

Resources required for PBM in hospitals

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Overview of Transfusion 2024 Patient Blood Management

- Improving blood transfusion: what have we achieved?
- An international perspective
- Resources needed for implementation of PBM in hospitals
- Is PBM accreditation needed?

Transfusion 2024 – PBM Session 1



Dr Jonathan Wallis – Improving blood transfusion: what have we achieved?

What have we achieved?

Decreasing red cell use.

What stimulated change in practice?

Research – less transfusion required for safe patient care

How was change achieved?

Education & audit – TP's & NHSBT clinical input

Is it good medicine?

Yes continued clinical research has demonstrated the safety of restrictive transfusion

Is it cost effective?

Compared to 2000 – 96 million saving per year

Transfusion 2024

Setting a 5-year strategy for clinical and laboratory transfusion practice

The New England Journal of Medicine

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VOLUME 340

FEBRUARY 11, 1999

NUMBER 6



A MULTICENTER, RANDOMIZED, CONTROLLED CLINICAL TRIAL OF TRANSFUSION REQUIREMENTS IN CRITICAL CARE

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ABSTRACT

Background To determine whether a restrictive strategy of red-cell transfusion and a liberal strategy produced equivalent results in critically ill patients,

RED-cell transfusions are a cornerstone of critical care practice,¹ but there are divergent views on the risks of anemia and the benefits of transfusion in this setting. One

Trial of Prophylaxis vs. No-Prophylaxis Platelet Transfusions in Patients with Haematological Malignancies (TOPPS)

The Research Question:

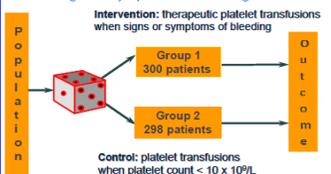
Is a No-Prophylaxis policy for platelet transfusions for patients with haematological malignancies not worse than (*Non-Inferior to*) a prophylaxis policy triggered at a level of $10 \times 10^9/L$, as judged by WHO Grade 2,3,4 bleeding up to 30 days after randomisation?

Background

- Platelet demand is rising
- Maintaining supply is challenging
- Haematology patients are the highest users, with platelets given to manage bleeding in thrombocytopenia
- Treatment can be either therapeutic or prophylactic
- >60% platelets are used for prophylaxis

Primary Outcome: Proportion of patients with WHO grade 2 or above bleeding

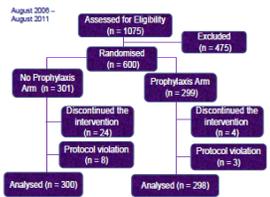
Methods: eligible patients were randomised to receive either prophylactic transfusions, or to no-prophylaxis with transfusions given only after documented signs & symptoms of bleeding



Poster produced by Gillian Power, TOPPS Trial Manager
e-mail: gillian.power@nhs.uk

NHSBT Clinical Trials Unit

Results



This study did *not* demonstrate that a no-prophylaxis approach is non-inferior.

- WHO grade 2-4 bleed occurred in 50% of patients in the no-prophylaxis group compared to 43% in the prophylaxis group
- Patients in the no-prophylaxis group had more days with bleeding, and a shorter time to first bleed.
- Platelet usage was markedly reduced in the no-prophylaxis group (59% vs. 89%)
- No differences in length of stay or SAEs were seen between groups.

Conclusions from TOPPS

- The results support the continuing use of prophylaxis in patients with thrombocytopenia
- The proportion of patients with Grade 2-4 bleeding was reduced by 7% with prophylactic platelet transfusions
- There is still a high burden of bleeding in many patients, despite prophylaxis
- The benefit of prophylactic platelet transfusions in the sub-group of patients undergoing low-risk autografts was less clear.

What Next?

- Investigate role of prophylactic transfusions in sub-groups, such as autograft patients
- New studies to improve our understanding of the risk factors for major bleeding
- Investigate alternative strategies to manage the high burden of bleeding that exists despite prophylaxis
- Compare and contrast findings with other recently published platelet trials.

Many thanks to all the staff at the 14 haematology centres in the UK and Australia that took part in the study: Oxford University Hospitals, Derriford Hospital, Plymouth, Royal Devon & Exeter, Guy's & St Thomas, London; Heartlands Hospital, Birmingham; University Hospital, Coventry; St James's Hospital, Leeds; Bealton Centre, Glasgow; Freeman Hospital, Newcastle; City Hospital Sunderland; James Cook Hospital, Middlesbrough; Peter MacCallum Cancer Centre, Melbourne; Royal Melbourne Hospital; Royal Adelaide Hospital.

We could not have done it without your help and support.

