NHS Blood and Transplant

Gwasanaeth Gwaed Cymru
Welsh Blood Service

An Unexpected Journey

Janet Birchall
Medical Director
Welsh Blood Service

Serious Hazards Of Transfusion SHOT

The History and Development of

The UK National Health Service 1948 - 1999

Peter Greengross, Ken Grant, Elizabeth Collini

DFID Health Systems Resource Centre

Until the 1990s the general management of the NHS was strictly controlled from the centre although clinical autonomy remained sacrosanct and little attention was paid to the processes of care that determine the major costs of providing healthcare.

1970's

Many layers of decision making – regional & area health authorities managed by boards

Decisions by consensus

Increasing costs

1979 Thatcher government

Area management layer removed

General managers → clear leadership, 1 individual at every level taking responsibility

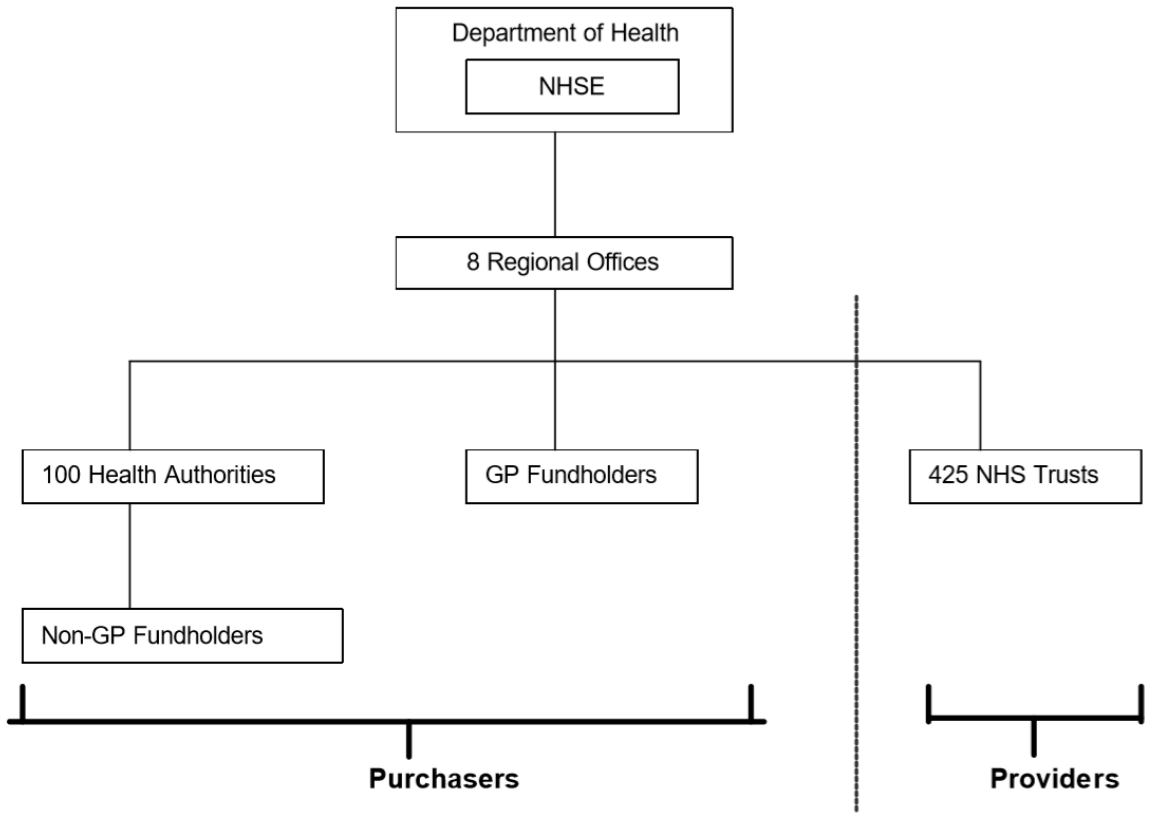
Clinical & professional staff accountable to manager – **except consultants**

1989 "Working for Patients"

Introduced to address↑ costs & promote competition to incentivise efficient, popular hospitals

The 1990's "Working for patients"

Figure 4 Structure of NHS in England, 1996



Recommendations

The introduction of an "internal market' through the **separation of providing services from purchasing** (or commissioning) them.

The promotion of **medical audit** and **job plans for consultants.**

Objectives

To reward efficient and popular providers; to create competition to improve the standards of service.

To increase the accountability of hospital doctors, including their clinical performance.

