

BeQuinT Webinar

26/11/2020

Programme - jeudi 26 novembre 2020

14:00: **Résultats de l'enquête nationale sur le 'Patient Blood Management'** - Orateurs : Comité PBM de BeQuinT (Belgique) : Prof. dr. R. Schots, Dr. G. Hans, Dr. R. Seghaye, Mme. J. Vanden Broeck

- Organisation de la transfusion
- PBM dans le contexte peropératoire
- PBM en hémato-oncologie
- PBM en médecine interne et en gériatrie

15:30: **Key Note Lecture : le PBM en obstétrique: ante-, péri-, & postpartum** - Orateur : Dr. S. Pavord (Royaume-Uni)

16:00: **Planification de la gestion des pénuries de sang dans les hôpitaux anglais** - Orateur : Prof. dr. M. Murphy (Royaume-Uni)

Programma - donderdag 26 november 2020

14:00: **Resultaten nationale 'Patient Blood Management' enquête** - Sprekers: PBM Comité BeQuinT (België): Prof. dr. R. Schots, Dr. G. Hans, Dr. R. Seghaye, Mevr. J. Vanden Broeck

- Organisatie van transfusie
- PBM in de perioperatieve setting
- PBM in hemato-oncologie
- PBM in interne geneeskunde & geriatrie

15:30: **Key Note Lecture: PBM in de obstetrie: ante-, peri-, & postpartum** - Spreker: Dr. S. Pavord (Verenigd Koninkrijk)

16:00: **Planning voor de aanpak van bloedtekorten in Engelse ziekenhuizen** - Spreker: Prof. dr. M. Murphy (Verenigd Koninkrijk)



Planning for the management of potential blood shortages in hospitals in England

Mike Murphy
Professor of Blood Transfusion Medicine,
University of Oxford
Consultant Haematologist,
NHS Blood & Transplant/Oxford University
Hospitals



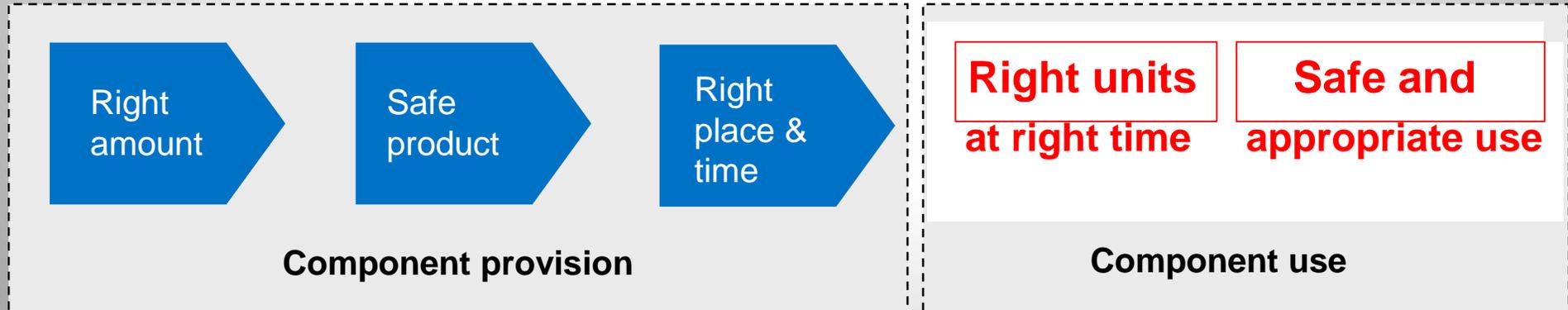
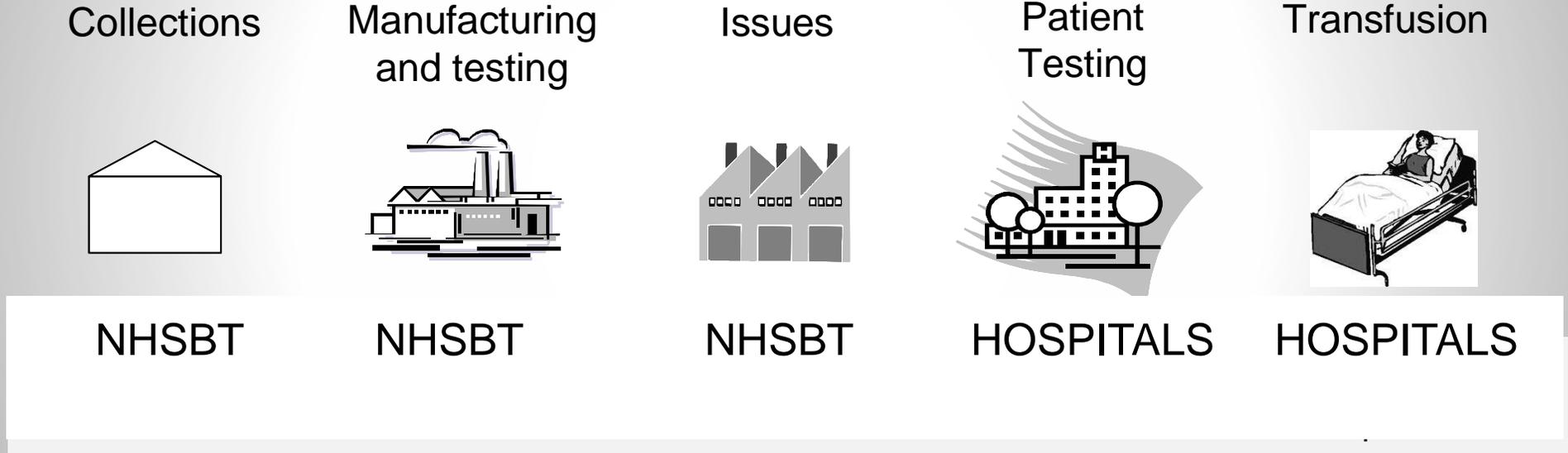
Oxford University Hospitals 
NHS Foundation Trust


