Why are O D Negative red cells so in demand?

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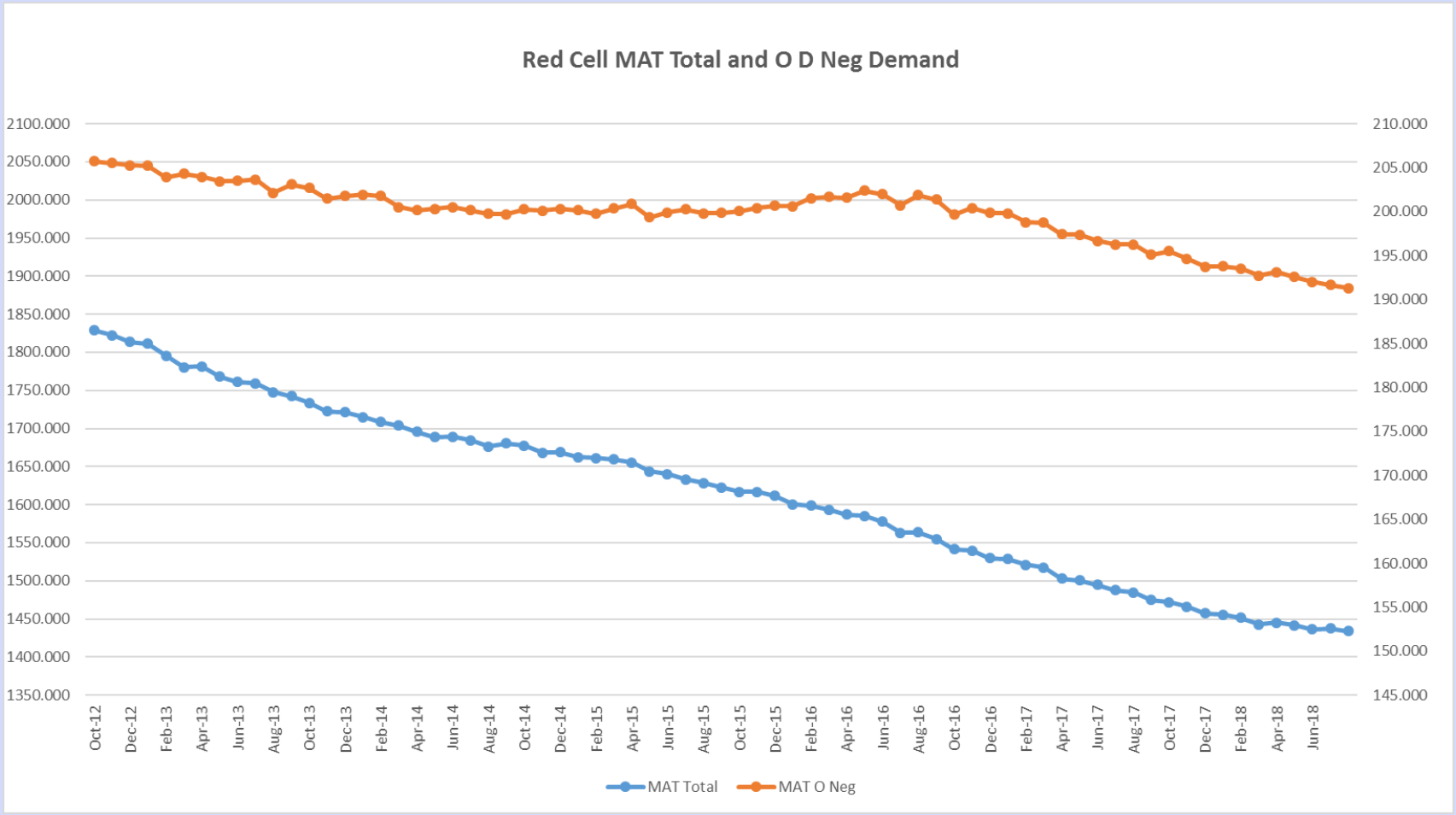
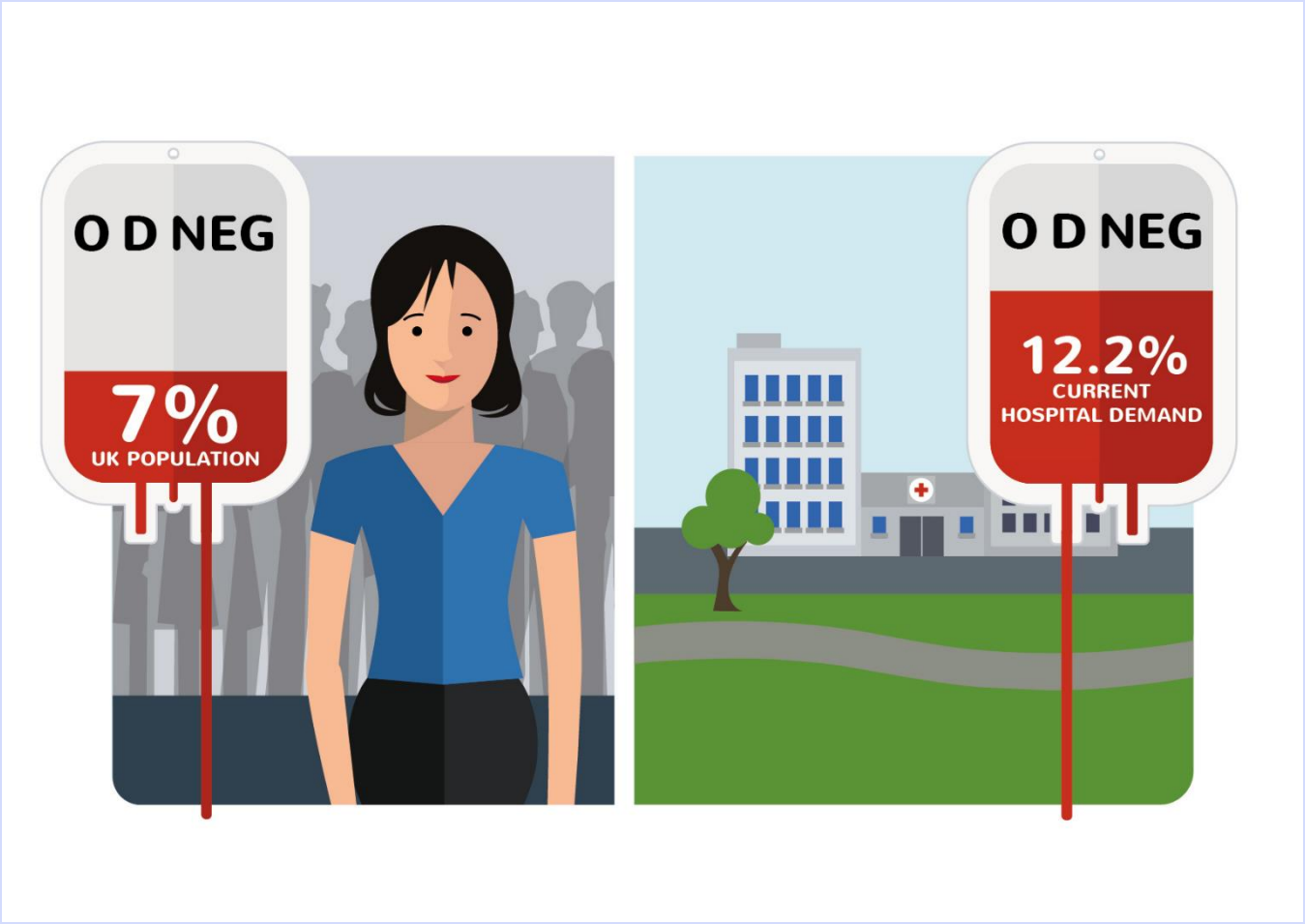
BBTS Annual Scientific Meeting
Brighton
4th Oct 2018

