NICE National Institute for Health and Care Excellence

NICE quality standard

Blood transfusion

Quality standard

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This standard is based on NG24.

This standard should be read in conjunction with QS166.

Quality statements

Statement 1 People with iron-deficiency anaemia who are having surgery are offered iron supplementation before and after surgery.

Statement 2 Adults who are having surgery and expected to have moderate blood loss are offered tranexamic acid.

Statement 3 People are clinically reassessed and have their haemoglobin levels checked after each unit of red blood cells they receive, unless they are bleeding or are on a chronic transfusion programme.

Statement 4 People who may need or who have had a transfusion are given verbal and written information about blood transfusion.

NICE has developed guidance and a quality standard on patient experience in adult NHS services (see the NICE pathway on patient experience in adult NHS services), which should be considered alongside these quality statements.

A full list of NICE quality standards is available from the quality standards topic library.

Quality statement 1: Iron supplementation

Quality statement

People with iron-deficiency anaemia who are having surgery are offered iron supplementation before and after surgery.

Rationale

Preoperative anaemia is associated with increased postoperative morbidity and mortality, and with increased transfusion needs. Treating iron deficiency with iron supplements can reduce the need for blood transfusion. This avoids serious risks associated with blood transfusion, for example infection, fluid overload and incorrect blood transfusions being given. It may also reduce the length of hospital stays and the cost to the NHS. Depending on the circumstances, the cause of the iron deficiency should be investigated before or after surgery.

Quality measures

Structure

a) Evidence of local arrangements to ensure that people with iron-deficiency anaemia who are having surgery are offered iron supplementation before surgery.

Data source: Local data collection.

b) Evidence of local arrangements to ensure that people with iron-deficiency anaemia are offered iron supplementation after surgery.

Data source: Local data collection.

Process

a) Proportion of people with iron-deficiency anaemia who are having surgery and receive iron supplementation before surgery.

Numerator – the number in the denominator who receive iron supplementation before surgery.

Denominator – the number of people with iron-deficiency anaemia who are having surgery.

Data source: Local data collection.

b) Proportion of people with iron-deficiency anaemia who receive iron supplementation after surgery.

Numerator – the number in the denominator who receive iron supplementation.

Denominator – the number of people with iron-deficiency anaemia who have had surgery.

Data source: Local data collection.

Outcome

Blood transfusion rates associated with surgery.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (primary and secondary care services) ensure that systems are in place to offer iron supplementation before and after surgery to people with iron-deficiency anaemia.

Healthcare professionals (doctors, nurses and blood transfusion specialists) offer iron supplementation before and after surgery to people with iron-deficiency anaemia.

Commissioners (clinical commissioning groups) commission services that offer iron supplementation before and after surgery for people with iron-deficiency anaemia.

People who are having an operation and have anaemia caused by a lack of iron should be offered iron (usually as tablets) before and after the operation.

Source guidance

- Blood transfusion (2015) NICE guideline NG24, recommendations 1.1.2 and 1.1.3

Definitions of terms used in this quality statement

Iron supplementation

People should have their haemoglobin levels checked at least 2 weeks before surgery, if possible and necessary for the procedure they are having. If they have iron-deficiency anaemia, they should be offered iron supplementation. Oral iron should be offered initially, and started at least 2 weeks before surgery. If oral iron is not appropriate, intravenous iron should be offered.

[NICE's guideline on blood transfusion (recommendations 1.1.2 and 1.1.3) and expert consensus]

Quality statement 2: Tranexamic acid for adults

Quality statement

Adults who are having surgery and are expected to have moderate blood loss are offered tranexamic acid.

Rationale

Tranexamic acid can reduce the need for blood transfusion in adults having surgery. This avoids serious risks associated with blood transfusion, for example infection, fluid overload and incorrect blood transfusions being given. It may also reduce the length of hospital stays and the cost to the NHS.

Quality measures

Structure

Evidence of local arrangements to ensure that adults who are having surgery and are expected to have moderate blood loss are offered tranexamic acid.

