

National Blood Transfusion Committee Fourteenth Annual Report (2015/16)

Foreword

I am delighted to present this the 14th annual report of the NBTC. The committee has improved representation in the last 2 years and has amended the terms of reference. It has been involved in important discussions around Hepatitis E screening, managing consent for blood transfusion and development of new components for clinical use. We are pleased to have helped introduce 5 day storage of thawed plasma. This has both improved availability in cases of major haemorrhage and reduced wastage. We have developed updated competencies related to blood sampling and blood administration that will replace the National Patient Safety Agency competencies and enable hospitals to rationalise training and competency assessment of staff. We continue to champion patient blood management initiatives that will improve patient care and use of blood components. We have updated the National Indication Codes for Transfusion in line with current evidence.

Jonathan Wallis
Chair of NBTC
August 2016

The Report

Our working groups each contribute in particular areas, and the RTCs continue to provide high class education on transfusion in the regions. Most of the educational meetings are over-subscribed. We maintain close links with the MHRA, SHOT, SABTO and NHSBT to enable a co-ordinated approach to transfusion from collection to administration.

The National Blood Transfusion Committee (NBTC) provides a national focus for progressing transfusion-related issues, enabling the transfusion community to act in a co-ordinated fashion, for example on transfusion safety and the implementation of blood conservation, contingency and emergency planning, new information technology (IT) and initiatives for training and clinical research. The NBTC monitors the performance of NHS Blood & Transplant (NHSBT), and receives reports on areas of activity in transfusion which have an impact on its work, such as the Serious Hazards of Transfusion (SHOT) scheme, the National Comparative Audit Programme and the National Commissioning Group (NCG).

The Terms of Reference for the NBTC and Regional Transfusion Committees (RTCs) were updated in 2016 to reflect new working arrangements.

Dr Jonathan Wallis (Consultant Haematologist, Newcastle upon Tyne Hospitals NHS Foundation Trust) has been Chair of the NBTC since October 2014, and in March 2015 Dr Kate Pendry (Consultant Haematologist, NHSBT, and Manchester) took over as Secretary from Professor Mike Murphy. The NBTC recognises the fantastic contribution from Mike, who was secretary since the inception of the NBTC in 2001 and was the major drive to the establishment and functioning of the NBTC and associated infrastructure to support Transfusion Medicine practice.

Committee Meetings and Working Groups

The NBTC met twice during 2016/16. The Executive Working Group of the NBTC met twice, and the Regional Transfusion Committee (RTC) Chairs Group met twice. Current Working

Groups are established for Patient Involvement, Transfusion Laboratory Managers, Patient Blood Management (PBM), Education, and Transfusion Request Specification.

Work of the NBTC in 2015/16

The NBTC has an annual work plan setting out objectives and actions to support the NBTC strategy which remains focussed to support the PBM initiative <http://www.transfusionguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/business>

The Working Groups also develop individual workplan which are available on the NBTC website www.transfusionguidelines.org.uk.

Regional Transfusion Committees

The RTCs are key to the promotion of better transfusion practice acting as a focus for activity and a conduit between the Hospital Transfusion Committees and the NBTC.

There are 10 RTCs which were realigned in 2006/07 to reflect the boundaries of the ten Strategic Health Authorities, and these boundaries have continued despite further NHS reorganisations and HTC's value the current structure. Continuing concerns expressed by RTC Chairs from their membership in the last year included the effect on transfusion laboratories and transfusion practice through pathology modernisation initiatives focused on high throughput pathology services and cost saving, the challenge of engaging hospitals in PBM, the delays in the updating of the NBTC and RTCs website, and the difficulty in identifying patient representatives for RTCs.

Patient Blood Management (PBM)

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.

In June 2014, the initial recommendations from the NBTC about how the NHS should start to implement *Patient Blood Management* were endorsed by NHS England and issued to hospitals. <http://www.transfusionguidelines.org.uk/uk-transfusion-committees/national-blood-transfusion-committee/patient-blood-management>.

In 2015, NHSBT produced a PBM Strategic Workplan 2015-2018 in collaboration with the NBTC. This ensured continuing investment by NHSBT into PBM to achieve the following objectives:

Strategic Objective	Key Goals
1. Embed PBM into hospitals as a long term and sustainable model for the delivery of patient-centred, evidence based, high quality care	A: Lead on transfusion education and learning
	B: Provide evidence to drive and measure the efficacy of PBM <ul style="list-style-type: none"> • Support the implementation of findings from research • Development and implementation of national guidelines
	C: Collaborate with influential stakeholders to raise the importance of PBM at corporate, NHS England and Department of Health level
	D: Promote patient and public involvement in PBM
	E: Monitor implementation of PBM through audits and surveys
2. Implement PBM strategy through a collaborative approach between NHSBT, NBTC and hospitals/primary care	A: Deliver a series of PBM pilots to demonstrate the benefits of PBM and influence change
	B: Undertake health economic analysis based on the pilots to support change
	C: Implement blood component specific projects

	D: Work with other teams to support integration and partnership
3. Develop structures, tools and processes to support the implementation of PBM	A: Develop PBM benchmarking tools - Lead development of clinical benchmarking. - Agree a national specification for transfusion requests. - Agree a set of key performance indicators for PBM with a scorecard.
	B: Modernise the interface between NHSBT and hospitals to enable information to be collected efficiently and systematically
	C: Workforce development to enable PBM teams to work more effectively
	D: Establish a PBM business support team
	E: Review the structure of the PBM teams within NHSBT and the structure and function of the NBTC and the RTCs
	F: Optimise intraoperative cell salvage in hospitals

The National Institute for Health and Clinical Excellence (NICE) published guidelines on Blood Transfusion in 2015 <https://www.nice.org.uk/guidance/ng24> and are currently developing quality standards for transfusion which will be published in November 2016. The guidelines provide a framework for implementation of patient blood management and cover recommendations on: alternatives to transfusion for patients having surgery, thresholds, targets and doses for blood and blood components, patient safety and patient information.

