

# Patient Blood Management

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With thanks to Dr Kate Pendry

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and

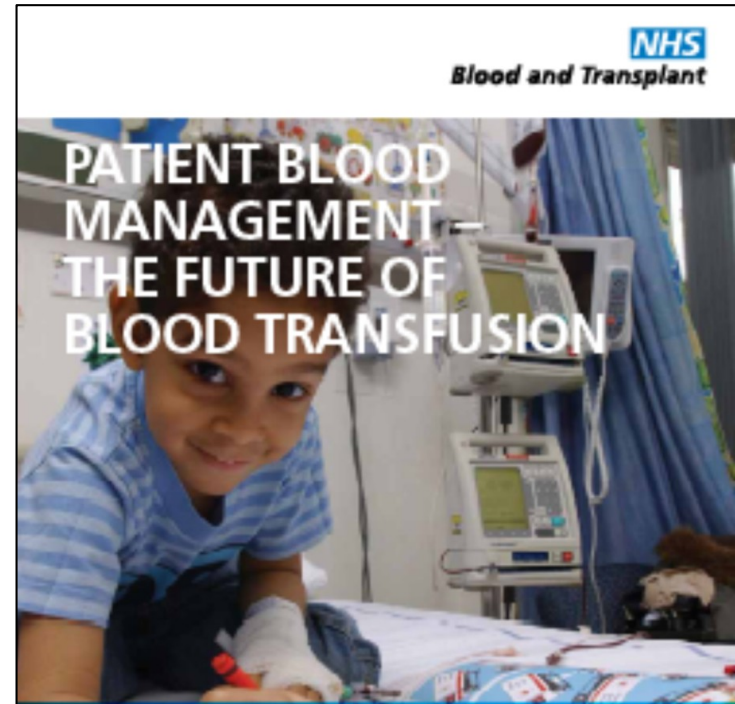
Clinical Director for PBM NHSBT

# Overview

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

# What is Patient Blood Management?

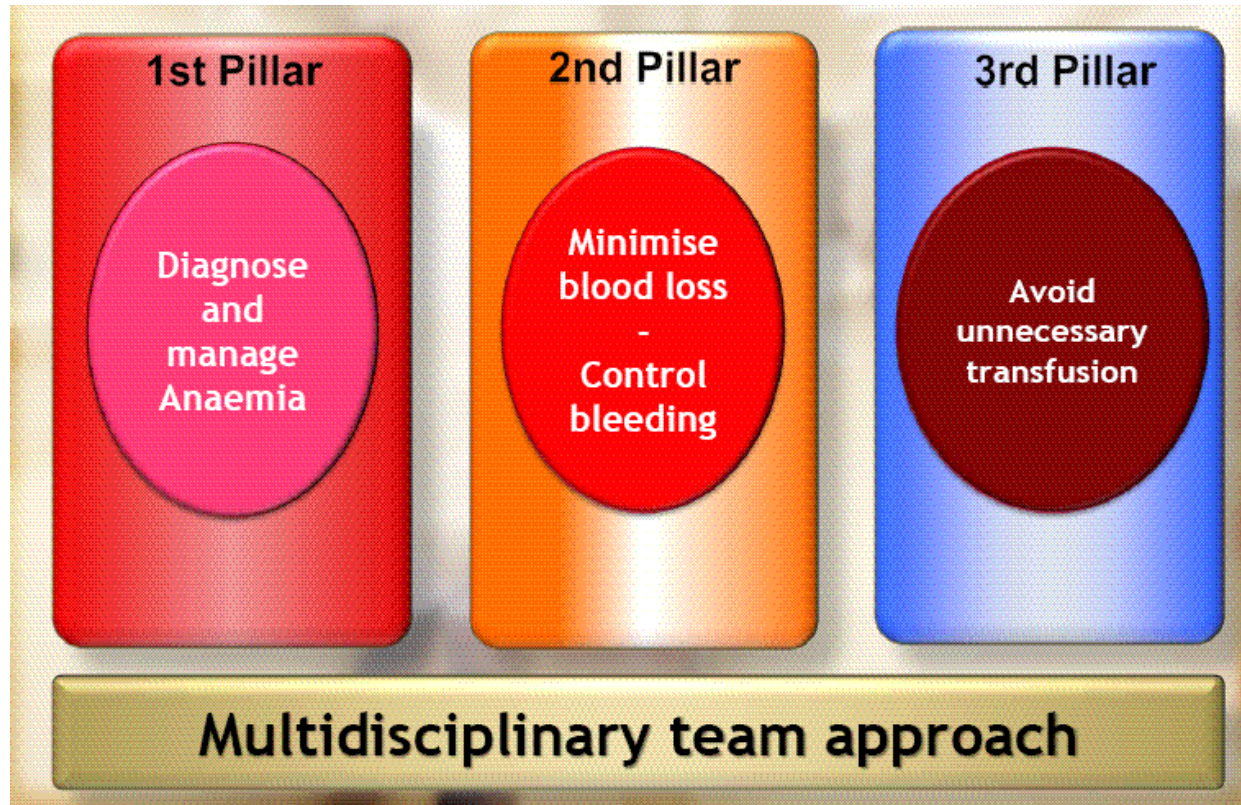
- An evidence-based, multidisciplinary team approach to optimising the care of patients who might need transfusion
- Focuses on measures for blood avoidance as well as correct use of blood components when they are needed
- Improves patient care, optimises use of donor blood and reduces transfusion-associated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



