



National Blood Transfusion Committee



Blood and Transplant

2015 Survey of Patient Blood Management

Authors:

Louise Sherliker

Operations Manager

Patient Blood Management Practitioner Team

NHS Blood and Transplant

Kate Pendry

Secretary National Blood Transfusion Committee

Consultant Haematologist and Clinical Director for Patient Blood Management

NHS Blood and Transplant

Brian Hockley

Data Analyst and Audit Manager

Patient Blood Management Team

NHS Blood and Transplant

Acknowledgements

PBM Survey Working Group

Louise Sherliker, Operations Manager, Patient Blood Management Practitioner Team, NHSBT

Brian Robertson, Transfusion Laboratory Manager, Imperial College NHS Trust

Elaine MacRate, Blood Stocks Management Scheme Manager, NHSBT

Hazel Tinegate, Consultant Haematologist, NHSBT

Tanya Hawkins, Transfusion Practitioner, Royal Berkshire Hospital, NHS Trust

Tony Davies, PBMP/SHOT, NHSBT

Brian Hockley, Data Analyst and Audit Manager, NHSBT

Regional Transfusion Committee Administrators

All Trusts and Hospitals who responded to the survey

Glossary – Appendix 1

Contents

- A. Executive Summary and Recommendations**
- B. Introduction**
- C. Results**
 - 1. The Hospital Transfusion Team and Committee (HTC)**
 - 2. Resources to support PBM**
 - 3. Transfusion Education**
 - 4. Laboratory Systems**
 - 5. Providing Information on Blood Usage**
 - 6. Patient Blood Management Initiatives: Consent**
 - 7. Patient Blood Management Initiatives: Identification and Management of Anaemia**
 - 8. Patient Blood Management Initiatives Identification and Management of Bleeding Patients**
 - 9. Cell Salvage**
 - 10. Supporting transfusion policies**
 - 11. Summary and Overview of Patient Blood Management Initiatives**
- D. The Future**
- E. Discussion**
- F. Glossary – Appendix 1**

A. Executive Summary

Patient Blood Management (PBM) is a multidisciplinary, evidence-based approach to optimising the care of patients who might need a blood transfusion. It represents an international initiative in best practice for transfusion medicine. It is a long-term approach requiring resource and investment. The aim of PBM in England is to build on the success of the BBT initiatives but with an emphasis on improving patient outcomes through blood avoidance and the use of alternatives to transfusion where possible.

PBM was launched as a collaborative initiative in 2012 between the National Blood Transfusion Committee (NBTC) and NHSBT. In July 2014 the NBTC produced national recommendations for the implementation of PBM in hospitals.

In October 2013, all NHS Trusts in England were surveyed about their readiness for PBM. 144/149 (97%) of Trusts sent a response. The survey concluded that many Trusts had considerable scope for developing PBM initiatives and key areas were identified where development towards PBM could take place. In November 2015 NHS Trusts were asked to complete a further survey to determine progress and to identify gaps in the development of PBM. This paper presents the results of this survey.

Key findings:

There has been an improvement in:

- Education and training in transfusion
- Provision of information relating to consent for transfusion
- The management of anaemia and the use of alternatives to transfusion

Further work is required in the following areas:

- Introduction of electronic systems to support and monitor safe use and appropriate transfusion requests
- Provision of reports to inform clinical users about blood use and wastage
- Implementation of policies to support appropriate use of components e.g. single unit policies for red cells and platelets
- Expansion of alternatives to transfusion: cell salvage services, use of iron in the management of anaemia

What next?

- Ensure the findings of this report and your individual Trust report are discussed at transfusion meetings in your Trust
- Write an action plan based on the results and gap analysis and incorporate this into your objectives for this year
- Use the information to promote your objectives to a higher level within your organisation and explore the possibility of using the benchmark data to support business cases for further resource for PBM
- Engage with your regional committees and discuss the potential of forming small working groups to support the development of key PBM objectives

Specific Actions for Trusts

1	<p>Resources to support PBM</p> <ul style="list-style-type: none"> • Use PBM survey data to benchmark resources and to support business cases for further resource • Use resources provided on PBM section of Hospital and Science website: http://hospital.blood.co.uk/patient-services/patient-blood-management/ • Discuss challenges with your NHSBT PBM Practitioner to see where they can support you and help the development of an action plan
2	<p>Laboratory Systems</p> <ul style="list-style-type: none"> • Incorporate national or local indication codes into laboratory information systems • The date of and time of transfusion should be recorded in the laboratory information system
3	<p>Consent for Transfusion</p> <ul style="list-style-type: none"> • Whenever possible, ensure that the risks and alternatives to transfusion are discussed with ALL patients who might need a transfusion • Whenever possible, ensure that the evidence of consent for transfusion is documented in the medical notes
4	<p>Identification and Management of Anaemia</p> <ul style="list-style-type: none"> • If not already in practice, consider implementing a trust wide policy to encourage identification, investigation and management of anaemia.
5	<p>Identification and Management of Bleeding Patients</p> <ul style="list-style-type: none"> • If not already in practice, consider implementing a protocol for the management of bleeding associated with direct anticoagulants (NOACs) and the management of bleeding associated with anti platelet medication
6	<p>Appropriate Transfusion</p> <ul style="list-style-type: none"> • Use indication codes to support appropriate use of blood • Produce reports to inform clinical users about blood use and wastage • If not already in practice, consider implementing a single unit policy for red cells and platelets in non bleeding patients • Consider making the promotion of appropriate transfusion a high priority for your Trust

Actions for NHSBT/NBTC

1	<p>Work closely with hospitals on specific PBM initiatives where possible</p> <ul style="list-style-type: none"> • Publish results of Single unit transfusion pilots and develop further tools • Initiate and support work on the identification/management of anaemia in primary care • Continue support for the pre operative optimisation project • Work on component specific projects: e.g. appropriate use of ORhD neg, A neg platelets frozen components and FFP
2	<p>Lead the development of PBM benchmarking tools</p> <ul style="list-style-type: none"> • Make further progress on a pilot for a national clinical benchmarking database • Work collaboratively to agree a national specification for transfusion requests • Continue development of a set of key performance indicators for PBM with a scorecard • Continue the National Comparative Audit (NCA) programme and support regional and local audit to show improvements in practice and areas for further work.

	<ul style="list-style-type: none"> • Provide information and data to support further business cases for PBM
3	<p>Promote patient and public involvement in PBM</p> <ul style="list-style-type: none"> • Work with hospitals to improve the availability of patient information and further explore the use of digital media • Drive campaigns to ensure that patients have the information available to enable informed consent
4.	<p>Appropriate transfusion</p> <ul style="list-style-type: none"> • Revise and promote the use of indication codes • Collaborate to produce guidelines and recommendations for transfusion and support policy development in Trusts
4	<p>Continuing to develop education tools and initiatives to support PBM</p> <ul style="list-style-type: none"> • Support the development of standardised education and training programmes for hospital staff and those in higher education settings • Develop new ways to deliver transfusion messages: apps, webinars, podcasts

B. Introduction

Patient Blood Management (PBM) is an evidence-based, multidisciplinary approach to optimising the care of patients who might need transfusion. It puts the patient at the heart of decisions made about blood transfusion to ensure they receive the best treatment and avoidable, inappropriate use of blood and blood components is reduced. It represents an international initiative in best practice for transfusion medicine.