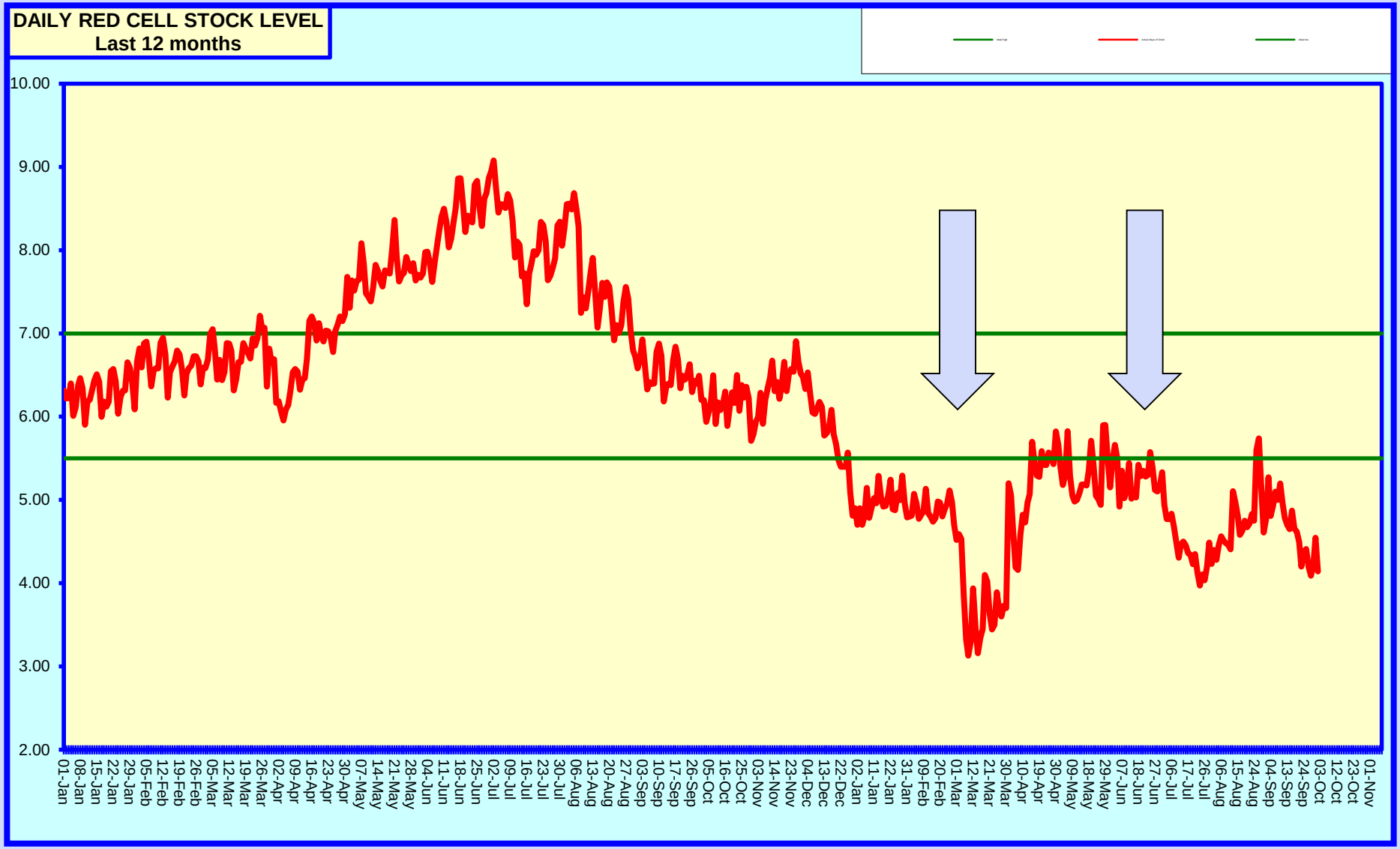
NHSBT Hospital RBC Demand



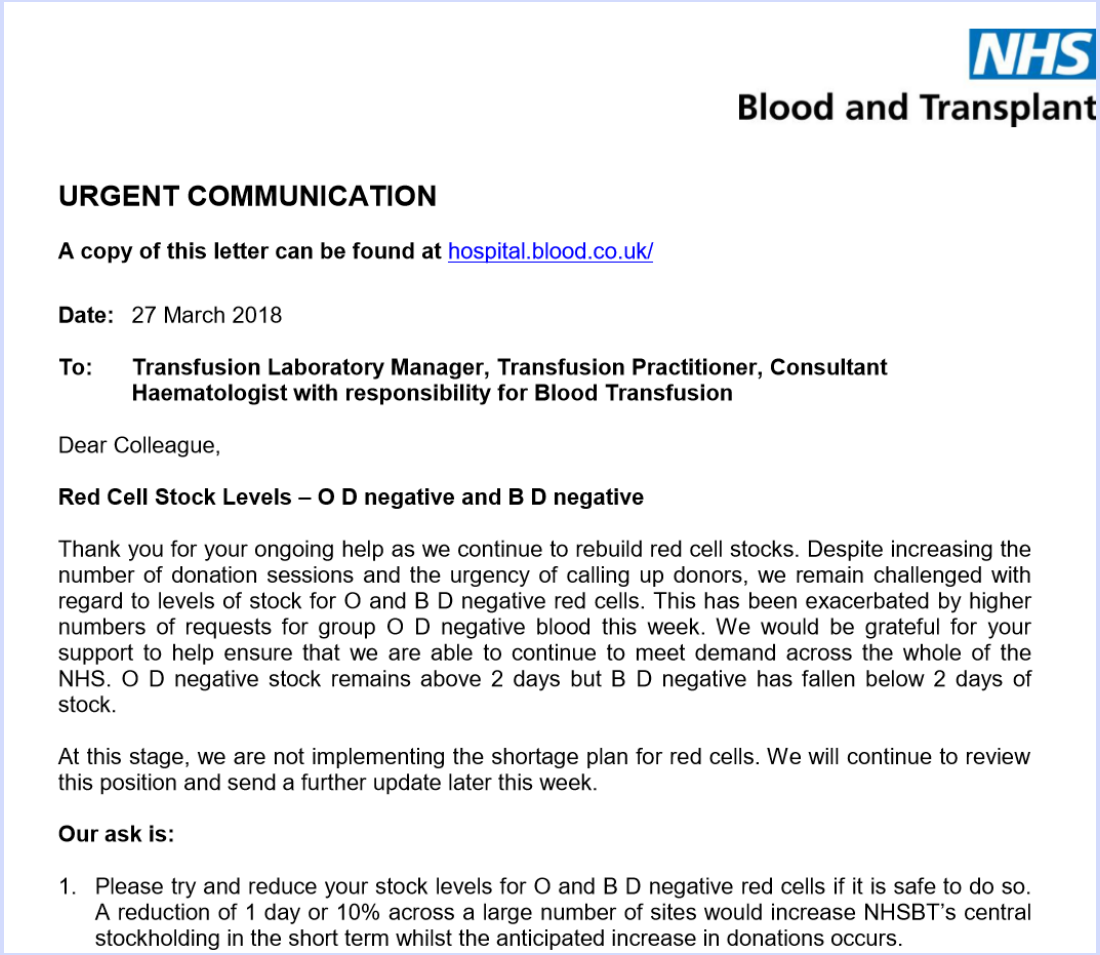
The problem



Supply Chain Challenges



Stock Levels - Communications



NHS
Blood and Transplant

URGENT COMMUNICATION

A copy of this letter can be found at hospital.blood.co.uk/

Date: 27 March 2018

To: **Transfusion Laboratory Manager, Transfusion Practitioner, Consultant Haematologist with responsibility for Blood Transfusion**

Dear Colleague,

Red Cell Stock Levels – O D negative and B D negative

Thank you for your ongoing help as we continue to rebuild red cell stocks. Despite increasing the number of donation sessions and the urgency of calling up donors, we remain challenged with regard to levels of stock for O and B D negative red cells. This has been