# What does it include....

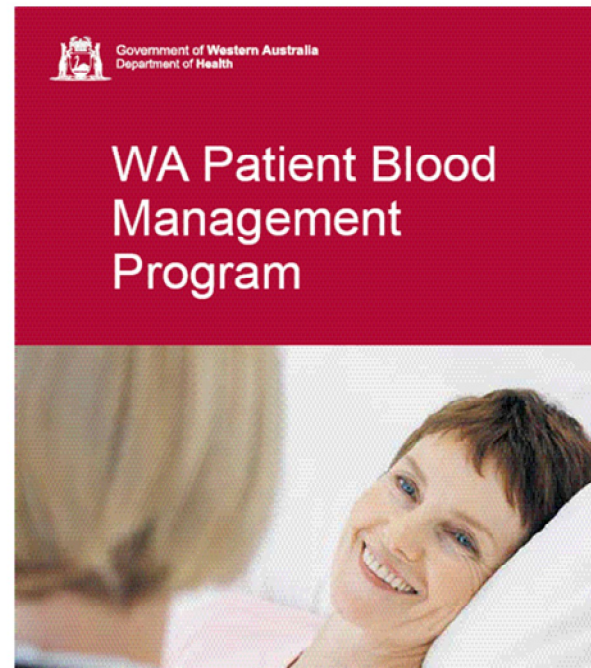
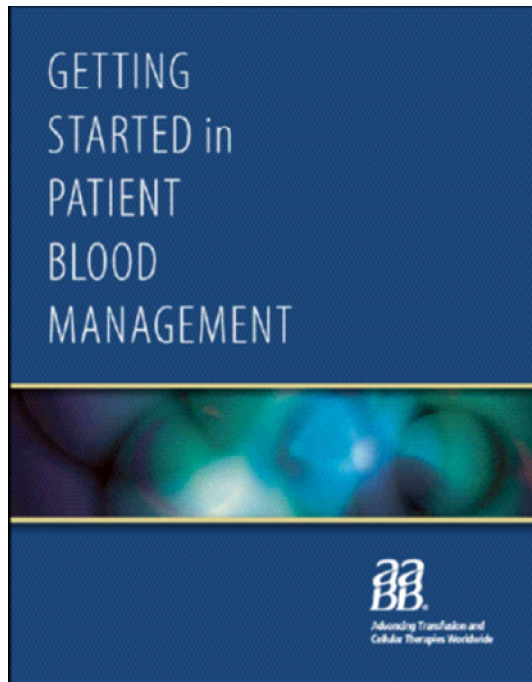
- Involving the patient in the decision making process
- Anaemia management
- Pre-optimisation
- Surgical techniques and alternatives
- Reducing inappropriate use
- Audit

# Patient Blood Management



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

# It's International!



**World Health  
Organization**

**Global Forum for Blood Safety:  
Patient Blood Management**

**14–15 March 2011, Dubai, United Arab Emirates**

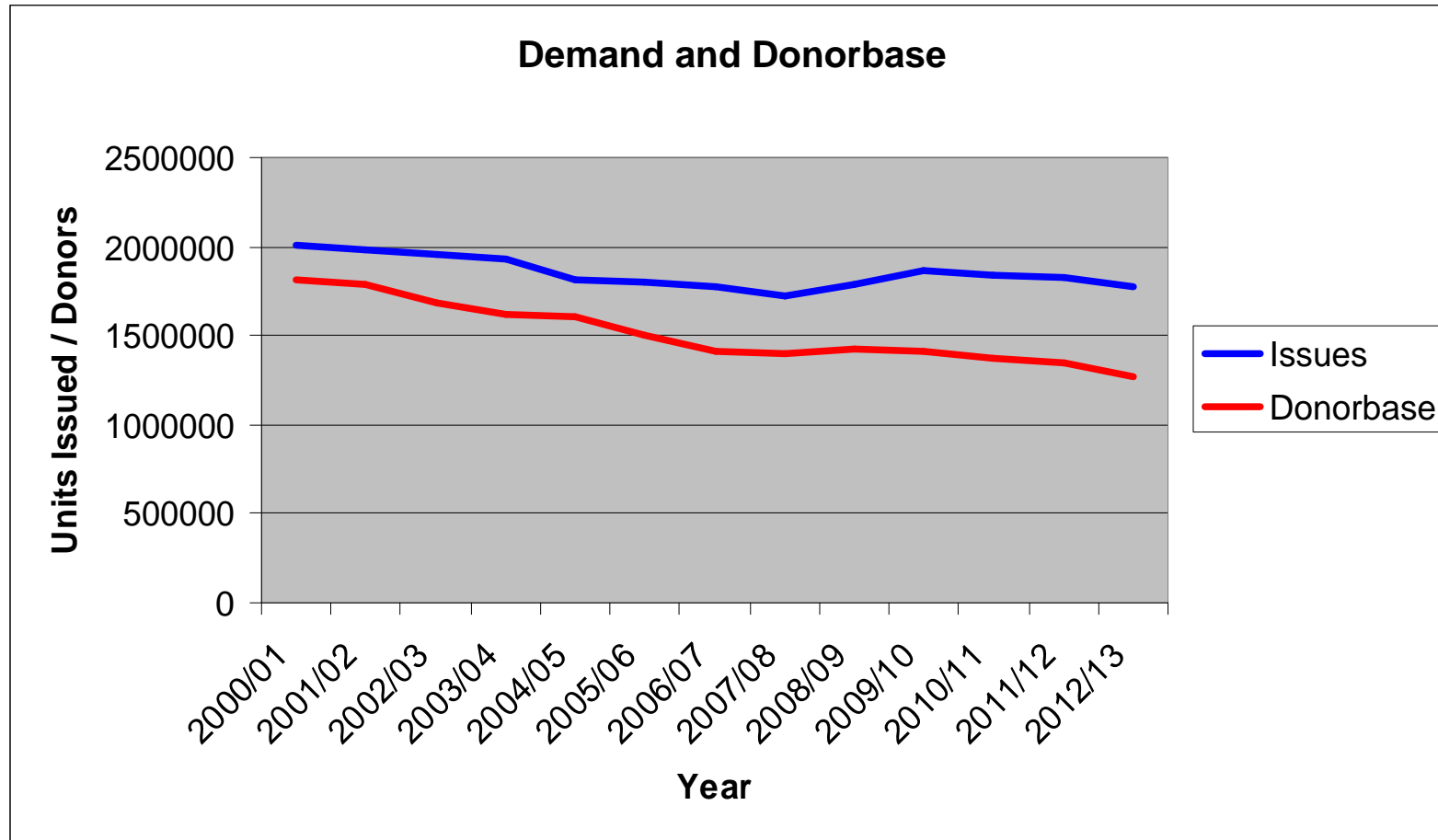
# Why is Patient Blood Management Important?