The NBTC Indication Codes for blood transfusion were updated to bring them into line with latest evidence and were agreed following consultation with NBTC members in June 2016 <http://www.transfusionguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations>

In 2015, NHSBT and the NBTC undertook a survey to evaluate progress towards PBM in NHS Trusts in England <http://hospital.blood.co.uk/media/28341/2015-survey-of-patient-blood-management.pdf>. There was a 91% response rate and 94% of Trusts have PBM on the agenda of their Transfusion Committees. Despite limited additional resource in terms of staff and funding, NHS Trusts in England are making significant progress. 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 were identified as issues with silo working, ring-fenced budgets and lack of buy-in from managers and senior clinicians.

The NBTC working groups and NHSBT PBM teams are using the survey to identify the key areas to provide support. Some specific examples include:

- Project to support the implementation of pre-operative anaemia management
- Project to implement a single unit transfusion policy
- Project to identify causes for iatrogenic anaemia in critical care and suggest strategies for improvement
- Project to look at PBM in Obstetrics
- Development of a Blood Choices App to support anaemia management and red cell prescribing
- Project to improve use of O D neg blood and reduce wastage

Further information can be found here: <http://hospital.blood.co.uk/patient-services/patient-blood-management/>

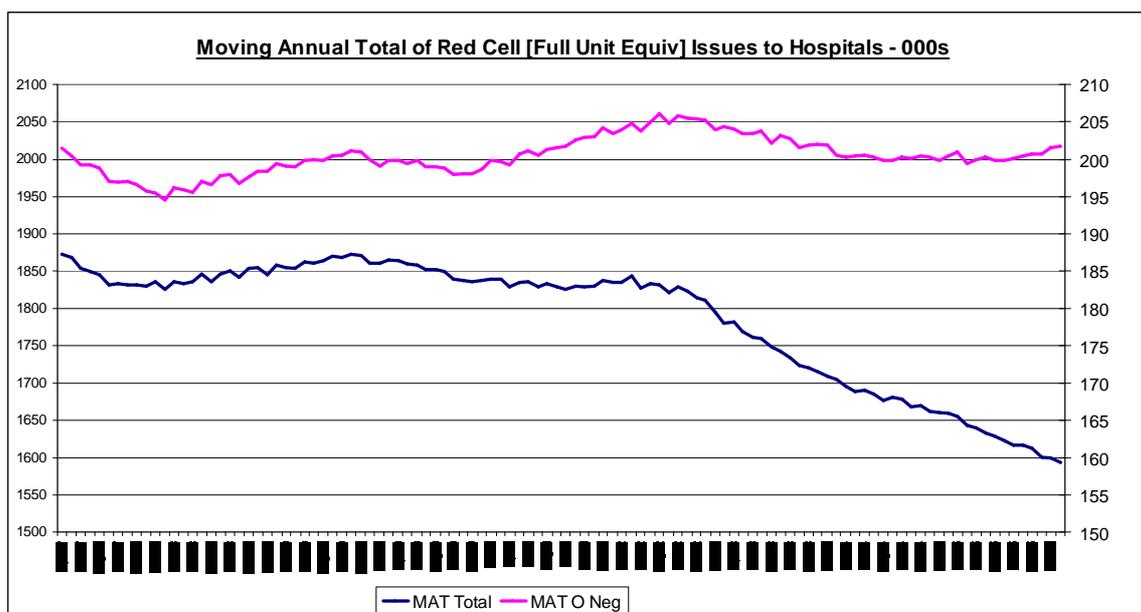
Other initiatives that will support the delivery of evidence-based care in transfusion medicine include:

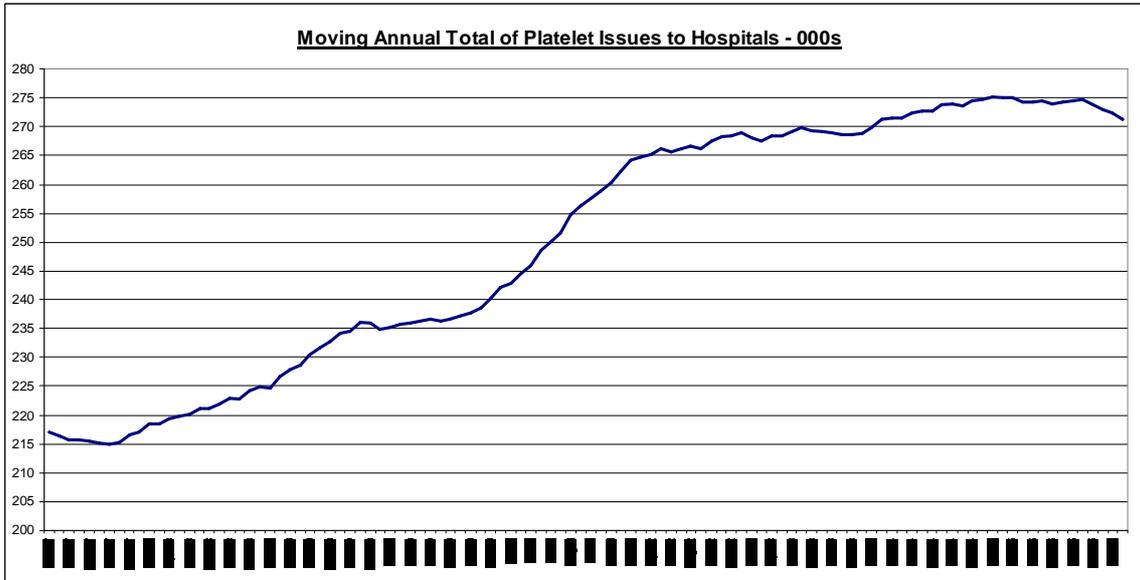
- o The Choosing Wisely campaign – this is an international initiative looking at ways of avoiding ‘too much’ medicine. Mike Murphy and colleagues have produced a draft list of recommendations which support our key PBM messages; these are currently under consideration by the Academy of Medical Royal Colleges