Blood and Transplant

Aims of talk

- **How are transfusion services organised in England**
- **What has happened to the blood supply and usage in 2020?**
- **What planning for blood shortages is being undertaken?**

Blood supply chain in England

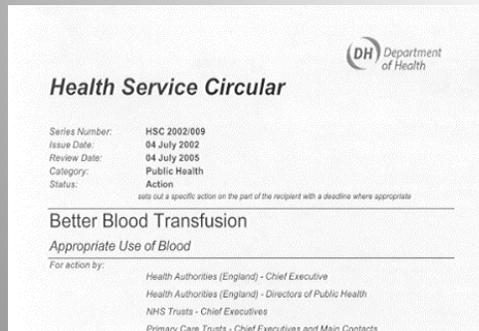


Overview of blood transfusion in England

- **High activity**
 - 2 million donations/year;
 - 1.5 million units RBCs to 0.5 million patients/year
 - 22,000 units of red cells/year in Oxford
- **High cost**
 - £300+ million/year for the cost of blood;
 - £4 million/year in Oxford;
 - unknown other transfusion costs for hospitals
- **Not risk-free; in last 20 years:-**
 - 312 ABO incompatible red cell transfusions causing 20 deaths, 81 cases of major morbidity
 - evidence of 20%+ inappropriate use

High level efforts to improve transfusion practice in hospitals

- SHOT (1996)
- Better Blood Transfusion (1997, 2002 & 2007) and Patient Blood Management (2012)
- 2001/02: NBTC and National Comparative Audit of Blood transfusion programme
- NICE Guidelines (2015), NICE Quality Standards (2016)
- Choosing Wisely recommendations for transfusion
- Transfusion 2024