- Limited supply
- Hazards of transfusion
- Variation in practice

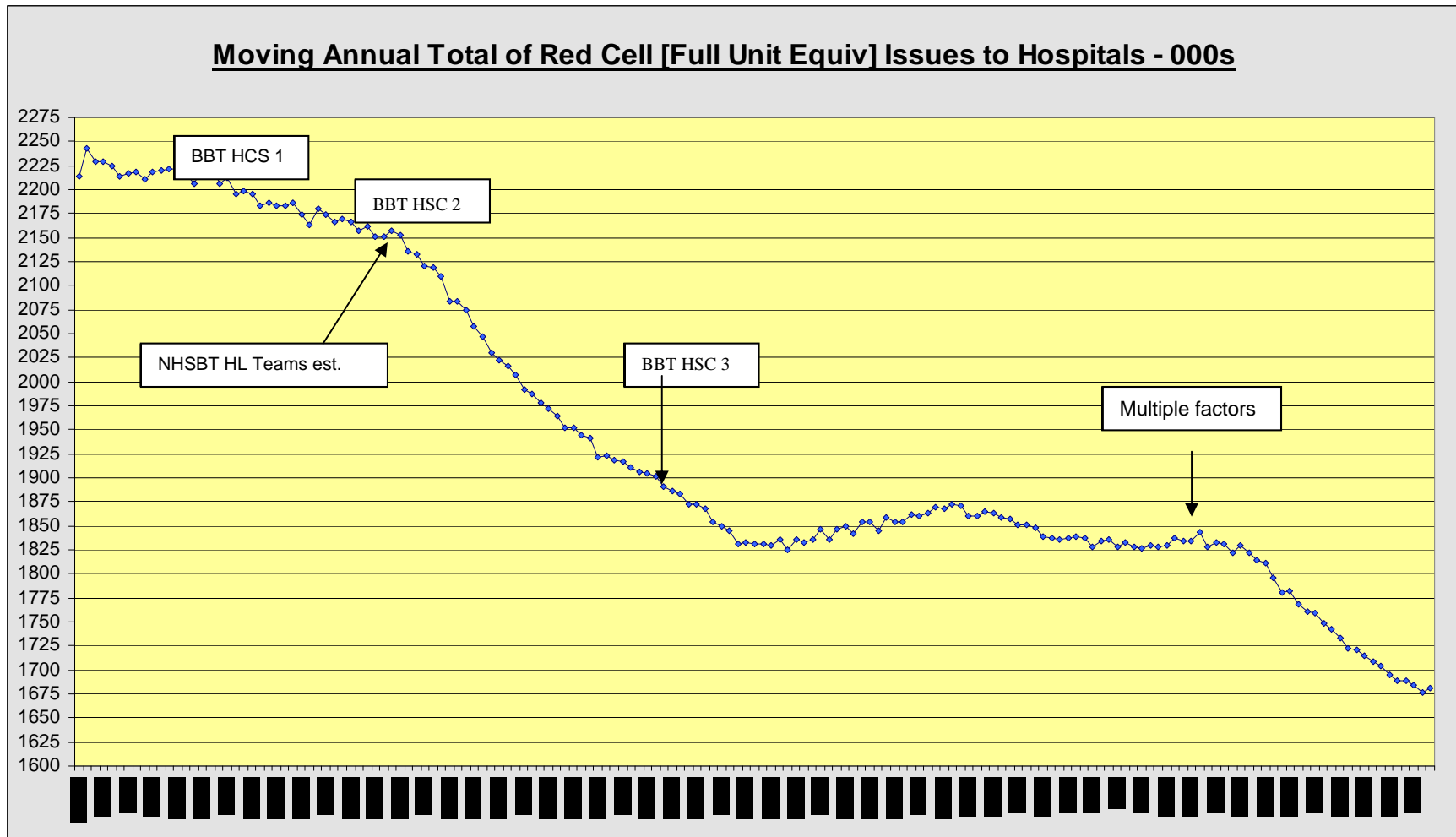