- The Transfusion Evidence library – this is a database of systematic reviews and randomised controlled trial relevant to transfusion medicine. It is possible to set up a regular Transfusion Evidence alert to ensure users keep up to date <http://www.transfusionevidencelibrary.com/>
- The James Lind Alliance is requesting feedback on blood transfusion and blood donation from patients, carers and healthcare professionals to support the priority setting of future research questions in this area <http://www.jla.nihr.ac.uk/priority-setting-partnerships/blood-transfusion-and-blood-donation/>

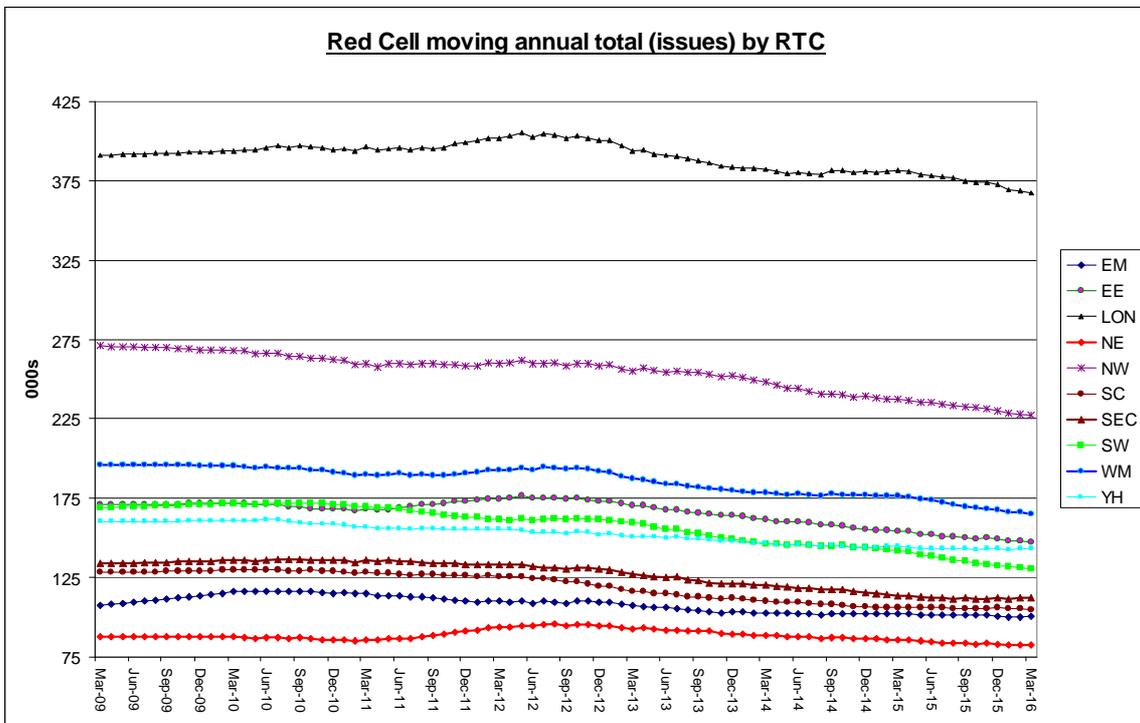
Appropriate Use of Blood

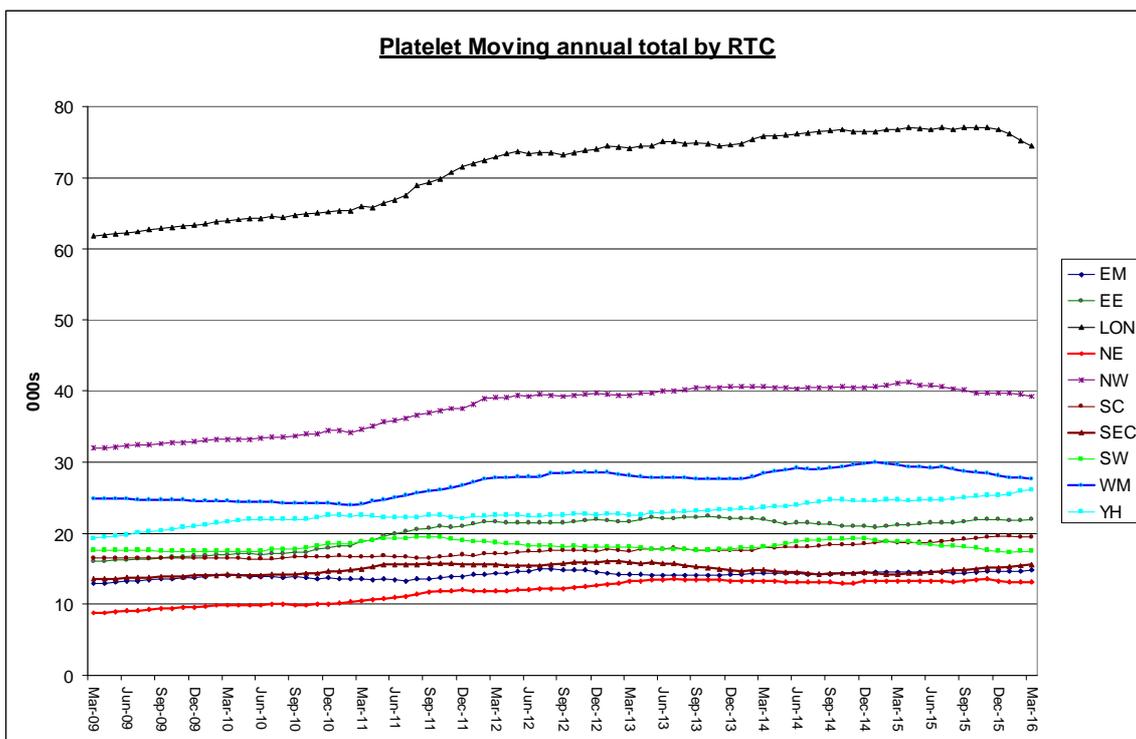
During 2015/16, there was a decrease of 4% in the number of red cell units issued to hospitals in England and North Wales, compared to a decrease of 2.6% in 2014/15. This equates to red cell issues per 1000 population of 28.5. During the last year, the usage of platelets decreased by 1.3% compared to an increase of 1.3% in 2014/15. The usage of fresh frozen plasma (FFP) decreased by 5.6% compared to a decrease of 2.14% in 2014/15. The charts below show the change in issues since 2007, demonstrating the significant impact of PBM activities. By contrast the issues of O D Neg red cells have remained stable but in the context of falling overall red cell issues, now account for 13% of red cell issues. This presents a difficult problem for NHSBT as the frequency of O Neg in donor population is only 7% and the current situation is difficult to sustain.





The following charts show red cell and platelet issues broken down by region





National comparative audit of blood transfusion

The focus of the NHSBT/Royal College of Physicians National Comparative Audit of Blood Transfusion (NCABT) programme is to conduct audits of the safe and appropriate use of blood. Audit reports can be found here: <http://hospital.blood.co.uk/audits/national-comparative-audit/national-comparative-audit-reports/>

Overview of 2015 Audit of Patient Blood Management in adults undergoing scheduled surgery

The audit was supported by the Royal College of Anaesthetists and Royal College of Surgeons

Aims

The audit assessed application of PBM measures in a range of surgical procedures associated with a high transfusion usage.

Methods

Hospitals in the UK were asked to collect data on consecutive patients undergoing surgery over a 3 month period in 2015 who were transfused. The procedures included orthopaedic, cardiac, colorectal, urological, gynaecological and vascular surgery. Patients with a fractured neck of femur were also included. Based on current practice recommendations and clinical guidelines a series of PBM algorithms were developed and designed as audit standards.

