

Intravenous fluid therapy in children and young people in hospital

NICE quality standard

Draft for consultation

April 2016

Introduction

This quality standard covers the management of intravenous (IV) fluids in children and young people under 16 years. It covers IV fluids used for a range of conditions and in different hospital settings. For more information see the [IV fluid therapy in children and young people in hospital topic overview](#).

NICE quality standard 66 for [intravenous fluid therapy in adults in hospital](#) covers young people and adults aged 16 and over.

Why this quality standard is needed

A correct fluid and electrolyte balance is essential to maintain normal physiological function. In hospital, some children and young people may not be able to maintain their normal fluid needs by eating and drinking. IV fluid therapy may be needed to correct or maintain the fluid and electrolyte balance (routine maintenance).

IV fluid replacement or redistribution may be needed to replace red blood cells, plasma, water or electrolytes beyond the usual losses in urine, stools and sweat. These losses can come from burns, diarrhoea, vomiting or leakage of fluid into the interstitial space. In these cases, the aim is to rebalance and redistribute fluids and ensure the correct levels of electrolytes.

Fluid resuscitation rapidly expands blood volume, restores or maintains blood flow to the organs and can be a lifesaving intervention. IV fluid resuscitation is commonly used in children and young people undergoing major surgery, to treat sepsis and after severe trauma.

Whether IV fluid therapy is needed for fluid resuscitation, routine maintenance, replacement or redistribution, it is vital that the correct composition, volume and timing of IV fluid therapy are used. Different types of IV fluids are appropriate for different situations. Errors in prescribing or administering IV fluids can result in adverse events caused by inadequate or excessive provision. These events include abnormalities in plasma electrolytes and glucose (hyponatraemia [decreased sodium in the blood; defined as plasma sodium less than 135 mmol/litre] and hypernatraemia [increased sodium in the blood; defined as plasma sodium greater than 145 mmol/litre]) and clinical consequences such as hypovolaemia (decreased blood volume) and poor organ perfusion (lack of blood circulating through the organs), hypervolaemia (increased blood volume), cerebral oedema (brain swelling) and heart failure. Failure to correct imbalances and deliver correct fluids can have a significant impact on morbidity and mortality.

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

- mortality resulting from errors in IV fluid therapy.
- patient safety incidents.
- length of hospital stay.
- adverse events resulting from errors in IV fluid therapy.
- children's and young peoples' experience of inpatient services.

How this quality standard supports delivery of outcome frameworks

NICE quality standards are a concise set of prioritised statements designed to drive measurable improvements in the 3 dimensions of quality – patient safety, patient experience and clinical effectiveness – for 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 2015–16](#)

- [Public Health Outcomes Framework 2013–16](#).

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 2015–16](#)

Domain	Overarching indicators and improvement areas
1 Preventing people from dying prematurely	<p><i>Overarching indicators</i></p> <p>1a Potential Years of Life Lost (PYLL) from causes considered amenable to healthcare</p> <p>ii Children and young people</p> <p>1c Neonatal mortality and stillbirths</p> <p><i>Improvement areas</i></p> <p>Reducing mortality in children</p> <p>1.6 i Infant mortality*</p> <p>ii Neonatal mortality and stillbirths</p>
4 Ensuring that people have a positive experience of care	<p><i>Overarching indicators</i></p> <p>4b Patient experience of hospital care</p> <p><i>Improvement areas</i></p> <p>Improving children and young people’s experience of healthcare</p> <p><i>4.8 Children and young people’s experience of inpatient services</i></p>
5 Treating and caring for people in a safe environment and protecting them from avoidable harm	<p><i>Overarching indicators</i></p> <p><i>5a Deaths attributable to problems in healthcare</i></p> <p><i>5b Severe harm attributable to problems in healthcare</i></p> <p><i>Improvement areas</i></p> <p>Improving the culture of safety reporting</p> <p>5.6 Patient safety incidents reported</p>
<p>Alignment with Public Health Outcomes Framework</p> <p>* Indicator is shared</p> <p>** Indicator is complementary</p> <p>Indicators in italics in development</p>	

