Patient Blood Management

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and

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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

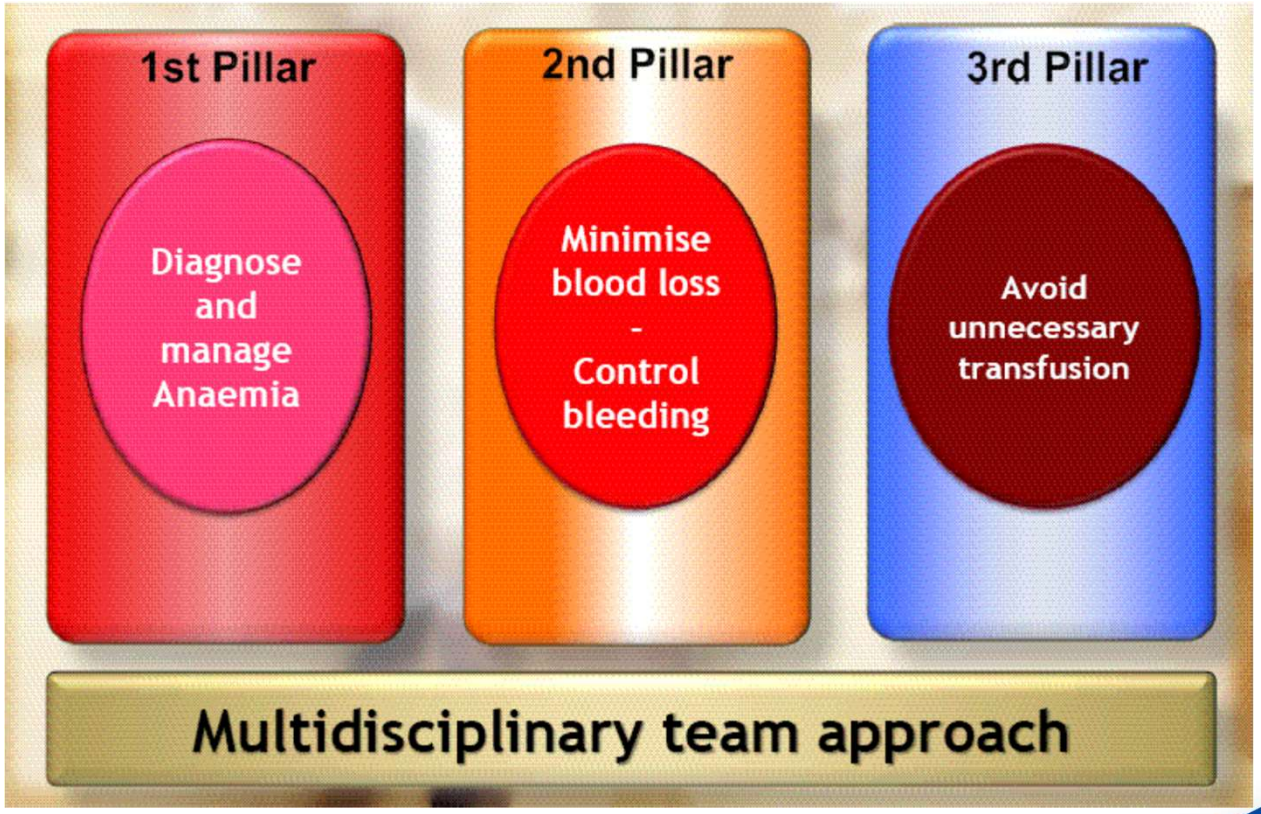
Improves patient outcomes

Effective use of a precious resource

What does it include....