Limited Supply



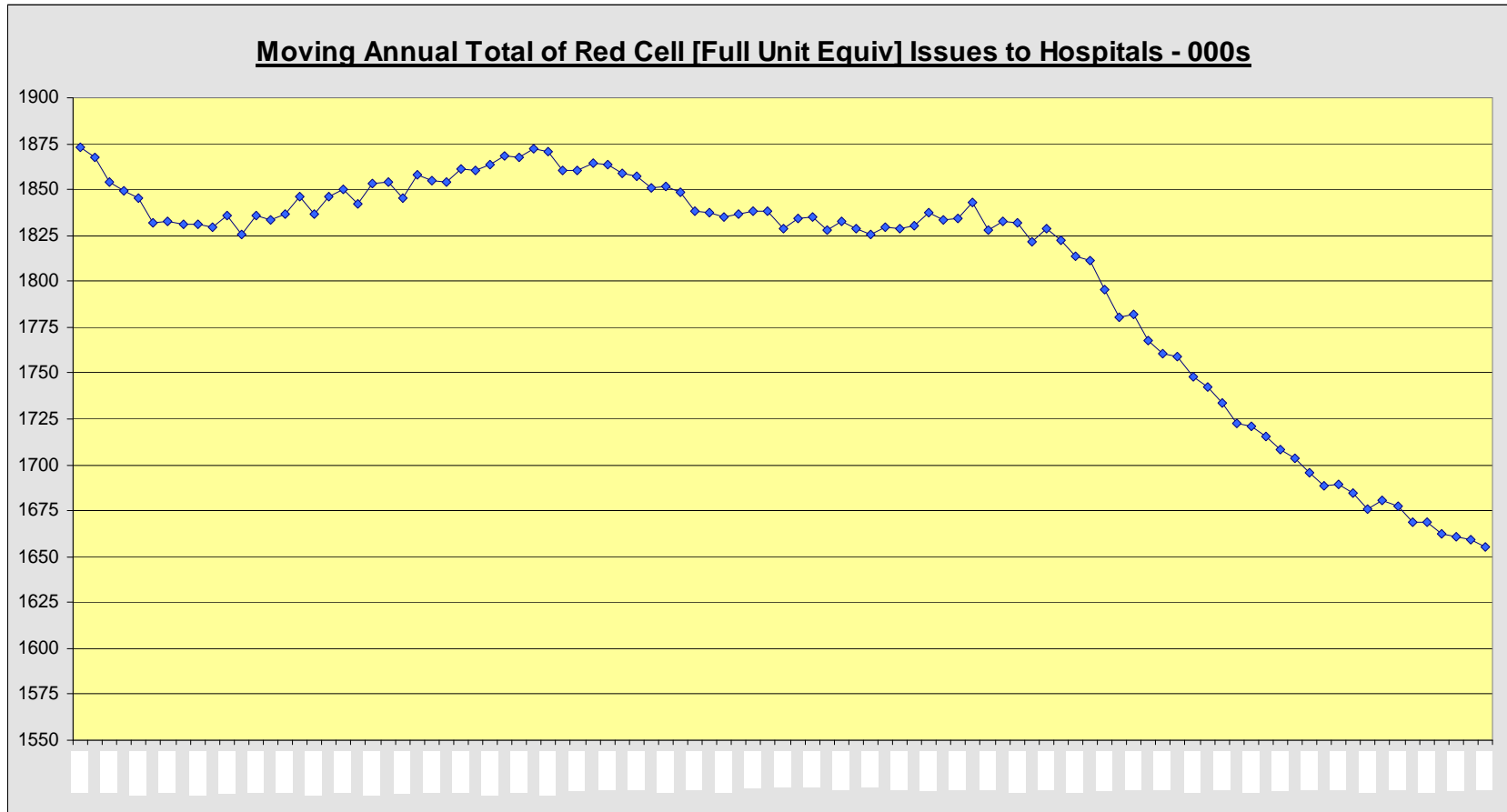
# The falling donor base...