National, regional and local audits in England consistently show inappropriate use of all blood components; 15-20% of red cells and 20-30% of platelets/plasma. Evidence shows that the implementation of PBM improves patient outcomes by focussing on measures for the avoidance of transfusion and reducing the inappropriate use of blood and therefore can help reduce health-care costs.

PBM improves patient care by reducing inappropriate transfusion and also helps to ensure the availability of blood components for those patients where there are no transfusion alternatives. PBM needs leadership and support at every level, including national and regional leaders, hospital management, and health professionals.

2013 PBM Survey

In October 2013 all NHS Trusts in England were surveyed about their readiness for PBM. 144/149 (97%) of Trusts sent a response and their replies were incorporated into a report which is available at [2013 PBM Survey Report](#)

This survey concluded that many Trusts had considerable scope for developing PBM initiatives and the survey identified the following key areas where development towards PBM could take place. These were:

- Too few medical and nursing staff with dedicated time for PBM
- Too few policies incorporating PBM
- IT that does not readily support PBM
- Inadequate investigation and management of anaemia
- Under exploitation of point of care testing
- Under use of alternatives to transfusion such as cell salvage

2015 PBM Survey

In 2015, the PBM survey was repeated to evaluate progress towards PBM in UK NHS Trusts. The survey was an initiative between NHS Blood and Transplant and the National Blood Transfusion Committee (NBTC). This document reports the findings of the survey for all Trusts who responded.

Methods

A survey project group was established to decide the content of the survey questions, distribution and timelines. The 2015 survey was not a duplicate of the 2013 survey and asked additional questions particularly about progress towards PBM. A copy of the survey is available for download at [2016 PBM Survey - Questionnaire](#)

The survey was implemented using online methodology (SnapSurveys©) and the data was analysed in the same system. NHS Trusts were notified about the survey prior to implementation. Trusts were encouraged to use the online system but were given an option to complete the survey on paper if they wished. Responders were asked to discuss the survey at their local Hospital Transfusion Committees or Teams (HTC, HTT) and decide on their answers collectively with one person given the responsibility of submitting the data online. The survey was distributed during the first week of November 2015 and terminated in January 2016. Following a review of the initial dataset, it was further extended until February 2016 to encourage completion by non-responding organisations.

C. Results

Response Rate

Of the total of 149 eligible NHS Trusts who could reply to the survey, 136 responded (91%). This is a small decrease in the response rate to the 2013 survey (97%).

Data from the questions in the survey has been analysed proportionately (n, %). The denominator in each case is the number of responses to each question or each part of the question for multiple choice items. Not all questions were relevant to all Trusts and appropriate “routing” was employed to direct responders to questions. Not all Trusts answered all questions even if they were relevant. The actual number responding to each question is given in the tables. Data has also been analysed in some cases by red cell blood usage levels. (see information on final page for definition of red cell usage categories). The response by red cell usage group is summarised in Table 1

Table 1

Counts Analysis %	Total	Trust Red Blood Cell Usage Level				
		Very High	High	Moderate	Low	Very Low
Respondents	136	52	38	33	12	1
	100.00%	38%	28%	24%	9%	0.7%

Where possible, comparisons have been made with analogous questions in the survey conducted in 2013 to demonstrate changes in PBM infrastructure within NHS Trusts.

Demographics

136/149 (91%) Trusts responded to the survey with hospital RTC representation up to 100% in four cases. 38% of Trusts described themselves as very high users of red blood cells with the London RTC region the highest at 66% followed by the West Midlands. There was 1 very low using Trust located in the North West. A detailed breakdown of relative response rates by RBC use level and RTC is given in figures 1 and 2 below.

Fig 1

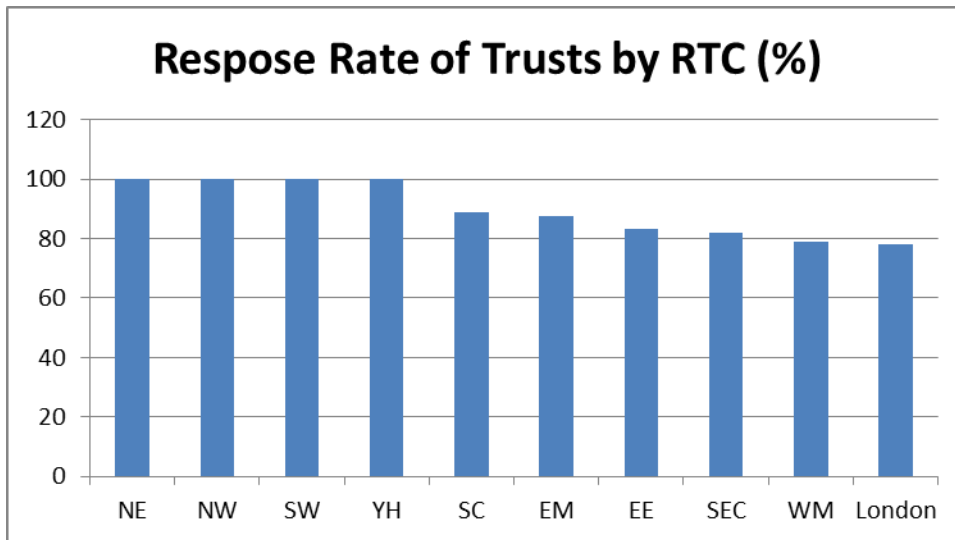
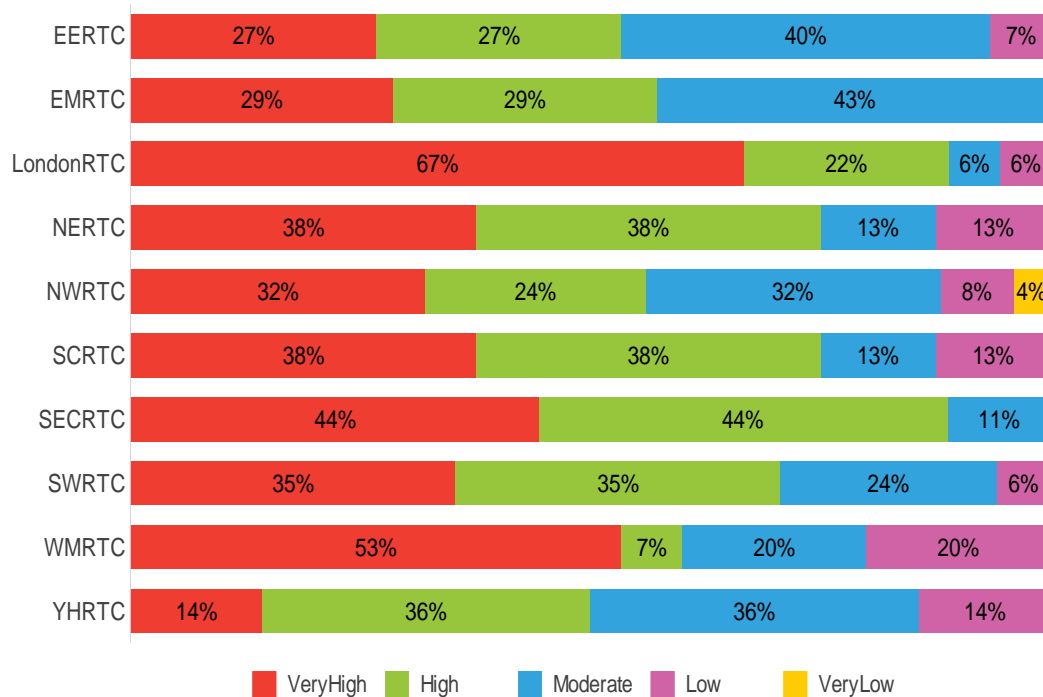