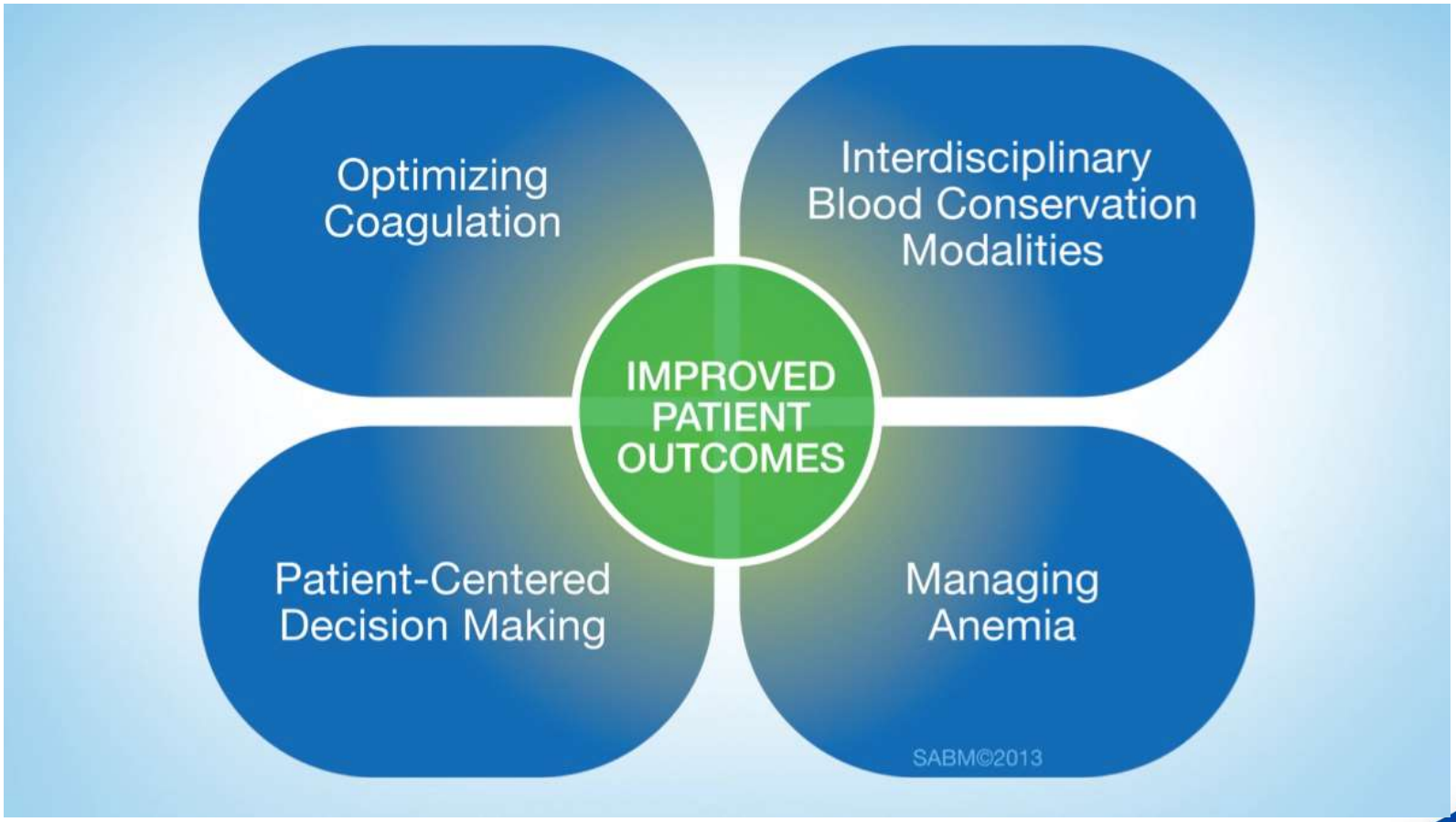
- Involving the patient in the decision making process
- Anaemia management
- Pre-optimisation
- Surgical techniques and alternatives
- Reducing inappropriate use
- Audit