Results

Data was received from 190 sites for 3897 patients over a 3 month. All patients received at least one red cell transfusion during the surgical episode (~8500 red cell units transfused). Practice was assessed against 11 PBM standards, in the pre-operative (5) operative (2) and post-operative care settings (4).

Pre-operative anaemia was present in half of patients but often identified late with only 53% patients having a haemoglobin level tested at least 14 days pre-operatively despite an average of 42 days between listing for elective surgery and operation. Overall 46% of patients had attempts made to manage anaemia pre-operatively. Transfusion in the pre-

operative setting was rarely performed appropriately against given standards (PBM 2, 12%; PBM 3, 2%; PBM 4, 28%).

At operation most patients received one PBM measure prior to transfusion (PBM 6, 83%) but rarely all those PBM measures recommended (PBM 7, 16%). In particular there was variation in the use of Tranexamic acid. Post-operative transfusion was not often performed within recommendations (PBM 8, 24%) with a single unit policy adopted only in a third of cases (PBM 9, 38%). Post-operatively, in those who received a transfusion, most patients had received one of the proposed PBM measures (PBM 10, 85%) but only 8% of cases had received all recommended PBM measures (PBM 11).

Conclusions

This large audit highlighted the need to develop a standard of practice in surgical PBM to promote appropriate use of transfusion in surgery. Certain aspects of PBM are low cost and can be readily implemented such as the use of Tranexamic acid. Mechanisms to identify, investigate and manage preoperative anaemia and a single unit transfusion policy need to be developed and implemented to reduce unnecessary transfusion in surgery. Improvement in PBM practice to help ensure appropriate use of transfusion and alternatives, where available, will benefit patients and reduce healthcare costs for hospitals.

Overview of Audit of lower gastrointestinal bleeding (LGIB) and use of blood

This audit was supported by NHSBT, British Society of Gastroenterology and the Association of Coloproctology of Great Britain and Ireland.

Aims

To understand the characteristics, aetiology and management of patients admitted to UK hospitals with LGIB. Lower gastrointestinal bleeding (LGIB) is a common indication for emergency hospitalisation, represents 20% of patients admitted with gastrointestinal bleeding and accounts for approx 3% of red cells transfused.

Methods

All UK hospitals were invited to participate and collect data on patients presenting with LGIB between 1st Sept 2015 and 1st Dec 2015.

