

5%

10%

20%

40%

WHY USE TWO? WHEN ONE WILL DO

Transfusing one unit of blood at a time reduces the risk of an adverse event – **Transfuse one then reassess**



**BLOOD IS A GIFT
USE IT WISELY**

To find out more go to http://staffnet/TransfusionMedicine/blood_is_a_gift.asp

5%

10%

20%

40%

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Blood and Transplant

National Comparative Audit



Audit and feedback: effects on professional practice and healthcare outcomes (Review)

Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, O'Brien MA, Johansen M, Grimshaw J, Oxman AD



THE COCHRANE COLLABORATION®



Audit and Feedback Interventions to Increase evidence-based Transfusion practice



Stanworth S, Francis JJ, Farrin A, Foy R, Gould N, Lorencatto F, Morris S, Hartley S, Walwyn R, Grant-Casey J, Glidewell L, Grimshaw J, Rowley M, Deary A, During C, McIntyre S, Swart N, Patel R, Smith J, Moreau L, Cicero R, Smith I, Morris T, Campbell H, Michie S, Murphy M



Audit and Feedback Interventions to Increase evidence-based Transfusion practice



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We examined current audit and feedback practice



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Standards agreed by audit group

Hospitals audit consecutive cases over 2-3 months

Feedback reports delivered ~ 1 year later

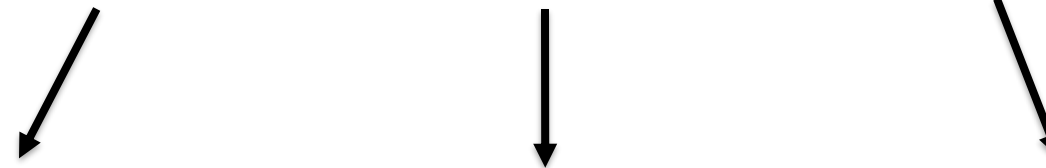


Table 3: Patient Blood Management algorithms: overall performance (see algorithms in Annex 1)

Algorithm	Standard MET	Standard NOT MET	EXCLUDED	INSUFFICIENT DATA	% standard MET*	YOUR SITE: % standard MET*
PBM1	1305	1531	1044	17	46%	%/
PBM2	28	214	3529	126	12%	% (/)
PBM3	3	129	3655	110	2%	% (/)
PBM4	71	182	3529	115	28%	% (/)
PBM5	340	201	3279	77	63%	% (/)
PBM6	661	134	3027	75	83%	% (/)
PBM7	133	675	3027	62	16%	% (/)
PBM8	669	2088	996	144	24%	% (/)
PBM9	920	1492	1358	127	38%	% (/)
PBM10	1714	312	1748	123	85%	% (/N)
PBM11	175	1910	1748	64	8%	% (/)

* MET/(MET+NOT MET)

	Recommendation	Action required by
1	Trust Boards and Clinical Commissioning Groups (CCGs) must work together to encourage change	Trust boards and CCGs

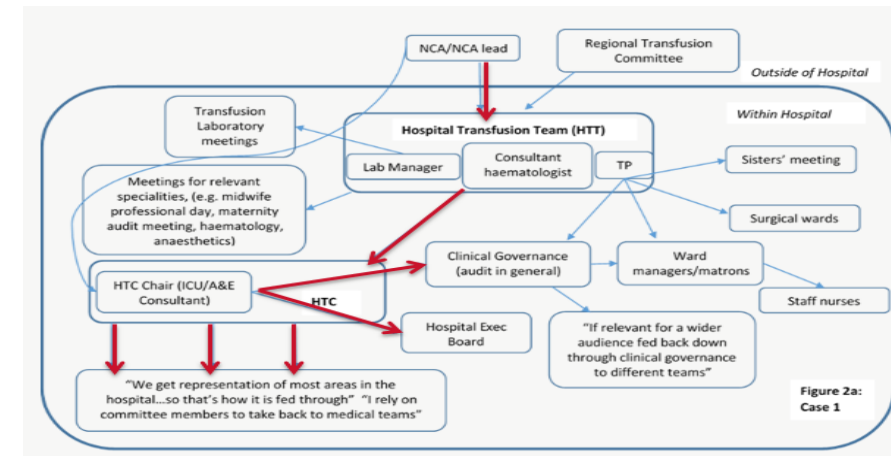


Figure 2a: Case 1

We examined current audit and feedback practice



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‘This audit isn’t even relevant’

‘This is research, not audit’

‘There are too many standards’

‘The numbers are all wrong’

‘The data collection is too burdensome’

‘Why bother changing practice?’