Patient Blood Management

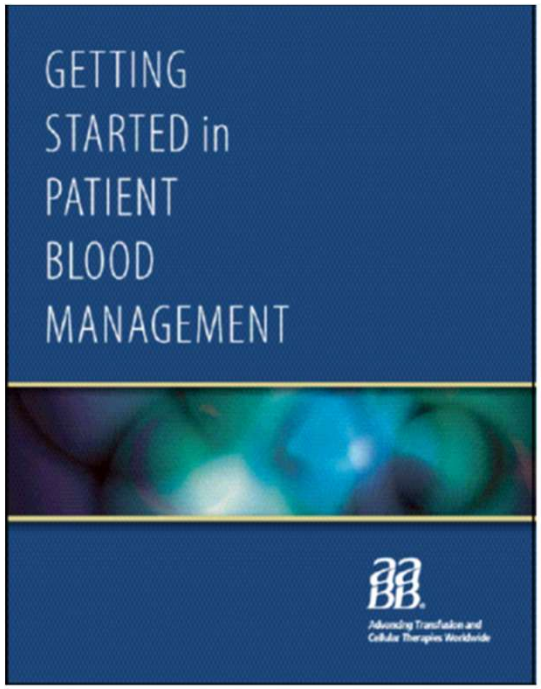


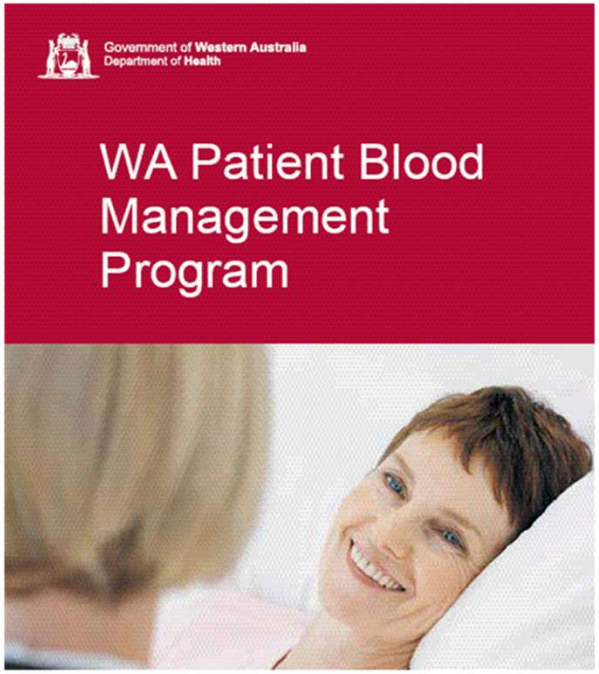
Alternatives to blood transfusion Spahn DR, Goodnough LT
Lancet 2013 **381** 1855-1865

Patient Blood Management Matrix



It’s International!





World Health Organization

Global Forum for Blood Safety:
Patient Blood Management

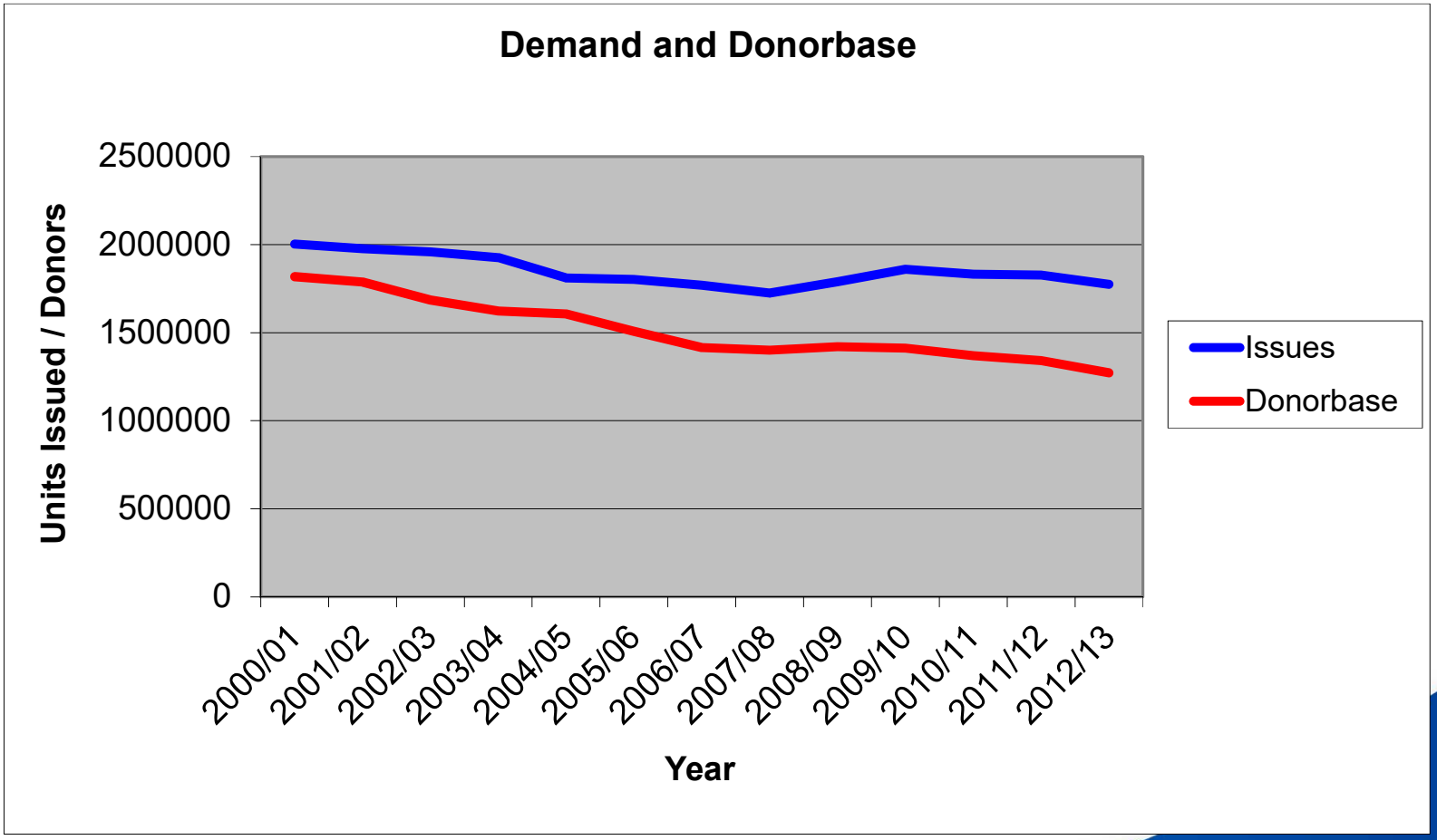
14–15 March 2011, Dubai, United Arab Emirates

Why is Patient Blood Management Important?