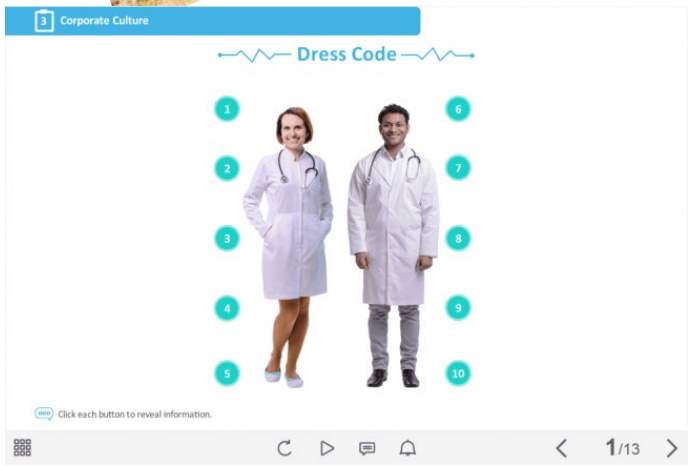
The 1997 reforms: "The new NHS. Modern. Dependable"

Clinical Governance
National Institute for Clinical Excellence
Commission for Health Improvement

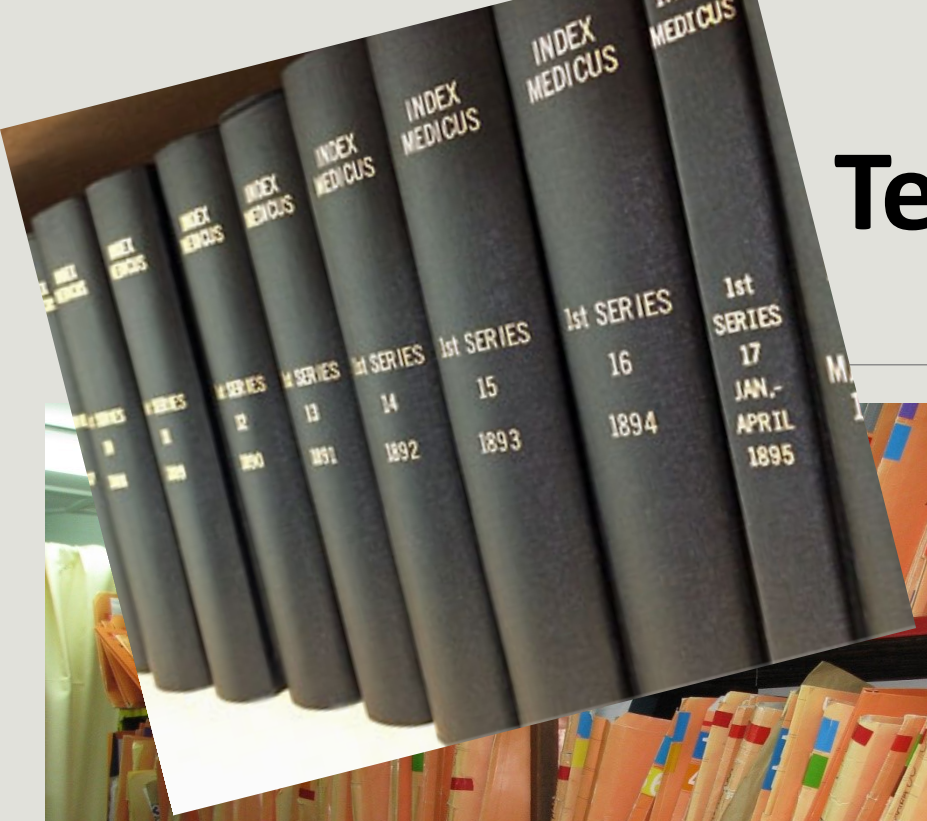
Patient Charter
Care in the Community

Calman Reforms -standardise & improve medical training
European Union Directive on Working Hours

Dress code & ward



Technology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1st SERIES 16 1894
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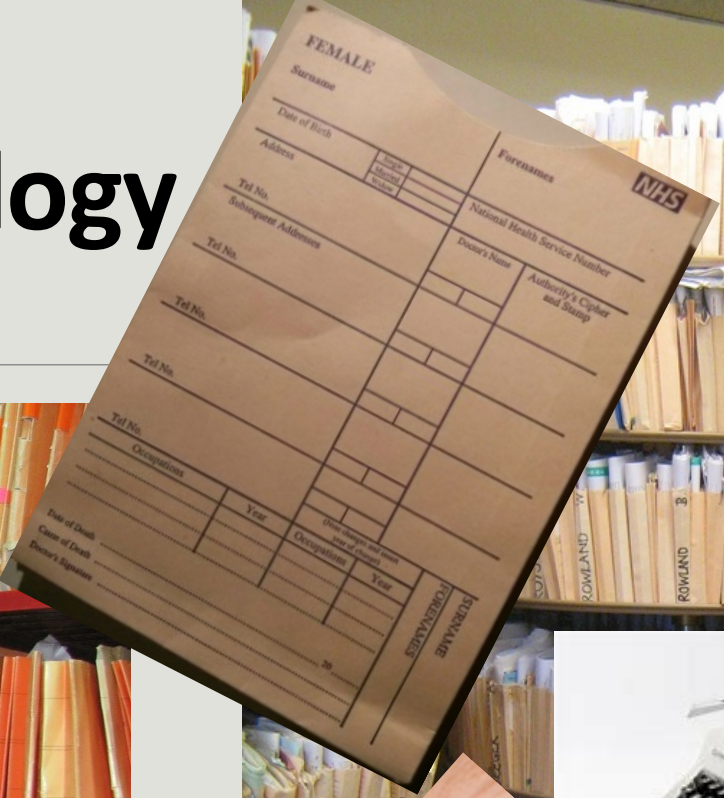
KUALA LUMPUR