National support for hospitals

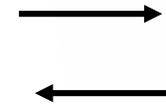
HOSPITALS



REGIONAL
COMMITTEES

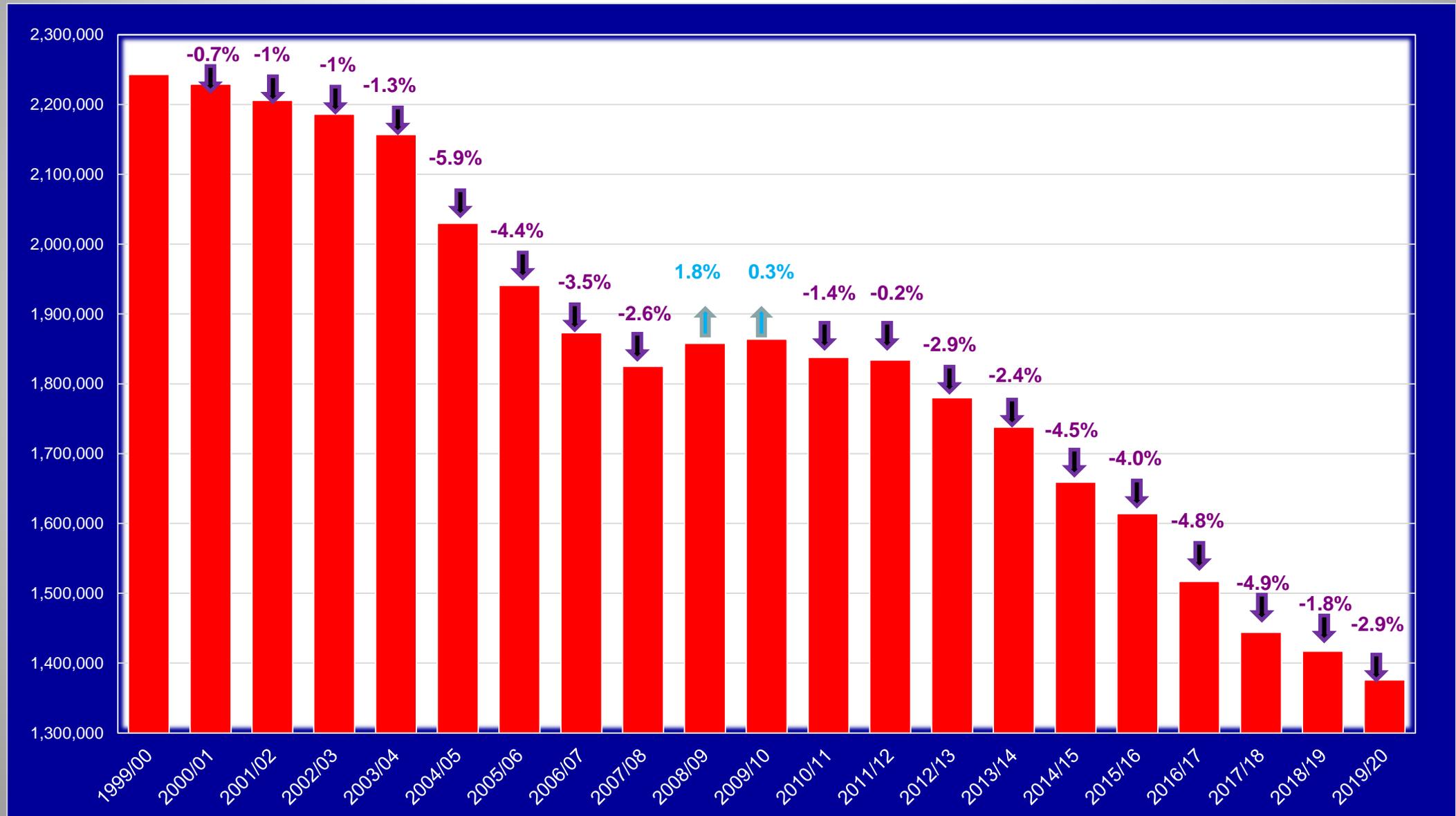


NATIONAL
COMMITTEE



**SPECIFIC INITIATIVES: EDUCATION, AUDIT, GUIDELINES,
CLINICAL RESEARCH, HAEMOVIGILANCE, IT etc.**

Reduction in Red Cell use in England 1999-2020



COVID-19 pandemic in the UK

March to November 2020

Coronavirus in the UK

Total deaths

55,024

Latest daily figure

398

new deaths

14-day trend



Total cases

1,512,045

Latest daily figure

18,662

new cases

14-day trend



Hospital admissions*

205,152

Latest daily figure

1,746

new admissions

14-day trend



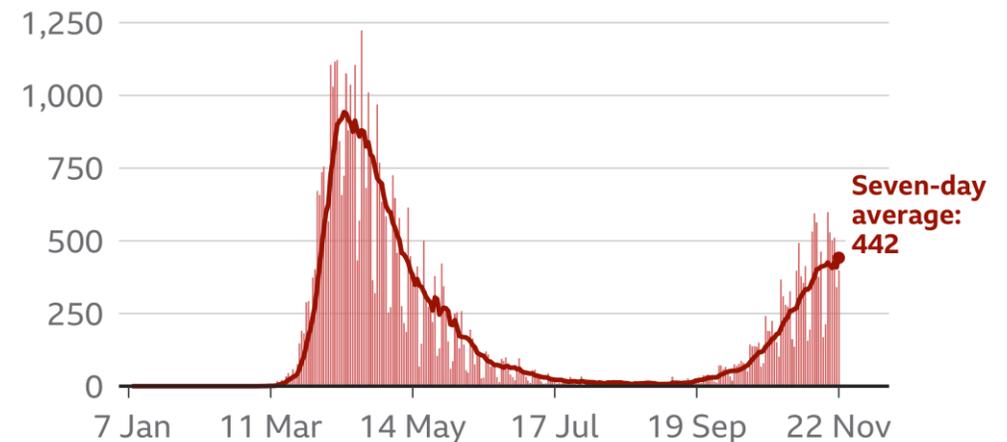
*Publication dates differ by nation, most recent data for all nations to 18 Nov

Source: Gov.uk dashboard

BBC NEWS

Daily deaths stabilise in recent days

UK daily reported deaths with coronavirus



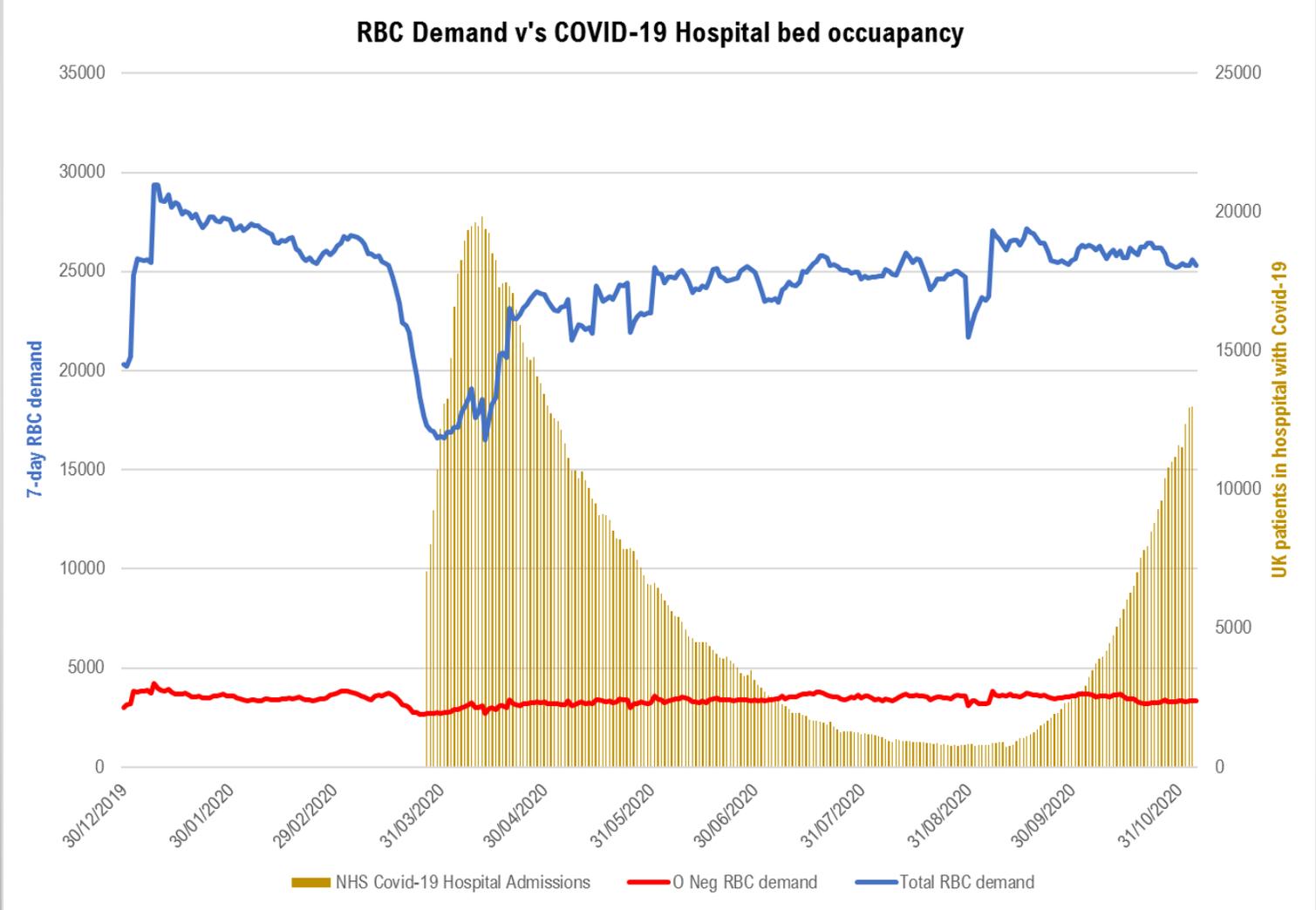
Figures include only those who tested positive for coronavirus. Deaths recorded up to 21 November 17:00 GMT