Results

139 hospitals (including 84% of English Trusts) provided data on 2528 patients. It was interesting to note that 1075/2510 (42.8%) patients were receiving an oral anti-platelet or Anticoagulant. 666/2493 (26.7%) patients received a red cell transfusion with 258/2493 (10.3%) requiring more than 4 units. Mortality at 30 days post presentation with LGIB was 85/2492 (3.4%). The most frequent discharge diagnoses were biventricular disease (668/2528, 27.1%), benign anorectal conditions (422/2528, 17.1%) and bleeding source unidentified (576/2528, 23.4%). Other diagnoses included colitis, angiodysplasia, cancer and polyps.

Organisation of Care

133/138 (96.4%) hospitals provided guidelines for blood transfusion for patients with major haemorrhage but these were reported as not being readily available by case completers in 103/138 (74.6%) hospitals.

Cases of LGIB

Most patients did not meet the criteria for clinically significant bleeding (defined as bleeding associated with a systolic blood pressure <100mmHg, heart rate \geq 100 and \geq 1 unit red cell transfusion), but despite this 666/2493 (26.7%) received a red cell transfusion. Many patients were transfused at Hb thresholds above 70-80g/l and many were transfused to target Hb of more than 90-100g/l. A lot of these transfusions could be considered avoidable.

Conclusions

This is the first and largest audit of LGIB conducted in the UK and reports detailed evaluation of many components of care on an unprecedented scale. Presentation with haemodynamic shock and major haemorrhage is very uncommon, in contrast to upper GI bleeding. Despite the small numbers of patients with shock, 25% patients received a red cell transfusion. Many of these transfusions may be deemed inappropriate and represent a significant opportunity to reduce the burden of transfusion in this group of patients.

Brief interim report of Audit of red cell and platelet transfusion in adult haematology patients

Aims

To review transfusion management of adult haematology patients

Results

151 hospitals participated in the organisational audit and 170 hospitals participated in the clinical audit. A total of 4649 patient records were analysed providing 6109 transfusion episodes. There were 4328 red cell transfusions, 1781 platelet transfusions and 31% of patients received both components.

Organisational audit

Written guidelines were available in 87% of Trusts. When available there was variable agreement with NBTC indications. In red cell transfusion categories “anaemia without additional risk factors” and “anaemia with cardiovascular disease” non compliance was around 30% in each and the main reason was because a higher threshold was stated. Only 16% stated that platelet transfusion prophylaxis was not required if the patient had chronic BMF.

Clinical audit

70% of all patients were managed without curative intent with either transfusion alone or with the addition of low dose chemotherapy.

Compliance with NBTC indications was no better in level 2b or level 3 care organisations compared to level 1 or 2a care organisations.

Red cell transfusion in 59% of transfusion episodes the indication was chronic anaemia.

There was only 17% (163/955) compliance for NBTC indication of Hb threshold of 70g/L without additional risk factors and only 30% (18/60) compliance for NBTC indication of Hb of 80g/L with risk factors of cardiovascular disease

Platelet transfusion In 77% of platelet transfusion episodes the indication was prophylaxis and within this group 53% were given to patients with chronic bone marrow failure (BMF). In patients receiving platelets for prophylaxis with reversible BMF and no other risk factors 52% had platelet count $\leq 10 \times 10^9/L$ (this was 50% in 2011 NCA).

Using an appropriate use algorithm 72% of cases with reversible BMF were considered appropriate but only 43% of cases with chronic BMF, not receiving intensive therapy, were considered appropriate.

Conclusion

There continues to be evidence of inappropriate transfusion in haematological patients.

All hospitals need guidelines to define practice and these should be based on the NBTC indications. The NBTC indications should clearly state that platelet transfusion prophylaxis is not indicated in stable patients with chronic BMF.

The report of the 2014 audit of transfusion in children and adults with sickle cell disease is awaited. In 2016/2017 there will be repeats of the audits in surgery and haematology as these are both part of the AFFINITIE study (The development and evaluation of enhanced audit and feedback interventions to increase the uptake of evidence-based transfusion practice). In addition, there will be an audit of red cell transfusion in palliative care commencing September 2016.

Working Groups:-

1) Transfusion Request Working Group

This was a short-lived group convened with the aim of standardising the transfusion request specification to achieve the following:

- Standardisation of reason and justification of transfusion as codes (based on national indication codes)
- Standardisation of method for requesting special requirements
- Support for implementation of decision support based on requesting codes and transfusion thresholds
- Agreement of a minimum transfusion / PBM dataset to support clinical benchmarking
- Provision of advice to NHS Digital to inform transfusion sections of National Laboratory Medicine Catalogue
- Agreement of measurable key performance indicators to support PBM implementation

2) Blood Components

Fresh frozen plasma:

Extending the shelf life of thawed FFP

The BCSH guideline “A practical guideline for the haematological management of major haemorrhage” (Hunt *et al*, 2015), recommended that hospital transfusion laboratories seeing many massive haemorrhage cases associated with trauma should consider having pre-thawed plasma on standby to allow FFP to be immediately available for the management of major bleeding. Some centres are already doing this; however this practice is contributing to a significant amount of FFP wastage due to the current shelf-life of pre-thawed FFP being only 24 hours. The Standing Advisory Committee on Blood component and Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services’ Professional Advisory Committee (JPAC) reviewed the available data on FFP agreed the following:

- The shelf life of pre-thawed Methylene Blue treated FFP should remain the same (i.e. 24 hours) and not be extended
- the shelf life of pre-thawed FFP can be extended from 24 hours to 120 hours, to enable rapid clinical provision of FFP for the management of unexpected major haemorrhage without excessive wastage.