FEMALE
Surname
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NHS
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FORENAMES

Laboratory

Office

News

The NEW ENGLAND JOURNAL of MEDICINE

N Engl J Med 1981; 305:1425-1431
DOI: 10.1056/NEJM198112103052401

ORIGINAL ARTICLE ARCHIVE

Pneumocystis carinii Pneumonia and Mucosal Candidiasis in Previously Healthy Homosexual Men — Evidence of a New Acquired Cellular Immunodeficiency

Michael S. Gottlieb, M.D., Robert Schroff, Ph.D., Howard M. Schanker, M.D., Joel D. Weisman, D.O., Peng Thim Fan, M.D., Robert A. Wolf, M.D., and Andrew Saxon, M.D.

- 1988 – Breast screening introduced
- 1988 - MMR jab introduced to replace single vaccines
- 1983 – HIV, the virus that causes AIDS, is identified

AMERICAN SOCIETY FOR MICROBIOLOGY | Clinical and Vaccine Immunology

CrossMark

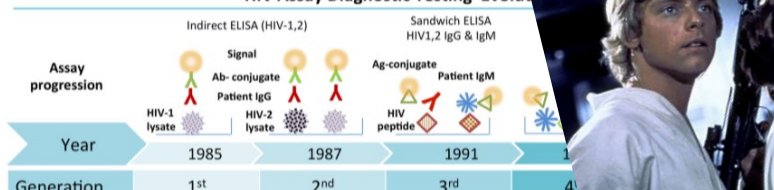
CVInsights

Human Immunodeficiency Virus Diagnostic Testing: 30 Years of Evolution

Thomas S. Alexander

Summa Health, Department of Pathology and Laboratory Medicine, Akron, Ohio, USA, and Northeast Ohio Medical

HIV Assay Diagnostic Testing Evolut



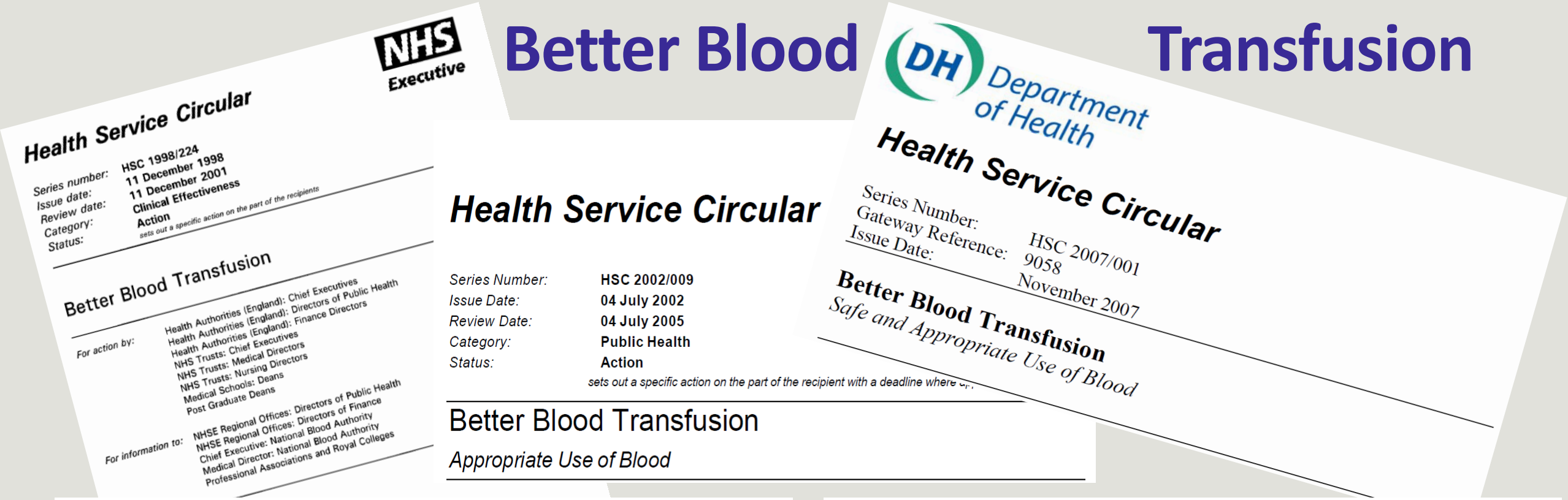
Generation	1st	2nd	3rd	4	
Antigen (Ag) Source	Virus Infected Cell Lysate	Lysate & Recombinant	Recombinant & Synthetic peptides	Recombinan Synthetic pe	
Specificity	95-98%	>99%	>99.5%	99.5%	
Sensitivity	99%	>99.5%	>99.5%	>99.8%	
Negative Window	8-10 weeks	4-6 weeks	2-3 weeks	2 weeks	
Detects Antibody (Ab) and Ag	IgG Anti HIV-1	IgG anti HIV-1 and IgG anti HIV-2	IgG and IgM anti HIV-1, HIV-2 and Group O	IgG and IgM anti HIV-1, HIV-2 and Group O. Also detects HIV-1 p24 Ag	IgG and IgM anti HIV-1, HIV-2 and Group O. Also detects HIV-1 p24 Ag
Results	Single result	Single result	Single result	Single result; does not differentiate Ab from Ag positivity	Separate HIV-1 and HIV 2 Ab and Ag results
Confirming Tests	HIV-1 western blot (WB) or immunofluorescence (IFA)	HIV-1 WB or IFA, HIV-2 ELISA and WB if HIV-1 confirm is negative	HIV-1 WB or IFA, HIV-2 ELISA and WB if HIV-1 confirm is negative	HIV-1.2 differentiation Assay followed by qualitative HIV-1 RNA PCR if differentiation assay is negative	Not determined at the time of this writing