exacerbated by higher numbers of requests for group O D negative blood this week. We would be grateful for your support to help ensure that we are able to continue to meet demand across the whole of the NHS. O D negative stock remains above 2 days but B D negative has fallen below 2 days of stock.

At this stage, we are not implementing the shortage plan for red cells. We will continue to review this position and send a further update later this week.

Our ask is:

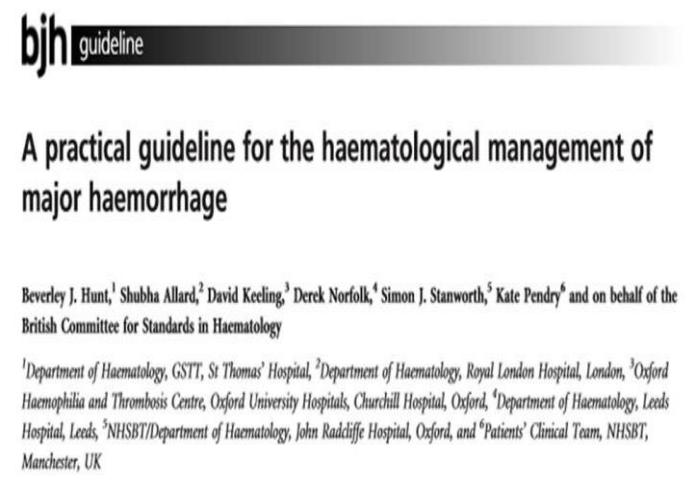
1. Please try and reduce your stock levels for O and B D negative red cells if it is safe to do so. A reduction of 1 day or 10% across a large number of sites would increase NHSBT's central stockholding in the short term whilst the anticipated increase in donations occurs.