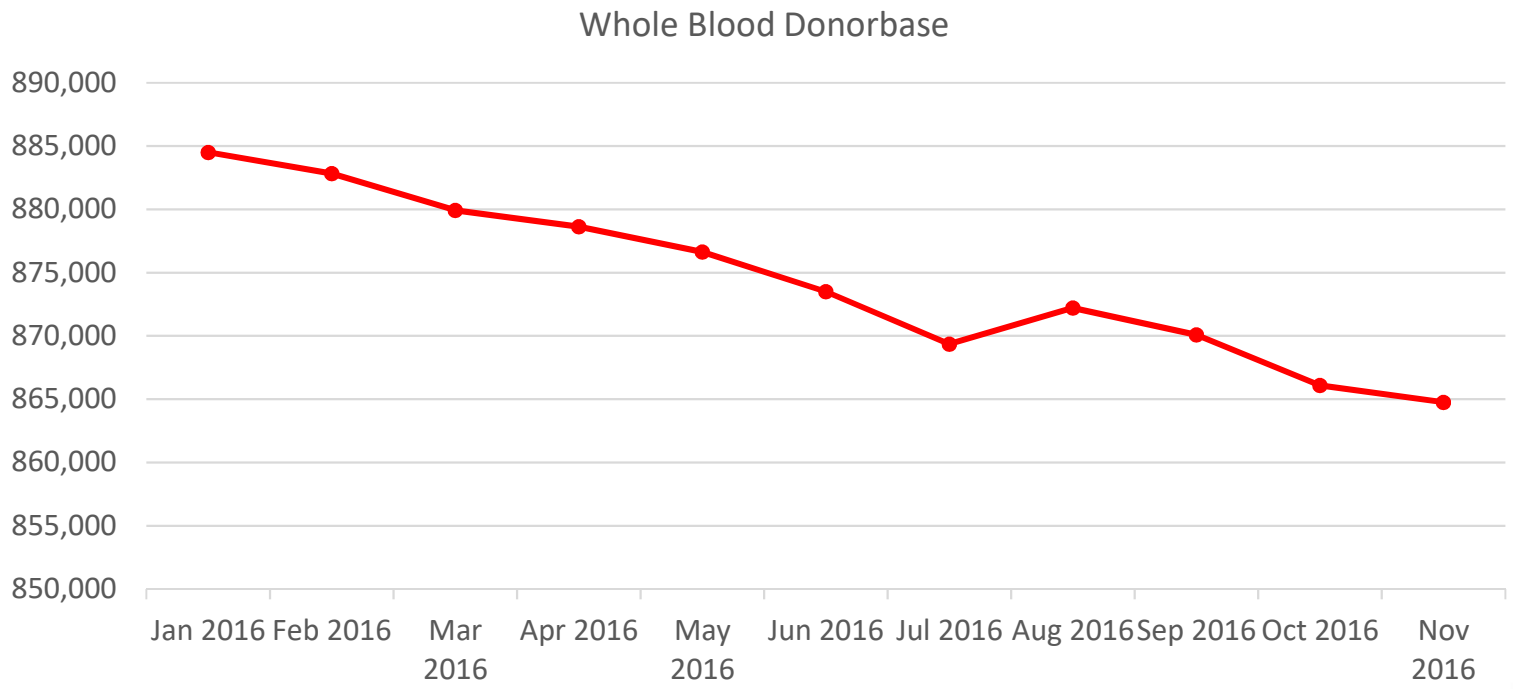
- Limited supply
- Hazards of transfusion
- Variation in practice