FIG 3 Schematic representation of the 30-year evolution of HIV diagnostic assays.

Transfusion Medicine

Apheresis unit Bristol

Better Blood Transfusion



NHS Executive

Health Service Circular

Series number: HSC 1998/224
Issue date: 11 December 1998
Review date: 11 December 2001
Category: Clinical Effectiveness
Status: Action
sets out a specific action on the part of the recipients

Better Blood Transfusion

For action by:
Health Authorities (England): Chief Executives
Health Authorities (England): Directors of Public Health
Health Authorities (England): Finance Directors
NHS Trusts: Chief Executives
NHS Trusts: Medical Directors
NHS Trusts: Nursing Directors
Medical Schools: Deans
Post Graduate Deans

For information to:
NHSE Regional Offices: Directors of Public Health
NHSE Regional Offices: Directors of Finance
Chief Executive: National Blood Authority
Medical Director: National Blood Authority
Professional Associations and Royal Colleges

Health Service Circular

Series Number: HSC 2002/009
Issue Date: 04 July 2002
Review Date: 04 July 2005
Category: Public Health
Status: Action
sets out a specific action on the part of the recipient with a deadline where a[illegible]

Better Blood Transfusion

Appropriate Use of Blood

DH Department of Health

Health Service Circular

Series Number: HSC 2007/001
Gateway Reference: 9058
Issue Date: November 2007

Better Blood Transfusion
Safe and Appropriate Use of Blood

Action

4. From March 1999, all NHS Trusts where blood is transfused should:
   - ensure that hospital transfusion committees are in place to oversee all aspects of blood transfusion
   - participate in the annual SHOT enquiry

5. By March 2000, all NHS Trusts where blood is transfused should:
   - have agreed and disseminated local protocols for blood transfusion, based on guidelines and best national practice, and supported by in house training
   - have explored the feasibility of autologous blood transfusion and ensured that where appropriate, patients are aware of this option. In particular they should have considered the introduction of perioperative cell salvage (PCS)

6. Clinicians, NHS Trusts and health commissioners should collaborate in taking forward these recommendations to develop a first class blood transfusion service.

Summary

This Health Service Circular replaces HSC 1998/224 *Better Blood Transfusion* and sets out a new programme of action for the NHS to:

- Ensure that *Better Blood Transfusion* is an integral part of NHS care
- As part of clinical governance responsibilities, make blood transfusion safer
- Avoid unnecessary use of blood in clinical practice
- Provide better information to patients and the public about blood transfusion

The programme of action should be considered in conjunction with Annex A of this circular that provides further detail on implementation.

There is an expectation that implementation/compliance to this guidance will be subject to inspection by CHI or its successor organisation.

A toolkit to assist Trusts is being developed and will be placed on the *Better Blood Transfusion* website and will include access to national guidance, patient leaflets and examples of good practice.

Patient Blood Management

Patient Blood Management

An evidence-based approach to patient care

NHS
National Blood Transfusion Committee

Foreward

On behalf of NHS England, I am delighted to support the National Blood Transfusion Committee's *Patient Blood Management* recommendations.