Reasons for disproportionate use of O D Negative

- Use in emergency settings
- Increasing demand for Ro units
- Patients with antibodies
- Supporting patients with stem cell transplants
- Stocking remote refrigerators with O D negative RBC
- Use of O D negative red cells for non O D negative recipients to prevent time expiry
- Neonatal recipients

Are all O D Neg units treated as equal?

- So what is the specification for an Emergency unit?
- BSH Guideline

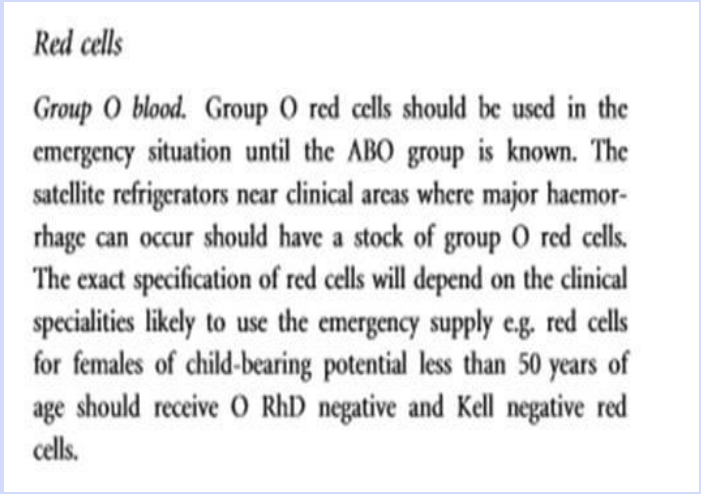


bjh guideline

A practical guideline for the haematological management of major haemorrhage

Beverley J. Hunt,[1] Shubha Allard,[2] David Keeling,[3] Derek Norfolk,[4] Simon J. Stanworth,[5] Kate Pendry[6] and on behalf of the British Committee for Standards in Haematology

[1]Department of Haematology, GSTT, St Thomas' Hospital, [2]Department of Haematology, Royal London Hospital, London, [3]Oxford Haemophilia and Thrombosis Centre, Oxford University Hospitals, Churchill Hospital, Oxford, [4]Department of Haematology, Leeds Hospital, Leeds, [5]NHSBT/Department of Haematology, John Radcliffe Hospital, Oxford, and [6]Patients' Clinical Team, NHSBT, Manchester, UK

