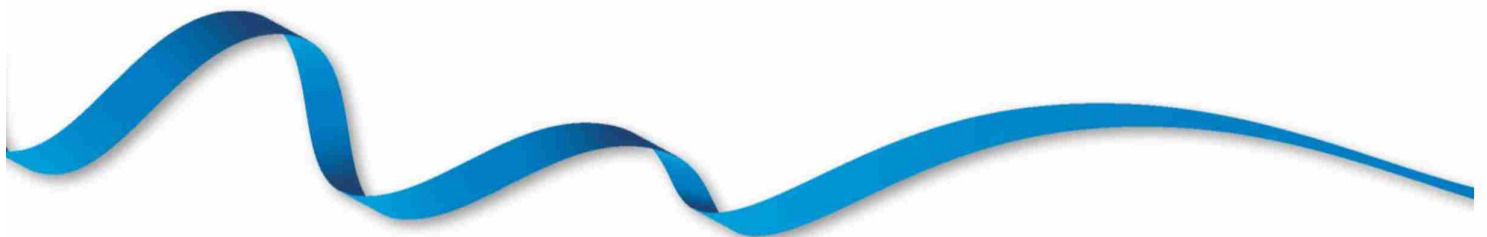


# 2023 National Comparative Audit of NICE Quality Standard QS138

**National Comparative Audit of Blood Transfusion**

29th February 2024



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We wish to thank all those who have participated in the 2023 audit of NICE Quality Standard QS138. This audit would clearly not be possible without their support. We are equally grateful to many colleagues for their valuable and constructive comments.

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From a patient viewpoint, the survey results are very disappointing when measured against quality standards dating back to 2016. Given that these are 'quality standards', one would expect the aim to be 100% compliance, with actual achievement only a little short of that. It is especially discouraging that the results are no better than in the previous audit.

Instead, the three clinical standards are being complied with in around two thirds of cases or less – yet these are standards designed to promote patient health and well-being and conserve precious, donated blood.

The fourth standard (to consult and inform patients) is being complied with in less than two fifths of cases surveyed. I find this deplorable, and am wondering, in the light of the Montgomery decision, whether failing to consult is lawful. Certainly, my experience as a patient is that, for other procedures, I receive an explanatory booklet, as well as having a discussion with the surgeon and/or anaesthetist beforehand. Why should blood transfusion be so different?

We need to find ways to help hospitals do very much better. Rather than asking non-compliant sites why they are unable to meet the standard, perhaps we should ask better performing hospitals what they are doing (or not doing) to secure compliance. Would appointing a high level Champion for Blood Transfusion in each Trust improve practice, and how would good practice be embedded so it continues once the Champion moves on? Also, is there some way of rewarding or incentivising good practice, so that sites which achieve, say, 90% compliance are publicly applauded? This might foster healthy competition without naming and shaming, which could be counter-productive and unfair.

GRO-A

Patient Representative

## Summary

The re-audit found little evidence of progress towards compliance with the four NICE Quality Statements for Blood Transfusion.

### **Key findings**

- 617/908 (68%) of the patients who were known to have iron deficiency anaemia prior to being admitted for surgery were treated with iron before surgery (compared to 59% in the 2021 audit).
- 900/1335 (67.5%) patients undergoing surgery with expected moderate blood loss received tranexamic acid (compared to 67% in the 2021 audit).
- 766/1205 (63.6%) patients receiving elective red blood cell transfusions had both their haemoglobin checked and a clinical re-assessment after a unit of red cells was transfused (compared to 58% in the 2021 audit).
- Only 475/1356 (35%) of transfused patients had evidence of receiving both written and verbal information about the risks, benefits and alternatives to transfusion (compared to 26% in the 2021 audit).

## Recommendations

- Hospitals should examine their procedures for implementing the NICE Quality Standard for Blood Transfusion. They should explore the barriers to their implementation and work to overcome them.
- Hospitals should undertake regular repeat audits of the NICE Quality Standard using the National Comparative Audit and the QS138 Quality Insights tool as a quality improvement initiative.
- See Appendix C for a list of resources to support implementation of the NICE Quality Standard.

## Background

Patient Blood Management (PBM) is a multidisciplinary, evidence-based approach to optimising the care of patients who might need a blood transfusion. The deployment of PBM initiatives reduces inappropriate transfusion, which improves patient safety, reduces hospital costs and helps to ensure the availability of blood components when there is no alternative. Audit of PBM practice is vital to help an understanding the quality of care and to indicate where corrective measures are needed.

The Transfusion 2024 plan outlines four key areas for clinical and laboratory transfusion practice for safe patient care across the NHS. The strategy for PBM includes the development of a self-assessment tool for use by hospitals to allow assessment of compliance with the NICE Quality Standard, progress with the implementation of PBM and benchmarking between hospitals.

## Aims of the audit

- Provide the opportunity to evaluate local evidence of progress towards compliance with the four quality statements in the NICE Quality Standard for Blood Transfusion since the 2021 audit.
- Provide data to hospital teams to allow their understanding of what steps they can take to implement PBM and to measure their effectiveness in improving patient care.
- Allow the transfusion community, including the National Blood Transfusion Committee, to benchmark the progress of PBM and its effect on improving patient outcomes.

