and young people. NICE guideline NG1 (2015, updated 2019), recommendation 1.1.5 (key priority for implementation)

Definitions of terms used in this quality statement

'Red flag' symptoms and suggested actions

Gastrointestinal symptoms and signs	Possible diagnostic implications	Suggested actions
Frequent, forceful (projectile) vomiting	May suggest hypertrophic pyloric stenosis in infants up to 2 months old	Paediatric surgery referral
Bile–stained (green or yellow–green) vomit	May suggest intestinal obstruction	Paediatric surgery referral
Haematemesis (blood in vomit) with the exception of swallowed blood, for example, following a nose bleed or ingested blood from a cracked nipple in some breast-fed infants	May suggest an important and potentially serious bleed from the oesophagus, stomach or upper gut	Specialist referral
Onset of regurgitation and/or vomiting after 6 months or persisting after 1 year	Late onset suggests a cause other than reflux, for example a urinary tract infection (also see the NICE guideline on urinary tract infection in under 16s) Persistence suggests an alternative diagnosis	Urine microbiology investigation Specialist referral

Gastrointestinal symptoms and signs	**Possible diagnostic implications**	**Suggested actions**
Blood in stool	May suggest a variety of conditions, including bacterial gastroenteritis, infant cows' milk protein allergy (also see the NICE guideline on food allergy in under 19s) or an acute surgical condition	Stool microbiology investigation Specialist referral
Abdominal distension, tenderness or palpable mass	May suggest intestinal obstruction or another acute surgical condition	Paediatric surgery referral
Chronic diarrhoea	May suggest cows' milk protein allergy (also see the NICE guideline on food allergy in under 19s)	Specialist referral
Systemic symptoms and signs	**Possible diagnostic implications**	**Suggested actions**
Appearing unwell Fever	May suggest infection (also see the NICE guideline on fever in under 5s)	Clinical assessment and urine microbiology investigation Specialist referral
Dysuria	May suggest urinary tract infection (also see the NICE guideline on urinary tract infection in under 16s)	Clinical assessment and urine microbiology investigation Specialist referral

Gastrointestinal symptoms and signs	Possible diagnostic implications	Suggested actions
Bulging fontanelle	May suggest raised intracranial pressure, for example, due to meningitis (also see the NICE guideline on meningitis (bacterial) and meningococcal septicaemia in under 16s)	Specialist referral
Rapidly increasing head circumference (more than 1 cm per week) Persistent morning headache, and vomiting worse in the morning	May suggest raised intracranial pressure, for example, due to hydrocephalus or a brain tumour	Specialist referral
Altered responsiveness, for example, lethargy or irritability	May suggest an illness such as meningitis (also see the NICE guideline on meningitis (bacterial) and meningococcal septicaemia in under 16s)	Specialist referral
Infants and children with, or at high risk of, atopy	May suggest cows' milk protein allergy (also see the NICE guideline on food allergy in under 19s)	Specialist referral

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Update information

Minor changes since publication

July 2022: Links to the NICE guideline on urinary tract infection in under 16s in the definitions for statement 9 have been updated.

November 2019: Links to the NICE guideline on fever in under 5s in the definitions for statement 9 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, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision-making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about how NICE quality standards are developed is available from the NICE website.

See our webpage on quality standards advisory committees for details about our standing committees. Information about the topic experts invited to join the standing members is available from the webpage for this quality standard.

NICE has produced a quality standard service improvement template to help providers make an initial assessment of their service compared with a selection of quality statements. This tool is updated monthly to include new quality standards.

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

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.

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 organisation

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.

- Royal College of Paediatrics and Child Health