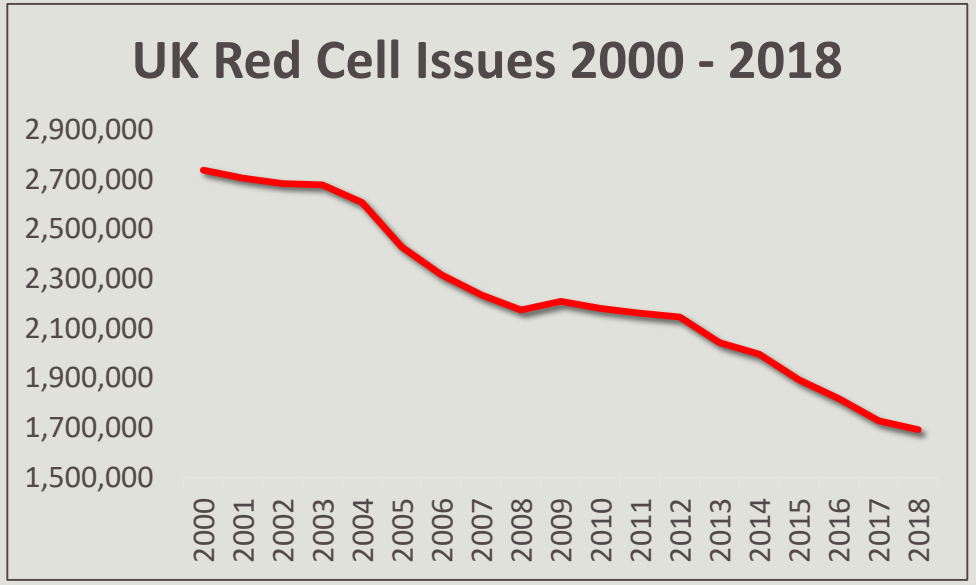
Blood components are used to save and improve thousands of lives each year. Red blood cell usage in England has decreased by over 20% in the last 14 years, but national and large regional audits consistently show that 15-20% of red blood cell transfusion is not compliant with national guidelines. Recent meta-analyses show that restrictive red blood cell transfusion reduces mortality and morbidity. Everyone involved in blood transfusion needs to take responsibility for ensuring that blood transfusion is used appropriately.

Patient Blood Management is an evidence-based, multidisciplinary approach to optimising the care of patients who might need transfusion. It encompasses measures to avoid transfusion such as anaemia management without transfusion, cell salvage and the use of anti-fibrinolytic drugs to reduce bleeding as well as restrictive transfusion. It ensures that patients receive the optimal treatment, and that avoidable, inappropriate use of blood and blood components is reduced.

Patient Blood Management needs leadership and support at every level, from trust management, health professionals in hospitals, NHS Blood & Transplant and the National and Regional Blood Transfusion Committees. I commend these guidelines to all, and offer our thanks to the many professionals involved in their development.

Jo Martin
Professor JE Martin MA MB BS PhD FRCPath
National Clinical Director of Pathology, NHS England

Date: Thursday, 26 June 2014


UK Red Cell Issues 2000 - 2018
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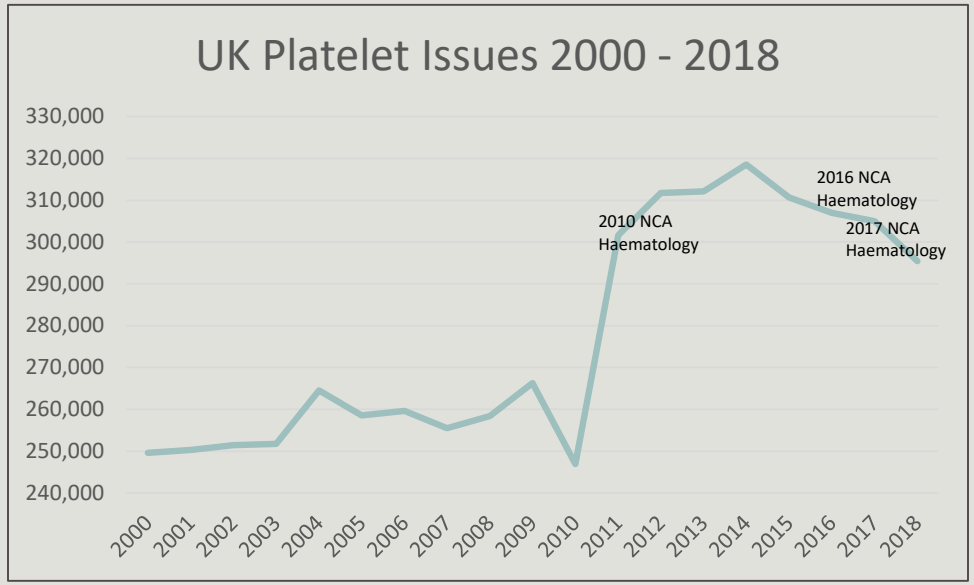
UK Platelet Issues 2000 - 2018
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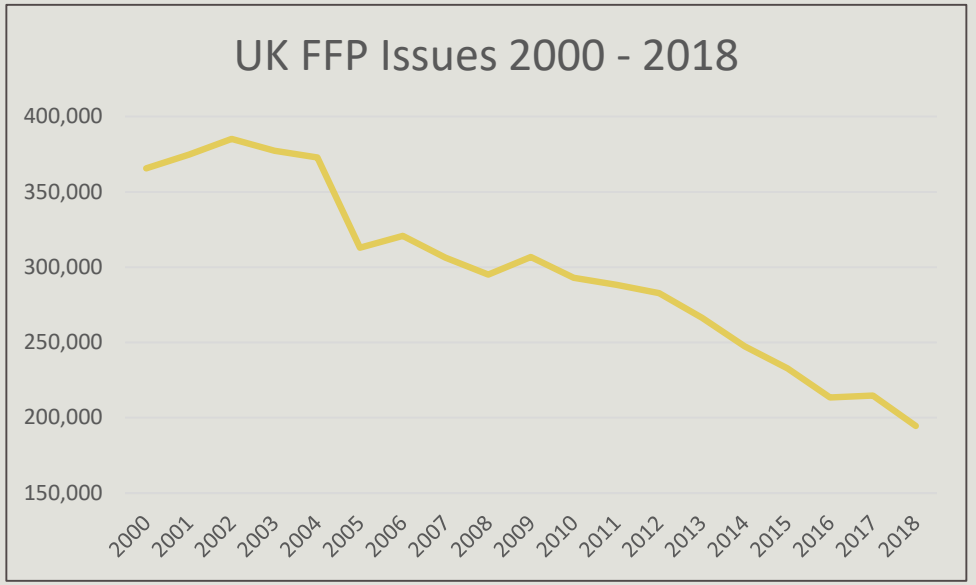
UK FFP Issues 2000 - 2018
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Systematic Review