## Audit Standards

The standards for this audit were adapted from those issued in NICE QS138:

**Quality Statement 1:** People with iron deficiency anaemia are treated with iron supplementation before surgery.

**Quality Statement 2:** Adults who are having surgery and expected to have moderate blood loss receive tranexamic acid.

**Quality 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.

**Quality Statement 4:** People who have had a transfusion are given verbal and written information about blood transfusion.

## Methodology

All NHS Trusts in the UK were invited to take part in the audit. Trusts were allowed to enrol as whole Trusts or as hospitals within a Trust, so we use the term “sites” to describe those who contributed data. Each participating site was issued with a stationery pack that contains guidance for selecting a sample for audit and four data collection forms, with ten copies of each, allowing them to audit up to 40 patients. The audit standards were derived from the statements in the NICE Quality Standard QS138. The audit was divided into four sections, A, B, C & D. An individual patient’s record could be used for more than one section. Data were collected on cases seen during January, February and March 2023.

### Participation in the audit

126 sites contributed data on 3730 patients. 100/139 (72%) of NHS England Trusts participated. For Quality Statement 1 there were data on 1030 patients, 1335 for Quality Statement 2, 1205 for Quality Statement 3 and 1356 for Quality Statement 4. See Appendix D for a list of participating sites.

**Table 1: Participation compared to previous cycle**

	<b>2021</b>	<b>2023</b>
Participating sites	153	126
Participating Trusts	119	100
Patients audited	4679	3730
<i>Quality Statement 1 (Section A) patients</i> Iron deficiency anaemia pre-surgery treated with iron	1131	908
<i>Quality Statement 2 (Section B) patients</i> Tranexamic Acid use in moderate blood loss surgery	1599	1335
<i>Quality Statement 3 (Section C) patients</i> Clinical and haemoglobin reassessment of patient after a red cell unit is transfused	1534	1205
<i>Quality Statement 4 (Section D patients)</i> Patient information provided for transfused patients	1622	1356

Participation was lower than the previous cycle, with fewer Trusts submitting data.

## **SECTION A - Adults with iron deficiency anaemia are given iron supplementation before surgery**

**Quality Statement 1:** People with iron deficiency anaemia are given iron supplementation before surgery.

### **Background**

The first pillar of PBM is the detection and management of anaemia and iron deficiency <sup>(1)</sup>. It is estimated that 40% of patients requiring major surgery are anaemic and in a large multicentre study 62% of patients presented with absolute iron deficiency <sup>(2, 3)</sup>. The rationale for identifying and treating anaemia preoperatively includes:

- Identification of the underlying cause of anaemia which may be unrecognised without further investigations
- Reduction in the likelihood of transfusion and thus reduced pressure on the national blood stocks
- Reduction in patients' exposure to adverse effects of anaemia and/or transfusion <sup>(4)</sup>.

Studies have shown that anaemic patients in the surgical setting treated with iron had an increase in haemoglobin concentration (Hb) and subsequently had a decrease in red cell transfusion <sup>(3)</sup>. NICE guidelines for blood transfusion (2015) recommend correction of iron deficiency anaemia with oral iron in the first instance started at least 2 weeks before surgery - despite the known issues of

tolerance and compliance. There is evidence for the positive effect of oral iron treatment on decreasing the length of hospital stay and for its cost effectiveness in comparison to intravenous iron <sup>(5)</sup>. If the bone marrow is functioning well, a 20g/L increase in Hb in three weeks would be expected <sup>(6)</sup>.

In cases where oral iron is unlikely to be effective, due to factors such as malabsorption, limited time to surgery or poor patient compliance, then intravenous iron is recommended <sup>(5)</sup>.

SHOT has highlighted that haematinic deficiencies are poorly recognised and managed inappropriately <sup>(7)</sup>.

**Table 2 : Investigating and treating iron deficiency anaemia (N = 908)**

	National	
	N	%
<b>A2. Was iron therapy started before surgery?</b>		
Yes	617	68.0
No	291	32.0
<b>A3 . How many weeks prior to surgery was iron therapy started?</b>		
<i>Don't know</i>	41	5.9
<i>Less than 2 weeks</i>	137	22.3
<i>2 to 4 weeks</i>	149	24.2
<i>More than 4 weeks</i>	290	46.5
<b>A4. Was the iron therapy</b>		
<i>Oral</i>	245	39.8
<i>IV</i>	368	59.7
<i>Not stated</i>	3	0.5
<b>A5. Why was the patient on IV therapy?*</b>		
<i>Intolerance to oral iron now or in the past</i>	30	8.3
<i>Too short a time for oral iron to be effective before surgery</i>	227	61.7
<i>Likelihood of poor compliance with oral therapy</i>	23	6.3
<i>Other</i>	78	21.2
<i>Not Stated</i>	5	1.4
<i>* Please note that reasons given do not add up to "IV" iron therapy as patients could be on IV therapy for a combination of reasons.</i>		
<b>A6 . Why was the patient not started on iron therapy?</b>		
<i>Patient declined</i>	2	0.7
<i>Iron deficiency detected but not addressed</i>	157	54.0
<i>Don't know</i>	132	45.4

The data in Table 2 show that 617/908 (68%) of the patients who were known to have iron deficiency anaemia prior to being admitted for surgery were treated with iron before surgery. Sites should examine the procedures in place for the pre-operative identification and management of iron deficiency anaemia.