Limited Supply

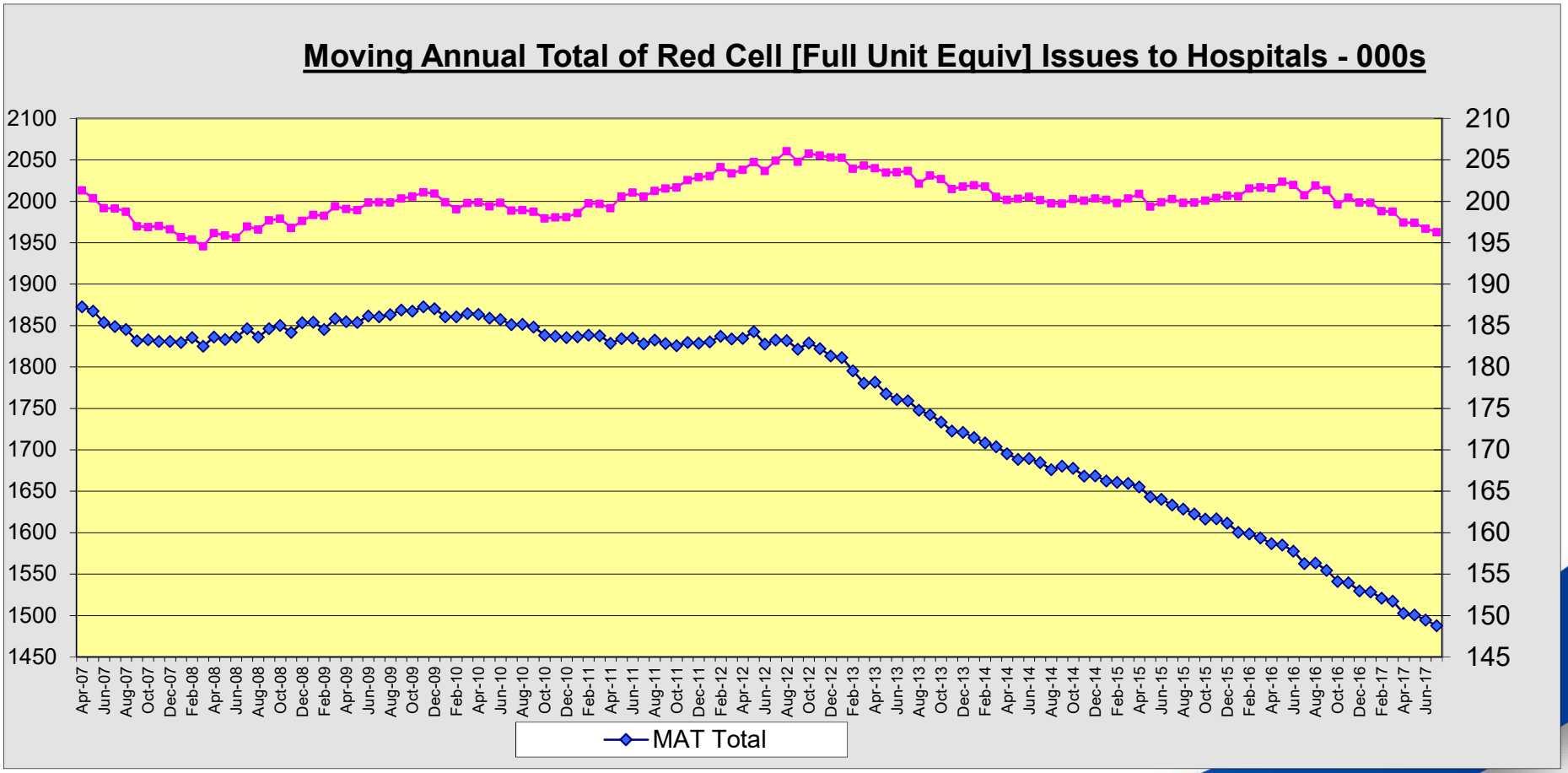
The falling donor base...