Source: Gov.uk dashboard

BBC

Hospital demand for blood

RBCs demand fell by 30% at peak of hospital admissions; return to near normal took months



Hospital demand for blood

2nd wave

Dependents for changes in demand:

- Viral spread by region and measures to reduce viral spread: *national lockdowns, regional restrictions ('tier' system)*
- Pressure on hospitals to continue with elective work and catch up on backlog

Factors that may reduce demand:

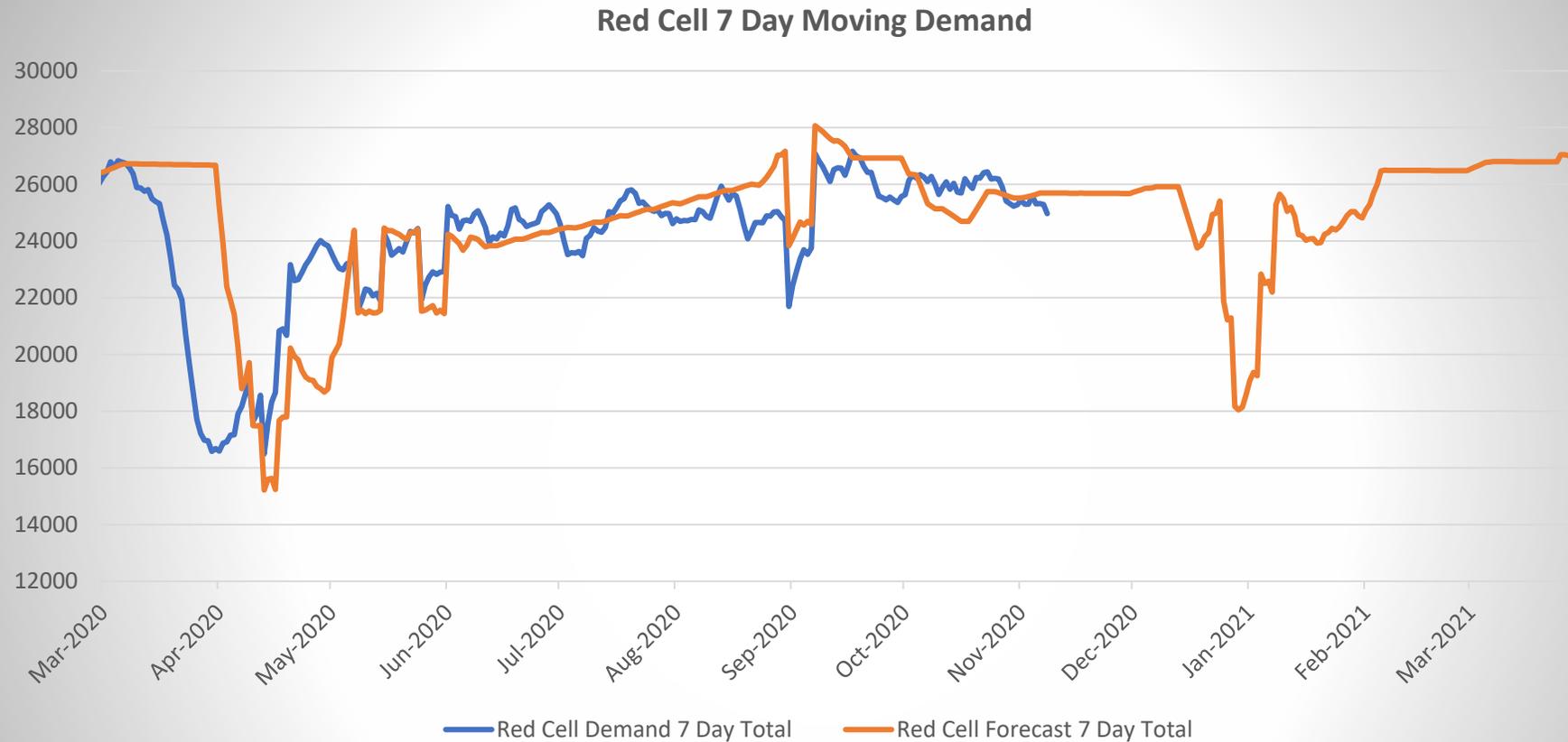
- Bed and ITU capacity
- Staffing levels