Table 2 [Public health outcomes framework for England, 2013–16](#)

Domain	Objectives and indicators
4 Healthcare public health and preventing premature mortality	<p>Objective</p> <p>Reduced numbers of people living with preventable ill health and people dying prematurely, whilst reducing the gap between communities</p> <p>Indicators</p> <p>4.1 Infant mortality*</p> <p>4.3 Mortality rate from causes considered preventable**</p>
<p>Alignment with NHS Outcomes Framework</p> <p>* Indicator is shared</p> <p>** Indicator is complementary</p>	

Safety and people’s experience of care

Ensuring that care is safe and that people have a positive experience of care is vital in a high-quality service. It is important to consider these factors when planning and delivering services relevant to IV fluid therapy in children and young people in hospital.

Coordinated services

The quality standard for IV fluid therapy in children and young people in hospital 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 children and young people receiving IV fluid therapy.

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 service for IV fluid therapy in children and young people in hospital 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 children and young people receiving IV fluid therapy should have sufficient and appropriate training and competencies to deliver the actions and interventions described in the quality standard. Quality statements on staff training and competency are not usually included in quality standards. However, recommendations in the development source on specific types of training for the topic that exceed standard professional training are considered during quality statement development.

Role of families and carers

Quality standards recognise the important role families and carers have in supporting children and young people receiving IV fluid therapy. 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](#). Children and young people receiving intravenous (IV) fluid therapy have their fluid balance and electrolyte status assessed.

[Statement 2](#). Children and young people receiving IV fluids for fluid resuscitation are not given hypotonic fluids or glucose-containing fluids.

[Statement 3](#). Children and young people receiving IV fluids for routine maintenance are not given hypotonic fluids as the initial fluid.

[Statement 4](#). Hospitals have an IV fluids lead who has overall responsibility for training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

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 Are local systems and structures in place to collect data for the proposed quality measures? If not, how feasible would it be for these to be put in place?

Question 3 Do you have an example from practice of implementing the NICE guideline that underpins this quality standard? If so, please submit your example to the [NICE local practice collection](#) on the NICE website. Examples of using NICE quality standards can also be submitted.

Question 4 Do you think each of the statements in this draft quality standard would be achievable by local services given the net resources needed to deliver them? Please describe any resource requirements that you think would be necessary for any treatment. Please describe any potential cost savings or opportunities for disinvestment.

Questions about the individual quality statements

Question 5 For draft quality statement 4: This statement is published in the IV fluid therapy in adult's quality standard 66. Is this an area for quality improvement for children and young people as well?

Quality statement 1: Assessment of fluid balance and electrolyte status

Quality statement

Children and young people receiving intravenous (IV) fluid therapy have their fluid balance and electrolyte status assessed.

Rationale

Children and young people's fluid balance and electrolyte status needs to be assessed, monitored and recorded accurately to ensure correct prescribing to reduce the risk of adverse events. Ideally, a standardised chart should be used to prescribe fluids and record fluid and electrolyte status. Such a chart would help staff assess patients' fluid and electrolyte needs, prescribe and administer IV fluids, monitor patient response, and help staff when patients are moved between or within hospitals.

Quality measures

Structure

Evidence of the roll-out of a standard chart to assess fluid balance and electrolyte status in children and young people and documentation of all components of the assessment.

Data source: Local data collection.

Process

Proportion of children and young people receiving IV fluid therapy who have their fluid balance and electrolyte status assessed.

Numerator – the number in the denominator who have their fluid balance and electrolyte status assessed.

Denominator – the number of children and young people receiving IV fluid therapy.

Data source: Local data collection.

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

Service providers (hospitals) ensure that systems are in place for patients' fluid balance and electrolyte status to be assessed and documented.

Healthcare professionals (such as hospital doctors and nurse practitioners) ensure that they assess and document patients' fluid balance and electrolyte status.