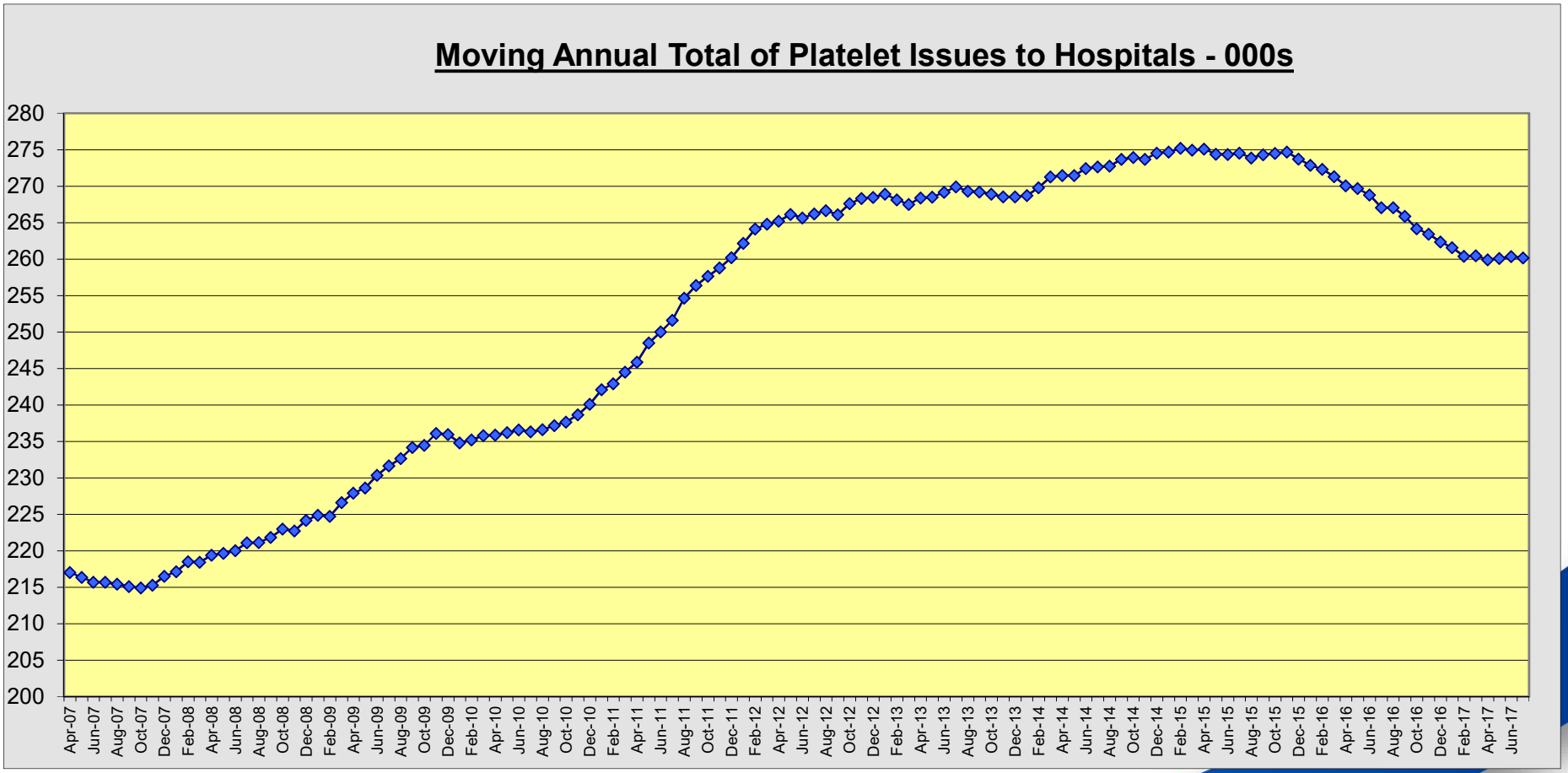
The falling donor base...