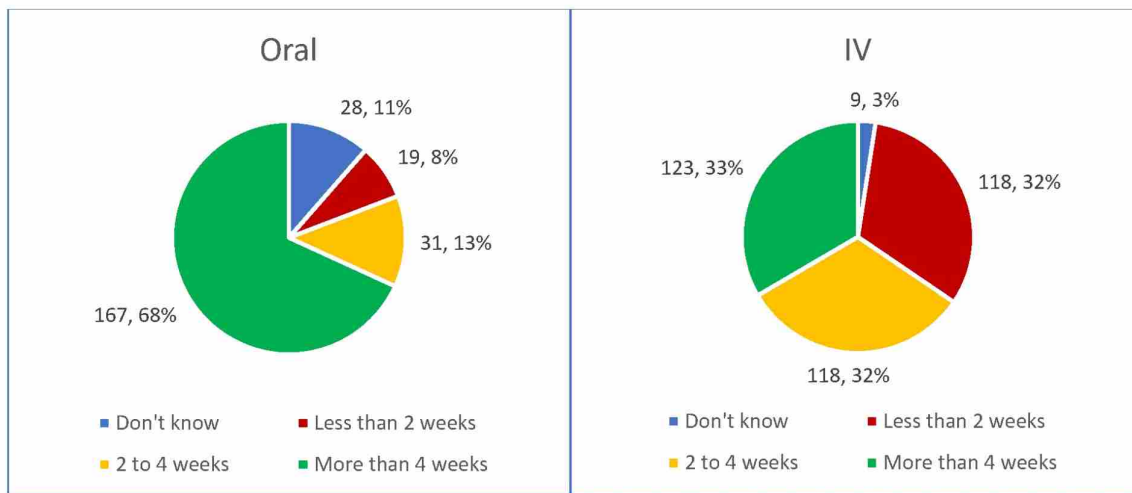


Figure One: How soon before surgery iron was started

46.5% of the patients treated with iron for iron deficiency anaemia received iron (either oral or intravenous) within 4 weeks of surgery; 4 weeks is too short a time for iron therapy to have its maximum effect. A maximum response from oral iron can be obtained in 12 weeks, while a maximum response from intravenous iron can be obtained in 6 weeks.

Table 3 : Use of pre-operative iron by specialty

Specialty	N	Therapy started	%
Cardiac	58	27	46.6
Colorectal	210	161	76.7
Genitourinary	30	20	66.7
Gynaecological	206	139	67.5
Neurological	8	5	62.5
Orthopaedic	246	166	67.5
Trauma	15	8	53.3
Upper gastroenterological	20	17	85.0
Vascular	17	11	64.7
Other please state	97	62	63.9

**SECTION B - Adults who are having surgery and expected to have moderate blood loss are given tranexamic acid**

**Background**

Tranexamic acid is an antifibrinolytic agent which binds to plasminogen, reducing its conversion to plasmin and therefore preventing fibrin degradation <sup>(8)</sup>. It has been shown to be beneficial in several settings including reduction in:

- The risk of death due to bleeding in women with post-partum haemorrhage <sup>(9)</sup>
- The risk of death from bleeding in trauma patients <sup>(10)</sup>
- Head injury related death in patients with acute traumatic brain injury <sup>(11)</sup>
- The risk of transfusion and reoperation for haemorrhage in cardiac surgery <sup>(12)</sup>

On the basis of data supporting its use in minimising blood loss, the NICE guidelines recommend the use of tranexamic acid in patients undergoing operations with expected moderate blood loss (greater than 500 ml) <sup>(5)</sup>. A recent trial found the incidence of bleeding was significantly reduced by the use of tranexamic acid in patients undergoing non-cardiac surgery <sup>(13a)</sup>.

**Table 4 : Tranexamic Acid use (N = 1336)**

	National	
	N	%
B2. Patient was given tranexamic acid	900	67.4
B3 . Why was the patient not given tranexamic Acid? (N= 436)		
<i>Surgical team was concerned about the risk of thrombosis</i>	21	4.8
<i>Tranexamic acid is not included on WHO or other surgical checklist</i>	54	12.4
<i>No reason documented</i>	334	76.6
<i>Other, please state<sup>‡</sup></i>	13	3.0
<i>Not known</i>	14	3.2

<sup>‡</sup> Other includes Estimated Blood Loss too small (6); Contraindicated (1); Contrary to local policy (1); Considered not needed (1)

The audit found that 900/1336 (67.4%) eligible surgical patients were given tranexamic acid, while potentially all were eligible to receive it. Sites should examine their procedures for the use of tranexamic acid in patients undergoing surgery with anticipated moderate blood loss. Tranexamic acid can reduce major bleeding by 25% and reduces the need for blood transfusion, without increasing the risk of thromboembolic events <sup>(13a, 13b)</sup>.

Most sites do not document a reason for tranexamic acid not being given. 10/117 (7.9%) sites, who responded to the question about the use of tranexamic acid, indicated that tranexamic acid is not included on WHO or other surgical checklist. Sites should examine the rationale for not including the use on tranexamic acid on their checklist.