Fig 2

Red cell usage level

Trust Use Level by RTC Region



Questionnaire Responses

Section 1 – The Hospital Transfusion Team and Committee (HTC)

NHS Trusts have a variety of internal care oversight structures. Table 2 indicates principle reporting structures to whom HTC's report to. Other structures are given in appendix 3

Table 2

Respondents	Who does your Hospital Transfusion Committee report to?					
	Clinical governance committee	Patient safety committee	Trust Board	Other	None – we do not report	No Reply
134	70 52%	56 42%	39 29%	17 12%	3 2%	2 1%

- 94% of respondents indicated that PBM initiatives were included on the standard HTC agenda
- 7 (6%) said they had a separate working group or PBM agenda

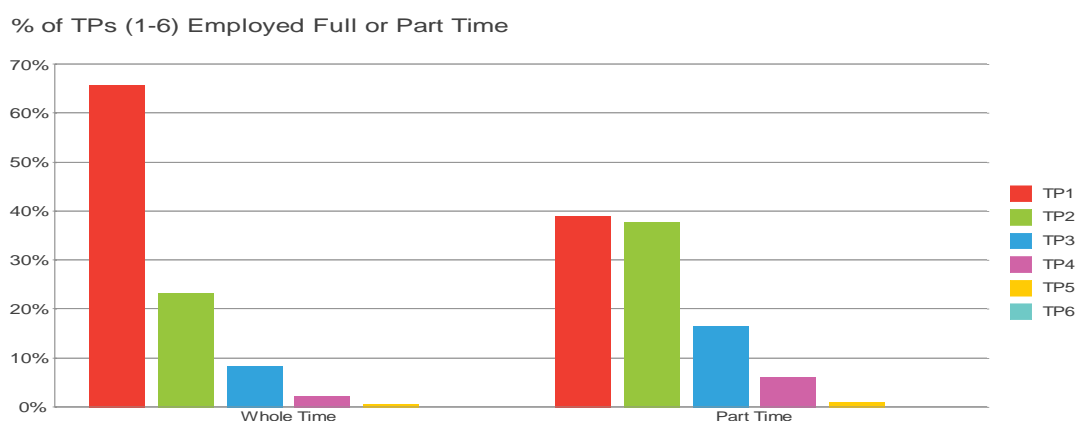
Section 2 - Resources to support PBM

- 99% of Trusts had some Transfusion Practitioner support. Almost 70% of Trusts employ at least one full time TP, 29% employ at least one part time TP
- TP's spend most of their time on education
- More Consultant Haematologists have designated programme activities (PAs) for transfusion compared with the previous survey.

A. Transfusion Practitioners

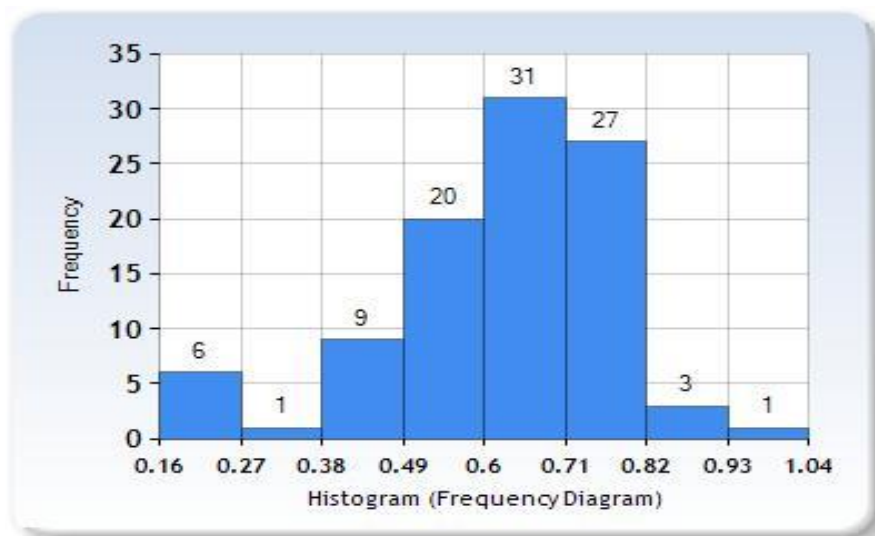
- 134/136 (99%) of respondents said they had between 1 and 5 Transfusion Practitioner(s) employed at their Trust. 2 (2%) said they did not employ any at all. The 2013 survey indicated 100% of responding organisations had a TP either full or part time (no change).
- Figure 3 indicates the number of TP's employed either full or part time.

Fig 3 - % of TP's employed full or part time (n = 134, not mutually exclusive)



Distribution of WTE's amongst part time TP's are shown below (Fig 4).

Fig 4



- 2 Trusts (1.5%) said they did not employ Transfusion Practitioners
- 99% of Trusts employed Transfusion Practitioners either full time, part time or both
- TP's were asked which aspects of their day-to-day activity they experience as taking up the bulk of their workload ranked on a scale of 1-6. Table 3 is a summary of these findings.

Table 3

Analysis % Respondents	Incident investigations	Education	Competency assessments	Tracing component use	Audits	Appropriate use of components
Total	132	131	131	129	129	128
Rank 1	20%	55%	5%	9%	3%	9%
Rank 2	24%	25%	17%	14%	8%	11%
Rank 3	28%	7%	21%	11%	19%	15%
Rank 4	14%	4%	17%	12%	31%	17%
Rank 5	11%	4%	23%	21%	23%	19%
Rank 6	2%	4%	14%	32%	15%	29%

From Table 3, education was ranked highest with tracing components and appropriate use of components ranked lowest as occupying the bulk of TP's time.

