Intravenous fluid therapy in adults in hospital

NICE quality standard

Draft for consultation

March 2014

Introduction

This quality standard covers the assessment and management of adults' intravenous (IV) fluid needs in hospital. IV fluid therapy is the provision of fluid and/or electrolytes directly into the vein. This quality standard does not cover the use of blood or blood products. For more information see the topic overview.

Why this quality standard is needed

Many adult hospital inpatients need IV fluid therapy to prevent or correct problems with their fluid and/or electrolyte status. This may be because their normal needs cannot be met through oral or enteral routes (for example, they have swallowing problems or gastrointestinal dysfunction) or because they have unusual fluid and/or electrolyte deficits or demands caused by illness or injury (for example, high gastrointestinal or renal losses). Deciding on the optimal amount and composition of IV fluids to be administered and the best rate at which to give them can be a difficult task, and decisions must be based on careful assessment of the patient's individual needs.

Management

Errors in prescribing IV fluids and electrolytes are particularly likely in emergency departments, acute admission units, and general medical and surgical wards rather than in operating theatres and critical care units. Surveys have shown that many staff who prescribe IV fluids know neither the likely fluid and electrolyte needs of individual patients, nor the specific composition of the many choices of IV fluids available to them. Standards of recording and monitoring IV fluid and electrolyte therapy may also be poor in these settings. IV fluid management in hospital is often

delegated to the most junior medical staff who frequently lack the relevant experience and may have received little or no specific training on the subject.

The National Confidential Enquiry into Perioperative Deaths report in 1999 highlighted that a significant number of hospitalised patients were dying as a result of infusion of too much or too little fluid. The report recommended that fluid prescribing should be given the same status as drug prescribing. Although mismanagement of fluid therapy is rarely reported as being responsible for patient harm, it is likely that as many as 1 in 5 patients on IV fluids and electrolytes suffer complications or morbidity due to their inappropriate administration.

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

- Mortality or serious harm resulting from errors in IV fluid therapy.
- Patient experience of hospital care.
- Patient safety incidents reported.
- Length of hospital stay.

How this quality standard supports delivery of outcome frameworks

NICE quality standards are a concise set of prioritised statements designed to drive measureable 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 and 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	***Overarching indicator*** 1a Potential Years of Life Lost (PYLL) from causes amenable to healthcare* i Adults
4 Ensuring that people have a positive experience of care	***Overarching indicator*** 4b Patient experience of hospital care ***Improvement area*** **Improving hospitals' responsiveness to personal needs** 4.2 Responsiveness to in-patients' personal needs
5 Treating and caring for people in a safe environment and protecting them from avoidable harm	***Overarching indicators*** 5a Patient safety incidents reported 5b Safety incidents involving severe harm or death 5c Hospital deaths attributable to problems in care ***Improvement area*** **Reducing the incidence of avoidable harm** 5.4 Incidence of medication errors causing serious harm
Alignment across the health and social care system * 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	***Objective*** Reduced numbers of people living with preventable ill health and people dying prematurely, while reducing the gap between communities ***Indicator*** 4.3 Mortality from causes considered preventable*
Alignment across the health and social care system * Indicator shared with NHS Outcomes Framework (NHSOF)	

Coordinated services

The quality standard for IV fluid therapy in adults 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 adults in hospital 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 of IV fluid therapy in adults 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 adults in hospital receiving IV fluid therapy should have sufficient and appropriate training and competencies to deliver the actions and interventions described in the quality standard.

Role of families and carers

Quality standards recognise the important role families and carers have in supporting adults in hospital receiving IV fluid therapy. 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. Hospitals have an intravenous (IV) fluids lead, responsible for training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Statement 2. Adults receiving intravenous (IV) fluid therapy in hospital are cared for by healthcare professionals who have been assessed to demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Statement 3. Adults receiving intravenous (IV) fluid therapy in hospital have an IV fluid management plan, given by and reviewed by an expert, which includes the fluid and electrolyte prescription for the next 24 hours and arrangements for assessment and monitoring.