Data source: Local data collection.

Process

Proportion of adults who are having surgery and are expected to have moderate blood loss who receive tranexamic acid.

Numerator – the number of adults in the denominator who receive tranexamic acid.

Denominator – the number of adults who are having surgery and are expected to have moderate blood loss.

Data source: Local data collection.

Outcome

Blood transfusion rates associated with surgery.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (secondary care services) ensure that systems are in place to offer tranexamic acid to adults who are having surgery and are expected to have moderate blood loss.

Healthcare professionals (doctors, nurses and blood transfusion specialists) offer tranexamic acid to adults who are having surgery and are expected to have moderate blood loss.

Commissioners (clinical commissioning groups) commission services that offer tranexamic acid to adults who are having surgery and are expected to have moderate blood loss.

Adults who are expected to lose more than half a litre of blood during an operation are offered tranexamic acid. This helps blood to clot better and reduces blood loss during surgery.

Source guidance

- Blood transfusion (2015) NICE guideline NG24, recommendation 1.1.5

Definitions of terms used in this quality statement

Moderate blood loss

Adults who are expected to have blood loss greater than 500 ml during surgery, as recorded on the World Health Organization surgical safety checklist.

[NICE's guideline on blood transfusion, recommendation 1.1.5 and the World Health Organization surgical safety checklist]

Quality statement 3: Reassessment after red blood cell transfusions

Quality statement

People are clinically reassessed and have their haemoglobin levels checked after each unit of red blood cells they receive, unless they are bleeding or are on a chronic transfusion programme.

Rationale

Clinical reassessment and measurement of haemoglobin levels after each unit of red blood cells transfused helps healthcare professionals to decide whether further transfusions are needed. This helps avoid the serious risks associated with red blood cell transfusions, for example infection, fluid overload and incorrect blood transfusions being given. It may also reduce the length of hospital stays and the cost to the NHS. For children and for adults with low body weight, red blood cell transfusion volumes should be calculated based on body weight.

Quality measures

Structure

a) Evidence of local arrangements to ensure that people are clinically reassessed after each unit of red blood cells they receive, unless they are bleeding or are on a chronic transfusion programme.

Data source: Local data collection.

b) Evidence of local arrangements to ensure that people have their haemoglobin levels checked after each unit of red blood cells they receive, unless they are bleeding or are on a chronic transfusion programme.

Data source: Local data collection.

Process

a) Proportion of red blood cell transfusions where a clinical reassessment of the person is carried out after each unit of blood transfused, unless they are bleeding or on a chronic transfusion programme.

Numerator – the number in the denominator where a clinical reassessment is carried out after each unit of blood transfused.

Denominator – the number of red blood cell transfusions in people who are not bleeding or on a chronic transfusion programme.

Data source: Local data collection.

b) Proportion of red blood cell transfusions where the haemoglobin level of the person is checked after each unit of blood transfused, unless they are bleeding or on a chronic transfusion programme.

Numerator – the number in the denominator where the haemoglobin level of the person is checked after each unit of blood transfused.

Denominator – the number of red blood cell transfusions in people who are not bleeding or on a chronic transfusion programme.

Data source: Local data collection.

Outcome

Incidence of serious adverse events after red blood cell transfusion.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (secondary care services) ensure that systems are in place to clinically reassess people and check their haemoglobin levels after each unit of red blood cells transfused, unless they are bleeding or on a chronic transfusion programme.

Healthcare professionals (doctors, nurses and blood transfusion specialists) clinically reassess people and check their haemoglobin levels after each unit of red blood cells transfused, unless they are bleeding or on a chronic transfusion programme.

Commissioners (clinical commissioning groups) commission services that clinically reassess people and check their haemoglobin levels after each unit of blood transfused, unless they are bleeding or on a chronic transfusion programme.

Peoplewho have a red blood cell transfusion have an assessment and their haemoglobin levels checked after the transfusion to see if they need another one, unless they are bleeding or need regular blood transfusions.