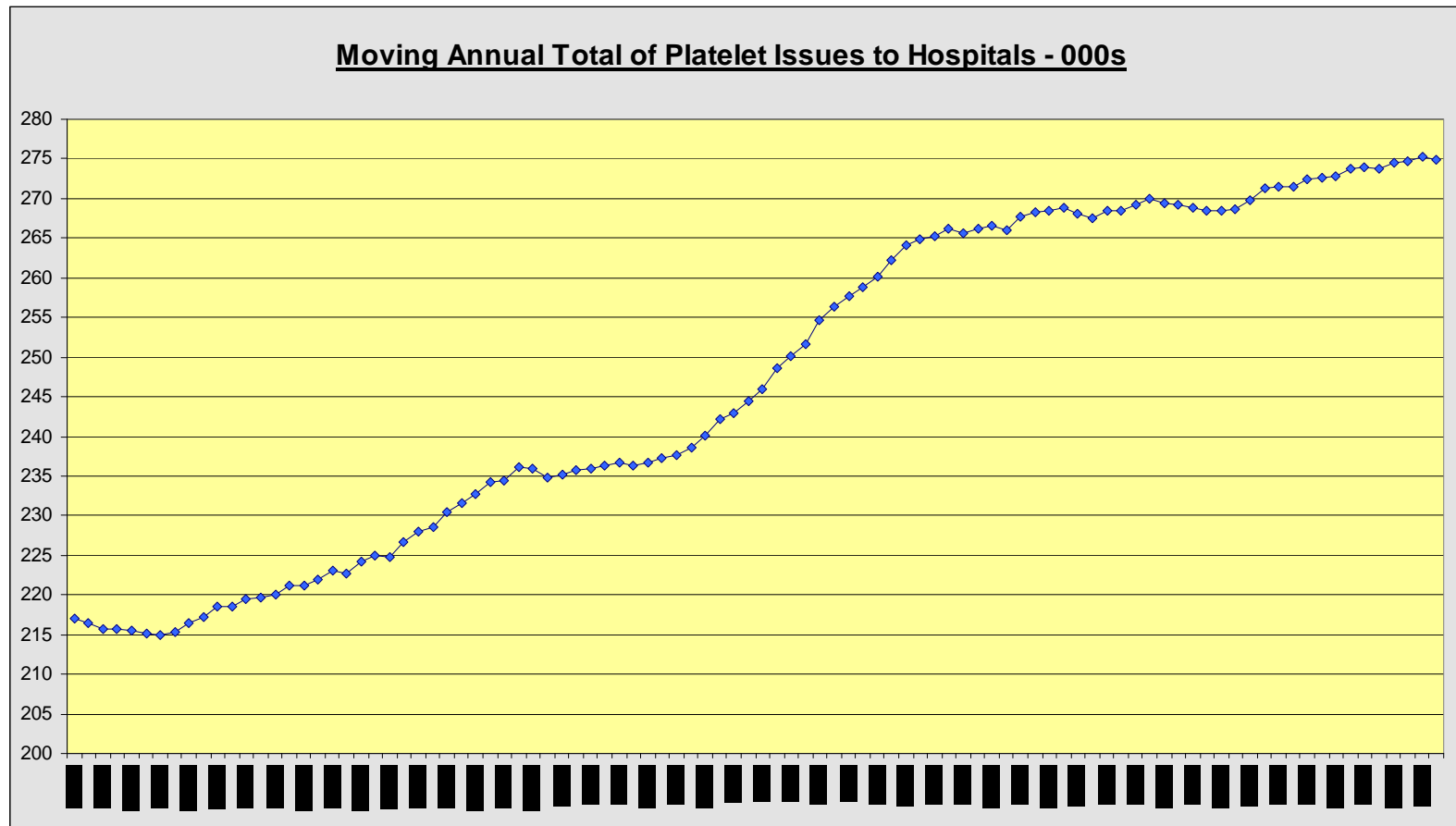
# Change in Red cell usage 1999-2014



# Change in Red cell usage 2007-2015

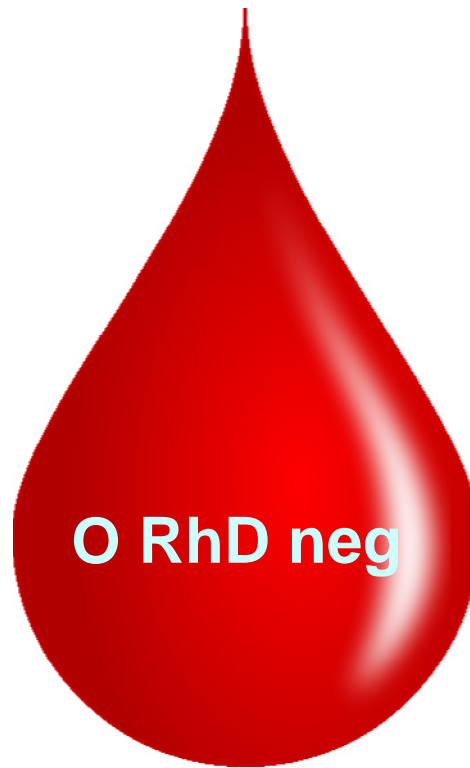


# Platelet Issues 2007- 2015

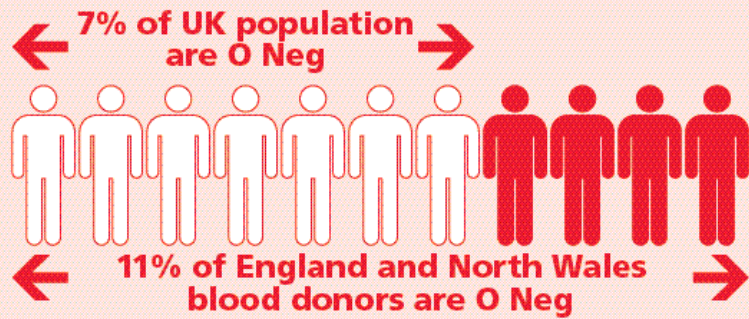


# O RhD Negative Red Cells

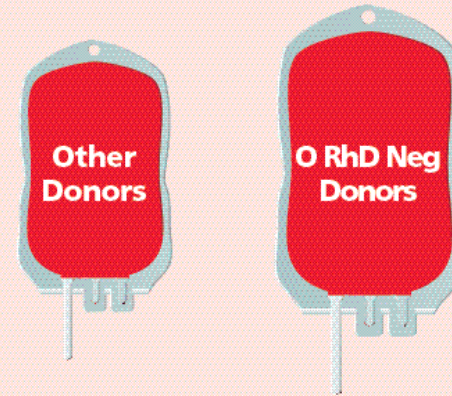
*A precious and limited resource*