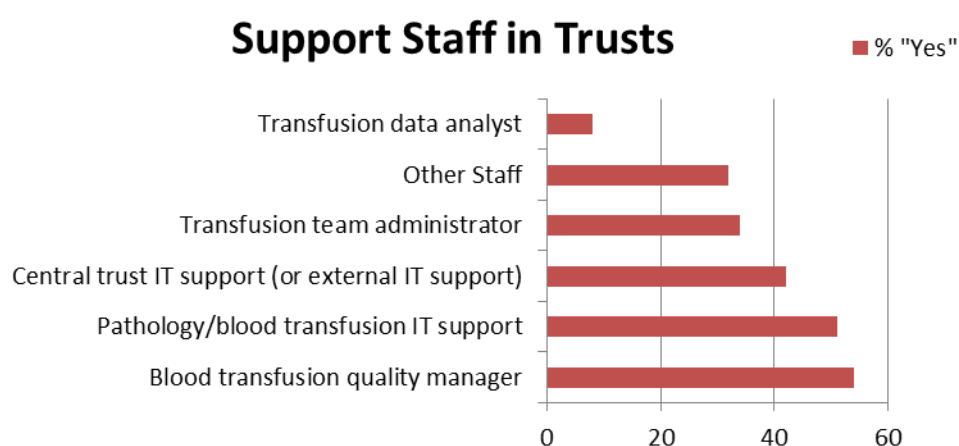
Respondents also identified a number of additional responsibilities not included in the above categories. Principle areas are given as appendix 4.

B. Consultant Haematologists, Laboratory Staff and Designated Programme Activities (PAs)

- 98% of respondents who answered the question (134/136) said they had a consultant haematologist designated to blood transfusion.
- Of these, 58 (43%) gave information regarding designated programme activities (PAs). 38 (28%) had no PAs as designated by a zero reply. This was 46% in 2013 survey.
- Of the 131 who answered the question, 9 (7%) said their laboratory staff had allocated time for PBM.

Figure 5 indicates the nature of staff supporting blood transfusion in Trusts

Fig 5



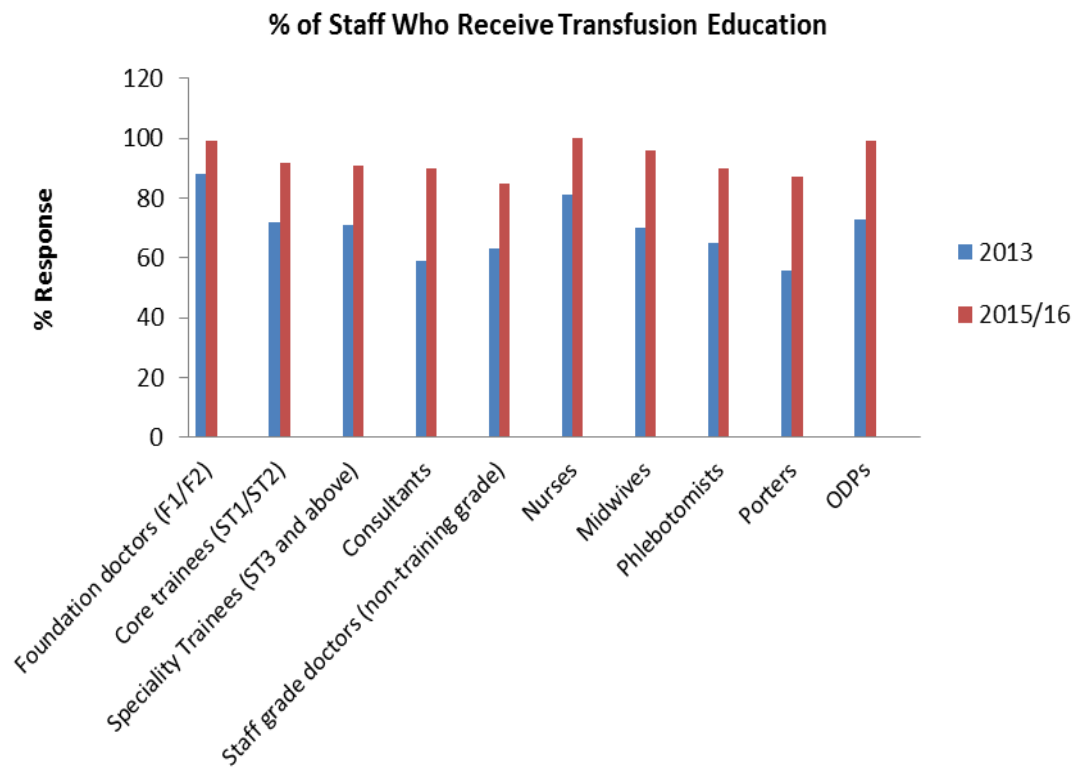
- The majority of support staff are employed on a 0.5 WTE or less.
- There were no plans to expand these posts in over 90% of respondents.
- 3 RTC regions had some plans to expand some posts in the future (East of England, South West and the West Midlands).
- There were also plans to reduce staff in two of the RTC regions (London, East of England) by a factor of 1 member.
- The 2013 survey suggested an overall figure of <50% of Trusts had support staff in place. This has not changed in the 2015 survey.

Section 3 – Transfusion Education

- A high proportion of staff are receiving education in transfusion
- It appears that there have been improvements in transfusion education between the 2013 and 2015 surveys. However differences in survey questions does not allow complete comparison

- Survey respondents were asked which staff groups receive education on transfusion. Competency assessments were excluded.
- Figure 6 indicates the percentage in each staff group who *receive* training in the 2015/16 survey compared with an analogous question in the 2013 survey which asked “*Is transfusion training taking place at induction/within the first month*”.

Fig 6



Section 4 – Laboratory Systems

- There have been some improvements in the recording of transfusion in laboratory information systems since the 2013 survey but further work improvements are still required.

- Table 4 indicates the top 4 laboratory systems used in the Trusts who responded. These account for 73% of the systems used in organisations.
- Responses indicate that some Trusts have more than one system in place.
- 64 (47%) of organisations plan upgrades or changes to their systems in the future.

Table 4

Counts Base % Respondents	Total
Base	143
WinPath	38 (26%)
Telepath	31 (21%)
Apex	22 (15%)
Labcentre	16 (11%)

A full list of systems used by Trusts is given in appendix 5.
Aspects of these systems are shown in Table 5

Table 5

Laboratory Information Systems	2015 response	'Yes'	
		2015	2013
Do you use electronic order comms for component requests for transfusion?	130	29%	24%
Is the recording of clinical diagnosis a mandatory field?	126	47%	48%
Are there national or local indication codes for transfusion incorporated into your lab systems?	127	26%	33%
Is the date of transfusion recorded within the laboratory information system?	129	93%	83%
Is the time of transfusion recorded within the laboratory information system?	129	63%	56%

- Where indication codes are used within the laboratory system, in 58% of sites, this could be overridden. Appendix 6 gives an indication of the process for authorising the transfusion.

Section 5 – Providing Information on Blood Usage

- A large proportion of Trusts (74%) undertake internal audit of blood component use against local policy
- There was a mixed response on the use of laboratory information system reporting
- 87% of hospitals responded that they used information on blood use from the BSMS/PBM team

A. Reporting

Trusts were asked if they provided information on where and why blood was being used to users of blood components in their own organisations, on a regular basis (table 6).