**Table 5 : Use of Tranexamic acid by specialty**

Specialty	N	Tranexamic acid given	%
Cardiac	113	100	88.5
Colorectal	173	64	37.0
Genitourinary	52	24	46.2
Gynaecological	250	135	54.0
Neurological	2	1	50.0
Orthopaedic	569	473	83.1
Trauma	37	31	83.8
Upper gastroenterological	13	8	61.5
Vascular	37	5	13.5
Other please state	89	59	66.3

Table 5 shows the variation in the use of tranexamic acid in different surgical specialities. The low use in vascular surgery is particularly noteworthy.

**SECTION C - 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.**

Optimising decision making for patients who may need blood transfusion is a central focus of PBM initiatives <sup>(14)</sup>, involving a finely balanced approach that considers potential benefit versus risk of transfusion, and consideration of alternative treatments. Transfusion of each unit of blood should be an independent clinical decision in patients requiring elective 'top-up' transfusions. The same is not the case for patients with major haemorrhage and patients on chronic transfusion programmes where decision making about multiple blood transfusions is appropriate.

Transfusion in the UK overall is deemed extremely safe with approximately 2.2 million blood components issued in the UK during 2022. The risk of associated death was 1 in 63,537 components issued and the risk of serious harm 1 in 15,450 components issued. However, Transfusion Associated Circulatory Overload (TACO) is consistently cited as the highest accountable reason for major morbidity and mortality associated with transfusion, with 160 cases reported to in 2022 alone (deaths 8, major morbidity 25), and cumulative data from 2011-22 showing an overall risk of TACO of 1 in 19,075 blood components issued <sup>(7)</sup>. It is widely considered that a unit of blood increases haemoglobin concentration by around 10g/L. This however only applies to patients of average weight (70Kg) <sup>(15)</sup> and therefore should not be used as a reliable measure to calculate appropriate red cell dosage. A single unit approach is recommended by NICE <sup>(5,16)</sup> where only one unit of red cells is authorised at a time for top up transfusions in patients who are not actively bleeding or on a chronic transfusion programme, with a clinical re-assessment and a haemoglobin re-check carried out following the transfusion of each unit of blood. This approach is also recommended by SHOT to mitigate risks of TACO, particularly for older patients (>50 years) and those of lower body weight (<50 Kg) who are at higher risk of overload <sup>(7)</sup>.

A clinical re-assessment should include checking if symptoms of anaemia have been alleviated, reviewing vital signs, and being alert to any new symptoms which may have been caused by the transfusion. A re-check of Hb allows understanding of the increment gained, in line with

recommended restrictive thresholds when correcting anaemia, as outlined by the NBTC indication codes <sup>(18)</sup>.

Re-assessment following transfusion informs whether the procedure has had the desired outcome, affording an opportunity to re-evaluate if further treatment is needed, again re-considering the benefit versus risks and available alternatives, and supporting optimal decision making.

**Table 6 : Assessing the patient following the transfusion of a unit of red blood cells (N = 1205)**

	National	
	N	%
C1. Hb re-checked after unit was given	881	73.1
C2. Patient clinically assessed after unit was given	866	71.9
Patient clinically reassessed <b>and</b> had haemoglobin measured after unit of red blood cells was given	766	63.6

The audit found that whilst a single unit approach (clinical assessment and an Hb check after a unit of red cells was transfused) was taken in 766/1205 (63.6%) cases, 439/1205 (37%) patients could have potentially received further red cell unit transfusions with no evidence that a re-check of Hb and a clinical assessment had been carried out.

**Table 7 : Assessing the patient, by specialty**

Specialty	N	Re-assessed	%
General medicine	536	319	59.5
Gynaecology	76	57	75.0
Haematology	59	39	66.1
Obstetrics	33	21	63.6
Oncology	33	21	63.6
Surgery	466	307	65.9

Table 7 shows the variation in assessing the patient following the transfusion of a unit of red blood cells in different clinical specialities.

## SECTION D - Patients who have had a transfusion are given verbal and written information about blood transfusion

### Background

SaBTO (*The Advisory Committee on the Safety of Blood, Tissues and Organs*) is the independent advisory committee that advises ministers on the safety of blood, tissues and organs. In 2011, it made recommendations on patient consent for blood transfusion <sup>(19)</sup>. In 2014, 164 hospitals participated in the *National Comparative Audit of Consent for Blood Transfusion* <sup>(20)</sup>; evidence for documentation of transfusion was found in only 47% of cases.

The landmark decision in the *Montgomery v Lanarkshire Health Board* [2015] case at the Supreme Court was that clinicians have a duty to involve patients in treatment decisions, informing patients of the risks, benefits and alternatives. “The doctor is... under a duty to take reasonable care to ensure that the patient is aware of any material risks involved in any recommended treatment, and of any reasonable alternative or variant treatments. The test of materiality is whether, in the circumstances of the particular case, a reasonable person in the patient’s position would be likely to attach significance to the risk, or the doctor is or should reasonably be aware that the particular patient would be likely to attach significance to it” <sup>(21)</sup>.

