Patient Blood Management

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With thanks to Dr Kate Pendry

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and

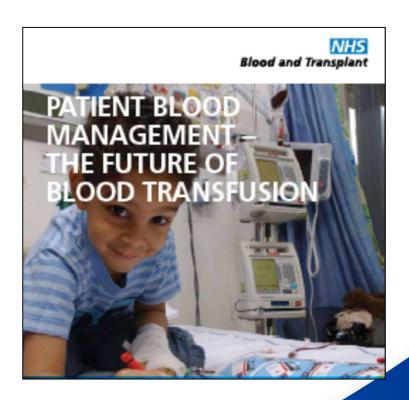
Clinical Director for PBM NHSBT

Overview

- What is Patient Blood Management?
- Why is Patient Blood Management important?
- The recommendations
- Implementation of Patient Blood Management

What is Patient Blood Management?

- An evidence-based, multidisciplinary team approach to optimising the care of patients who might need transfusion
- Focuses on measures for blood avoidance as well as correct use of blood components when they are needed
- Improves patient care, optimises use of donor blood and reduces transfusion-associated risk
- Reduces financial costs



Audits show 20% inappropriate use

Evidence-based practice

Optimal care for patients



Reduces cost and wastage

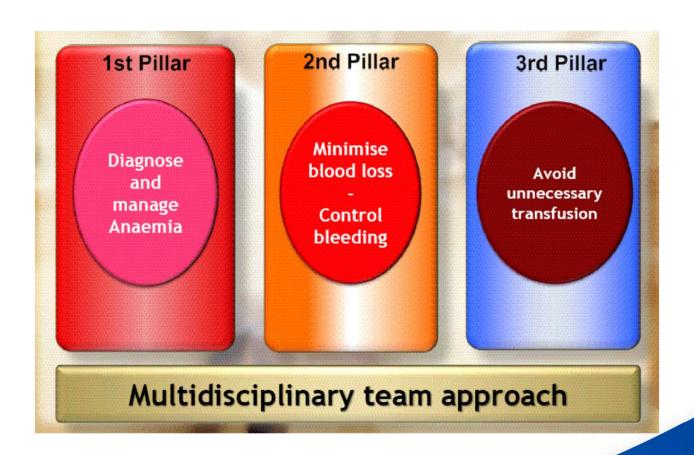
Improves patient outcomes

Effective use of a precious resource

What does it include....

- Involving the patient in the decision making process
- Anaemia management
- Pre-optimisation
- Surgical techniques and alternatives
- Reducing inappropriate use
- Audit

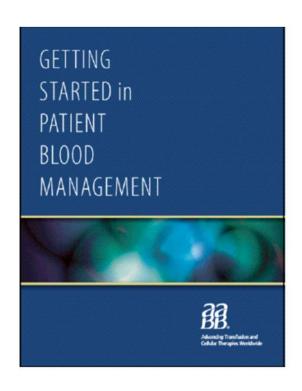
Patient Blood Management

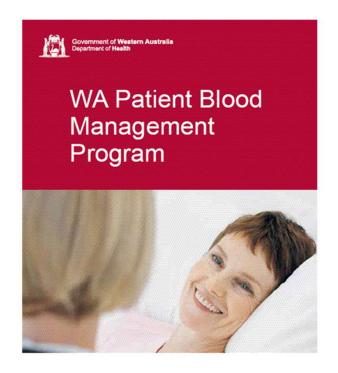


Patient Blood Management Matrix



It's International!







Global Forum for Blood Safety: Patient Blood Management

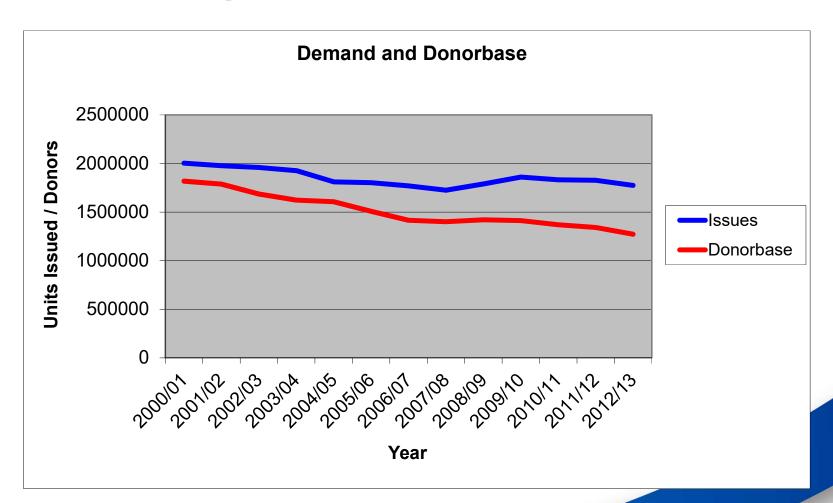
14-15 March 2011, Dubai, United Arab Emirates

Why is Patient Blood Management Important?