NHS Blood and Transplant

Stamworth et al, NEJM 2013; 368: 1771-80

Last Updated: Tuesday, 27 November 2007, 07:27 GMT

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Blood cell transfusions 'up risk'

Red blood cell transfusions given to heart surgery patients could increase their risk of heart attack or stroke, research suggests.



The transfusions are designed to improve the delivery of oxygen to the body's tissues.

But researchers found patients who received a transfusion had a three-fold increase in complications linked to lack of oxygen.

The Bristol Heart Institute study is published in the journal Circulation.

The researchers examined data on over 8,500 patients who underwent cardiac surgery over an eight-year period.

They found the risks associated with transfusion occurred regardless of the patients level of haemoglobin - the oxygen-carrying substance in red blood cells.

Most transfusions are not given in life-threatening circumstances

“ This study suggests that such transfusions may cause more problems than they solve ”

Professor Peter Weissberg
British Heart Foundation

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Transfusion 2024 – PBM Session 2

International Perspectives on PBM – Professor Erica Wood

- Trends of blood use are useful but they don't give the full clinical picture
- Missing data for clinical outcomes, patients quality of life, functional outcomes and health economics lacking
- The implementation of PBM internationally and measures of success have varied – success seems to be dependent on engagement at every level, patients, hospitals, clinicians, management, government, blood services. The TP role.
- In low and middle income nations where safe blood is not available the impact of PBM can be enormous

10 minute mission – resource for hospitals



*‘Nothing is impossible, the word itself says I’m possible’
Audrey Hepburn*

PBM Survey (NHS Blood & Transplant & National Blood Transfusion Committee)

The Successes

Process to ensure patients are involved in the decision to transfuse

2015 – 20% 2018 – 60%

Ensure appropriate use of platelets (single pack transfusion)

2015 – 66% 2018 – 78%

Identifying anaemia prior to transfusion

2015 – 32% 2018 – 45%

The overall reduction in red cell usage

What resources are required to drive the momentum of PBM in hospitals?

Meet the hospital clinical team - introduced in 2002



Transfusion Data
Analyst
90% - no

Hospital Consultant

8% - no consultant
21% - no dedicated
time to PBM

Transfusion
Practitioner

98% - Yes
Approx. 1TP: 1,3332 Nurses,
Doctors, Midwives

Transfusion Team
Administrator

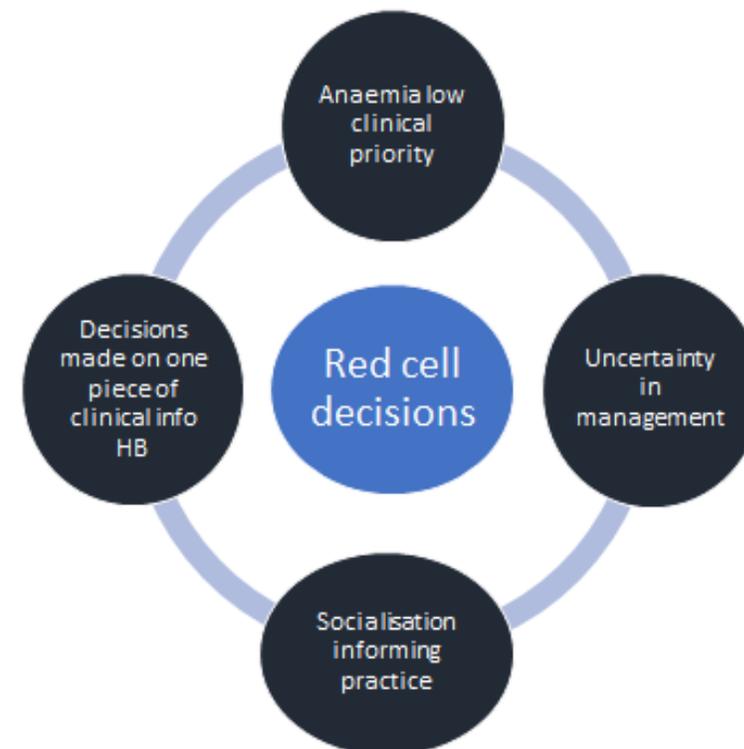
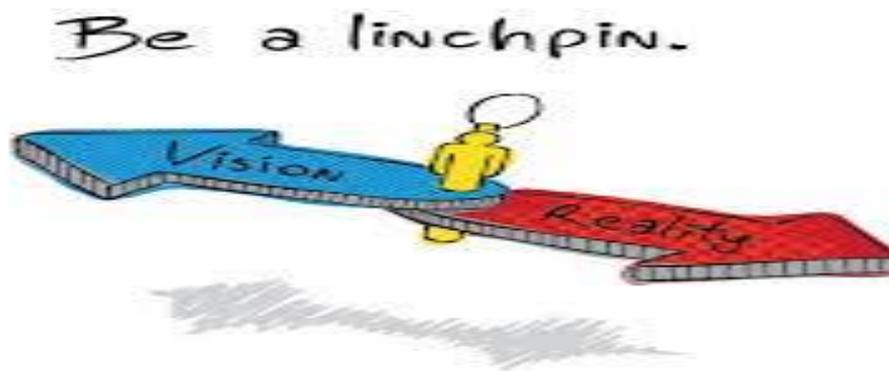
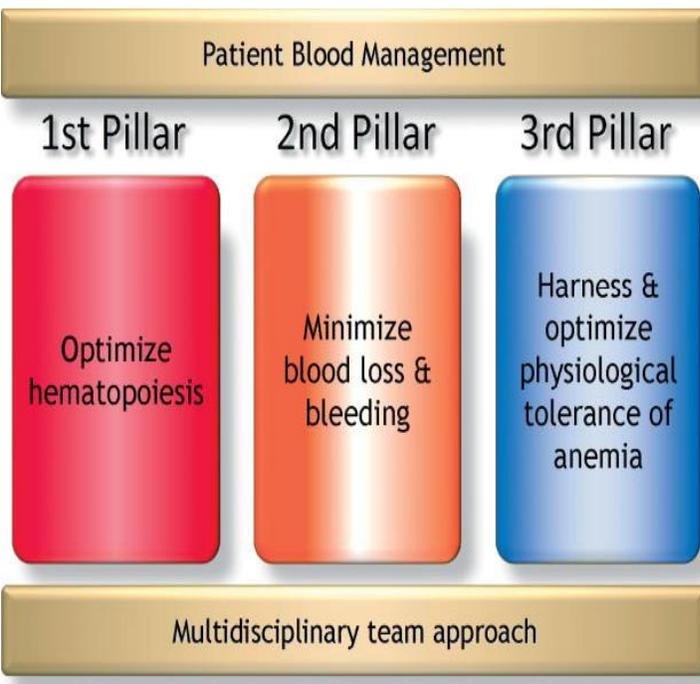
72% - no