We developed two ways of enhancing feedback



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Which were...

Enhanced content: what is delivered to hospitals

Enhanced follow on support: helping staff respond to feedback


2014 National Comparative Audit of Medical Use of Blood in Adult Medical Patients
 [Hospital Name]
KEY FINDINGS REPORT

Our hospital participated in the 2014 audit of medical use of blood in adult medical patients. This report provides an overview on how we perform to each audit standard and how we compare to other hospitals nationally regionally.

If you would like further information on the key findings, please refer to either the:

2015 Audit of Patient Blood Management in adults undergoing elective, scheduled surgery
 How did our hospital perform? PBM Standard 1

Section 3: How did our hospital perform?

Pre-operative anaemia optimisation

PBM standard 1: Clinical staff must ensure that patients listed for elective major blood loss surgery have an Hb measured at least 14 days pre-operatively and act upon results*

*Anaemia is defined as Hb of less than 130g/L in men less than 120g/L in women

Analysis of compliance with standards was undertaken using a series of algorithms as shown in Appendix 1

Overall performance against standards

Algorithm	Standard MET	Standard NOT MET	EXCLUDED	INSUFFICIENT DATA	% standard MET*	YOUR HOSPITAL: % standard MET*
PBM1	1365	1534	1044	17	46%	67% (2/3)
PBM2	28	214	3529	126	12%	0% (0/2)
PBM3	3	129	3655	110	2%	0% (0/0)
PBM4	71	182	3529	115	28%	0% (0/2)
PBM5	340	201	3279	77	63%	0% (0/2)
PBM6	661	134	3027	75	82%	0% (0/0)
PBM7	133	675	3027	62	16%	0% (0/1)
PBM8	669	2088	996	144	24%	22% (4/18)
PBM9	920	1492	1358	127	38%	13% (2/16)
PBM10	1714	312	1748	123	85%	50% (2/4)
PBM11	175	1910	1748	64	8%	0% (0/9)

How do we compare with

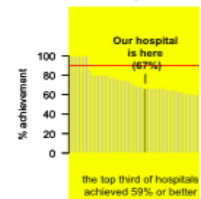


Figure 1: PBM standard 1 hospital comparison participating hospitals. The red line illustrates 100% would not be universally attainable.

Patient Blood Management performance by type of procedure

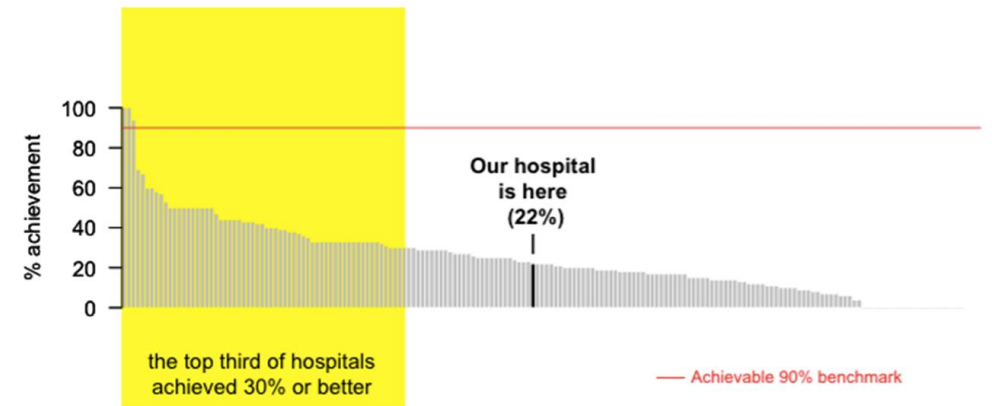
	Primary unilateral total hip replacement	Primary bilateral total hip replacement	Primary unilateral total knee replacement	Primary bilateral total knee replacement	Unilateral revision hip replacement	Unilateral revision knee replacement	Colonorectal resection for any indication
PBM1	57% (346/610)	50% (15/30)	63% (125/191)	70% (119/171)	50% (128/258)	52% (35/67)	27% (81/300)
PBM2	0% (0/14)	-	0% (0/1)	-	33% (1/3)	0% (0/2)	38% (17/40)
PBM3	0% (0/15)	-	0% (0/1)	-	0% (0/0)	0% (0/2)	2% (1/42)
PBM4	33% (5/15)	-	0% (0/1)	-	33% (1/3)	0% (0/2)	39% (8/42)
PBM5	67% (48/72)	25% (1/4)	68% (11/16)	-	47% (20/43)	70% (7/10)	74% (13/17)
PBM6	92% (68/74)	86% (6/7)	92% (12/13)	-	91% (17/19)	100% (10/10)	38% (42/110)
PBM7	34% (26/77)	14% (1/7)	42% (5/12)	0% (0/1)	9% (6/66)	0% (0/10)	3% (3/118)
PBM8	10% (79/807)	14% (3/22)	38% (21/279)	36% (4/25)	23% (17/74)	12% (1/15)	30% (45/151)
PBM9	31% (144/460)	29% (5/17)	27% (72/264)	39% (9/23)	46% (63/138)	21% (11/53)	34% (44/128)
PBM10	89% (435/491)	86% (18/21)	91% (262/287)	100% (25/25)	87% (146/167)	91% (53/58)	35% (53/151)
PBM11	0.4% (2/519)	18% (4/22)	1% (4/292)	16% (4/25)	17% (20/160)	13% (7/56)	0% (0/159)