# O RhD Neg blood donors

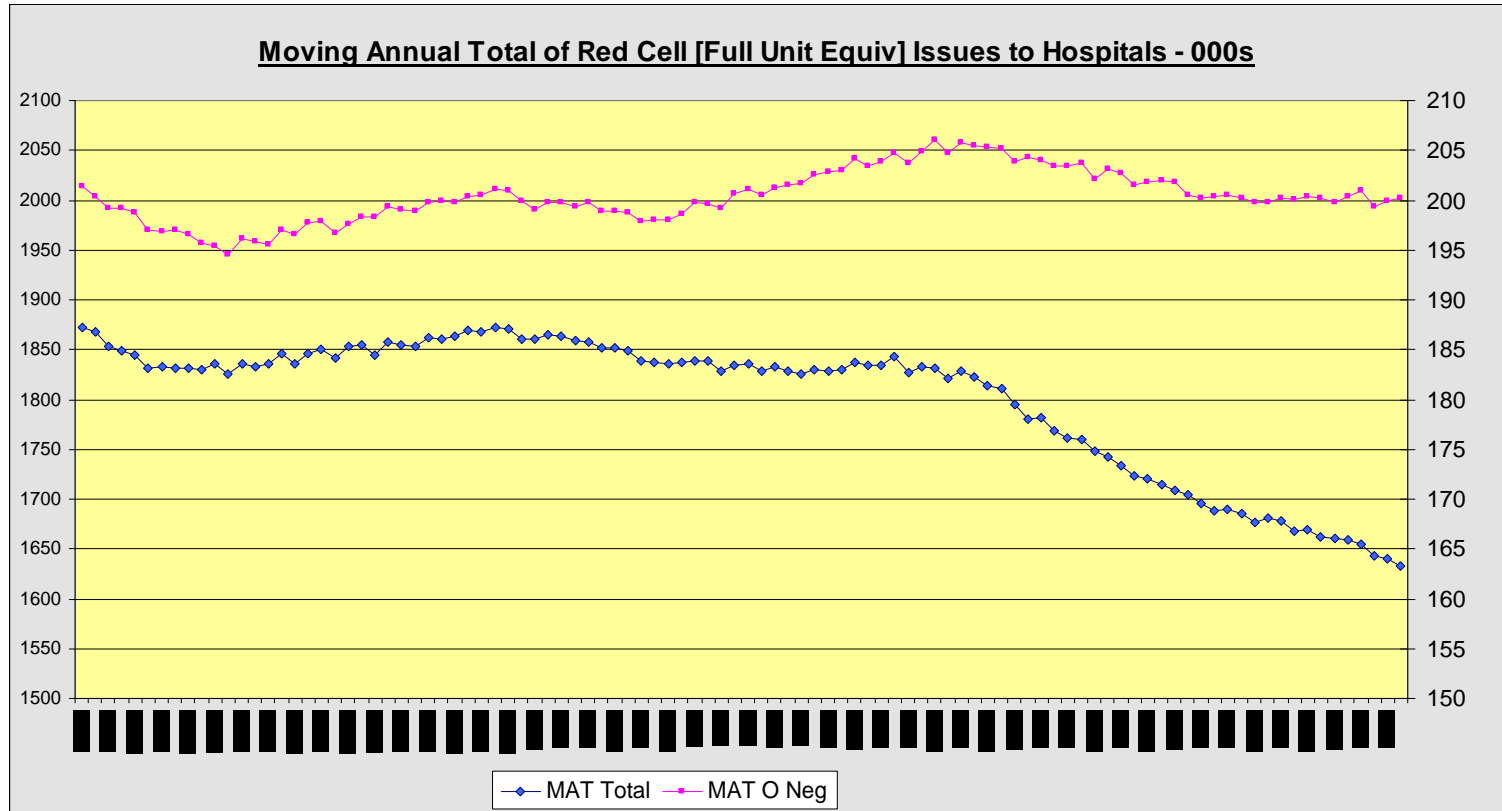


Only 7% of the UK population are blood group O Neg, though intensive marketing and recruitment means that 11% of England and North Wales's donors are O Neg.



On average each O RhD Negative blood donor donates 20% more blood than other donor groups.