In view of these new data, SaBTO decided that the recommendations needed to be reviewed and revised to enhance standards for the provision of information about blood transfusion and for obtaining informed patient consent and to clarify good practice. These were published in December 2020 <sup>(22)</sup>, and were summarised in a publication in the journal *Clinical Medicine* <sup>(23)</sup>.

Other guidance, guidelines and recommendations on providing information to patients about transfusion include:-

- 2015 National Institute for Care and Health Excellence (NICE) *Blood Transfusion guideline* <sup>(5)</sup>
- 2016 NICE *Blood Transfusion Quality Standard on Patient Information* <sup>(17)</sup>
- 2015 *Choosing Wisely recommendations for blood transfusion* <sup>(24)</sup>
- 2015/16 James Lind Alliance *Priority Setting Partnership in Blood Donation and Blood Transfusion* <sup>(25)</sup>

**Table 8 : Provision of information about risks, benefits & alternatives in transfused patients (N = 1356)**

	National	
	N	%
Patient was given NO information	466	34.4
Patient was given ONLY VERBAL information	401	29.6
Patient was given ONLY WRITTEN information	14	1.0
Patient was given WRITTEN AND VERBAL information	475	35.0

The audit found that there was no record that written or verbal information was provided to 466/1356 (34.4%) of transfused patients, and that only 1 in 3 patients received any written information. Sites should examine their procedures for providing written and verbal information to patients who may need transfusion and this should include facilitating online access so that patients can find information about the benefits, alternatives and risks of transfusion.

**Table 9 : The provision of information, by specialty**

Specialty	N	Information given	%
General medicine	526	147	27.9
Gynaecology	88	47	53.4
Haematology	88	38	43.2
Obstetrics	38	18	47.4
Oncology	45	18	40.0
Surgery	569	206	36.2

Table 9 shows the variation in the provision of patient information in different clinical specialities.

## COMPARISON WITH 2021 AUDIT

**Table 10 : Comparison of audit results in 2021 and 2023**





Quality Statement	2021	2023
1: People with iron deficiency anaemia are treated with iron supplementation before surgery.	665/1131 (59%)	617/908 (68.0%) 
2: Adults who are having surgery and expected to have moderate blood loss receive tranexamic acid.	1079/1599 (67%)	900/1336 (67%) 
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.	893/1534 (58%)	766/1205 (64%) 
4: People who have had a transfusion are given verbal and written information about blood transfusion.	422/1622 (26%)	475/1356 (35%) 

Table 10 compares the audit results for the 2021 and 2023 audits and essentially shows no progress except in an improvement in the very low rate of provision of patient information, and insignificant increases in the treatment of preoperative iron deficiency anaemia in surgical patients and the use of single unit transfusions.

## ORGANISATIONAL SURVEY

Collecting information on the context in which care is given helps understand not only the barriers to change but also where the opportunities lie to improve patient care. The organisational survey form is shown at Appendix B.

### Results

98/139 (70%) sites completed an organisational survey.

**Table 10 : Managing the use of blood**

Intervention	n	%
Electronic blood ordering	34	35%
Electronic blood ordering with clinical decision support to alert clinicians to inappropriate requests	10	10%
BMS empowerment to question inappropriate requests	91	93%
A single unit policy for transfusing red blood cells	80	82%

#### *Commentary*

All but 1 site has at least one intervention in place to help manage the appropriate use of blood. Only 35% of sites responding to the survey have electronic blood ordering and few (10%) have an electronic clinical decision support system. There is a need to empower more biomedical scientists to challenge poor practice, for example to implement a policy of using only 1 unit of red cells at a time.

### Iron Clinics

Reviewing patients in an iron clinic is an effective way of identifying those with correctable iron deficiency anaemia and gives the patient the opportunity to receive iron therapy. This is especially important if the patient is likely to undergo surgery which may result in blood loss of 500 mls or more.

52/98 (53%) sites indicated that they have an iron clinic, suggesting that around half of NHS hospitals in the UK do not.

### Iron use during an "amber alert"

NHSBT aims to have 6 days' worth of blood stocks, but if stocks fall below 2 days worth, an amber alert is triggered. This means NHSBT asks hospitals to put in place management plans to protect blood stocks. One means of avoiding the use of red cells is to improve a patient's Hb level by the administration of iron. We asked if the use of iron had increased since the amber alert in force at the time of the audit had been introduced. 21 (21%) sites stated that use had increased, while 17 (17%) stated that it had not. However, the majority, 59 (60%) did not know. This illustrates the challenges faced when trying to assess either the implementation of recommended PBM interventions.

### Exploring the barriers to implementing the NICE QS138 guidelines

78/98 (80%) sites indicated they were able to spend time examining the reasons why they were unable to implement the NICE guidelines. The remaining 20 were unable to do so, mainly because of lack of resources, overstretched staff or other staff pressures, and lack of engagement by clinical staff.

### Auditing compliance with NICE QS138

63/98 (64%) sites do not audit compliance, citing again workload pressures and staffing and resource issues as the main reasons.

Regular clinical audit can identify barriers, improve practice and support staff who work hard to implement the guidelines for the benefit of the patients they treat. Some sites, leave a considerable time between audits, meaning that it is difficult to consistently monitor practice.