Table 6

Do you provide reports for where and why blood is being used, e.g. to inform clinical users on a regular basis?		
total	130	
Yes, we use our laboratory information system	53	41%
Yes, we use an alternative method to extract and report data	25	19%
No, we do not provide reports	52	40%

- Alternative methods used to extract data include Crystal Reports (an SQL software package report generator), Microsoft Access databases and Excel. A full list is provided as appendix 7.
- If they are produced, reports are most often discussed in the Hospital Transfusion Committee and transfusion teams within the Trust. Some organisations discuss their reports within Trust wide governance or risk committees and some prepare regular reports for all specialities.
- Of the 108 responses received for the question, some Trusts had more than one individual providing the data.
 - 53% of blood usage reports were produced by transfusion laboratory managers (TLM's)
 - 37% was produced by TP's
 - 17% were produced by a data analyst
 - 31% was produced by 'other' staff
 - 'other' included pathology, IT managers and Trust finance departments

Results are not mutually exclusive.

B. Audits and Cross Charging

Table 7 provides information on cross charging, use of information and audits.

Table 7

Charging and Information	Total	Yes
Do you cross charge blood components to clinical specialties	127	34%
Do you use information on blood use and wastage supplied by BSMS/PBM team?	129	87%
Do you undertake internal audits of blood component use against your local policies?	130	74%

- 74% of Trusts undertook internal audits of blood component use against local policies
- Audits related to blood transfusion were conducted by 94/130 (72%) at varying time intervals (Table 8)

Table 8

If you do undertake audits, how frequently do you do these?					
Total	Weekly	Monthly	Quarterly	Annually	Other
94	2	14	15	24	39
100.0%	2. %	15%	16%	25%	41%

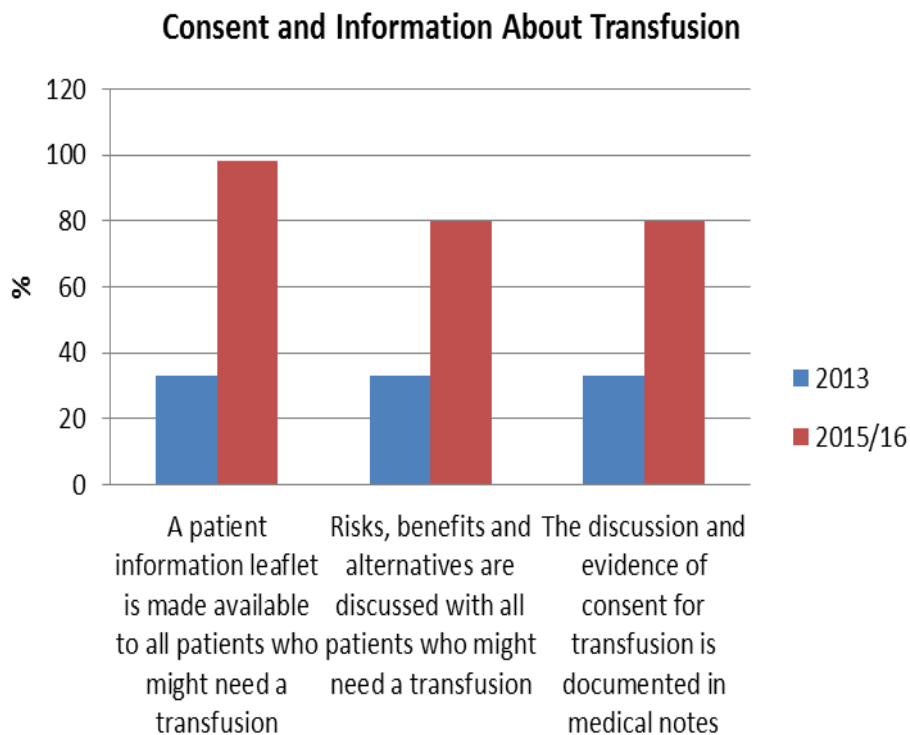
- 41% of respondents indicated they conducted audits over a range of time periods. Mostly these were “ad hoc” or “as the need arises”
- Some of the audits were conducted “in-house” as well as RTC designated audits supported by the NHSBT RTC audit manager. Examples of audits include:
 - Audits of massive haemorrhage
 - Overnight transfusions
 - Platelet wastage
 - Single unit transfusion

Section 6 – Patient Blood Management Initiatives: Consent

- There has been substantial improvement in the provision of information relating to consent since the 2013 survey
- 98% of Trusts provide information for patients who might need a blood transfusion
- 85% of Trusts provide information to most surgical patients

- Following the National Comparative Audit (NCA) of consent for transfusion, Trusts were asked about their current processes for seeking consent
- The 2013 survey suggests the percentage of Trusts who provided information about blood transfusion to service users was around 65%. Analogous data in the 2015 survey suggests this has increased substantially to 98%. For surgical patients this figure was slightly less at 86%
- Figure 7 indicates Trusts who have implemented action plans concerning the consent process that include 3 key aspects of this activity

Fig 7



Section 7 – Patient Blood Management Initiatives: Identification and Management of Anaemia

- 57% of Trusts do not have a policy for the management of anaemia
- There has been an increase in the use of oral and intravenous iron across all specialties
- There has been an increase in the number of Trusts who have conservative blood sampling initiatives from 22% in 2013 to 37% in 2015

A. Policies for anaemia management

- Trusts should consider having a policy to encourage identification and management of anaemia prior to transfusion. Of the 129 who responded 73 (57%) said they did not have a policy. Table 9 indicates policy introduction by RBC use level.

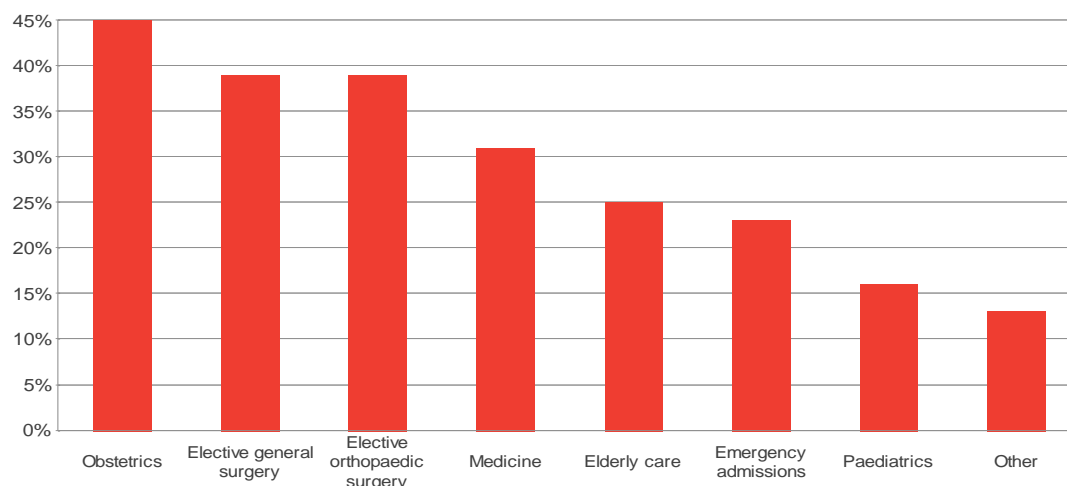
Table 9

	Total	Trust Blood Usage Group				
		Very High	High	Moderate	Low	Very Low
Base	129	52	35	31	10	1
		40%	27%	24%	8%	0.8%
Does your Trust have a policy to identify and correct the underlying cause of anaemia before considering transfusion?						
Yes	56	23	13	16	3	1
		41%	23%	28%	5%	2%
No	73	29	22	15	7	-
		39%	30%	20%	9%	-

In the 56 organisations where a policy existed, it covered the following areas (fig 8).