An addendum to the current FFP guideline issued by the British Committee for Standard in Haematology was issued in April 2016

http://www.bcshguidelines.com/documents/Addendum_FFP_Apr_2016.pdf

The FFP specification was changed in the red book in parallel with the BCSH guideline addendum and NHSBT went live with component label changes in April 2016

Liquid Plasma

An alternative to FFP is the ‘never been frozen’ (or liquid) plasma which is currently being used in Sweden (shelf life 7 or 14 days). The work on the haemostatic properties of this component is currently ongoing by Component Development Laboratory at NHSBT. The main advantage to liquid plasma is that it does not require any thawing and as such can be made readily available for use in management of major bleeding. However, with the shelf life of thawed FFP being extended to 120 hours, in order for liquid plasma to be attractive to hospitals, its shelf life would have to be long enough for it to be worthwhile considering for use in clinical practice. This will be discussed further at the NBTC in September 2016

Platelets

Bacterial screening vs. Pathogen Inactivation of Platelets

Systems for pathogen inactivation (PI) of platelet concentrates are CE marked and in routine use in several European Countries. To reduce the risk of bacterial contamination of

platelets, NHSBT currently uses bacterial detection method, but PI systems offer an alternative approach that may offer other benefits, but its cost effectiveness remains to be proven.

As part of the procurement exercise for a risk reduction system, operational evaluations of PI systems was undertaken in 2015/2016 to determine what benefits can be realised by NHSBT and thus whether PI offers a realistic alternative to bacterial screening. Following this, NHSBT made the decision to continue with bacterial screening for the time being

2) Education and training

Medical Undergraduate training

- RCPATH undergraduate curriculum 2015 launched which includes transfusion topics that the group contributed to – all NBTC members asked to promote implementation.
- Collaboration with BSH Education Committee
 - Contributing to BSH education committee undergraduate training days in Haematology
 - Providing case based questions for Blood Med website
 - Participation in RCP careers day held on 27th Feb 2016

Foundation Training

- Ongoing development of PBM app to influence prescribing behaviour at the bedside
- Ongoing contribution to action plan to strengthen education amongst trainees around patient information and consent.

Postgraduate core medical and higher speciality training

- Work with NBTC representatives of Royal Colleges to strengthen transfusion training
- Continue to raise profile of transfusion medicine across clinical disciplines via various activities e.g. participation and leading on National Comparative Audits, contribution to professional guidelines (e.g. BCSH, RCOG, NICE), publications

Haematology Specialist Registrar training

- Contributing to discussion on Shape of Training with defining core Transfusion Medicine skills as part of the curriculum review.
- Ongoing review and standardisation of NHSBT delivered transfusion courses for Haem SpRs. Promoting Transfusion Training checklist approved by Haematology SAC uploaded on JRCPTB website
- Supporting Transfusion attachments in partnership with Trusts and NHSBT at 6 centres
- Contributing to current discussions on NHSBT strategy for potential international placements

Scientific training

- Contributing to HSST Transfusion Medicine training with curriculum and FRCPath exam (first Part I FRCPath exam to be held in Spring 2017).

Nursing & Midwifery training

- Various outputs from the NHSBT Patient Blood Management (PBM) Team
- PBM Education Strategy: The latest draft of the PBM education workplan has now been updated with implementation supported by 2 team members seconded into a new education team.
- Non Medical Authorisation (NMA) Courses: Four dates for 2016, Tooting, Filton and two in Manchester. Currently undertaking a gap analysis between the NMA courses organised by NHSBT and others organised by RTCs and the Welsh course with a view overall strengthening training and developing a web based toolkit.
- National Paediatric Conference in 2017: Organising a one day symposium focussing on Patient Blood Management in paediatric and neonatal patients.

3) Working Group to develop training and competency assessment standards following disbanding of the NPSA

A NBTC Working Group was established in 2015 to update the requirements and core standards for transfusion training and assessment. Following widespread consultation with key stakeholders, these were published in March 2016. <http://www.transfusionguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations>

4) Patient and Public Involvement

The Patient Involvement Working Group was established to promote patient and public involvement in blood transfusion.

The Working Group was involved in several patient-related activities during 2014/15:-

- **Further develop information on blood transfusion for patients and the public**
 - Partnership work continues between the PBM team and approximately 20 patient organisations and charities that are associated with patients that are often transfused, to promote patient information on their respective websites and link to the Hospitals and Science and blood.co.uk websites. Approximately 8 organisations have agreed to this and show links from their website.
- **Ensure patient information leaflets (PILs) relevant and up to date**
 - Patient information leaflets have been updated and are available here: <http://hospital.blood.co.uk/patient-services/patient-blood-management/patient-information-leaflets/>
 - Following an option appraisal, a decision was made to apply for 'The Information Standard' awarded by NHS England as a kite mark for excellence in patient information. The process is lengthy and work has commenced with support from NHS England to undertake a gap analysis on our current PILs and processes.
- **Promote Transfusion awareness in collaboration with specialist societies and groups**

The NHSBT PBM team supported the following in 2015 / 2016:

- RCM Annual Conference
- Maternity, Midwifery and Baby Forum
- Patient and Carer conference
- Festival of Healthcare at Manchester Medical School
- European Bone Marrow Transplant (UK) Nurses and Allied Professions Event

The NHSBT PBM team is promoting the role out of Harveys Gang, working with Malcolm Robinson of West Sussex hospitals; Malcolm and his team were winners of the Kate Granger Compassionate Care Team Award in 2015

- **Promote Implementation of SaBTO guidance on consent**

Following the publication of the NCA Patient Information and Consent report an action plan was drawn up by members of the PIWG.