Commissioners (such as clinical commissioning groups and NHS England area teams) ensure that they commission services that assess and document patients' fluid balance and electrolyte status. A standardised fluid balance chart should be agreed to help staff assess patients' fluid and electrolyte needs, prescribe and administer IV fluids, monitor patient response and help staff when patients move between hospitals and between hospital departments.

What the quality statement means for patients, service users and carers

Children and young people receiving IV fluid therapy are initially assessed to see the amount and type of IV fluid needed, and then monitored regularly to ensure they continue to receive the right amount and type of fluid. All the information is recorded on the chart in their medical notes. Intravenous fluids (usually shortened to 'IV' fluids) are liquids given to replace water, sugar and salt that a person might need if they are ill or having an operation, and can't eat or drink as they would normally. IV fluids are given straight into a vein through a drip.

Source guidance

- [Intravenous fluid therapy in children and young people in hospital](#) (NICE guideline NG29) recommendation 1.2.3.

Definitions of terms used in this quality statement

Fluid balance and electrolyte status to be assessed

The following components to be assessed and documented:

- Actual or estimated daily body weight. Record the weight from the current day, the previous day, and the difference between the two. If an estimate was used, the actual weight should be measured as soon as clinically possible.
- Fluid input, output and balance over the previous 24 hours.
- Any special instructions for prescribing, including relevant history.
- An assessment of the fluid status.
- The results of laboratory and point-of-care assessments, including:
 - full blood count
 - urea
 - creatinine
 - plasma electrolyte concentrations (including chloride, sodium and potassium; see recommendation 1.2.4 in [Intravenous fluid therapy in children and young people in hospital](#))
 - blood glucose (see recommendation 1.2.5 in [Intravenous fluid therapy in children and young people in hospital](#))
 - urinary electrolyte concentrations.
- Details of any ongoing losses (see recommendation 1.5.1 in [Intravenous fluid therapy in children and young people in hospital](#) and the [diagram of ongoing losses](#)).
- Calculations of fluid needs for routine maintenance, replacement, redistribution and resuscitation.
- The fluid and electrolyte prescription (in ml per hour), with clear signatures, dates and times.
- Types and volumes of fluid input and output (urine, gastric and other), recorded hourly and with running totals.
- 12-hourly fluid balance subtotals.
- 24-hourly fluid balance totals.
- 12-hourly reassessments of:

- the fluid prescription
- current hydration status
- whether oral fluids can be started
- urine and other outputs.

[\[Intravenous fluid therapy in children and young people in hospital\]](#) (NICE guideline NG29) recommendation 1.2.3]

Quality statement 2: Fluid type for IV fluid resuscitation

Quality statement

Children and young people receiving intravenous (IV) fluids for fluid resuscitation are not given hypotonic fluids or glucose-containing fluids.

Rationale

There are safety concerns in relation to the use of hypotonic IV fluids in children and young people because they have been associated with the development of hyponatraemia (decreased sodium levels in the blood) which can increase the risk of developing brain swelling and neurological complications as a consequence of hyponatraemia. Children and young people should therefore receive glucose-free crystalloids for fluid resuscitation.

Quality measures

Structure

Evidence of local arrangements to ensure that children and young people receiving IV fluids for fluid resuscitation are not given hypotonic fluids or glucose-containing fluids.

Data source: Local data collection.

Process

Proportion of children and young people receiving IV fluids for fluid resuscitation who are given hypotonic fluids or glucose-containing fluids.

Numerator – the number in the denominator who are given hypotonic fluids or glucose-containing fluids.

Denominator – the number of children and young people receiving IV fluid resuscitation.

Data source: Local data collection.

Outcome

Incidence of hyponatraemia attributable to IV fluid therapy.

Data source: Local data collection.

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

Service providers (hospitals) ensure that protocols are in place so that children and young people receiving IV fluids for fluid resuscitation are not given hypotonic fluids or glucose-containing fluids.

Healthcare professionals (such as hospital doctors and nurse practitioners) do not give hypotonic fluids or glucose-containing fluids to children and young people receiving IV fluids for fluid resuscitation.

Commissioners (such as clinical commissioning groups and NHS England area teams) ensure that they commission services that do not give hypotonic fluids or glucose-containing fluids to children and young people receiving IV fluids for fluid resuscitation.