Fig 8

Specialties Included in Anaemia Policies (n = 56)



B. Oral and Intravenous (IV) iron

- Most organisations are able to offer both oral and IV iron. 98% (128/131) confirmed that oral iron was used to correct anaemia and the same number confirmed the use of IV iron
- If these products are offered, Table 10 indicates the specialties where they are most frequently used.

Table 10

Counts Analysis % Respondents	Base	'yes'		
		Oral iron	IV iron	2013*
Total	250	126	124	
Medicine	79.2%	79.4%	79.0%	28%
Elective general Surgery	65.6%	65.9%	65.3%	48%
Elective orthopaedic surgery	64.0%	64.3%	63.7%	ND**
Paediatrics	25.2%	25.4%	25.0%	19%
Elderly care	55.2%	55.6%	54.8%	ND**
Emergency admissions	36.0%	36.5%	35.5%	19%
Obstetrics	77.6%	77.8%	77.4%	38%
Other	27.6%	27.8%	27.4%	10%

*Includes both oral and i.v. iron, **ND = No Data

C. Iatrogenic Anaemia

- 37% (48/131) of Trusts confirmed they had an initiative to minimise the frequency of blood sampling. Of these Trusts, 44% said this applied to ALL patients and not just too specific specialties.
- Intensive Care Units (ICUs) and paediatric care were the most common specialty areas with minimum blood sampling policies. A full list is given as appendix 8
- The 2013 survey indicated the figure for Trusts having conservative blood sampling initiatives was 22%. In 2015 this has increased to 37% - an improvement of 15%

Section 8 – Patient Blood Management Initiatives: Identification and Management of Bleeding Patients

- There is a significant increase in the number of Trusts who have developed and implemented a protocol for the management of abnormal haemostasis
- There is no change in the percentage of Trusts who use visco-elastic technology
- There is an increase in the use anti-fibrinolytics for major bleeding across all specialties

A. Policies

- Trusts were asked if they had developed and implemented a protocol for the management of abnormal haemostasis in the following areas (Table 11).

Table 11

Abnormal Haemostasis	Total	'Yes'	
		2015	2013
Reversal of warfarin	130	99%	n/a
Management of bleeding associated with direct anticoagulants	126	77%	49%
Anti platelet drugs	123	73%	27%
Major haemorrhage	131	99%	78%

B. Visco-elastic technology

- The use of visco elastic technology (TEG, RoTEM) remains unchanged at 24% (Table 12) overall when compared with the 2013 survey.
- Where this technology is used, theatres remain the major user (85%). A full breakdown is given in appendix 9.

Table 12

	Total	Yes	No
TEG	124	39 31%	85 68%
RoTEM	119	19 16%	100 84%

C. Anti-fibrinolytics

- Table 13 indicates the use of anti-fibrinolytics e.g. Tranexamic acid (TA) in the following specialties. Analogous figures for the 2013 survey are shown in the same table. Data are not mutually exclusive.

Table 13

Does the Trust use anti-fibrinolytics, e.g. Tranexamic Acid, for major bleeding in the following patients?	2015	2013
Trauma	91%	74%
Surgical	91%	71%
General medical	46%	44%
Obstetric	71%	60%
Other	15%	-

Section 9 – Cell Salvage

- There is no change in the percentage of Trusts who use intra-operative cell salvage
- The use of post operative cell salvage has decreased

- 86% of respondents said they used intra-operative cell salvage (ICS). This is the same figure for the 2014 survey of cell salvage carried out by the UK Cell Salvage Action Group (UKCSAG) although this survey included Northern Ireland, Scotland and Wales.
- Principle users of ICS remain orthopaedic surgery and obstetrics. A full list is given as appendix 10.
- Overall, there seems to have been a 6% increase in the use of ICS across specialties however, data was analysed differently in the 2013 by grouping use into ranges so direct comparisons cannot be made.
- 43% of respondents in the 2015 survey have said they use post-operative cell salvage (PCS) and 57% said they did not. Of these 43%, 58% said the use of PCS had decreased over the previous two years.

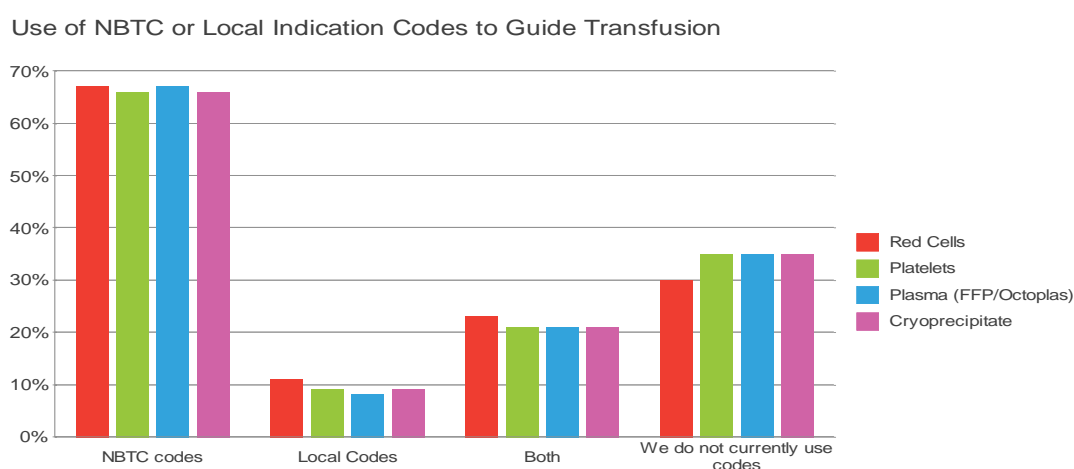
Section 10 – Supporting transfusion policies

- 74% of Trusts use either NBTC indication codes, local indication codes or both. This is a slight drop in the equivalent figure from 2013 (79%)
- 36% already have and 53% of Trusts have said they are planning to introduce a single unit red cell policy. 11% said they did not intend to introduce a policy
- 51% of respondents have either implemented a lower transfusion threshold policy or are planning to

A. The use of NBTC or local indication codes to guide transfusion

Figure 9 indicates the use of NBTC or local indication codes to guide transfusion.

Fig 9



- Overall, 74% of Trusts use either NBTC codes, local codes or both. The equivalent figure in the 2013 survey was 79%.

B. Transfusion requests: guiding and challenging

Table 14 indicates responses to 4 questions relating to these aspects of blood transfusion.