	Open arterial surgery	Primary CABG	Valve replacement w/ CABG	Simple or complex hysterectomy	Cystectomy	Nephrectomy	# neck of femur (arthroplasty)
PBM1	32% (51/157)	29% (34/116)	43% (183/421)	38% (129/342)	38% (114/37)	42% (55/130)	8% (10/118)
PBM2	20% (2/10)	0% (0/1)	0% (0/2)	14% (4/29)	0% (0/3)	33% (4/12)	8% (10/118)
PBM3	10% (1/10)	0% (0/1)	0% (0/4)	3% (1/32)	0% (0/4)	0% (0/12)	-
PBM4	36% (4/11)	0% (0/1)	67% (10/15)	11% (3/28)	25% (1/4)	8% (1/12)	35% (44/124)
PBM5	48% (180/366)	78% (35/45)	61% (80/132)	58% (7/12)	0% (0/1)	72% (13/18)	55% (47/86)
PBM6	90% (55/61)	96% (43/45)	99% (182/184)	83% (90/108)	82% (9/11)	78% (54/69)	72% (13/18)
PBM7	5% (3/62)	22% (10/45)	38% (51/131)	8% (9/112)	8% (1/13)	4% (1/48)	72% (13/18)
PBM8	33% (28/85)	47% (42/90)	28% (110/292)	40% (83/209)	28% (17/25)	33% (11/64)	39% (15/798)
PBM9	47% (32/68)	87% (55/63)	83% (171/206)	24% (26/111)	24% (5/21)	41% (11/27)	32% (24/76)
PBM10	85% (173/161)	88% (89/91)	97% (252/260)	83% (115/138)	87% (20/24)	82% (50/62)	51% (15/29)
PBM11	1% (1/90)	23% (21/91)	22% (67/299)	0% (0/21)	8% (1/25)	3% (1/64)	51% (13/26)

Post-operative transfusion indicated (PBM standard 8):

In patients who do not have active post-operative bleeding, clinical staff should only prescribe a transfusion if the Hb is less than the defined Hb threshold or for transfusion (70g/L in patients without acute coronary ischaemia 80g/L in patients with acute coronary ischaemia).

Our hospital achieved this standard for **22% (4/18)** of patients



What should we do next? Recommendations:

For our Hospital	For clinical staff responsible for pre-operative management	For the Hospital Transfusion / Patient Blood Management Committee
<ul style="list-style-type: none"> Well done. We showed a high level of achievement in this standard. We are performing within the top third of hospitals nationally. This demonstrates strong support for PBM within our hospital. However, there is room to further improve our practice. 	<ul style="list-style-type: none"> Clinical staff should ensure that patients are counselled about the relationship between anaemia, morbidity and mortality, and should be given the opportunity to defer non-urgent surgery until anaemia is investigated and treated. Clinical staff should ensure that 	<ul style="list-style-type: none"> The Committee should ensure that healthcare pathways are structured to enable anaemia screening and investigation/ correction before surgery. The Committee should work with Commissioners to formalise integrated pathways and funding for



Enhanced follow-on support

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Web-Toolkit



Disseminating feedback reports

Responding to the feedback reports

Monitoring progress i.e. re-auditing practice

Transfusion Practitioner disseminates to...