# Oneg issues vs total RBC issues



# Hazards of Transfusion



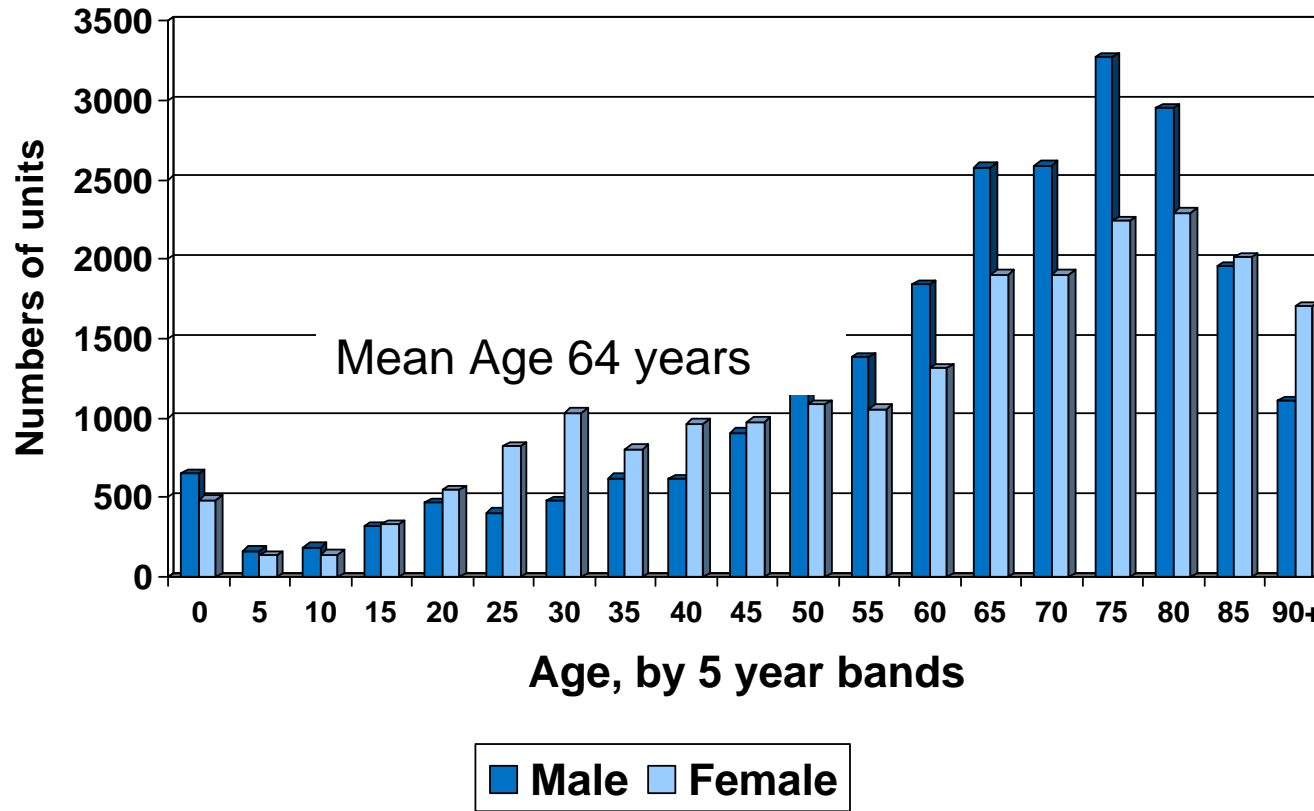
# Relative risks of complications of transfusion (SHOT 2012)

Complication	Death - Risk per components transfused	Major morbidity - Risk per components transfused
Overall risks from SHOT data	1 in 322,580	1 in 21,413
Hepatitis B (Public Health data)		1 in 1.3 million
Hepatitis C		1 in 28 million
HIV		1 in 6.7 million
Acute transfusion reaction		1 in 42,473
Haemolytic transfusion reaction		1 in 322,580
Transfusion-associated circulatory overload	1 in 476,190	1 in 99,010
All errors		1 in 169,492