Table 14

Counts Analysis % Respondents	Total		
		Yes	No
IT systems in place for clinical reasons for transfusion?	130	20%	80%
Do you have protocols to guide transfusion requesting?	131	79%	21%
Lab staff empowered to challenge requests?	103	95%	5%
Individual treatment plans - transfusion dependent patients?	129	64%	36%

C. Transfusion thresholds, single unit policies and ATD platelet dosage

- Recently there have been a number of initiatives to promote a more conservative approach to transfusion of red cells in non-bleeding patients. Table 15 indicates progress in this area in the 2015 survey (2013 data).

Table 15

		Yes, the policy covers all areas	Yes, but it covers only specific areas	No, but we are planning to	No, we do not intend to implement such a policy
Red Cells Have you implemented a lower transfusion threshold policy for red cells in non-bleeding patients?	128	54	12	45	17
	100%	42%	9%	35%	13%
Single Unit Do you have a single unit red cell transfusion policy?	129	35	11	68	15
	100%	27% (29%)	8%	53%	12%
ATD Platelets Do you have a policy for transfusing one ATD of platelets at a time in non-bleeding patients	129	90	6	25	8
	100%	70% (50%)	5%	19%	6%

Lower Transfusion Threshold

- 51% of respondents have either implemented a lower transfusion threshold policy or are planning to.
- 12 organisations did have a policy that covered specific clinical areas. Where this was the case, 46% covered critical care and 46% covered clinical haematology.

Single Unit

- 53% of respondents have said they are planning to introduce a single unit red cell policy while 36% already had a policy in all or some clinical areas. 11% said they did not intend to introduce a policy

ATD Platelets

- 89% of respondents had or are planning to have a policy for transfusing one ATD of platelets at a time in non-bleeding patients
- In those Trusts who applied the policy to specific areas, over 60% were in general medicine and surgery, critical care and orthopaedic surgery. For platelets, where a single unit policy was advocated for non-bleeding patients in specific clinical areas, (6), 85% of these were accounted for by clinical haematology.
- Reasons for not introducing a policy included paediatrics where transfusion was stated as being based on weight. In some cases, single unit transfusion was advocated within the context of an existing policy on transfusion triggers.

Trusts were also asked if patients were re-assessed prior to further transfusions. Of the 129 who responded to this question, 95% said they were assessed both clinically and with a full blood count.

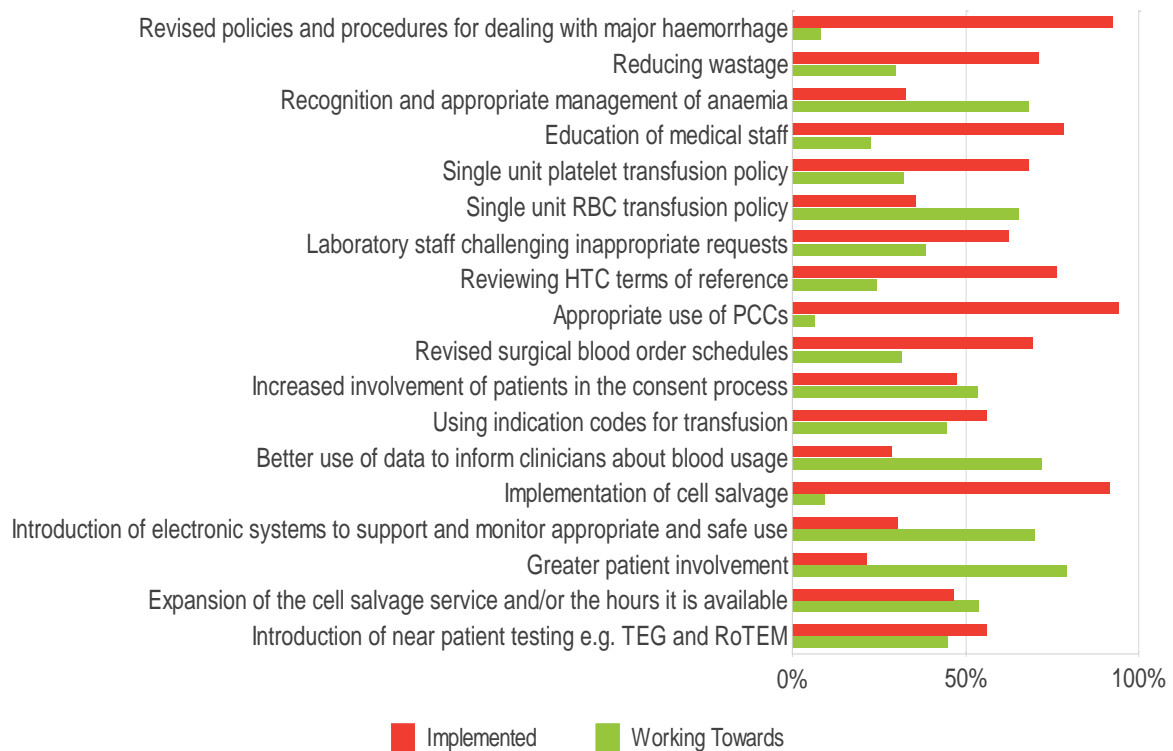
Section 11 – Summary and Overview of Patient Blood Management Initiatives

- Main areas for improvement are: management of anaemia, single unit transfusion policies, better information to support clinicians , introduction of electronic systems, patient involvement
- 31% of Trusts had recently submitted business cases to support PBM, the majority of these were in the very high user group
- Provision of education and resources and support for GP involvement around anaemia identification scored highly as ways that NHSBT could support PBM

A. PBM initiatives

Fig 10

PBM Initiatives: Implemented and Working Towards



B. Business cases to support PBM

- To help implement these aspects of PBM, Trusts were asked if they had submitted business cases to support the PBM initiative.
- 31% of Trusts had recently submitted business cases
- Table 16 shows those Trusts who have made such cases by RBC use level.

Table 16

Have you recently submitted business cases or requests for further funding to support your PBM programme?						
	Total	Very High	High	Moderate	Low	Very Low
Base	128	51	35	31	10	1
		40%	27%	24%	8%	1%
Yes	39	24	9	5	1	-
No	89	27	26	26	9	1

C. Barriers to PBM

Respondents were asked to summarise what they thought were the main barriers to the implementation of PBM. A word cloud constructed from the responses is shown here.