Efforts to predict demand for blood

Assumptions and limitations:-

- Hospital admission forecasts from SAGE (Scientific Advisory Group for Emergencies) have been inaccurate
- SPI-M (Scientific Pandemic Influenza Group on Modelling) provides a 6 week forecast for admissions (updated weekly)
- Will the decline in demand be reduced in the 2nd wave, as hospitals are better prepared, have extra capacity and are under pressure to sustain routine services?

Current Proposal



- **‘Official’ forecast anticipated a 25% lower suppression in demand to 1st wave**
- **But demand has actually been steady although it is decreasing now**
- **What do we expect to happen in the coming weeks?**
- **Maybe decreasing due to further COVID hospitalisations (dotted line)?**

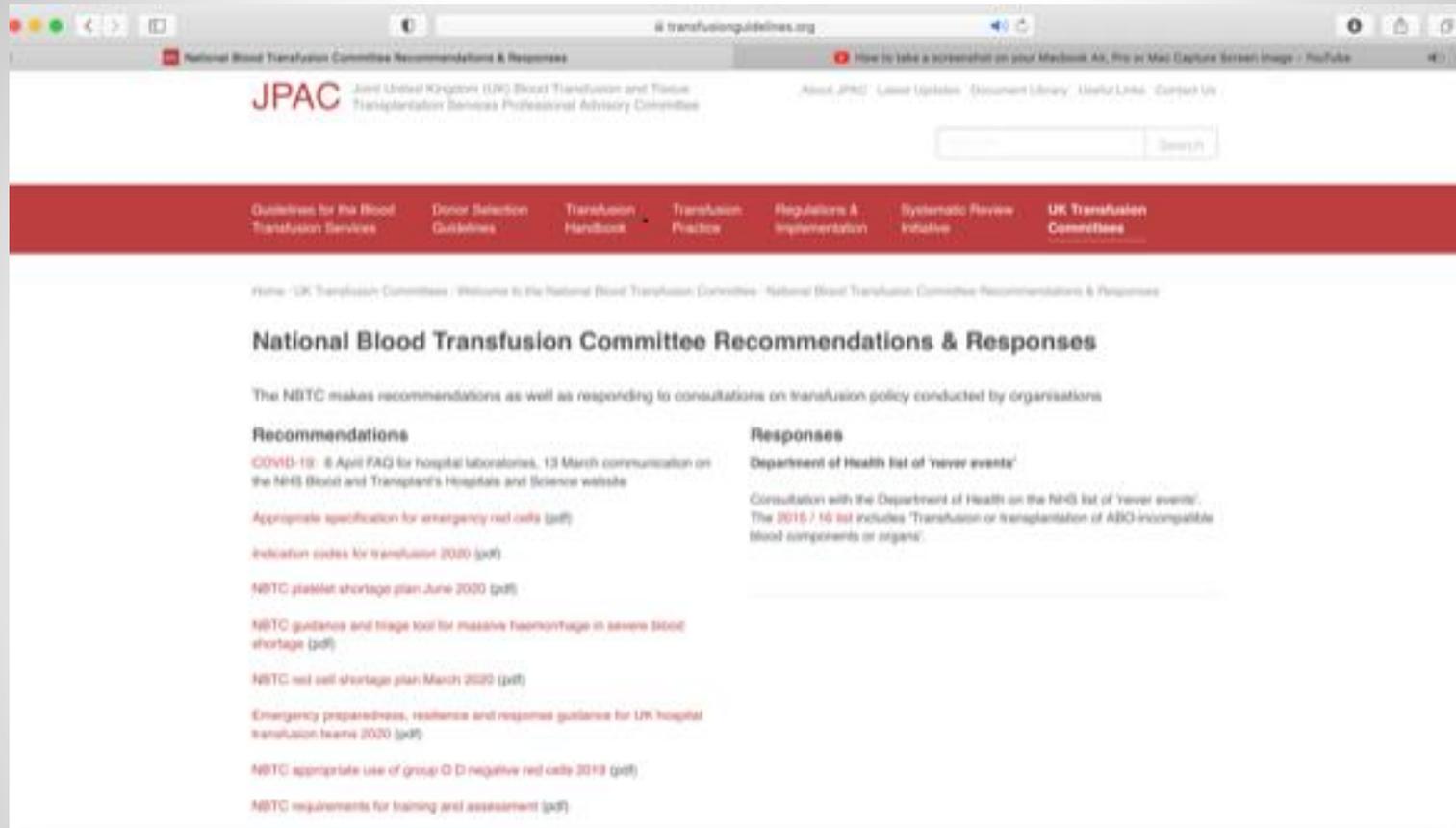
Hospital planning for blood shortages

NBTC recommendations:-

- Tips for blood stock management (March 2020)
- Red cell shortage plan (revised March 2020)
- Platelet shortage plan (revised June 2020)
- Emergency preparedness, resilience and response guidance for UK hospital transfusion teams (revised 2020)
- Guidance and triage tool for major haemorrhage in severe blood shortage (April 2020)