Evidence for the use of recombinant factor VIIa in the
and treatment of bleeding in patients without h

Birchall J, Stanworth SJ, Duffy MR, D
Transfus Med Rev. 2008 Jul;22(3):17
Review.
PMID: 18572094

HOME MEDICINES COMPANIES LATEST UPDATES ABOUT EMC HEL

NovoSeven 2 mg (100 KIU) powder and solvent for solution for injection

Report Side Effect

Novo Nordisk Limited
contact details

When NovoSeven is administered to patients outside approved indications, arterial thromboemb events are common
Safety and efficacy of NovoSeven have not been established outside the approved indications and oSeven should
not be used.

Recomb
emc
St
Coc
Coch
PMID:

;(2):CD00501
1;(2):CD005011.

Recombinant factor VIIa for the prevention and treatment of bleeding in patients without haemophilia.

Lin Y, Stanworth S, **Birchall J**, Doree C, Hyde C.
Cochrane Database Syst Rev. 2011 Feb 16;(2):CD005011. do
10.1002/14651858.CD005011.pub3. Review. Update in: Coch
Syst Rev. 2012;3:CD005011.
PMID: 21328270

or VIIa for the prevention and treatment of
without haemophilia.

nworth S, **Birchall J**, Doree C, Hyde C.
ev. 2012 Mar 14;(3):CD005011. doi:
11.pub4. Review.

South West RTC Use of rFVIIa

Hospital Stocks		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-Haemophilia	1-5	12	11	11	12	12	12	10	9	10	9	9	5
	6-10	2	3	2	1	0	0	0	0	0	3	1	0
	>10	1	1	2	0	0	1	1	1	0	0	0	0

urgery for people with
a low
Esto
Coc
PMID: 30221749

Haematological factors in
systematic review.

Williams A, Biffen A, Pilkington N, Arrick L, W
Smith M, **Birchall J**.
J Laryngol Otol. 2017 Dec;131(12):1093-1107. doi:
10.1017/S0022215117002067. Review.
PMID: 29280698

Guidelines

bjh guideline

Guidelines for the use of platelet transfusions

Lise J. Estcourt,[1] Janet Birchall(Writing Group Chair)[2], Shubha … e Member)[3], Stephen J. Bassey,[4] Peter Hersey,[5] Jonathan Paul Kerr,[6] Andrew D. Mumford[7] … tel Tinegate[9] on behalf of the British Committee for Standards in Haematology

[1]NHSBT and Radcliffe Department of … rtment of Haema… North Bristol NHS Trust, Bristol, [3]NH… don, [4]Departme… Royal Cornwall Hospit… y Hospitals S… Foundation Trust, Suna… Trust, Exe… Cellular and Molecular M… gy, John … Oxford and [9]NHSBT, New…

British Journal of Haematology, 2…

bjh BRITISH JOURNAL OF HAEMATOLOGY

Summary of Guidelines for the Use of Platelet Transfusions

A British Society for Haematology Guideline (2016) - Appendix 1

To read the full guideline please go to http://www.b-s-h.org.uk/guidelines/guidelines/use-of-platelet-transfusions/

Platelet transfusion: principles, risks, alternatives and best practice

Platelet transfusions are an essential component in the management of selected patients with thrombocytopenia. However they need to be used judiciously as they are a limited resource and are not risk free.