Transfusion
Practitioner
Assistant
75% - No

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TP's – The Linchpin



Bishop et al (2010)

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TP's role – the global perspective

Implement regulations, recommendations, guidelines

Develop local policies

BSQR, NICE, NBTC, SHOT:-

Educate all staff groups on blood groups

Implement electronic blood management systems

Implement safety checks for transfusion circulatory overload

Training

MHRA / NBTC

Training & competency assessment of all staff involved in transfusion – porters, nurses, doctors, phlebotomists, healthcare assistants.



Audit

Local, Regional & **National Comparative Audit**

Investigation, solutions & actions

SHOT/MHRA/CQC

Transfusion incidents

Transfusion reactions

Reporting

Service Development
PBM Initiatives

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TP -Workforce planning & framework for role development

Key points on role:-

Variation in focus of responsibility depending on the organisation

Different team structures between organisations with varying practitioner numbers

There is no uniform job specification for the role, no core competencies, no set 'baseline' qualification for the role

TP's evolving role - Requests for support with change management, service development, leadership development.

CFWI CENTRE FOR WORKFORCE INTELLIGENCE

Review of the infection prevention and control nurse workforce

NHS EDUCATION FOR SCOTLAND Career & Development Framework for Infection Prevention and Control Nurses Version 2: Updated August 2013

NHS Education

Career & Development Framework for Infection Prevention and Control Nurses

NHS EDUCATION FOR SCOTLAND Career & Development Framework for Infection Prevention and Control Nurses Version 2: Updated August 2013

Career & Development Framework for Infection Prevention and Control Nurses

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Multi-professional framework for advanced clinical practice in England



“New solutions are required to deliver healthcare to meet the changing needs of the population. This will need new ways of working, new roles and new behaviours.”



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Potential return on investment ?



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Caution

Missing Quality Indicators

Impact on patient outcomes?

Number of patients presenting with anaemia and receiving Iron?

Impact on hospital stay & hospital acquired infection?