<https://www.transfusionguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations>

Planning for blood shortages



The screenshot shows the website for the Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee (JPAC). The page is titled "National Blood Transfusion Committee Recommendations & Responses". It features a navigation menu with links to "Guidelines for the Blood Transfusion Services", "Donor Selection Guidelines", "Transfusion Handbook", "Transfusion Practice", "Regulations & Implementation", "Systematic Review Initiative", and "UK Transfusion Committees". The main content area is divided into two columns: "Recommendations" and "Responses".

Recommendations

- COVID-19: 8 April FAQ for hospital laboratories, 13 March communication on the NHS Blood and Transplant's Hospitals and Science website
- Appropriate specification for emergency red cells (pdf)
- Indication codes for transfusion 2020 (pdf)
- NBTC platelet shortage plan June 2020 (pdf)
- NBTC guidance and triage tool for massive haemorrhage in severe blood shortage (pdf)
- NBTC red cell shortage plan March 2020 (pdf)
- Emergency preparedness, resilience and response guidance for UK hospital transfusion teams 2020 (pdf)
- NBTC appropriate use of group O D negative red cells 2019 (pdf)
- NBTC requirements for training and assessment (pdf)

Responses

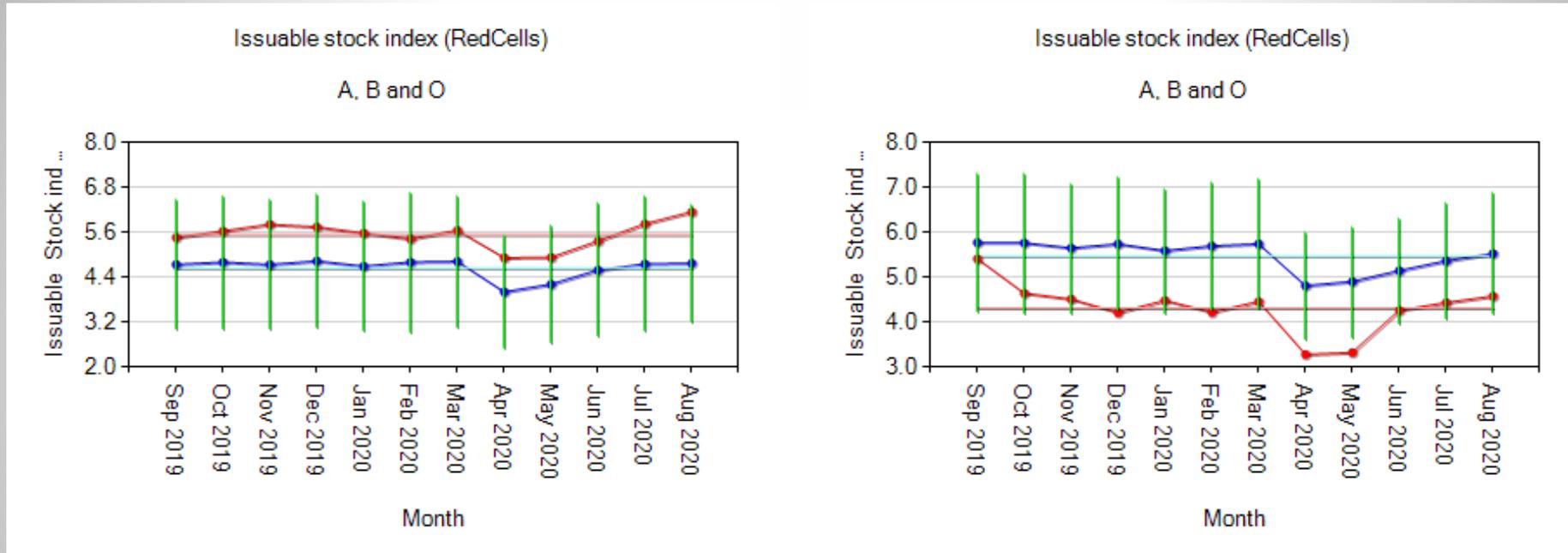
- Department of Health list of 'never events'
- Consultation with the Department of Health on the NHS list of 'never events': The 2015/16 list includes 'Transfusion or transplantation of ABO-incompatible blood components or organs'

<https://www.transfusionguidelines.org/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations>

Tips for blood stock management

- Consider setting lower ideal stock levels
- Review red cell stock levels regularly
- Consider Issuable stock index (ISI) as a guide
- Communicate changes to all laboratory staff
- Consider the need or not to return to pre-COVID-19 stock levels
- Review emergency stock in remote fridges
- Consider reducing reservation time for red cells
- Keep in close contact with external hospitals
- Keep informed about hospital service planning

Using Issuable Stock Index (ISI) to indicate the changing dynamic of red cell inventory