What the quality statement means for patients, service users and carers

Children and young people receiving IV fluid therapy to replace lost fluids are not given a type of IV fluid called hypotonic fluid or fluids containing glucose.

Intravenous fluids (usually shortened to 'IV' fluids) are liquids given to replace water, sugar and salt that a person might need if they are ill or having an operation, and can't eat or drink as they would normally. IV fluids are given straight into a vein through a drip.

Source guidance

- [Intravenous fluid therapy in children and young people in hospital](#) (NICE guideline NG29) recommendations 1.3.1 and 1.3.2.

Definitions of terms used in this quality statement

Hypotonic

Hypotonic fluids are a solution with a lower concentration of electrolytes than body plasma. When a cell is immersed in a hypotonic solution, water will flow into the cell to balance the concentration of solutes. An example of a hypotonic fluid is 0.45% sodium chloride. [[Intravenous fluid therapy in children and young people in hospital](#) (NICE guideline NG29)]

Quality statement 3: Fluid type for routine maintenance

Quality statement

Children and young people receiving intravenous (IV) fluids for routine maintenance are not given hypotonic fluids as the initial fluid.

Rationale

There are safety concerns about the use of hypotonic fluids in children and young people because they have been associated with the development of hyponatraemia (decreased sodium levels in the blood). Children and young people are at risk of developing brain swelling and neurological complications as a consequence of hyponatraemia. Hypotonic IV fluids should not be given as the initial fluid if sodium levels are not known. Isotonic crystalloids, which are physiologically comparable to normal plasma, are the safest option.

Quality measures

Structure

Evidence of local arrangements to ensure that children and young people receiving IV fluids for routine maintenance are not given hypotonic fluids as the initial fluid.

Data source: Local data collection.

Process

Proportion of children and young people receiving IV fluids for routine maintenance who are given hypotonic fluids as the initial fluid.

Numerator – the number in the denominator who are given hypotonic fluids as the initial fluid.

Denominator – the number of children and young people receiving IV fluids for routine maintenance.

Data source: Local data collection.

Outcome

Incidence of hyponatraemia attributable to IV fluid therapy.

Data source: Local data collection.

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

Service providers (hospitals) ensure that protocols are in place so that children and young people receiving IV fluids for routine maintenance are not given hypotonic fluids as the initial fluid.

Healthcare professionals (such as hospital doctors and nurse practitioners) do not give hypotonic fluids as the initial therapy for children and young people receiving IV fluids for routine maintenance.

Commissioners (such as clinical commissioning groups and NHS England area teams) ensure that they commission services that do not give hypotonic fluids as the initial fluid to children and young people receiving IV fluids for routine maintenance.

What the quality statement means for patients, service users and carers

Children and young people receiving IV fluid therapy to maintain the level of fluid they need are not given a type of fluid called hypotonic fluid when they start IV fluid therapy. Intravenous fluids (usually shortened to 'IV' fluids) are liquids given to replace water, sugar and salt that a person might need if they are ill or having an operation, and can't eat or drink as they would normally. IV fluids are given straight into a vein through a drip.

Source guidance

- [Intravenous fluid therapy in children and young people in hospital](#) (NICE guideline NG29) recommendations 1.4.3 and 1.4.7.

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

Hypotonic fluids are a solution with a lower concentration of electrolytes than body plasma. When a cell is immersed in a hypotonic solution, water will flow into the cell to balance the concentration of solutes. An example of a hypotonic fluid is 0.45% sodium chloride. [[Intravenous fluid therapy in children and young people in hospital](#) (NICE guideline NG29)]

Quality statement 4: Intravenous fluids lead

Quality statement

Hospitals have an intravenous (IV) fluids lead who has overall responsibility for training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Rationale

The IV fluids lead in a hospital can promote best practice, ensuring that healthcare professionals are trained in prescribing and administering IV fluid therapy, and reviewing learning from 'near miss' and critical incident reporting. This leadership role can ensure continuity of care in relation to fluid management through coordination between different hospital departments.