Statement 4. Adults who receive intravenous (IV) fluid therapy in hospital are assessed within appropriate timescales for consequences of fluid mismanagement, which are reported as critical incidents if no other cause can be identified.

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?

Questions about the individual quality statements

Question 3 For draft quality statement 4: This statement incorporates two closely linked concepts (identification and reporting of adverse consequences of IV fluid therapy) because identification of adverse consequences is necessary for reporting to occur. Do you think there is a case for separate quality statements, one about identifying adverse consequences of IV fluid therapy and one about critical incident reporting – would this aid understanding and measurability?

Quality statement 1: Intravenous fluids lead

Quality statement

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

Rationale

The role of the IV fluids lead in hospitals is important in promoting best practice, ensuring that healthcare professionals are competent in prescribing and administering IV fluid therapy, and reviewing learning from 'near miss' and critical incident reporting. Continuity in care in relation to fluid management can require coordination between different hospital departments.

Quality measures

Structure

Evidence that hospitals have an IV fluids lead who has overall responsibility for overseeing 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 professionals and commissioners

Service providers ensure that hospitals have an IV fluids lead, responsible for training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Healthcare professionals who care for adults receiving IV fluid therapy in hospital work in the context of clinical governance arrangements that have an IV fluids lead responsible for training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

Commissioners ensure that they commission services from hospitals that have an IV fluids lead responsible for training, clinical governance, audit and review of IV fluid prescribing, and patient outcomes.

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

Adults receiving IV fluid therapy will be cared for in a hospital that has a person who has overall responsibility for ensuring that they receive safe and effective IV fluid therapy.

Source guidance

- Intravenous fluid therapy in adults in hospital (NICE clinical guideline 174) recommendation 1.6.3 (key priority for implementation).

Definition of terms used in this quality statement

Training and education

Hospitals should establish systems to ensure that all healthcare professionals involved in prescribing and delivering IV fluid therapy are trained on intravenous therapy principles covered in the full clinical guideline 174, and are then formally assessed and reassessed at regular intervals to demonstrate competence in:

- understanding the physiology of fluid and electrolyte balance in patients with normal physiology and during illness
- assessing patients' fluid and electrolyte needs (the 5 Rs: Resuscitation, Routine maintenance, Replacement, Redistribution and Reassessment)
- assessing the risks, benefits and harms of IV fluids
- prescribing and administering IV fluids
- monitoring the patient response
- evaluating and documenting changes **and**
- taking appropriate action as required.

[Adapted from NICE clinical guideline 174, recommendation 1.6.1]

E-learning module on healthcare professional training and competencies

This online learning module supports the implementation of NICE clinical guideline 174, Intravenous fluid therapy in adults in hospital, and uses interactive activities to support prescribers to safely assess, prescribe for and review adult patients needing intravenous fluids. The tool may also be useful for trainee prescribers to enhance their knowledge base before they commence prescribing practice.

Quality statement 2: Healthcare professionals' training and competencies in hospitals

Quality statement

Adults receiving intravenous (IV) fluid therapy in hospital are cared for by healthcare professionals who have been assessed to demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Rationale

Fluid assessment, prescription and administration are essential daily tasks on most medical and surgical wards. These are complex responsibilities that entail careful clinical and biochemical assessment, good understanding of the principles of fluid physiology in health and disease, and appropriate supervision and training. In addition, those administering IV fluids need to be able to assess patients' needs and make prescribing decisions. Inadequate knowledge, failure to recognise the importance of fluid management in patient care and a reluctance to take this issue seriously are major factors in poor fluid management. The causes of this lack of engagement are multifactorial, but poor education, training and supervision are major contributors.

Quality measures

Structure

Evidence of local arrangements to ensure that adults receiving IV fluid therapy in hospital are cared for by healthcare professionals who have been assessed to demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Data source: Local data collection.

Process

Proportion of adults who receive IV fluid therapy in hospital who are cared for by healthcare professionals are assessed to demonstrate competence in assessing

patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Numerator – the number of adults in the denominator cared for by healthcare professionals who have been assessed to demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Denominator – the number of adults receiving IV fluid therapy in hospital.