Hospital Transfusion Committee

What is disseminated? Full Report

How are they informed? Email and mee

When by? 20 Nov 2015

Named contact? John Smith

Clinical Governance

What is disseminated? Full Repor

How are they informed? Email and

When by? 18 Dec 20

Named contact? enter nam

Patient reference	Who decided to transfuse?	PBM1			PBM7		
01	John	met	not met	n/a	met	not met	n/a
02	Sam	met	not met	n/a	met	not met	n/a
03	Sally	met	not met	n/a	met	not met	n/a
04	Jane	met	not met	n/a	met	not met	n/a
05	Dave	met	not met	n/a	met	not met	n/a

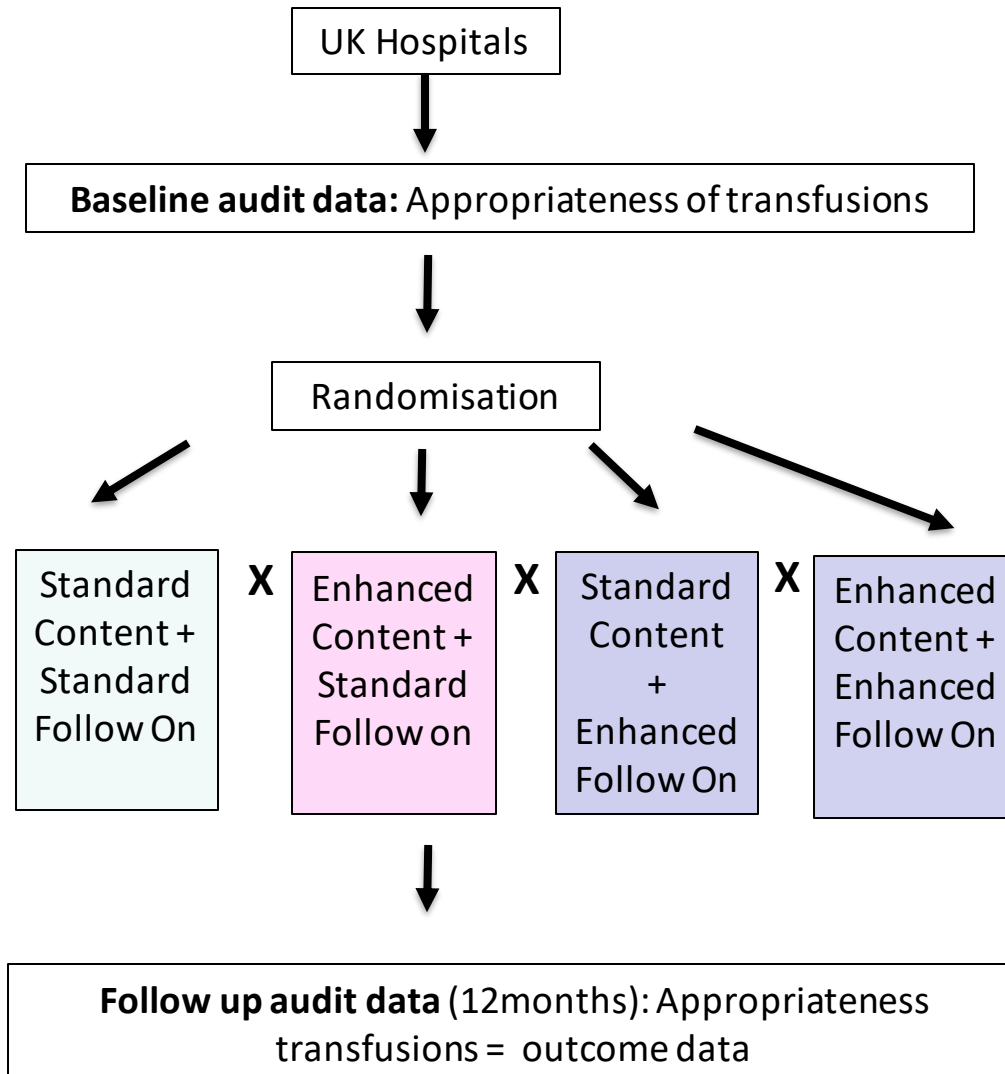
Telephone Support



We evaluated two ways of enhancing the impact of feedback (twice)



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Trial 1: Surgery



155 clusters
2714 and 2222 patient records
Interventions **Oct 2015**



Trial 2: Haematology



167 clusters
~4000 and ~4000 patient records
Interventions **Aug 2016**

National Comparative Audit Standard Processes

Audit 1: Patient Blood Management (for those sites participating in this audit)