Change in Red cell usage 2007-2017

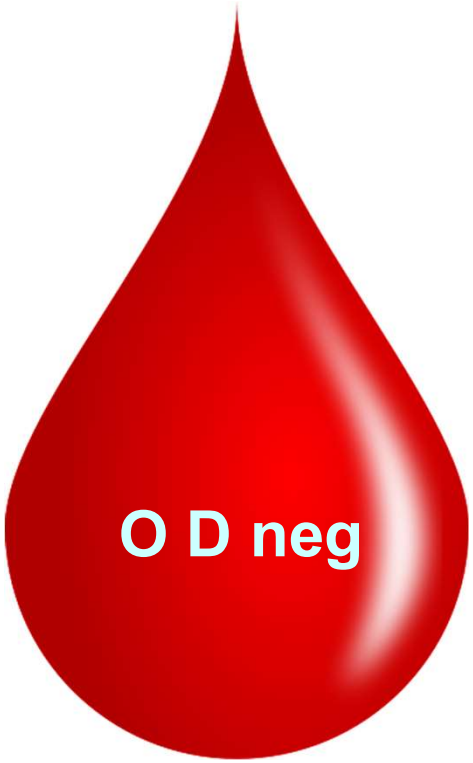


Platelet Issues 2007- 2017



O D Negative Red Cells

A precious and limited resource



"Save one O D Neg" Campaign

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

Hazards of Transfusion

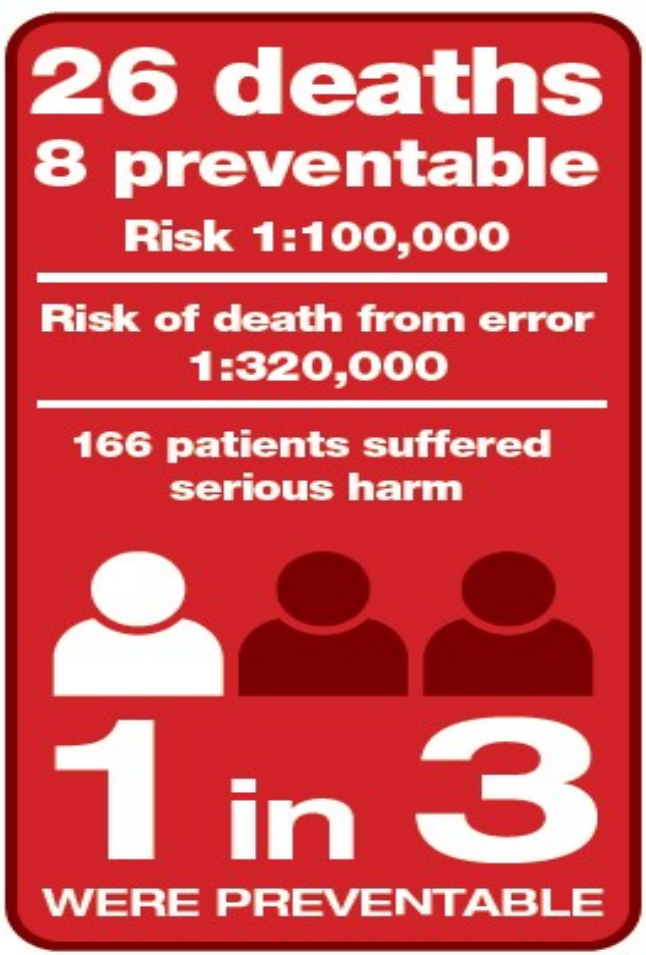
Estimated Risk of moderate/severe reactions and infection transmission

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

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	
Death	1 in 100,000
Death from error	1 in 320,000
Major morbidity	1 in 15,500

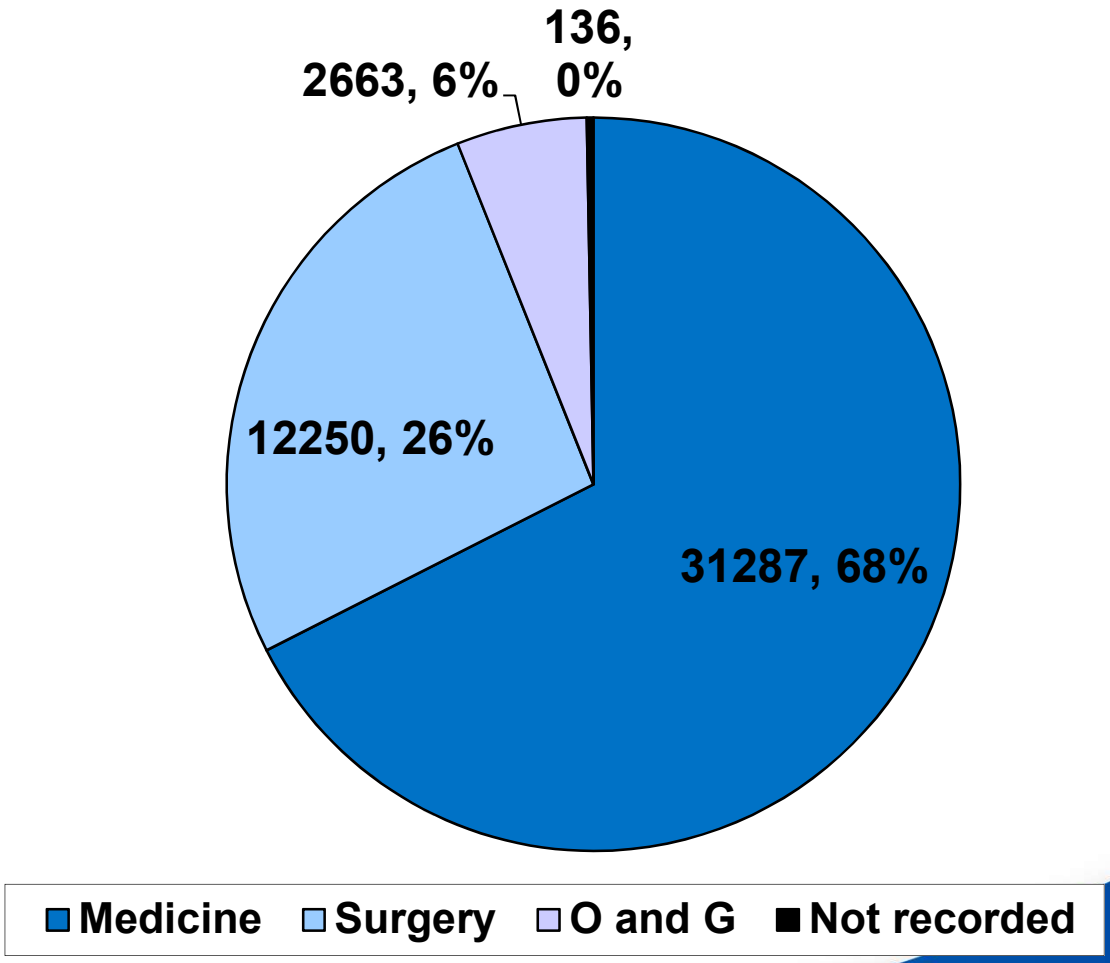
SHOT 2015


26 deaths
8 preventable
Risk 1:100,000
Risk of death from error
1:320,000
166 patients suffered
serious harm
1 in 3
WERE PREVENTABLE