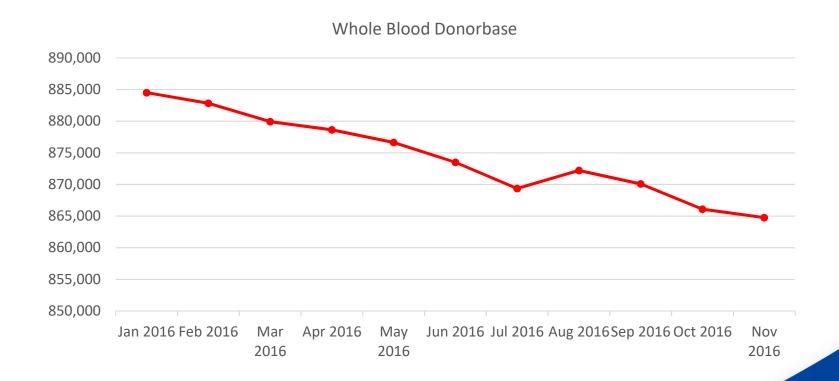
- Limited supply
- Hazards of transfusion
- Variation in practice

Limited Supply

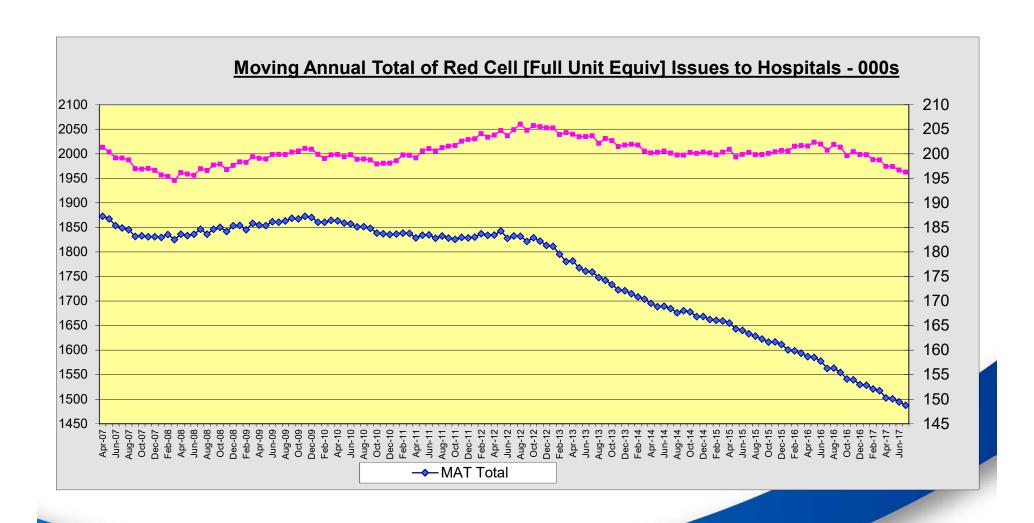
The falling donor base...



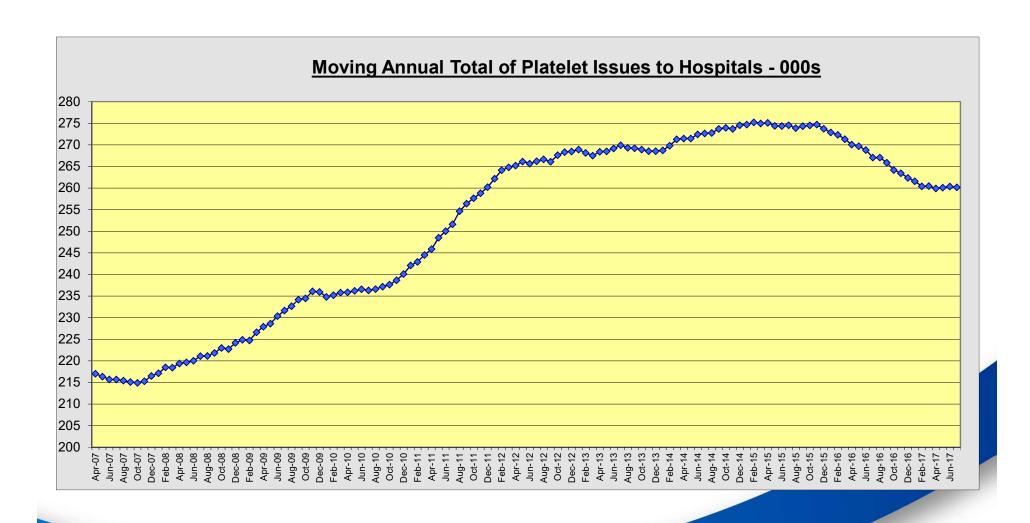
The falling donor base...