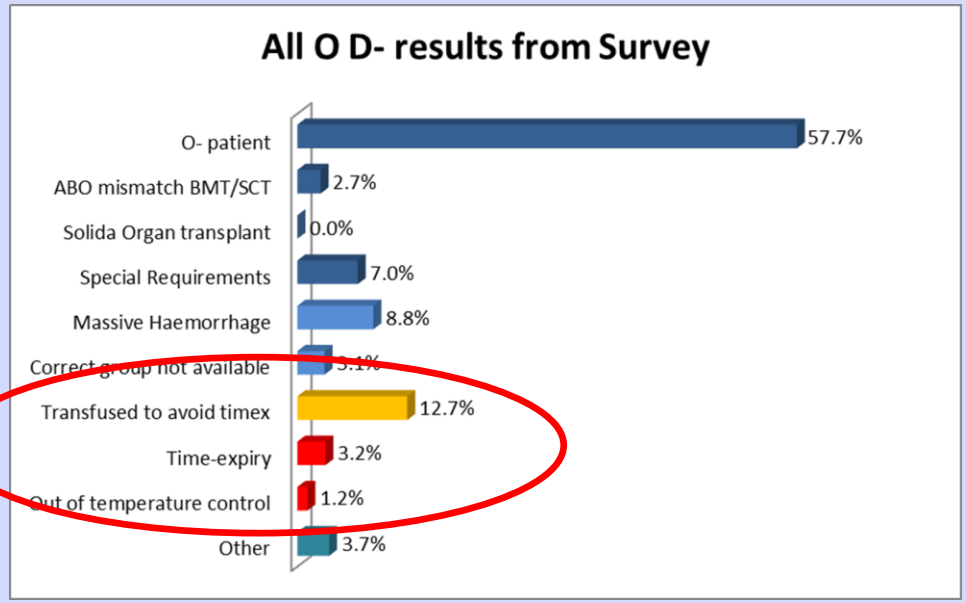


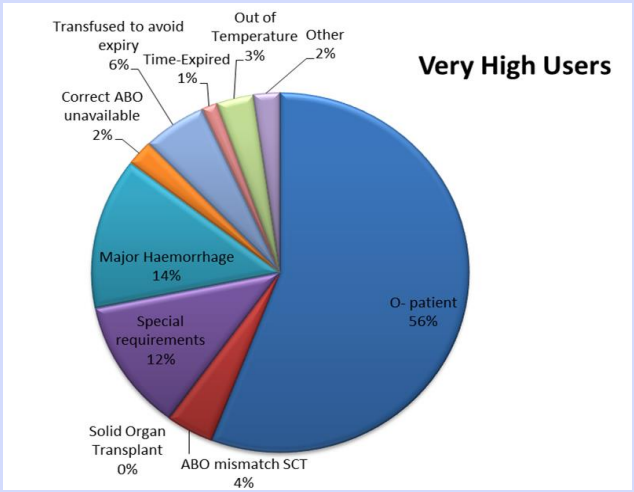
Red cells

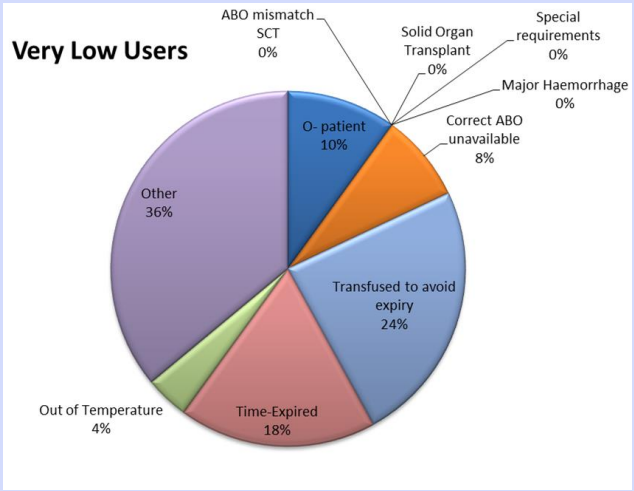
Group O blood. Group O red cells should be used in the emergency situation until the ABO group is known. The satellite refrigerators near clinical areas where major haemorrhage can occur should have a stock of group O red cells. The exact specification of red cells will depend on the clinical specialities likely to use the emergency supply e.g. red cells for females of child-bearing potential less than 50 years of age should receive O RhD negative and Kell negative red cells.

Dependant on the age and sex of the recipient plus the clinical speciality.

Where do all the O D Negative red cells go? 2015 BSMS Snapshot Audit







International data

TRANSFUSION PRACTICE

O– product transfusion, inventory management, and utilization during shortage: the OPTIMUS study