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

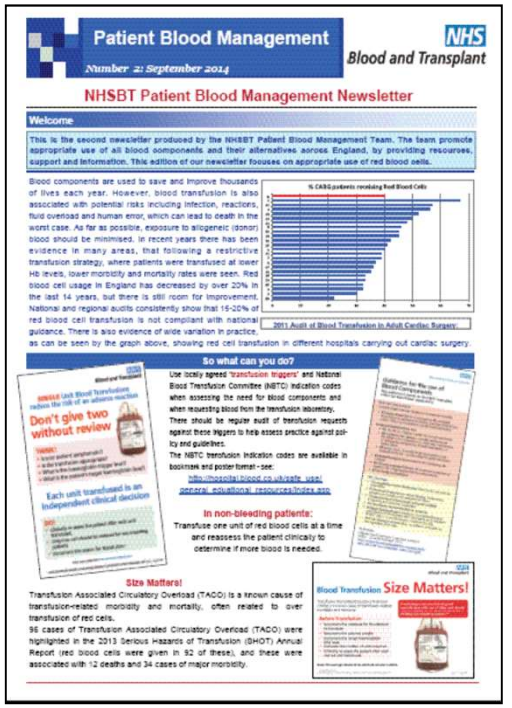
Sub-category	Number	Percentage of total usage
Non-haematological cancer	4541	9.8
Myelodysplasia	2923	6.31
Renal failure	2242	4.84
Acute upper GI bleed	2192	4.73
Acute Myeloid leukaemia	1987	4.29
Lymphoma/CLL	1881	4.06
Critical care	1649	3.56
Sickle cell anaemia	1350	2.91
Non-haem anaemia, not specified	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

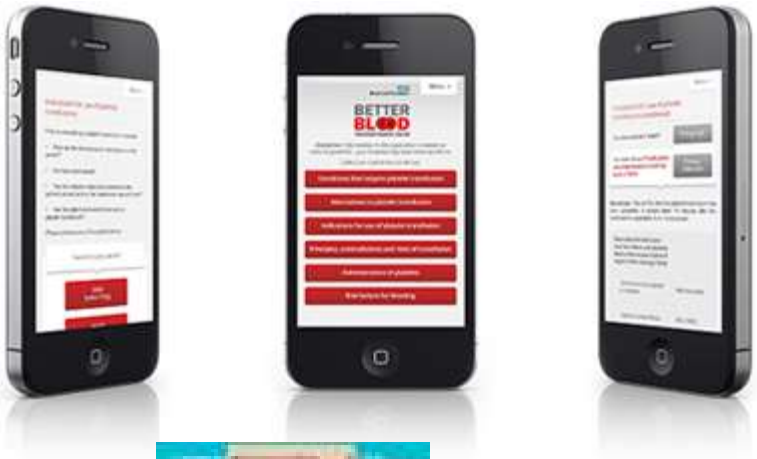
Category	Number	Percentage of total
Cardiothoracic	2838	6.12
Trauma	2199	4.75
Orthopaedics	1767	3.81
GI Surgery	1737	3.75
Vascular	1109	2.39
Urology	938	2.02
Solid Organ Tx	409	0.88
Neuro surgery inc injury	279	0.6
Plastic inc burns	204	0.44
ENT	191	0.41
Other surgery	579	1.25
Total	**12250**	**26.44**

Posters

Safety Advice

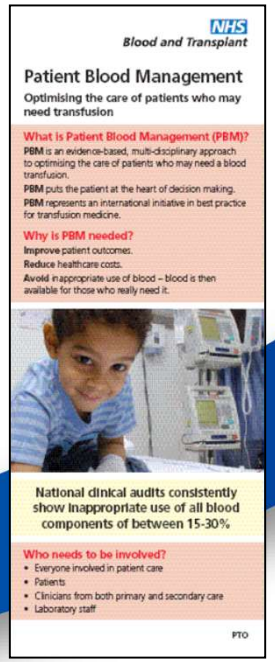


Information for healthcare staff



Articles

Guidance for hospital staff



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