Change in Red cell usage 2007-2017

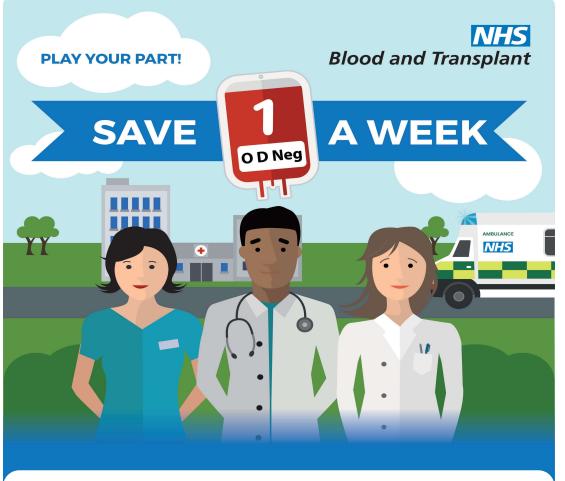


Platelet Issues 2007- 2017



O D Negative Red Cells A precious and limited resource





It only takes one to make a difference

For more information or to access resources from the "Toolkit" visit hospital.blood.co.uk or contact your local Transfusion Team

"Save one O D Neg" Campaign

- 134 Trusts
- Estimated O D Neg savings:
 - 6968 units a year
 - 581 units a month

Hazards of Transfusion

Estimated Risk of moderate/severe reactions and infection transmission

•1 in 6,000 **FNHTR** •1 in 6,000 Allergic •1 in 600,000 Haemolysis Rare since bacterial screening 2010 Bacterial sepsis Fransfusion Related Acute Less than 1 in 1,000,000 Lung Injury •1 in 1,000,000 Hepatitis B infection •1 in 30,000,000 Hepatitis C infection •1 in 7,000,000 **HIV** infection

Risks associated with transfusion

| Risk of potentially infected donation entering the blood supply 2012-2014 | | | |
|--|--|--|--|
| Hepatitis B | 1 in 1.6 million | | |
| Hepatitis C | 1 in 26 million | | |
| Human immunodeficiency virus | 1 in 6 million | | |
| Risk of death or serious harm from transfusion per components issued (imputability 1-3) 2015 | | | |
| | The second secon | | |
| | The second secon | | |
| issued (impu | tability 1-3) 2015 | | |

SHOT 2015

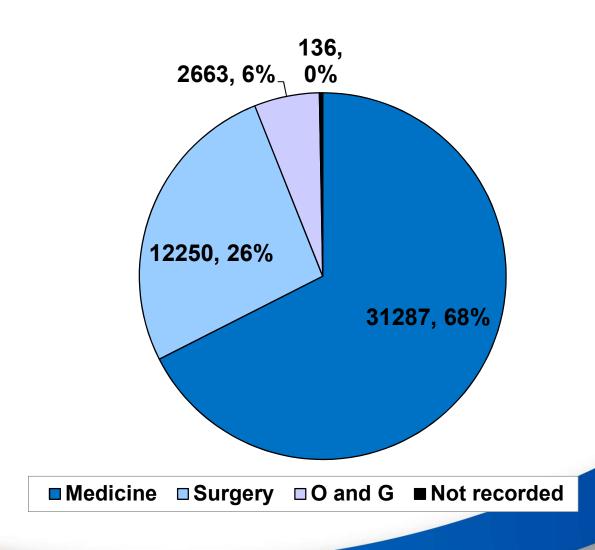




Variation in practice

Where Do Red Cells Go in 2014?