Data source: Local data collection.

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

Service providers ensure that systems are in place to ensure that adults receiving IV fluid therapy in hospital are cared for by healthcare professionals who have been trained and assessed, and regularly reassessed, to demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Healthcare professionals involved in prescribing and delivering IV fluid therapy can demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

Commissioners ensure that they commission services from providers who are able to demonstrate that their relevant healthcare professionals are trained and assessed, and routinely reassessed, to demonstrate competence in assessing patients' fluid and electrolyte needs, prescribing and administering IV fluids, and monitoring patient response.

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

Adults receiving IV fluid therapy in hospital are cared for by healthcare professionals who are competent in assessing patients' IV fluid needs, prescribing and administering IV fluids, and monitoring patients' responses.

Source guidance

- Intravenous fluid therapy in adults in hospital (NICE clinical guideline 174), recommendations 1.6.1 (key priority for implementation) and 1.6.2.

Definitions of terms used in this quality statement

Training and education

Hospitals should establish systems to ensure that all healthcare professionals involved in prescribing and delivering IV fluid therapy are trained on intravenous therapy principles covered in the full clinical guideline 174, and are then formally assessed and reassessed at regular intervals to demonstrate competence in:

- understanding the physiology of fluid and electrolyte balance in patients with normal physiology and during illness
- assessing patients' fluid and electrolyte needs (the 5 Rs: Resuscitation, Routine maintenance, Replacement, Redistribution and Reassessment)
- assessing the risks, benefits and harms of IV fluids
- prescribing and administering IV fluids
- monitoring the patient response
- evaluating and documenting changes **and**
- taking appropriate action as required.

Training in fluid management must also be embedded in both general and specialty training programmes with clear curriculum based teaching objectives and delineation of minimum standards of clinical competency and knowledge for each stage of training and clinical delivery. Recognition and management of the clinical complications of fluid management should also be considered.

Competency needs to be tailored to professional role. For example, competency for senior clinicians will include active involvement in reviewing patients' fluid management plans, providing leadership to the junior team to ensure quality care.

[Adapted from NICE clinical guideline 174, recommendation 1.6.1; full clinical guideline 174]

E-learning module on healthcare professional training and competencies

This online learning module supports the implementation of NICE clinical guideline 174, Intravenous fluid therapy in adults in hospital, and uses interactive activities to support prescribers to safely assess, prescribe for and review adult patients needing intravenous fluids. The tool may also be useful for trainee prescribers to enhance their knowledge base before they commence prescribing practice.

Quality statement 3: Intravenous fluid management plan

Quality statement

Adults receiving intravenous (IV) fluid therapy in hospital have an IV fluid management plan, given by and reviewed by an expert, which includes the fluid and electrolyte prescription for the next 24 hours and arrangements for assessment and monitoring.

Rationale

Hospital inpatients may need IV fluid and electrolytes for fluid resuscitation, routine maintenance, replacement of existing deficits or abnormal ongoing losses, or complex issues of fluid redistribution. Patients' needs for IV fluid therapy and their responses to it will vary. Careful monitoring and daily assessment, informed by communication between senior clinicians and patients, should therefore be detailed in an IV fluid management plan in the medical record.

Quality measures

Structure

Evidence of local arrangements to ensure that adults receiving IV fluid therapy in hospital have an IV fluid management plan, given by and reviewed by a senior clinician or prescriber, which includes the fluid and electrolyte prescription for the next 24 hours and arrangements for assessment and monitoring.

Data source: Local data collection.

Process

Proportion of adults receiving IV fluid therapy in hospital who have an IV fluid management plan, given by and reviewed by an expert, which includes the fluid and electrolyte prescription for the next 24 hours and arrangements for assessment and monitoring.

Numerator – the number of adults in the denominator who have an IV fluid management plan given by and reviewed by an expert, which includes the fluid and

electrolyte prescription for the next 24 hours and arrangements for assessment and monitoring.