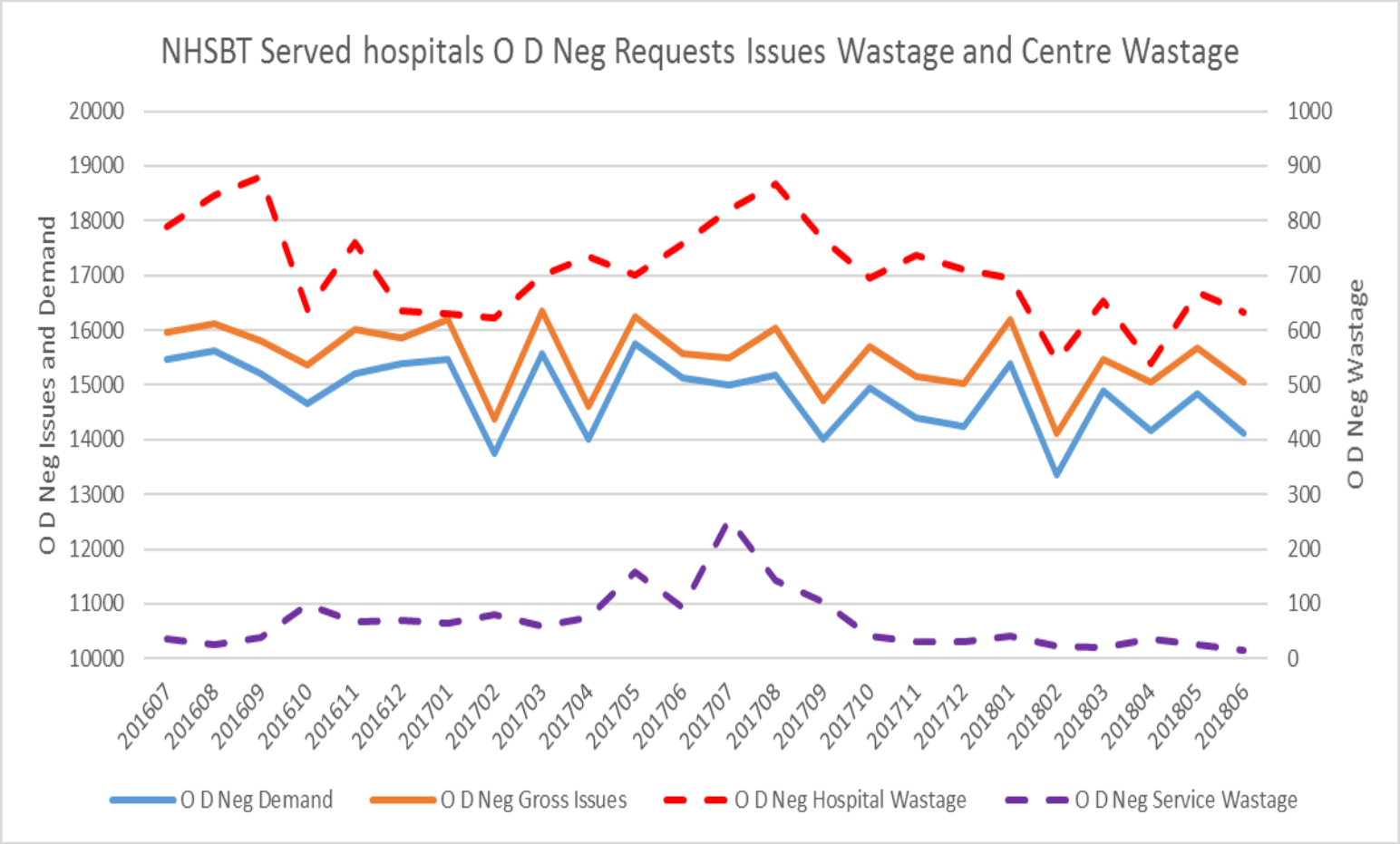
Nancy M. Dunbar,[1] *Mark H. Yazer*,[2] *and the OPTIMUS Study Investigators on behalf of the Biomedical Excellence for Safer Transfusion (BEST) Collaborative*

These data demonstrate that use of O– RBCs could have been reduced by 44.5% if O+ units had been given to all O– patients at least 50 years old or 9.9% for all O– patients at least 80 years old.

TRANSFUSION PRACTICE

An international investigation into O red blood cell unit administration in hospitals: the GRoup O Utilization Patterns (GROUP) study

Hospitals with cardiovascular, cancer-oncology, and obstetrics services demonstrated trends toward lower percentage of group O RBC units transfused to non-O recipients, perhaps as a result of increased demand and turnover in their inventory.


NHSBT Served hospitals O D Neg Requests Issues Wastage and Centre Wastage
O D Neg Issues and Demand
O D Neg Wastage
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O D Neg Demand
O D Neg Gross Issues
O D Neg Hospital Wastage
O D Neg Service Wastage