Quality measures

Structure

Evidence that hospitals have an IV fluids lead who has overall responsibility for ensuring adequate training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Data source: Local data collection.

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

Service providers (hospitals) ensure that they have an IV fluids lead who has overall responsibility for ensuring adequate training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Healthcare professionals who care for children and young people receiving IV fluid therapy in hospital work in the context of clinical governance arrangements that have an IV fluids lead who has overall responsibility for ensuring adequate training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Commissioners (such as clinical commissioning groups and NHS England area teams) ensure that they commission services from hospitals that have an IV fluids lead who has overall responsibility for ensuring adequate training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

What the quality statement means for patients, service users and carers

Children and young people receiving IV fluid therapy are cared for in a hospital that has a person who has overall responsibility for ensuring that they receive safe and effective IV fluid therapy. Intravenous fluids (usually shortened to 'IV' fluids) are liquids given to replace water, sugar and salt that a person might need if they are ill or having an operation, and can't eat or drink as they would normally. IV fluids are given straight into a vein through a drip.

Source guidance

- [Intravenous fluid therapy in children and young people in hospital](#) (NICE guideline NG29) recommendation 1.8.1.

Definitions of terms used in this quality statement

Responsible IV fluids lead

The IV fluids lead will have overall responsibility, through a leadership role, for the quality of care relating to IV fluid therapy. The IV fluids lead should be somebody in a senior position, and may delegate specific functions through normal governance structures. The IV fluids lead is not expected to be the person who delivers the training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes. Those functions can be delegated to professionals who have the necessary specialist knowledge in the hospital. [Expert opinion]

Question for consultation

This statement is published in the IV fluid therapy in adult's quality standard 66. Is this an area for quality improvement for children and young people as well?

Status of this quality standard

This is the draft quality standard released for consultation from 26 April to 24 May. It is not NICE's final quality standard on intravenous (IV) fluid therapy in children and young people in hospital. 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 24 May. 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 September 2016.

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.

NICE's [quality standard service improvement template](#) helps providers to make an initial assessment of their service compared with a selection of quality statements. It includes assessing current practice, recording an action plan and monitoring quality improvement. This tool is updated monthly to include new quality standards.

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 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 children and young people receiving intravenous (IV) fluid therapy, and their parents or carers (if appropriate), is essential. Treatment, care and support, and the information given about it, should be both age-appropriate and 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. Children and young people receiving IV fluid therapy and their parents or carers (if appropriate) 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](#).

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.

- [Intravenous fluid therapy in children and young people in hospital](#) (2015) NICE guideline NG29

Policy context

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

- Medicines and Healthcare products Regulatory Agency (2012) [Drug safety update: Intravenous 0.18% saline/4% glucose solution \('hypotonic saline'\) in children: reports of fatal hyponatraemia](#)
- National Patient Safety Agency (2007) [Reducing the risk of hyponatraemia when administering intravenous infusions to children](#)

Definitions and data sources for the quality measures

- [Intravenous fluid therapy in adults in hospital](#) (2013) NICE guideline CG174.

Related NICE quality standards

Published

- [Intravenous fluid therapy in adults in hospital](#) (2014) NICE quality standard 66
- [Fever in under 5s](#) (2014) NICE quality standard 64
- [Meningitis \(bacterial\) and meningococcal septicaemia in children and young people](#) (2012) NICE quality standard 19.

In development

- [Bronchiolitis](#) (publication expected June 2016)
- [Diabetes in children and young people](#) (publication expected June 2016)

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:

- Blood transfusion in neonatology
- Complex fractures
- End of life care for infants, children and young people
- Major trauma
- Norovirus
- Nutrition in hospital, including young people
- Parenteral nutrition in neonates
- Perioperative care
- Resuscitation following major trauma and major blood loss
- Transfusion
- Trauma services
- Urgent and emergency care.

The full list of quality standard topics referred to NICE is available from the [quality standards topic library](#) on the NICE website.

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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The following specialist members joined the committee to develop this quality
standard:

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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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