NCA baseline audit (3 months)

NCA Analysis (3 months)

Usual documents
n = 38 trusts / health boards

Follow-up audit
(up to 12 months post randomisation)

Audit 2: Haematological (for those sites participating in this audit)

NCA baseline audit (3 months)

NCA Analysis (3 months)

Usual documents
n = 38 trusts / health boards
n = 1710 patient records

Follow-up audit
(up to 12 months post randomisation)

Trial Related Processes

Randomisation 1:1:1:1

Stratified by: Regional Transfusion Committee; Size of NHS Trust / Health Board (based on volume of blood)

Usual documents & post-feedback support
n = 38 trusts / health boards

Enhanced feedback documents
n = 38 trusts / health boards

Enhanced feedback documents and post-feedback support
n = 38 trusts / health boards

Randomisation: 1:1:1:1: Regional Transfusion Committee; Size of NHS Trust / Health Board (based on volume of blood); allocation in previous trial.

Usual documents & post-feedback support
n = 38 trusts / health boards

Enhanced feedback documents
n = 38 trusts / health boards

Enhanced feedback documents and post-feedback support
n = 38 trusts / health boards

Audit 1 Data

Audit 2 Data

Primary & Secondary Trial Analysis: evaluation of feedback interventions

We encountered one or two methodological challenges in our 'A&F laboratory'



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Communicating equipoise to clinicians developing, delivering and receiving different feedback interventions



Negotiate shared expectations and ground rules for collaboration

Identifying and mitigating threats of contamination between trial arms



As above, and monitor across different levels of intervention design and delivery

Preventing selection, detection and attrition bias as data collection not by blinded nor by independent researchers



Agree standardised processes for sampling and data collection

Ensuring data quality and governance processes are fit for both a national audit programme and trial



Establish joint processes for assuring the quality of data for audit and research

Potential disconnect between audit criteria and trial outcomes



Align audit criteria and trial endpoints (if possible)

Aligning research timelines with those of a rolling and evolving national audit programme



Don't spare the Gantt charts and keep talking

We examined whether our feedback enhancements were designed, delivered and acted upon as planned



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Field Marshall Helmuth Karl Bernhard Graf von Moltke



Enhanced feedback content (trial 1)

“This audit gave far greater, more comprehensive feedback than I’ve had in other audits. I’ve never seen an audit where we’ve had such detail, which I think is great.”

H07P01

**Greater
Comprehensibility of
Feedback Findings**

“The reports were very, very comprehensive. Quite big, which I think sometimes puts people off reading them but then it comes in a summary format as well and that’s more useful for people.”

H06 P01

“We’re not too bad on the pre-operative anaemia optimisation one, but the poor one that we’ve got basically is the post-operative transfusion indications.”

H04P01

**Clearer Understanding on
How to Improve Practice**

“There were some recommendations and I think they were very well set out. It was kind of what we needed to do.”

H07P01



Enhanced follow-up (the toolkit, trial 1)

What toolkit?



“It was very good with the communication side of it..It made you think of places that you hadn’t thought about taking the report to. .. we didn’t end up using them because we ended up using that report to make another Trust report which went to our governance committee.”

H14P01

The toolkit was good but...

“I was a bit sceptical about that [the toolkit] at the time because within your hospital you have set forms that you need to use and they want them done in set ways ...so it just felt like another piece of stuff to do really.”

H06P01



“They mix non-elective surgery with elective surgery and, in my view, that was a very poor design from the outset.”

H03P01

‘Tainted by a Flawed Design’

“Well, I’m not going to change practice with four patients audited. You haven’t done enough.”

H17P01

“I think, once I’d seen the NICE guideline there was a lot of stuff in that was really pulling threads from this audit I would say...So there are clear threads between the National Comparative Audit and the recommendations made with the new NICE blood transfusion guideline.”

H02P02

NICE: ‘The Cornerstone of Medical Practice’

“The NICE guidelines which came out just before have been a big influence through it as well... We refer to them a lot. We quote them a lot.”

H03P01

There are real opportunities to improve the impact of national clinical audits

‘Audit’ may be just as important as ‘feedback’

National audit developers and evaluators need rigorous ‘real world’ evidence to guide audit and feedback practice (including what they’d rather not hear)

Embedding trials within a national audit programme takes a lot of work

... but so do all relationships



Acknowledgement



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The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.



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