Denominator – the number of adults receiving IV fluid therapy in hospital.

Data source: Local data collection.

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

Service providers ensure that systems are in place for IV fluid management plans to be provided and reviewed by an expert, and that they include prescriptions and arrangements for assessment and monitoring over the next 24 hours.

Healthcare professionals, specifically senior clinicians who are responsible for adults who are receiving IV fluid therapy in hospital, ensure that they outline and maintain an IV fluid management plan, which includes the fluid and electrolyte prescription for the next 24 hours and arrangements for assessment and monitoring.

Commissioners should ensure they commission inpatient services in which all IV fluid management plans are provided and reviewed by an expert and include arrangements for the next 24 hours.

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

Adults receiving IV fluid therapy in hospital have the details of their IV fluid prescription (what fluid is needed for the next 24 hours and how it is to be given), together with what assessments and checks need to be carried out, all detailed in the IV fluid management plan in their medical record.

Source guidance

- Intravenous fluid therapy in adults in hospital. (NICE clinical guideline 174), recommendations 1.1.4, 1.1.6, 1.2.4 (key priorities for implementation)

Definitions of terms used in this quality statement

Intravenous fluid management plan

This plan should outline the fluid and electrolyte prescription over the next 24-hour period (the type, rate and volume of fluid), and how it is to be given. The plan should also specify arrangements for assessment and monitoring of the individual patient. Initially, the IV fluid management plan should be reviewed daily by a senior clinician; although IV fluid management plans for patients on longer-term IV fluid therapy whose condition is stable may be reviewed less frequently. Any decisions to reduce monitoring frequency should be detailed in the IV fluid management plan. This plan should be communicated by an expert. Plans may be informed by algorithms for IV fluid therapy in NICE clinical guideline 174.

[Adapted from NICE clinical guideline 174, recommendations 1.1.4, 1.1.6, 1.1.8 and 1.2.4]

Expert

A healthcare professional who has core competencies to diagnose and manage acute illness. In this context this will include a senior clinician and prescriber of IV fluid therapy.

Equality and diversity considerations

Patients can have a valuable contribution to make to their fluid balance and it is important that communication between senior clinicians and patients about their IV fluid management plans is undertaken in the most effective way taking into account the patient's individual circumstances.

Quality statement 4: Identifying and reporting consequences of fluid mismanagement

Quality statement

Adults who receive intravenous (IV) fluid therapy in hospital are assessed within appropriate timescales for consequences of fluid mismanagement, which are reported as critical incidents if no other cause can be identified.

Rationale

There are a number of potential adverse consequences of IV fluid therapy, including unnecessarily prolonged dehydration, over hydration or significant electrolyte imbalance, which may be identified by clinical and biochemical monitoring. If identified in time, these can be addressed by altering the prescription of IV fluids. Clinically significant problems caused by IV fluid mismanagement should be reported as critical incidents. By routinely reporting these events, even when they are well-managed, hospitals will increase learning, improving the likelihood of better patient outcomes in relation to mortality, morbidity, general discomfort and lengths of stay in hospital.

Quality measures

Structure

(a) Evidence of local arrangements to ensure that adults who receive IV fluid therapy in hospital are assessed within appropriate timescales for consequences of fluid mismanagement.

Data source: Local data collection.

(b) Evidence of local arrangements to ensure that consequences of fluid mismanagement in adults who receive IV fluid therapy are reported as critical incidents if no other cause can be identified.

Data source: Local data collection.

Process

(a) Proportion of adults receiving IV fluid therapy in hospital who are assessed for hypovolaemia during IV fluid therapy.

Numerator – the number of adults in the denominator who are assessed during IV fluid therapy for hypovolaemia.

Denominator – the number of adults who receive IV fluid therapy in hospital.

Data source: Local data collection.

(b) Proportion of adults receiving IV fluid therapy in hospital who are found to have hypovolaemia during IV fluid therapy for which no other cause can be identified, and the consequence of which is reported as a critical incident.

Numerator – the number of adults in the denominator for whom a critical incident is reported if no other cause can be identified.