Data to guide interventions

Reports on clinical variation within a trust

Data collector or analyst required

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Data and IT Support required



Data consistent, reliable, robust

A Laboratory Information Management System that records the reason for transfusion

A LIMS that interfaces to the Patient Information System for easy data extraction

A data analyst – user reports to clinical areas

Template algorithm for electronic ‘prescribing’ – with information/guidance embedded

App based tools for audit

Quality Improvement & Research Support

Research on effective PBM implementation

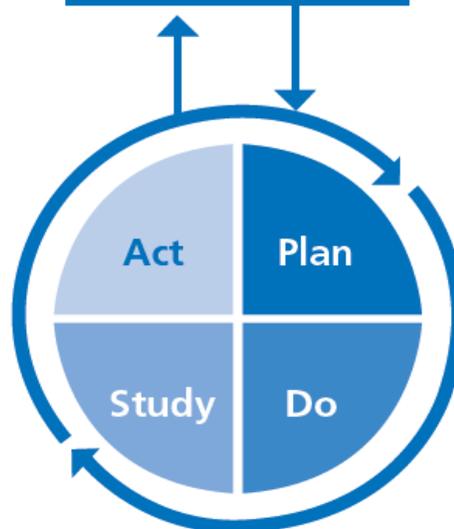
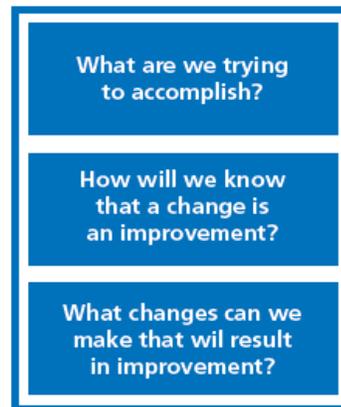
RTC regions used as 'laboratories'

What teaching strategies lead to improvement?

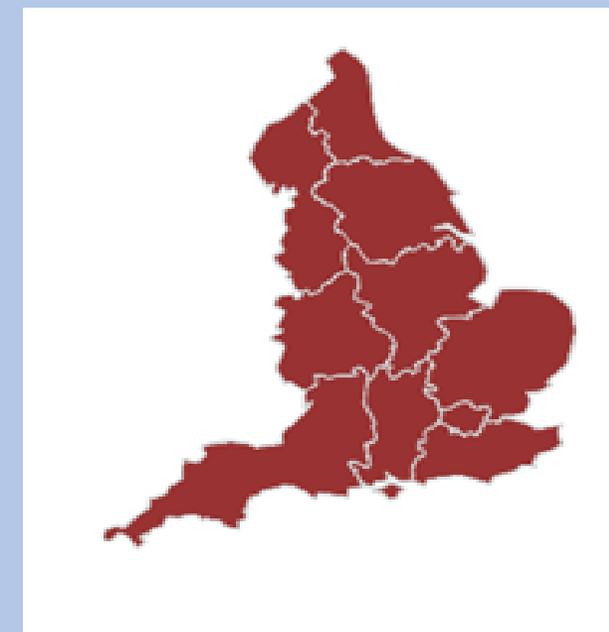
What information do patients find most valuable?

What strategies lead to user engagement within trusts?

What are effective strategies to influence transfusion decisions?



Networks/Framework to grow evidence base



Blurring the boundaries

Joint PBM projects between community and trusts?

2018 PBM survey 'How can the NHSBT PBM team support you?'

The largest request to support PBM by hospitals

'Education tools to support anaemia management in primary care'

- Time for the community TP/PBM team?



Finally – recognition of work

- Introduce national targets for PBM and link to CQC?
- PBM Accreditation – Over to Professor Murphy...
- (Session 4 PBM)
- But today over to you.....

PBM survey 2018 – Self accreditation tool 58%



Support requested by trust from NHSBT in relation to PBM – Survey 2018



- **Standardised education and training education programmes for transfusion across professional groups – 73%**
 - **Support identification of anaemia in primary care – 87%**
 - **Working more closely with individual trusts on specific PBM projects – 61%**
- **Informing and empowering patients and the public on PBM through campaigns and educational resources – 78%**

The Guardian – Blood Sweat & tears

- ‘Every day that a junior doctor stays in the job, they are choosing to stay, thereby renewing their commitment to the specialty. In a post-Bawa-Garba era, when doctors can be tried and jailed for human error, it can feel like your career lies in the hands of fate.’

Rebecca Grossman

4th April 2019

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The themes from the sessions

- Despite the challenges there has been achievement
- People & resources are key to delivery
- Data is required to guide intervention
- Research is required, both to further transfusion knowledge but also strategies for effective implementation of PBM

Thank you & References

- Thank you to the British Blood Transfusion Society - Transfusion Practitioner Group, The National Transfusion Practitioner Group
- NHSBT PBM team
- Andrew Miller, Transfusion Integration Implementation Manager, King's Health Partners Haematology
- Rachel Moss, Senior Transfusion Practitioner Great Ormond Street Hospital NHS Foundation Trust
- Janice Robertson, RTC Administrator

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