Rising ISI indicates the number of days of stock is increasing and some adjustments may be required

Flatter ISI indicates even with reduced demand the number of days worth of stock has not increased and reflects pre-COVID levels

Red line indicates selected hospital ISI from Sept 2019 to Aug 2020

Blue line indicates cluster average ISI from Sept 2019 to Aug 2020

ISI: number of days of unreserved stock of all blood groups held in the inventory

Emergency Blood Management (EBM) Arrangements

- **Recommended that each hospital should establish an EBM Group to provide:**
 - strategic guidance
 - formulate arrangements to manage the appropriate use of red cells in each phase of shortage
- **Representation:**
 - Medical Director
 - Senior operations managers
 - Key clinical users
 - Hospital Transfusion Team



Emergency Blood Management (EBM) Arrangements

- The main objective is to ensure that patients who need blood can receive a transfusion
- The arrangements are designed to ensure that:
 - Red cells are available for all essential transfusions
 - Overall red cell usage is reduced to ensure supply remains available for the patients who need it most

Emergency Blood Management (EBM) Arrangements

- **Green:** Normal circumstances where supply meets demand
- **Amber:** Reduced availability of blood for a short or prolonged period (< 2 days supply)
- **Red:** Severe, prolonged shortages

Hospital planning for red cell shortages

Green Phase (normal blood supplies)

Implement appropriate arrangements for PBM:-

- Commitment of senior hospital management
- Appropriate membership and functioning of HTC and HTT
- Education & training for staff involved in transfusion

Ensure the appropriate use of blood and alternatives:-

- Implement national guidance for blood use
- Regular monitoring of blood use in clinical specialities
- Empower blood transfusion laboratory staff to challenge inappropriate requests

Hospital planning for red cell shortages

Amber phase (when red cell stocks < 2 days)

- Continued elective surgery depends on blood stocks
- Consider reviewing transfusion trigger for transfusions
- For major haemorrhage, the clinical team should liaise with the hospital transfusion laboratory
- Consider a reduction in the reservation period for blood
- Consider reduction of stock in Remote Issue fridges especially those in locations used for elective surgery

Hospital planning for red cell shortages

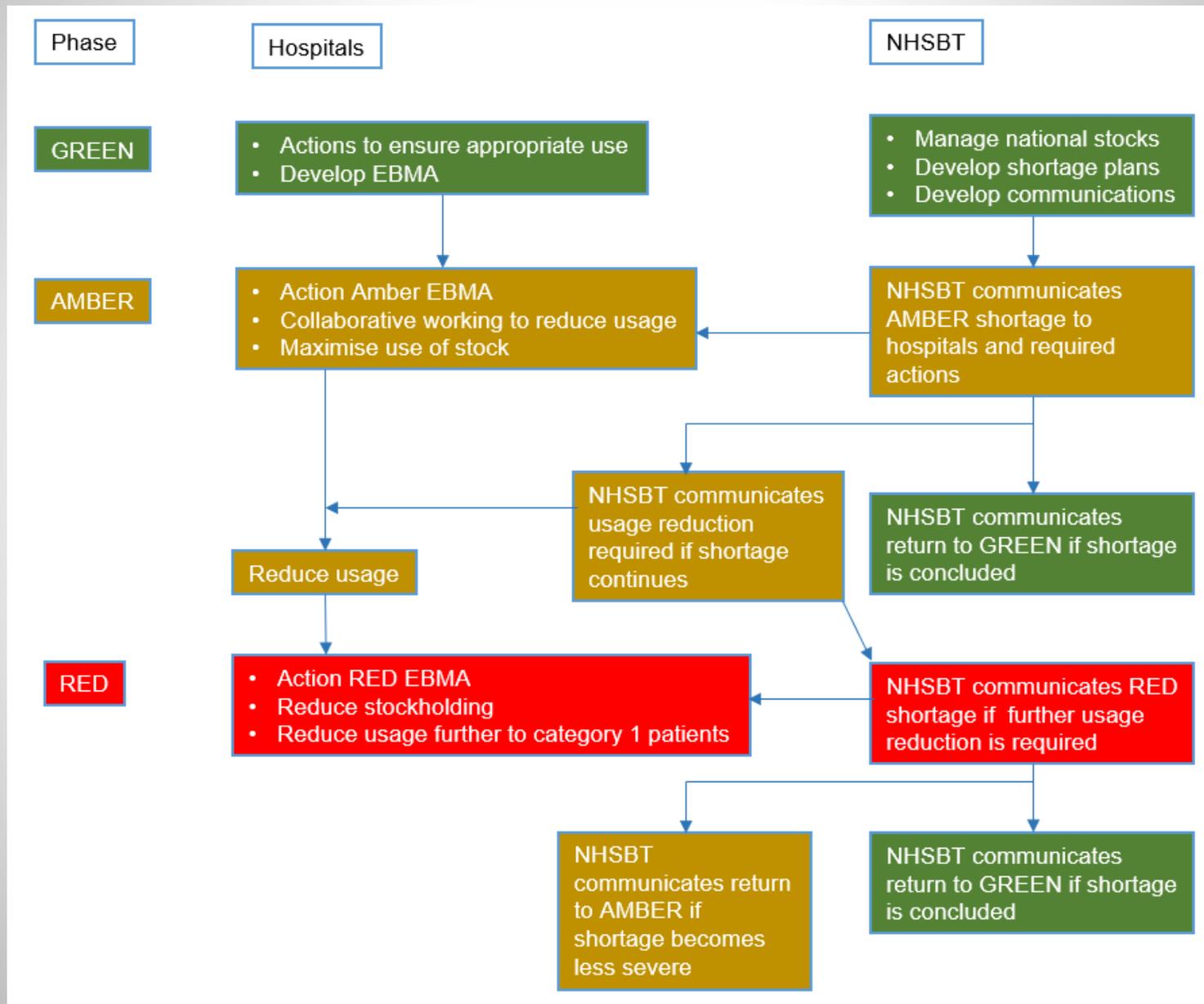
Red Phase (during severe shortage)