Denominator – the number of adults who receive IV fluid therapy in hospital who are found to have hypovolaemia during IV fluid therapy.

Data source: Local data collection.

(c) Proportion of adults receiving IV fluid therapy in hospital who are assessed during or within 6 hours of stopping IV fluid therapy for pulmonary oedema.

Numerator – the number of adults in the denominator who are assessed during or within 6 hours of stopping IV fluid therapy for pulmonary oedema.

Denominator – the number of adults who receive IV fluid therapy in hospital.

Data source: Local data collection.

(d) Proportion of adults receiving IV fluid therapy in hospital who are found to have pulmonary oedema during or within 6 hours of stopping IV fluid therapy for which no other cause can be identified, which is reported as a critical incident.

Numerator – the number of adults in the denominator for whom a critical incident is reported if no other cause can be identified.

Denominator – the number of adults who receive IV fluid therapy in hospital who are found to have pulmonary oedema during or within 6 hours of stopping IV fluid therapy.

Data source: Local data collection.

(e) Proportion of adults receiving IV fluid therapy in hospital who are assessed during or within 24 hours of stopping IV fluid therapy for hyponatraemia or hypernatraemia.

Numerator – the number of adults in the denominator who are assessed during or within 24 hours of stopping IV fluid therapy for hyponatraemia or hypernatraemia.

Denominator – the number of adults who receive IV fluid therapy in hospital.

Data source: Local data collection.

(f) Proportion of adults receiving IV fluid therapy in hospital who are found to have hyponatraemia or hypernatraemia during or within 24 hours of stopping IV fluid therapy for which no other cause can be identified, and the consequence of which is reported as a critical incident.

Numerator – the number of adults in the denominator for whom a critical incident is reported if no other cause can be identified.

Denominator – the number of adults who receive IV fluid therapy in hospital who are found to have hyponatraemia or hypernatraemia during or within 24 hours of stopping IV fluid therapy.

Data source: Local data collection.

(g) Proportion of adults receiving IV fluid therapy in hospital who are assessed during or within 24 hours of stopping IV fluid therapy for peripheral oedema.

Numerator – the number of adults in the denominator who are assessed during or within 24 hours of stopping IV fluid therapy for peripheral oedema.

Denominator – the number of adults who receive IV fluid therapy in hospital.

Data source: Local data collection.

(h) Proportion of adults receiving IV fluid therapy in hospital who are found to have peripheral oedema during or within 24 hours of stopping IV fluid therapy for which no other cause can be identified, and the consequence of which is reported as a critical incident.

Numerator – the number of adults in the denominator for whom a critical incident is reported if no other cause can be identified.

Denominator – the number of adults who receive IV fluid therapy in hospital who are found to have peripheral oedema during or within 24 hours of stopping IV fluid therapy.

Data source: Local data collection.

(i) Proportion of adults receiving IV fluid therapy in hospital who are assessed during or within 24 hours of stopping IV fluid therapy for hypokalaemia or hyperkalaemia.

Numerator – the number of adults in the denominator who are assessed during or within 24 hours of stopping IV fluid therapy for hypokalaemia or hyperkalaemia.

Denominator – the number of adults who receive IV fluid therapy in hospital.

Data source: Local data collection.

(j) Proportion of adults receiving IV fluid therapy in hospital who are found to have hypokalaemia or hyperkalaemia during or within 24 hours of stopping IV fluid therapy for which no other cause can be identified, and the consequence of which is reported as a critical incident.

Numerator – the number of adults in the denominator for whom a critical incident is reported if no other cause can be identified.

Denominator – the number of adults who receive IV fluid therapy in hospital who are found to have hypokalaemia or hyperkalaemia during or within 24 hours of stopping IV fluid therapy.

Data source: Local data collection.

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

Service providers ensure that systems are in place for adults who receive IV fluid therapy in hospital to be assessed (within appropriate timescales) for consequences of fluid mismanagement, and for clear incidents of fluid mismanagement to be reported as critical incidents if no other cause can be identified.