NHSBT Hospital Red Cell Not Transfused

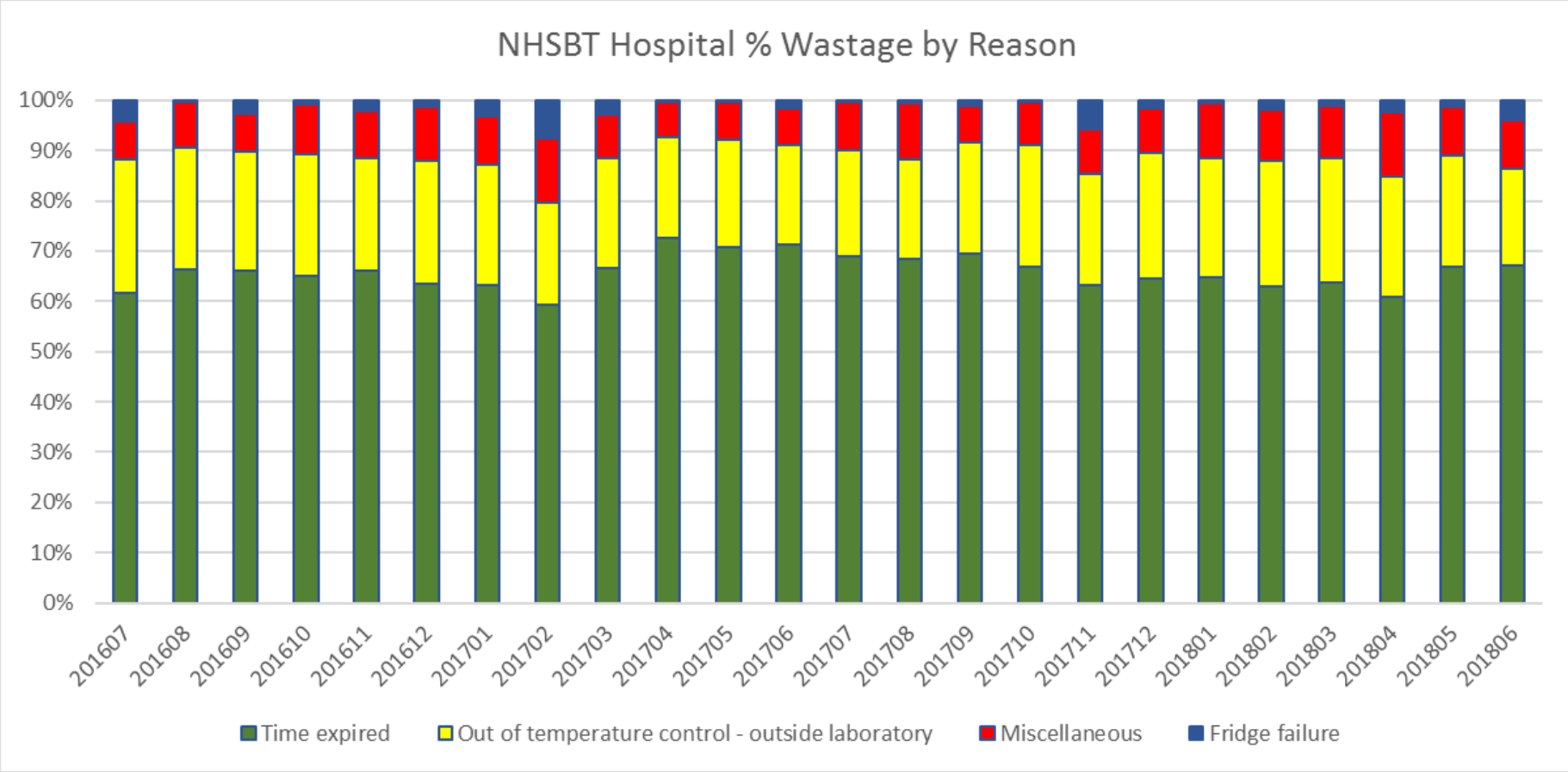
All RBC

	FF	MISC	OTCOL	TIMEX	TOTAL	WAPI
2017/18	463	3232	8005	24231	35931	2.5%
2016/17	839	3354	8706	24046	36945	2.5%
2015/16	869	2640	9714	25404	38627	2.5%

O D Negative RBC

	FF	MISC	OTCOL	TIMEX	TOTAL	WAPI
2017/18	128	676	2080	5785	8669	4.7%
2016/17	230	681	2162	3583	8656	4.5%
2015/16	194	528	2463	5838	9023	4.7%

NHSBT Hospital O D Negative Not Transfused



Summary

- BSMS data shows ↓ in demand for red cells (including Group O D Neg)
- NHSBT donor population is smaller than the demand from hospitals.
- Impacts on the supply chain which leads to communications to hospitals.
- There are 'legitimate' reasons for the disproportionate use of O D Neg RBCs but there are avoidable reasons too:
  - Transfusion to avoid TIMEX

  And wastage such as:
  - TIMEX
  - OTCOL
- BSH Guidance is clear on what should be used in an emergency:
  - Group O RBCs
  - Group O D Neg, K Neg for woman of childbearing age.

Final Thought…..

What can we do to fix O-neg problems?

Best practices

"The greater good of the community, including its patients who present as Rh-negative and cannot receive what they need, is compromised by wasting Rh-negative because a rare patient MAY be harmed"

Dr. Paul Schmidt, Florida Blood Services
www.cbbsweb.org

Canadian Blood Services
it's in you to give