Classification of conditions which may require platelet transfusion

Bone marrow failure (BMF): Reversible associated with treatable disease and/or chemotherapy and occasionally chronic (irreversible) BMF e.g. myelodysplastic syndromes

Peripheral platelet consumption/destruction e.g. disseminated intravascular coagulation and immune thrombocytopenia

Thrombocytopenia in critical care

Abnormal platelet function. Inherited or acquired disorders e.g. anti-platelet agents, uraemia

Platelet transfusion: Indication categories and contraindications

Prophylactic (WHO bleeding grade 0 or 1) to prevent bleeding

- Routine use in non-bleeding patients
- In the presence of additional risk factors for bleeding e.g. sepsis or abnormalities of haemostasis

Pre-procedure to prevent bleeding expected to occur during surgery/invasive procedure

Therapeutic (WHO bleeding grade ≥ 2) to treat active bleeding

Contraindications to platelet transfusion unless life-threatening haemorrhage

Thrombotic Thrombocytopenic Purpura (TTP)

Risks associated with platelet transfusion

Reduced effectiveness of future platelet transfusion

Alloimmunisation

Adverse effects

Febrile non-haemolytic transfusion reactions (FNHTR) and allergic reactions (including mild), reported incidence up to 3%. May require investigation to exclude other causes and prolong hospital stay.

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

Prior to prescribing a platelet transfusion consider:

bjh guideline

Guidelines on the man… macroglobulinaemia*

S. A. Johnson,[1] J. Birchall,[2] C. … e,[3] D. G. Oscier[4] … wen[5]

 132, 683–697

bjh guideline

Guideline on the investigation and management of acute transfusion reactions Prepared by the BCSH Blood Transfusion Task Force

Hazel Tinegate[1] (Writing group lead), Janet Birchall,[2] Alexandra Gray,[3] Richard Ha… Deborah Pinchon,[7] Carrock Sewell,[8] Angus Wells[9] and Shubha Allard[10]

Consultant Haematolog… NHS Blood and Transplant, … Bristol, UK, [3]… Director Supply Chain, Scottish Na… Chair, BCSH Transfusion Task Fo… Fulton, UK … Blood Transfusion … Associate Medical Director- … and Leeds Teaching … Department … Service, …

…atient exhibiting possible features of an acute transfusion reaction, which may include:

…lia, hyper- or hypotension, collapse, flushing, urticaria, pain (bone, muscle, chest, abdominal), respiratory distress, nausea, general malaise

…USION-undertake rapid clinical assessment, check patient ID/blood compatibility label, visually assess unit

Evidence of:

…y and/or Breathing and/or Circulatory problems and/or wrong blood given and/or evidence of contaminated unit

Yes / **No**

Inform medical staff

…TENING
…l help
…ABC
…to be causing hypotension? If not- …on (do not discard implicated unit/s)
…ess
…TPR, BP, urinary output, oxygen

…is/severe allergy-follow anaphylaxis pathway
…mination likely start antibiotic treatment
- **If bacte…**
- **Use BP, pulse, urine output (catheterise if necessary) to guide intravenous physiological saline administration**
- **Inform hospital transfusion department**
- **Return unit (with administration set) to transfusion laboratory**
- **If bacterial contamination suspected contact blood service to discuss recall associated components**
- **Perform appropriate investigations (see Table 1)**

MODERATE
- **Temperature ≥ 39°C or rise ≥ 2°C and/or**
- **Other symptoms/signs apart from pruritus/rash only**

MILD
- **Isolated temperature ≥ 38°C and rise of 1-2 °C and/or**
- **Pruritus/rash only**

- **Consider bacterial contamination if the temperature rises as above and review patient's underlying condition and transfusion history**
- **Monitor patient more frequently e.g. TPR, BP, oxygen saturations, urinary output**

- **Continue transfusion**
- **Consider symptomatic treatment (see text)**
- **Monitor patient more frequently as for moderate reactions**
- **If symptoms/signs worsen, manage as moderate/severe reaction (see left)**

- **Not consistent with condition or history**
- **Discontinue (do not discard implicated unit/s)**
- **Perform appropriate investigations (see Table 1)**

If consistent with underlying condition or transfusion history consider continuation of transfusion at slower rate and appropriate symptomatic treatment