Healthcare professionals who care for adults receiving IV fluid therapy in hospital assess patients (within appropriate timescales) for consequences of fluid mismanagement, and report clear incidents of fluid mismanagement as critical incidents if no other cause can be identified.

Commissioners ensure that they commission services in which adults who receive IV fluid therapy in hospital are assessed (within appropriate timescales) for consequences of fluid mismanagement, and for clear incidents of fluid mismanagement to be reported as critical incidents if no other cause can be identified.

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

Adults receiving IV fluid therapy in hospital are assessed before, during and soon after receiving IV fluids for problems that might be caused by the therapy (for example problems caused by having too much or too little fluid), and that any problems found will be reported as 'critical incidents' by the hospital.

Source guidance

- Intravenous fluid therapy in adults in hospital (NICE clinical guideline 174), recommendations 1.2.2, 1.2.6 (key priorities for implementation), and 1.6.2.

Definitions of terms used in this quality statement

Consequences of fluid mismanagement to be reported as critical incidents

Recommendation 1.2.6 (key priority for implementation) in NICE clinical guideline 174 provides the following framework for identifying and reporting adverse

consequences in the context of IV fluid management based on Guideline Development Group (GDG) consensus.

Consequence of fluid mismanagement	Identifying features	Time frame of identification

Hypovolaemia	• Patient's fluid needs not met by oral, enteral or IV intake **and**
	  ○ Features of dehydration on clinical examination
	  ○ Low urine output or concentrated urine
	  ○ Biochemical indicators, such as more than 50% increase in urea or creatinine with no other identifiable cause
		Before and during IV fluid therapy

Pulmonary oedema (breathlessness during infusion)	• No other obvious cause identified (for example, pneumonia, pulmonary embolus or asthma) • Features of pulmonary oedema on clinical examination • Features of pulmonary oedema on X-ray	During IV fluid therapy or within 6 hours of stopping IV fluids
Hyponatraemia	• Serum sodium less than 130 mmol/l • No other likely cause of hyponatraemia identified	During IV fluid therapy or within 24 hours of stopping IV fluids
Hypernatraemia	• Serum sodium 155 mmol/l or more • Baseline sodium normal or low • IV fluid regimen included 0.9% sodium chloride • No other likely cause of hypernatraemia identified	During IV fluid therapy or within 24 hours of stopping IV fluids
Peripheral oedema	• Pitting oedema in extremities and/or lumbar sacral area • No other obvious cause identified (for example, nephrotic syndrome or known cardiac failure)	During IV fluid therapy or within 24 hours of stopping IV fluids
Hyperkalaemia	• Serum potassium more than 5.5 mmol/l • No other obvious cause identified	During IV fluid therapy or within 24 hours of stopping IV fluids
Hypokalaemia	• Serum potassium less than 3.0 mmol/l likely to be due to infusion of fluids without adequate potassium provision • No other obvious cause (for example, potassium-wasting diuretics, refeeding syndrome)	During IV fluid therapy or within 24 hours of stopping IV fluids

Status of this quality standard

This is the draft quality standard released for consultation from 21 March to 22 April 2014. It is not NICE's final quality standard on intravenous (IV) fluid therapy in adults 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 22 April 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 August 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 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 adults receiving intravenous (IV) fluid therapy in hospitals 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. Adults receiving IV fluid therapy in hospitals 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.

- Intravenous fluid therapy in adults in hospital. NICE clinical guideline 174 (2013).

Related NICE quality standards

Published

- Patient experience in adult NHS services. NICE quality standard 15 (2012).
- Chronic kidney disease. NICE quality standard 5 (2011).

In development

- Infection control. Publication expected April 2014.
- Delirium. Publication expected July 2014.

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 kidney injury (non-traumatic).
- Acute medical admissions in the first 48 hours.
- Major trauma.
- Renal replacement therapy services.
- Resuscitation following major trauma and major blood loss.
- Sepsis.
- 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 4.

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.

This quality standard has been incorporated into the NICE pathway for Intravenous fluid therapy in adults in hospital.

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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