Source guidance

- Blood transfusion (2015) NICE guideline NG24, recommendations 1.2.1 and 1.2.6

Definitions of terms used in this quality statement

Clinical assessment

This includes:

- asking the person if their anaemia symptoms have resolved
- asking the person about any new symptoms that might indicate an adverse response to transfusion (such as circulatory overload)
- reviewing the vital signs taken before, during and after the transfusion
- any further clinical assessment that could be needed.

[Expert consensus]

Quality statement 4: Patient information

Quality statement

People who may need or who have had a blood transfusion are given verbal and written information about blood transfusion.

Rationale

It is important that people fully understand the benefits and risks of a blood transfusion, so they can give informed consent. Discussing the alternatives, and knowing that they cannot donate blood after a blood transfusion, helps people to decide if they want one. However, some blood transfusions are not planned and are carried out in an emergency. In these cases information should be given after the transfusion, including advice about the implications of the transfusion. Helping people to understand the process and its implications can improve their experience of receiving a blood transfusion.

Quality measures

Structure

Evidence of local arrangements to ensure that people who may need or who have had a blood transfusion are given verbal and written information about blood transfusion.

Data source: Local data collection.

Process

a) Proportion of people who may need a blood transfusion who are given verbal and written information about blood transfusion.

Numerator – the number in the denominator who are given verbal and written information about blood transfusion.

Denominator – the number of people who may need a blood transfusion.

Data source: Local data collection.

b) Proportion of people who have had a blood transfusion who are given verbal and written information about blood transfusion.

Numerator – the number in the denominator who are given verbal and written information about blood transfusion.

Denominator – the number of people who have had a blood transfusion.

Data source: Local data collection.

Outcome

Patient satisfaction with information they are given about blood transfusion.

Data source: Local data collection.

What the quality statement means for different audiences

Service providers (secondary care services) ensure that systems are in place to give verbal and written information about blood transfusion to people who may need or who have had a blood transfusion.

Healthcare professionals (doctors, nurses and blood transfusion specialists) give verbal and written information about blood transfusion to people who may need or who have had a blood transfusion.

Commissioners (clinical commissioning groups) commission services that give verbal and written information about blood transfusion to people who may need or who have had a blood transfusion.

People who may need a blood transfusion, or who have had one unexpectedly (for example, because of serious bleeding during an operation), have information about blood transfusion explained to them verbally and in writing.

Source guidance

- Blood transfusion (2015) NICE guideline NG24, recommendation 1.8.1

Definitions of terms used in this quality statement

People who may need a blood transfusion

People who have had a blood sample taken and sent to the blood transfusion laboratory for grouping and/or antibody screening.

[Expert consensus]

Verbal and written information

This should cover:

- the reason for the transfusion
- the risks and benefits
- the transfusion process
- any transfusion needs specific to them
- any alternatives that are available, and how they might reduce their need for a transfusion
- that they are no longer eligible to donate blood.

[NICE's guideline on blood transfusion]

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.

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

See quality standard advisory committees on the website for details of standing committee 2 members who advised on this quality standard. Information about the topic experts invited to join the standing members is available on the quality standard's webpage.

This quality standard has been incorporated into the NICE pathway on blood transfusion.

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 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.

Improving outcomes

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

- reduction in inappropriate or unnecessary blood transfusions
- adverse events associated with blood transfusion
- mortality after blood transfusion.

It is also expected to support delivery of the Department of Health's outcome framework:

- NHS outcomes framework 2016/17

Resource impact

NICE quality standards should be achievable by local services. The potential resource impact is considered by the quality standards advisory committee, drawing on resource impact work for the source guidance. Organisations are encouraged to use the resource impact products for the NICE guideline on blood transfusion to help estimate local costs.

Diversity, equality and language

During the development of this quality standard, equality issues were considered and equality assessments are available. Any specific issues identified during development of the quality statements are highlighted in each statement.

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

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Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)

Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- NHS Blood and Transplant
- Royal College of Physicians
- UK Transfusion Laboratory Collaborative