## DISCUSSION

The NICE Quality Standard 138 was published just over seven years ago. While it is encouraging to see some uptake of the guidance, as evidenced by the data in this report, there is little evidence of progress in their implementation since the previous audit in 2021. There remains a long way to go to ensure full compliance and that transfusion practice is optimised for the benefit of patients.

Performing regular repeat audits of the NICE Quality Standard QS138 enables hospitals to review local compliance with the four quality statements, allowing monitoring of the effectiveness of any initiatives introduced to improve compliance. Transfusion 2024 outlines the need for hospitals to self-assess performance with the ability to benchmark practice. The QS138 Quality Insights audit tool supports this activity, allowing hospitals to enter into a quality improvement cycle for all or some of the quality statements up to four times per year, supporting hospital and regional workplans.

The participation of hospitals in this National Comparative Audit allows a snapshot of national compliance to be gathered, identifying national areas for improvement. Transparency of progress is facilitated by the availability of each Trust's compliance with the NICE Quality Standard on the Model Health System.

Our next steps are to devise a scoring system for compliance with the NICE Quality Standard, and to survey a sample of hospitals to find out what has enabled them to perform well or hinders them from doing better. We can then share the learning points with hospitals, and determine, as we repeat the audit, if improvement is being achieved.



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**2023 National Comparative Audit of NICE Quality Standard 138**

**PATIENT AUDIT FORM**

**SECTION A - Adults with iron deficiency anaemia are offered iron supplementation before surgery**

**A1. What was the surgical specialty?**

- Cardiac
- Colorectal
- Gynaecological
- Genitourinary
- Neurological
- Orthopaedic
- Trauma
- Upper gastroenterological
- Vascular
- Other, please state

**A2. Was iron therapy started before surgery?**  Yes  No

*If yes, continue below. If no, please complete question A6*

**A3 . How many weeks prior to surgery was iron therapy started?**

*Tick a box that is the most closest to the actual number of weeks*

- Don't Know
- Less than 2 weeks

- 2 to 4 weeks
- More than 4 weeks

**A4. Was the iron therapy**

- Oral?** *You have completed the questions*
- IV?** *Now answer question A5*

**A5. Why was the patient on IV therapy?**

- Likelihood of poor compliance with oral therapy
- Intolerance to oral iron now or in the past
- Too short a time for oral iron to be effective before surgery
- Other

**A6. Why was the patient not started on iron therapy?**

- Patient declined
- Iron deficiency not detected
- Iron deficiency detected but not addressed
- Don't Know

Sitecode

Audited patient  
no.

*Please read the guidance notes before completing this form*

**2023 National Comparative Audit of NICE Quality Standard 138**

**PATIENT AUDIT FORM**

**SECTION B - Adults who are having surgery and expected to have moderate blood loss are offered tranexamic acid**

**B1. What was the surgical specialty?**

- Cardiac
- Colorectal
- Gynaecological
- Genitourinary
- Neurological
- Orthopaedic
- Trauma
- Upper gastroenterological
- Vascular
- Other, please state

**B2. Is there evidence that the patient was given Tranexamic Acid at any time in the peri-operative period?**

- Yes       No *Now answer question B3*

**B3. Why was the patient not given Tranexamic Acid ?**

- Surgical team were concerned about the risk of thrombosis
- Surgical team did not think it was effective
- Tranexamic acid is not included on WHO or other surgical checklist
- No reason documented
- Other, please state

Sitecode

Audited patient  
no.

*Please read the guidance notes before completing this form*

**2023 National Comparative Audit of NICE Quality Standard 138**

**PATIENT AUDIT FORM**

**SECTION C – Patients receiving red blood cells 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**

**C1. Under which specialty was the patient treated?**

- General medicine
- Gynaecology
- Haematology
- Obstetrics
- Oncology
- Surgery

**C2. Is there evidence that the patient's Hb was checked after the unit of red cells was transfused?**

Yes       No

**C3. Is there evidence that the patient was clinically re-assessed after the unit of red cells was transfused?**

Yes       No

**END**

Sitecode
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Audited patient no.
------------------------

*Please read the guidance notes before completing this form*

**2023 National Comparative Audit of NICE Quality Standard 138**

**PATIENT AUDIT FORM**

**SECTION D - Patients who have had a transfusion were given verbal and written information about blood transfusion**

**D1. Under which specialty was the patient treated?**

- General medicine
- Gynaecology
- Haematology
- Obstetrics
- Oncology
- Surgery

**D2. Is there evidence that the patient was given *VERBAL* information about the risks, benefits and alternatives to transfusion?**

- Yes       No

**D3. Is there evidence that the patient was given *WRITTEN* information about the risks, benefits and alternatives to transfusion?**

- Yes       No

**END**



**National Comparative Audit  
of Blood Transfusion**

1. Does your site have any of the following? (Tick all that apply)

- Electronic blood ordering
- Electronic blood ordering with clinical decision support to alert clinicians to inappropriate requests
- BMS empowerment to question inappropriate requests
- A single unit policy for transfusing red blood cells