Continue Transfusion

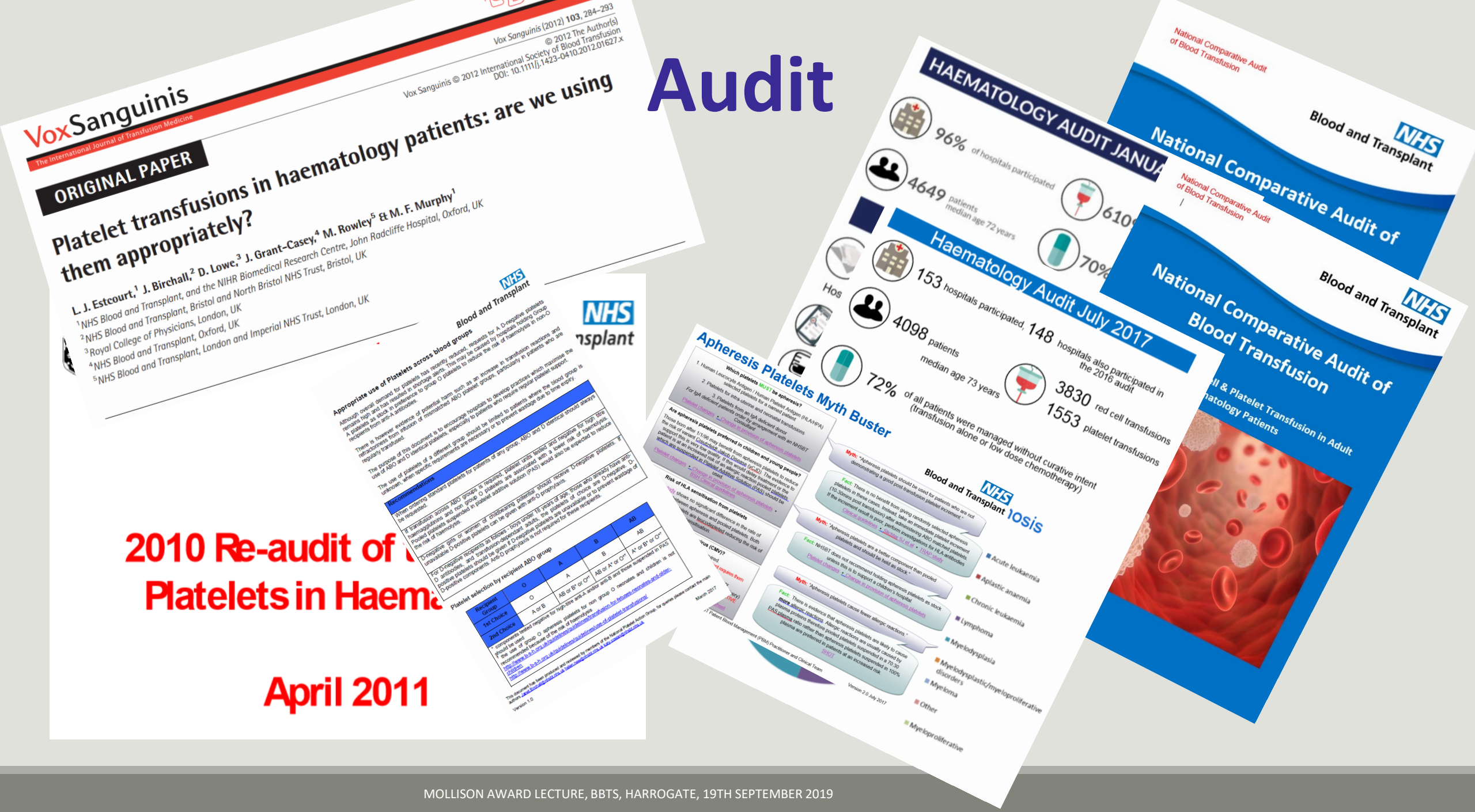
- **Review at HTC**
- **Report to SHOT/MHRA as appropriate**

Transfusion-related event

Transfusion unrelated

Document in notes that no HTT/ HTC review/SHOT report necessary

Audit


VoxSanguinis
The International Journal of Transfusion Medicine
ORIGINAL PAPER
Platelet transfusions in haematology patients: are we using them appropriately?
Vox Sanguinis (2012) 103, 284–293
Vox Sanguinis © 2012 International Society of Blood Transfusion
© 2012 The Author(s)
DOI: 10.1111/j.1423-0410.2012.01627.x
L. J. Estcourt, J. Birchall, D. Lowe, J. Grant-Casey, M. Rowley & M. F. Murphy
NHS Blood and Transplant, and the NIHR Biomedical Research Centre, John Radcliffe Hospital, Oxford, UK
NHS Blood and Transplant, Bristol and North Bristol NHS Trust, Bristol, UK
Royal College of Physicians, London, UK
NHS Blood and Transplant, Oxford, UK
NHS Blood and Transplant, London and Imperial NHS Trust, London, UK
Blood and Transplant
Appropriate use of Platelets across blood groups
Recommendations
Platelet selection by recipient ABO group
Recipient Group
1st Choice
2nd Choice
2010 Re-audit of
Platelets in Haema
April 2011
HAEMATOLOGY AUDIT JANUA
96% of hospitals participated
4649 patients
median age 72 years
Haematology Audit July 2017
153 hospitals participated, 148 hospitals also participated in the 2016 audit
4098 patients
median age 73 years
72% of all patients were managed without curative intent (transfusion alone or low dose chemotherapy)
3830 red cell transfusions
1553 platelet transfusions
Apheresis Platelets Myth Buster
Blood and Transplant
Acute leukaemia
Aplastic anaemia
Chronic leukaemia
Lymphoma
Myelodysplasia
Myelodysplastic/myeloproliferative disorder's
Myeloma
Other
Myeloproliferative
National Comparative Audit of Blood Transfusion
Blood and Transplant
National Comparative Audit of Blood Transfusion
Blood and Transplant
Platelet Transfusion in Adult
Haematology Patients

Journey's End
Welsh Blood Service

100th Royal Welsh Show

To mark 100 years of the Royal Welsh Show, we are aiming for 100 visitors to discover their blood type!

Click here to read more.