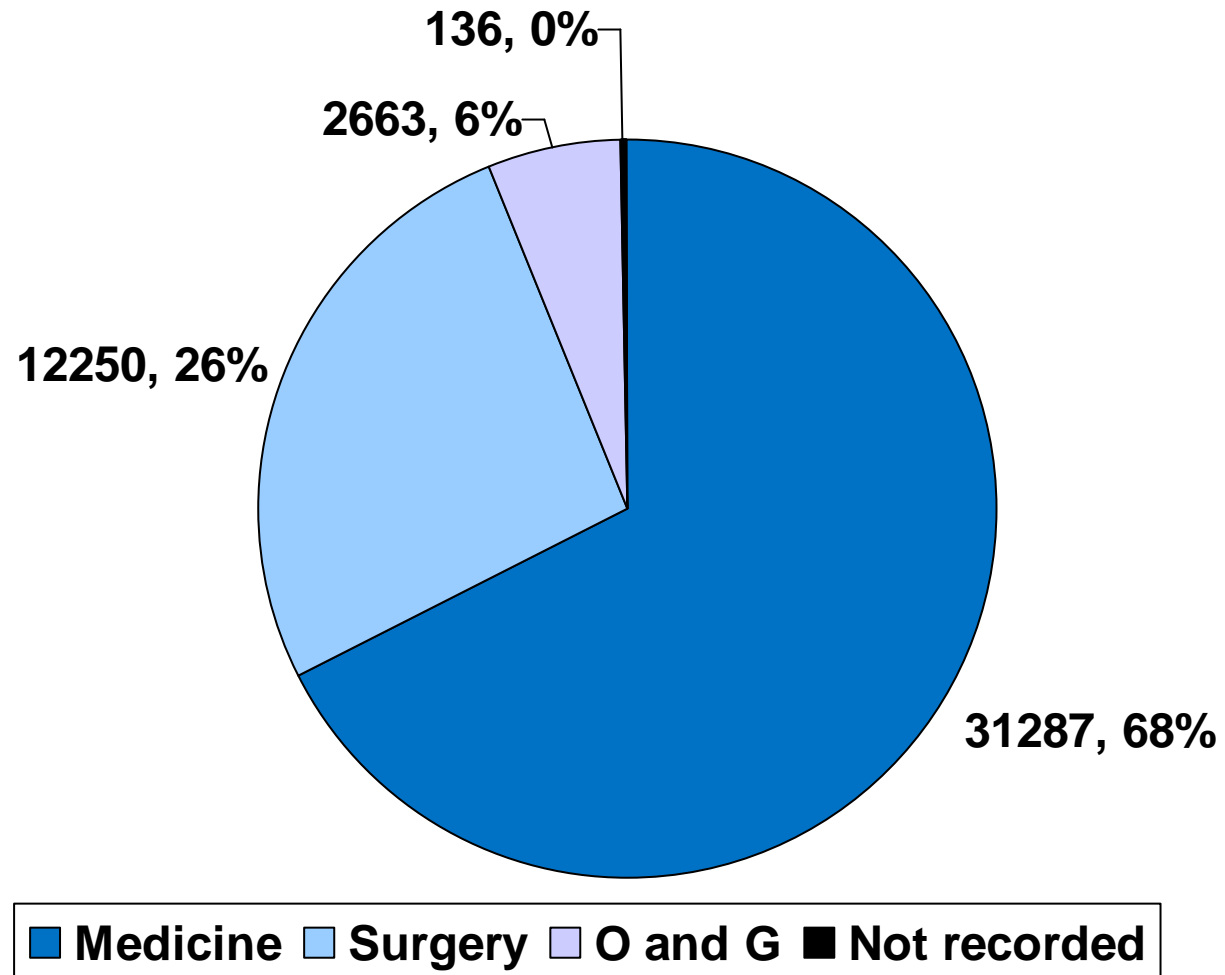
# Variation in practice

Where Do Red Cells Go in 2014?

# Age and gender distribution



# Usage by broad category



# Breakdown of medical use by main category

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

## 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
<b>Total</b>	<b>24789</b>	<b>53.5</b>

# 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
<b>Total</b>	<b>12250</b>	<b>26.44</b>

# Implementation of PBM

- Resources
- PBM champions
- NHSBT PBM Practitioners
- HTC's and HTT's
- Consultant haematologist dedicated to Tx
- NBTC PBM Recommendations



# **PBM Recommendations July 2014**

[transfusionguidelines.org](http://transfusionguidelines.org)

## ***NICE Guidelines***

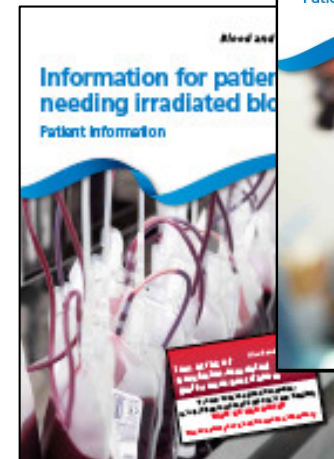
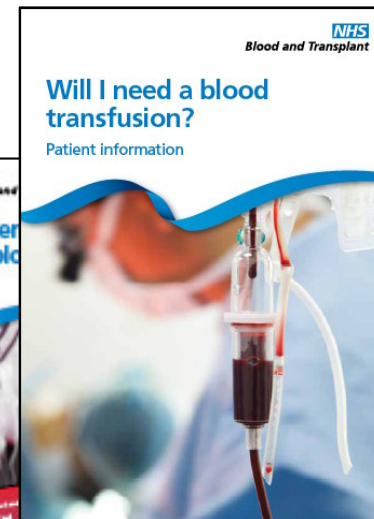
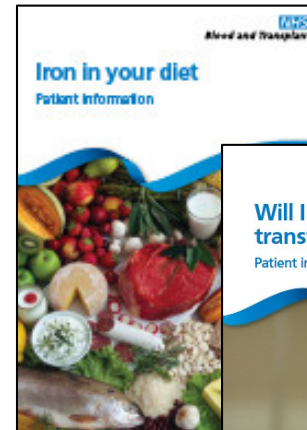
*due to be published August 2015*

**Support from NHSBT.....**



# Information for Patients

- Will I need a blood transfusion?
- Iron in your diet
- Receiving a plasma transfusion
- Children's leaflets
- PBM
- Anaemia
- FFP and cryo



# 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

# Other PBM activities

- Development of a PBM App
- Medical Audit Working Group: anaemia management algorithm, laboratory algorithm, definition of minimum transfusion dataset to standardise requesting
- Supporting Clinical benchmarking database
- Audits

# Who needs to be involved?

**Everyone!**

- National and regional leaders
- Hospital management
- Health professionals