2. Does your site have an iron clinic?       Yes       No

3. Has the use of iron increased since the amber alert for red cells?

- Yes       No       Don't Know

4. Has the use of TxA for surgical patients increased since the amber alert for red cells?

- Yes       No       Don't Know

5. Has the use of intraoperative cell salvage increased since the amber alert for red cells?

- Yes       No       Don't Know

*Has your site taken any action on the following recommendations from the last audit?*

6. Has your site explored the barriers to implementing the NICE Quality Statements?

- Yes       No

*If no, why not?*

7. Has your site conducted regular repeats of this audit to monitor effectiveness of interventions?

- Yes       No

*If no, why not?*

## Appendix C – List of resources

### Resources that cover all the NICE quality statements audited

QS138 Quality Insights Audit Tool - A quality improvement benchmarking audit tool for hospitals to regularly self-assess their compliance to elements of the National Institute for Health and Care Excellence (NICE) QS138 Blood Transfusion Quality Standard  
QS138 Quality Insights audit tool <https://hospital.blood.co.uk/audits/qs138-quality-insights-audit-tool/>

PBM toolkit information for clinicians <https://hospital.blood.co.uk/pbm-toolkit/>

Blood Assist App: blood component administration, available for mobile download on android and IOS, web-based version also available here <https://www.bloodassist.co.uk/terms>

### QS1 – Iron supplementation pre surgery

#### Education for teams

eLearning: available on eLfh; ESR (certificates provides) or on the [Hospital & Sciences website](#) (no certificate provided):

Anaemia - the only introduction you need

Anaemia in primary care patients

Anaemia in hospital patients

Coming soon – Anaemia of inflammation and chronic disease modules

#### Business planning

Commissioning for Quality and Innovation (CQUIN): 2022/23 – See CCG6: Anaemia screening and treatment for all patients undergoing major elective surgery

<https://www.england.nhs.uk/publication/combined-ccg-icb-and-pss-commissioning-for-quality-and-innovation-cquin-guidance/>

Commissioning for Quality and Innovation (CQUIN) scheme for 2022/23 Annex: Indicator specifications – See CCG6: Anaemia screening and treatment for all patients undergoing major elective surgery

<https://www.england.nhs.uk/publication/combined-ccg-icb-and-pss-commissioning-for-quality-and-innovation-cquin-indicator-specification/>

#### Toolkits & further information

Obstetric anaemia toolkit <https://hospital.blood.co.uk/patient-services/patient-blood-management/obstetric-anaemia-toolkit/>

Pre op Anaemia: Guidance; toolkits; Information for patients (Anaemia, Iron in your diet); Quality Improvement; Blooducation; Research

<https://hospital.blood.co.uk/patient-services/patient-blood-management/pre-operative-anaemia/>

## QS2 – Tranexamic acid

Joint Surgery guidance

NICE Joint replacement (primary): hip, knee and shoulder NICE guideline NG157, June 2020:  
1.4 Tranexamic acid to minimise blood loss

Full evidence base for Tranexamic acid ; research studies, financial analysis, benefits are available in full NICE NG24 guidance section 6, P75, [NICE Guideline Template](#)

## QS3 – Reassessment after red cell transfusion

Implementation examples

Single Unit transfusion resources <https://hospital.blood.co.uk/patient-services/patient-blood-management/single-unit-blood-transfusions/>

Guidance for when to transfuse

NBTC indication codes <https://hospital.blood.co.uk/the-update/revised-nbtc-indication-codes-for-transfusion-are-now-available/>

Blood components: Indication codes App, available for mobile download on android and IOS, web-based version also available here <https://www.bloodcomponents.org.uk/terms>

Information specific to implementing one unit transfusions to reduce TACO risk

NCA 2017 Audit of transfusion-associated circulatory overload <https://hospital.blood.co.uk/audits/national-comparative-audit/>

SHOT TACO resources <https://www.shotuk.org/resources/current-resources/data-drawers/transfusion-associated-circulatory-overload-taco-data-drawer/>

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## QS4 – Verbal & Written Information for patients

JPAC website - Consent for Transfusion (Transfusion Information for Patients; Guidance for Health Care Practitioners involved in this role): [Consent for Blood Transfusion \(transfusionguidelines.org\)](https://www.transfusionguidelines.org/)

Hospital & Sciences website - [Patient information leaflets - Hospitals and Science - NHSBT \(blood.co.uk\)](https://www.blood.co.uk/patient-information-leaflets-hospitals-and-science-nhsbt)

SHOT website - [Patient Information - Serious Hazards of Transfusion \(shotuk.org\)](https://www.shotuk.org/patient-information-serious-hazards-of-transfusion)

Blood Transfusion Training *Consent* elearning module - (replacing learnbloodtransfusion *Consent for Transfusion*) is available on [elearning for healthcare \(elfh\)](https://www.elfh.org/) and the [Electronic staff record \(ESR\)](#)