- A new section on Consent has been created on the PBM Toolkit on the Hospitals and Science website at: <http://hospital.blood.co.uk/patient-services/patient-blood-management/consent-for-transfusion/> This includes examples of good practice re implementation of consent and a consent template and PowerPoint presentation for hospital staff

5) Transfusion Laboratory Managers Working Group

Transfusion laboratory managers have concerns about the quality of hospital transfusion services in relation to the increasing centralisation of pathology services. There are concerns about the downgrading of biomedical scientist posts and the loss of expertise in hospital transfusion laboratories. The group worked with the UK Transfusion Laboratory Collaborative and SHOT to undertake a survey of the current state of play. Results are shown below.

In addition, the group has supported laboratories with:

- Introduction of the '2 sample' rule
- Implementation of Hepatitis E screening
- Management of O D Negative red cells inventory
- Management of A D Neg platelet inventory (and surplus A D Neg red cells)
- Management of platelet stocks and wastage
- Implementation of cell free fetal DNA testing for O D Negative pregnant women
- Interaction with UK Assessment Service (UKAS)
- Provision of education and training by NHSBT
- Holding Bioproducts Laboratories to account with regards to anti D supplies

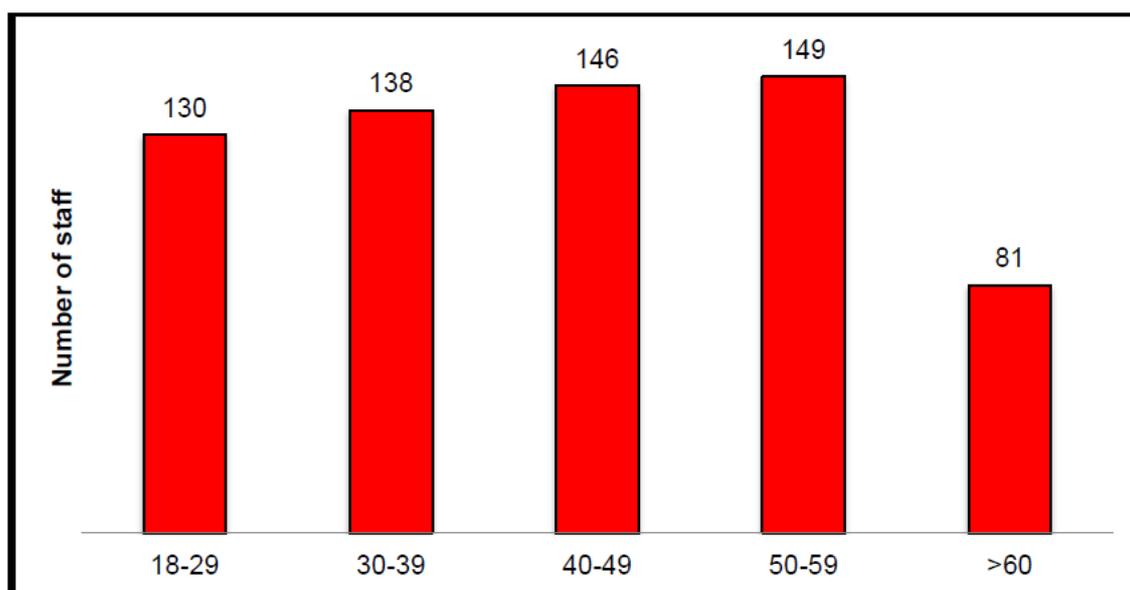
The 'Guidance for the Emergency Transfer of Blood and Components with Patients Between Hospitals' and the 'NBTC Red Cell and Platelet Shortage Plans' have been updated and are available here: <http://www.transfusionguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations>

UK Transfusion Laboratory Collaborative / NBTC Survey 2015

The survey was distributed to 327 transfusion laboratories in March 2015; there were 204 responses (62%). The key findings are as follows:

- Laboratory reorganisations have been / are substantial, 100/178 (56%) affected
- There are staff shortages with dependence on locum and agency staff
- It has become more difficult to train and mentor staff, and resources for training re reducing
- Future staffing: 56 laboratories have one or more members of staff over the age of 60 years and 140 have staff aged 50-59 years. As these members of staff retire much specialist knowledge will be lost
- Knowledge and competency at the time of qualification have changed so that newly appointed staff need extra training and supervision which may be difficult to provide

Age profile in years. 43% of staff are 50 years of age or older



Further information on the UKTLC report can be found here: <http://www.shotuk.org/wp-content/uploads/2015-UKTLC-Laboratory-Survey-Key-Findings.pdf>

Serious Hazards of Transfusion (SHOT) scheme

The 2015 SHOT report was published in July 2016. 100% of organisations are registered to report to SHOT and of those, only 4 did not report in 2015. There were 3288 reports of which 1838 were actual incidents 9 as opposed to near misses). 26 deaths related to transfusion were reported and the death was definitely related in 2 cases and probably related in 9 cases. The number of laboratory errors increased from 334 to 455. The key messages are shown in the table below and further information is available here: <http://www.shotuk.org/>