Usage by broad category



Breakdown of medical use by main category

| Category | Number | Percentage of total |
|----------------------------|--------|---------------------|
| Haematology | 12589 | 27.17 |
| GI Bleed | 5410 | 11.68 |
| Non-haematological anaemia | 12704 | 27.42 |
| Neonatal/fetal | 584 | 1.26 |
| Total | 32187 | 67.52 |

Highest use by diagnosis in medicine

| Sub-category | Number | Percentage of total usage |
|---------------------------------|--------|---------------------------|
| Non-haematological cancer | 4541 | 9.8 |
| Myelodysplasia | 2923 | 6.31 |
| Renal failure | 2242 | 4.84 |
| Acute upper GI bleed | 2192 | 4.73 |
| Acute Myeloid leukaemia | 1987 | 4.29 |
| Lymphoma/CLL | 1881 | 4.06 |
| Critical care | 1649 | 3.56 |
| Sickle cell anaemia | 1350 | 2.91 |
| Non-haem anaemia, not specified | 1338 | 2.89 |
| Acute lower GI bleed | 1255 | 2.71 |
| Iron deficiency | 1255 | 2.71 |
| GI blood loss, site unknown | 1091 | 2.35 |
| Myeloma | 1085 | 2.34 |
| Total | 24789 | 53.5 |

Highest-using specialties in surgery by main category

| Category | Number | Percentage of total |
|--------------------------|--------|---------------------|
| Cardiothoracic | 2838 | 6.12 |
| Trauma | 2199 | 4.75 |
| Orthopaedics | 1767 | 3.81 |
| GI Surgery | 1737 | 3.75 |
| Vascular | 1109 | 2.39 |
| Urology | 938 | 2.02 |
| Solid Organ Tx | 409 | 0.88 |
| Neuro surgery inc injury | 279 | 0.6 |
| Plastic inc burns | 204 | 0.44 |
| ENT | 191 | 0.41 |
| Other surgery | 579 | 1.25 |
| Total | 12250 | 26.44 |

Blood and Transplant

Platelets Don't use two...





...when one will do

For prophylactic use in a 70kg adult, one adult therapeutic dose (ATD) typically gives an immediate rise in platelet count of

approximately 20 - 40 x 10°/l

Do not administer double dose platelets for prophylactic transfusions as this practice does not decrease the risk of bleeding

Request and administer one unit/ATD, then reassess your patient. A platelet increment can be obtained 10 minutes after completion of the transfusion

- Sichter SJ, Kaufman RM, Assmanth SF, et al. Dose of prophylactic platelet transfessions and presention of haamonhage. N Engl J Med 2010; 362:608-13.



Better Blood Transfusion: maintaining the supply and safety of blood

By Rebecca Gerrard. Head of Better Blood Transfusion

Maintaining the supply and safety of blood is a key priority for NHS Blood and Transplant (NHSBT), but just as important is ensuring that it is used appropriately. Through the Better Blood Transfusion (BBT) initiative, NHSBT is working hard in partnership with hospitals on improving transfusion practice and to help facilitate this sultants have a vital role to play says Rebecca Gerrard...



Posters

Safety Advice

Information for healthcare staff







Nursing **Articles**



Guidance for hospital staff





Patient Blood Management

Optimising the care of patients who may

PBM is an evidence-based, multi-disciplinary approach to optimising the care of patients who may need a blood transfusion.

PBM puts the patient at the heart of decision making. PBM represents an international initiative in best practice for transfusion medicine.

Why is PBM needed?

Improve patient outcomes.

Avoid inappropriate use of blood – blood is then available for those who really need it.



show inappropriate use of all blood components of between 15-30%

- · Patients

Current pilots

- •SW: linking pre and post transfusion lab test results to transfusion episode (Clinisys)
- NW: Implementation of pre operative anaemia services
- London: Introduction of a single unit transfusion policy

Single Unit Transfusions

'Transfuse one dose of blood component at a time e.g. one unit of red cells or platelets in non-bleeding patients and reassess the patient clinically and with a further blood count to determine if further transfusion is needed.'

Single Unit Transfusions

- The Patient Blood Management (PBM) recommendations endorsed by NHS England (2014):
- The British Society for Haematology (BSH) -Component administration guidelines
- NICE transfusion guidelines 2015

Single Unit Transfusions

Single unit transfusion applies to stable, normovolaemic adult in-patients who **do not have** evidence of clinically significant bleeding

WWW.hospital.blood.co.uk

Single Unit Transfusion Pilot



Kings College Hospital

PBMP 2 days/wk in Kings for 6 months

50% reduction in red cell use on 8 medical wards saving £30K in 6 months

- Extend to 1 year saving £60K
- Extend to all relevant wards at Kings saving £200K
- If extend to 10 more high user hospitals could save £2m pa

DH Analytical Team supporting development of template business case and publications to support roll out

Who needs to be involved?

Everyone!

- National and regional leaders
- Hospital management
- Health professionals