## Appendix D – List of participating sites

Addenbrooke's Hospital  
Aintree University Hospital NHS Foundation Trust  
Airedale NHS Foundation Trust  
Alder Hey Children's NHS Foundation Trust  
Ashford and St Peters Hospitals NHS Foundation Trust  
Barking Havering and Redbridge University Hospitals NHS Trust  
Bedford Hospital NHS Trust  
Belfast Health and Social Care Trust  
Blackpool Teaching Hospitals NHS Foundation Trust  
Bradford Teaching Hospitals NHS Foundation Trust  
Bristol Royal Infirmary  
Bronglais Hospital  
Buckinghamshire Healthcare NHS Trust  
Charing Cross Hospital  
Chelsea & Westminster Hospital  
Chesterfield Royal Hospital NHS Foundation Trust  
City Hospitals Sunderland NHS Foundation Trust  
Colchester General Hospital  
Conquest Hospital  
Croydon Health Services NHS Trust  
Dartford and Gravesham NHS Trust  
Diana Princess of Wales Hospital  
Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust  
Dorset County Hospital NHS Foundation Trust  
East Cheshire NHS Trust  
Eastbourne Hospital  
Epsom Hospital  
Frimley Park Hospital  
Gateshead Health NHS Foundation Trust  
George Eliot Hospital NHS Trust  
Gloucestershire Hospitals NHS Foundation Trust  
Great Western Hospitals NHS Foundation Trust  
Hammersmith Hospital  
Harrogate and District NHS Foundation Trust  
Hull University Teaching Hospitals NHS Trust  
Isle of Wight NHS Trust  
James Paget University Hospitals NHS Foundation Trust  
Kent & Canterbury Hospital  
King's College Hospital  
Kingston Hospital NHS Foundation Trust  
Lincoln County Hospital  
Liverpool Heart and Chest Hospital NHS Foundation Trust  
London North West University Healthcare NHS Trust  
Luton and Dunstable University Hospital  
Maidstone and Tunbridge Wells NHS Trust

Manchester University NHS Foundation Trust  
Medway NHS Foundation Trust  
Mid Cheshire Hospitals NHS Foundation Trust  
Milton Keynes University Hospital NHS Foundation Trust  
Norfolk and Norwich University Hospitals NHS Foundation Trust  
North Bristol NHS Trust  
North Tees and Hartlepool NHS Foundation Trust  
North West Anglia NHS Foundation Trust  
Northampton General  
Northern Devon Healthcare NHS Trust  
Northern General Hospital  
Northumbria Healthcare NHS Foundation Trust  
Oxford University Hospitals NHS Foundation Trust  
Pilgrim Hospital  
Poole Hospital NHS Foundation Trust  
Portsmouth Hospitals NHS Trust  
Princess Royal University Hospital  
Queen Elizabeth Hospital Greenwich  
Queen Elizabeth The Queen Mother Hospital  
Royal Berkshire NHS Foundation Trust  
Royal Blackburn Teaching Hospital  
Royal Bournemouth Hospital  
Royal Derby Hospital  
Royal Devon and Exeter NHS Foundation Trust  
Royal Hallamshire Hospital  
Royal Hampshire County Hospital  
Royal Liverpool University Hospital  
Royal Papworth Hospital NHS Foundation Trust  
Royal Preston Hospital  
Royal Surrey County Hospital NHS Foundation Trust  
Royal United Hospitals Bath NHS Foundation Trust  
Salford Royal NHS Foundation Trust  
Sandwell and West Birmingham Hospitals NHS Trust  
Scarborough General Hospital  
Scunthorpe General Hospital  
Sherwood Forest Hospitals NHS Foundation Trust  
Somerset NHS Foundation Trust  
South Tees Hospitals NHS Foundation Trust  
South Tyneside District Hospital  
Southport and Ormskirk Hospital NHS Trust  
St. Bartholomew's Hospital  
St. George's University Hospitals NHS Foundation Trust  
St. Helens and Knowsley Teaching Hospitals NHS Trust  
St. Mary's Hospital Paddington  
St. Richard's Hospital  
Stockport NHS Foundation Trust

Tameside and Glossop Integrated Care NHS Foundation Trust  
The Christie NHS Foundation Trust  
The Dudley Group NHS Foundation Trust  
The Hillingdon Hospitals NHS Foundation Trust  
The Ipswich Hospital  
The Leeds Teaching Hospitals NHS Trust  
The London Clinic  
The Mid Yorkshire Hospitals NHS Trust  
The Newcastle upon Tyne Hospitals NHS Foundation Trust  
The Pennine Acute Hospitals NHS Trust  
The Princess Alexandra Hospital NHS Trust  
The Royal Wolverhampton NHS Trust  
The Shrewsbury & Telford Hospitals NHS Trust  
The Walton Centre NHS Foundation Trust  
The York Hospital  
Torbay and South Devon NHS Foundation Trust  
University College London Hospitals NHS Foundation Trust  
University Hospital Lewisham  
University Hospital Southampton NHS Foundation Trust  
University Hospitals Coventry and Warwickshire NHS Trust  
University Hospitals of Morecambe Bay NHS Foundation Trust  
University Hospitals of North Midlands NHS Trust  
University Hospitals Plymouth NHS Trust  
University Hospitals Sussex NHS Foundation Trust  
West Hertfordshire Hospitals NHS Trust  
West Middlesex University Hospital  
West Suffolk NHS Foundation Trust  
Weston General Hospital  
Wexham Park Hospital  
Whittington Health NHS Trust  
William Harvey Hospital  
Wirral University Teaching Hospital NHS Foundation Trust  
Worcestershire Acute Hospitals NHS Trust  
Worthing Hospital  
Wye Valley NHS Trust