Principle barriers top PBM – Word Cloud

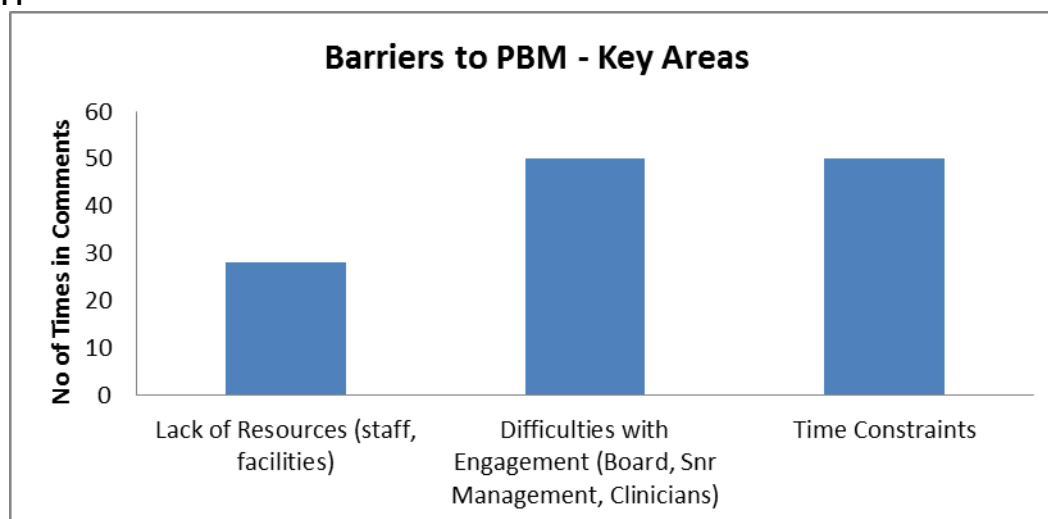


Figure 11 is a summary of the key themes emerging as barriers to PBM. They have been quantified by a word count of principle words occurring in the comments.

In addition, four examples, largely typical are shown, citing resources, time, clinical and managerial support against a backdrop of competing prioritisation of Trust activity.

- “Lack of Transfusion Practitioner time to support PBM”.
- “Only one TP in very high use hospital”.
- “Lack of engagement in a large teaching hospital”.
- “Lack of allocated laboratory staff time to support this programme.”

Fig 11



D. The future

Table 17 - Trusts were asked a number of questions on how NHSBT could support PBM.

Counts Analysis % Respondents	Total			
		Yes	No	Not sure
The NHSBT PBM team working more closely with individual Trusts on specific PBM initiatives	113	75 66%	17 15%	21 19%
NHSBT PBM Team members having joint roles, working in named NHS Trusts and NHSBT	110	56 51%	26 24%	28 25%
National clinical bench marking database	109	75 69%	8 7%	26 24%
National KPI's for Trusts on PBM	110	84 76%	6 5%	20 18%
Realignment of RTC regions e.g. in line with NHS England or pathology networks	108	23 21%	35 32%	50 46%
Greater use of IT e.g. more Apps, Webinars, podcasts for education etc	114	71 62%	15 13%	28 25%
Standardised and accredited education and training programmes for hospital transfusion teams	113	91 81%	10 9%	12 11%
Standardised and accredited education and training programmes for other hospital staff	113	84 74%	12 11%	17 15%
Standardised education and training for pre-registration staff (predominantly delivered within a university setting)	114	102 89%	6 5%	6 5%
Focus on identification and management of anaemia in primary care	116	104 90%	7 6%	5 4%
National PBM Toolkit and resources to assist with implementation in Trusts	113	90 79%	6 5%	17 15%
Focus on informing and empowering patients and the public through campaigns and educational resources	114	87 76%	11 9%	16 14%
A small increase in blood component price to fund additional support and resource	110	45 42%	34 32%	31 28%

E. Discussion

Since 2013, there has been slow but steady progress in the implementation of PBM initiatives in NHS Trusts in England. There was an impressive 91% response to the survey and 94% of Trusts have PBM on the agenda of their Transfusion Committees. Ninety nine percent of Trusts now have transfusion practitioners, but still only a minority of their time is focussed on PBM. Although 98% of Trusts now have a consultant haematologist allocated to Transfusion, in 28% of cases no specific time was allocated to this role in their job plan. Only 7% of laboratory staff have time for PBM in their job role and fewer than 50% of transfusion teams have support from administrators, IT and quality managers.

Impressively, nearly all relevant staff receive training on transfusion and 98% of Trusts state that information about transfusion is made available for patients. Eighty percent of Trusts state that the risk and benefits of transfusion are discussed with patients and documented in the notes (up from only 35% in 2013).

The main areas of PBM activity are focussed on anaemia management, restrictive transfusion thresholds and single unit red cell transfusion policy. 37% of Trusts have introduced initiatives to minimise blood sampling, particularly in critical care and paediatrics. Nearly all Trusts now have a major haemorrhage policy and policy for reversal of anticoagulation. Tranexamic acid use has increased and is used in 91% of Trusts for both trauma and surgery and 71% of Trusts for obstetrics. 86% of Trusts have access to cell salvage.

Electronic systems for ordering transfusion are still only in the minority of Trusts (29%). Clinical details are mandatory on requests in 47% of Trusts and 65% uses the national Indication codes. Laboratory staff are empowered to challenge requests in 95% of Trusts.

Despite limited additional resource in terms of staff and funding, NHS Trusts are making significant progress with PBM implementation. There is still work to be done and business cases for further developments are being submitted in a third of Trusts. The barriers to implementation are issues with silo working, ring-fenced budgets and lack of buy-in from managers and senior clinicians.

NHSBT and the NBTC are committed to continuing to support implementation of PBM and popular areas highlighted in the survey include: focussed project work with the PBM teams in NHSBT, the development of the PBM toolkit, awareness campaigns for patients and the public, the development of key performance indicators for PBM with benchmarking and a standardised approach to education for both pre registration and postgraduate trainees and permanent staff. A national transfusion request specification is in development which will incorporate the National Indication Codes which have been updated following publication of the NICE Clinical Transfusion Guidelines.

In addition, Quality Standards are being developed following the publication of the NICE Clinical Transfusion Guidelines. When these are published later this year, there will be a further opportunity to push PBM up the agenda of NHS Trusts. It is pleasing to see that PBM practice has improved over the last couple of years and with continuing effort, and support from NHSBT and the NBTC, there is room for further significant adoption of best practice in this field.

G. Appendices

Appendix 1- Glossary

Abbreviation	Meaning
BCSH	British Committee for Standards in Haematology
HTC	Hospital Transfusion Committee
ICS	Intraoperative Cell Salvage
KPI	Key Performance Indicator(s)
NCA	National Comparative Audit
NHSBT	National Health Service Blood and Transplant
NOACS	Novel Anticoagulants
PAs	Programme Activities
PBM	Patient Blood Management
PCS	Post-operative cell salvage
POCS	Post-operative cell salvage
RTC	Regional Transfusion Committee
TEG	Thromboelastography
TP	Transfusion Practitioner
WTE	Whole Time Equivalent

Notes

Individual Trust reports are provided on the basis of “Red Cell Usage Level” according to the following categories:

Very High Usage	>10,000 units per annum
High Usage	>7000, <=10,000 per annum
Moderate Usage	>4000, <=7000 per annum
Low Usage	>800, <=4000 per annum
Very Low Usage	<=800 per annum

Expanded appendices referred to in the text can be viewed or download from:
[Detailed Appendices for PBM Survey 2015/16](#)

Louise Sherliker

Operations Manager

Patient Blood Management Practitioner Team

NHS Blood and Transplant

Kate Pendry

Secretary National Blood Transfusion Committee

Consultant Haematologist and Clinical Director for Patient Blood Management

NHS Blood and Transplant

Brian Hockley

Data Analyst and Audit Manager

Patient Blood Management Team

NHS Blood and Transplant