Headlines	<p>The four most serious adverse reactions:</p> <ul style="list-style-type: none"> • Haemolysis contributed to death in 5 cases, including one caused by anti-Wra, one ABO incompatible transfusion, and an infant died related to exchange transfusion for D-related haemolytic disease of the foetus and newborn • Transfusion-associated circulatory overload contributed to death in 7 cases, and major morbidity in 34 • Delayed transfusion contributed to death in 6 cases and major morbidity in 5 • Acute transfusion reactions were associated with severe reactions (major morbidity) in 86 patients
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<p>Key Messages and Recommendations</p>	<ul style="list-style-type: none"> • There is no substitute for correct patient identification at all stages in the transfusion process • The severity of the outcome is not the determinant of the seriousness of the error. Near miss reporting demonstrated 889 errors which could have resulted in incorrect blood component transfusions, of which 288 were known to be potentially ABO-incompatible • Delay in appropriate transfusion contributes to death in sick patients • Risk assessment before transfusion. Transfusion-associated circulatory overload (TACO) is the most common cause of death and of major morbidity and may be preventable. Patients should be properly assessed prior to transfusion to identify those at particular risk and to ensure the transfusion is required • Information technology (IT) systems depend on correct set up and validation to ensure they are fit for purpose and contribute to patient safety rather than impede it • Errors in the administration of anti-D immunoglobulin remain disappointingly high; clear local guidelines and thorough training of all staff involved is essential • Checking means checking with no short cuts • Laboratory error reports to SHOT have increased and human error accounts for 96.7% of serious adverse events reported to the Medicines and Healthcare Products Regulatory Agency
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Work is continuing with the MHRA to develop a combined haemovigilance reporting system. Serious adverse reaction reporting is now the responsibility of SHOT experts (phase 1). In phase 2, a single portal for haemovigilance reporting will be developed.

Medicines and Healthcare products Regulatory Agency (MHRA)

765 Serious Adverse Events (SAEs) and 262 Serious Adverse Reactions (SARs) were reported in 2015. The number of SARs have remained fairly constant from 2012 whereas SAEs have shown a significant decrease from 2012.

Human error continues to remain the highest root cause of all SAEs reported (96.7%). Due to this, the MHRA has further subdivided the human error category to try and understand exactly why they occur.

MHRA is working closely with reporters to develop strategies to reduce the occurrence of human error as this is the single most common cause of errors reported to SABRE.

Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO)

In 2014, SaBTO has established a working group to consider evidence on the transmission of Hepatitis E by blood transfusion. In early 2016, the working group produced recommendations about the at risk groups who should receive hepatitis E screened negative blood components. Hepatitis E negative components were available from NHSBT from 14th March 2016. A further review of at risk groups will be undertaken in September 2016. The requirement on NHSBT to produce 80% of platelets by apheresis of single donors has been removed and in 2016, the level of production of apheresis platelets is 60%. Following on from another SaBTO recommendation in 2014, pooled platelets have been suspended in plasma and platelet additive solution since April 2015.

Review of the performance of the NHSBT

Demand for red cells continues to reduce (4% in 2015/16), and platelet demand is also falling (1.9% in 2015/16). 96% of products were delivered on time in full. Orders for Ro units

were only fulfilled on 58.6% of occasions (target 65%). Issues of O RhD negative blood were 13% in 2015/16 (with a substitution rate of 0.8%) but above the target of 12.2%. 4.41% of red cells produced were not issued (target 3.88%) and 11.46% of platelets produced were not issued (target 8.64%). There is an excess of A D negative red cells due to an increasing demand for A D negative platelets. The sites for red cell immunohaematology have exceeded the target for turnaround times for reference samples, in most months in 2015/2016

Further information about the terms of reference, membership, and work of the NBTC can be obtained from the Secretary, Dr Kate Pendry (NHSBT, Manchester, kate.pendry@nhsbt.nhs.uk), from the Chair of the appropriate RTC or from its website <http://www.transfusionguidelines.org.uk/index.asp?Publication=NTC&Section=27&pageid=814>

Next steps 2016 and beyond

The NBTC is planning to develop a series of focus meetings prior to the main committee meetings in order to analyse and advise on particular areas of interest within transfusion. We will continue with our educational work, stimulating audit and surveys, and helping with implementation of new guidance, most particularly the NICE guidance on Blood Transfusion. We intend to work with , but also to monitor the activities of the NHSBT to ensure that clinical needs are always given priority when considering changes in NHSBT service delivery.

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Dr Kate Pendry
Secretary of the NBTC

Dr Jonathan Wallis
Chair of the NBTC

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Glossary of Terms

AFFINITE	
BMF	Bone marrow failure
BSH	British Society of Haematology
FFP	Fresh Frozen Plasma
FRCPath	Fellowship of the Royal College of Pathologists
Haem SAC	Haematology Specialist Advisory Committee
Haem SpRs	Haematology Specialist Registrars
HSST	Higher Specialist Scientific Training
JRCPTB	Joint Royal Colleges of Physicians Training Board
LGIB	Lower gastrointestinal bleeding
MHRA	Medicines and Healthcare Regulatory Agency
NBTC	National Blood Transfusion Committee
NCABT	National Comparative Audit of Blood Transfusion
NCG	National Commissioning Group
NHSBT	NHS Blood and Transplant
NICE	National Institute for Health and Clinical Excellence
NMA	Non Medical Authorisation
PBM	Patient Blood Management
PI	Pathogen inactivation
PIL	Patient Information Leaflet
RCPATH	Royal College of Pathologists
Ro Units	Red cell units with the blood group Ro
RTC	Regional Transfusion Committee
SABTO	Advisory Committee on the Safety of Blood, Tissues and Organs
SAEs	Serious Adverse Events
SHOT	Serious Hazards of Transfusion
UKAS	UK Assessment Service
UKTLC	UK Transfusion Laboratory Collaborative