- NHSBT may request a reduction in hospital stock
- EBM Group to review red cell stock and impact on patient care
- All requests for blood components reviewed by the transfusion laboratory and consultant i/c transfusion
- Consider removal of all red cell stock from Remote Issue fridges, except for emergency units: issue blood components directly from the laboratory
- Sites with no on-site laboratory will need to ensure transport is maintained to ensure availability of blood

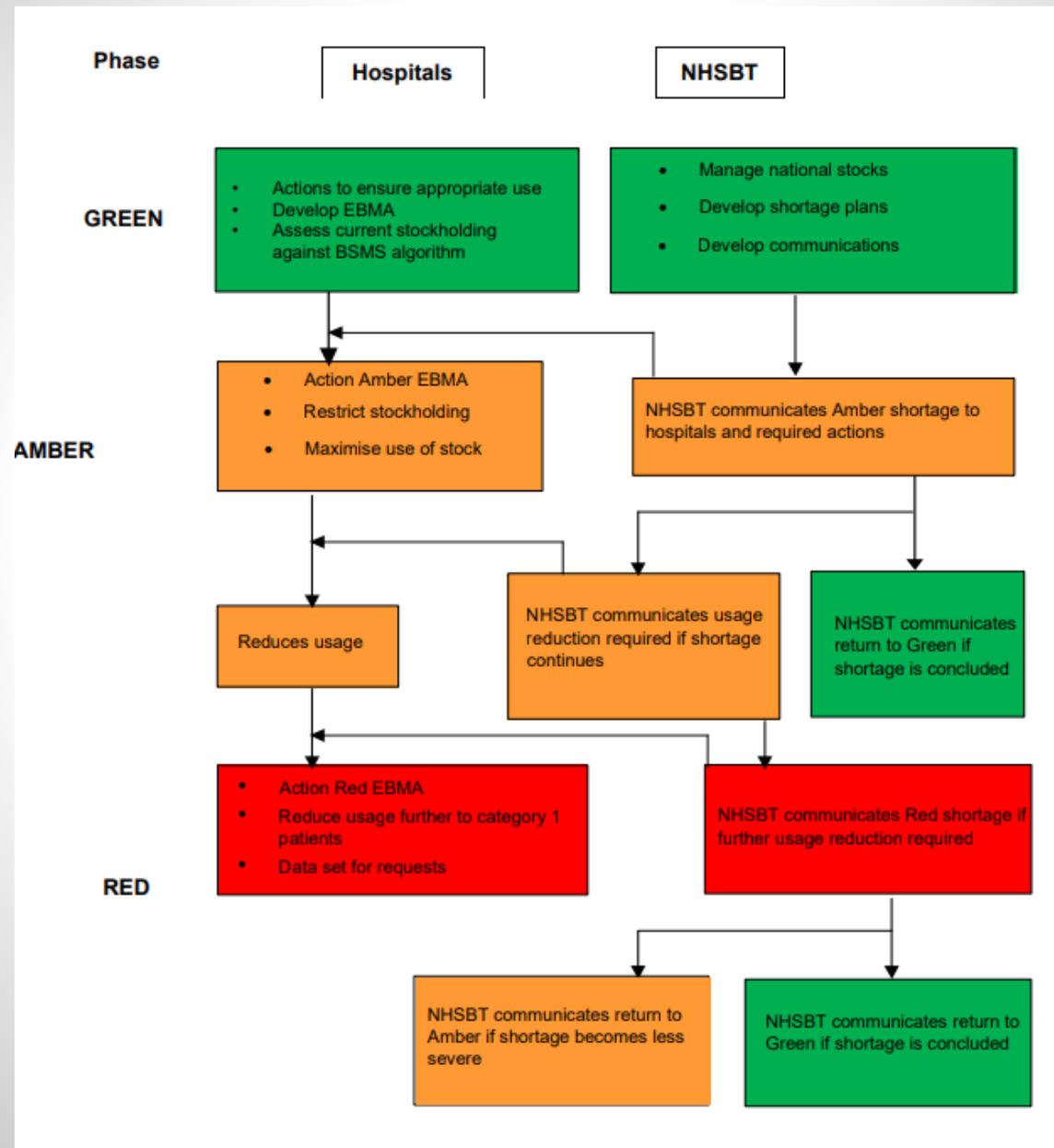
Prioritisation of patients in red cell shortage

Category 1	Category 2	Category 3
These patients will remain highest priority of transfusion	These patients will be transfused in the Amber but not the Red phase	These patients will not be transfused in the Amber phase
Resuscitation Resuscitation of life-threatening /on-going blood loss including trauma.		
Surgical support Emergency surgery* including cardiac and vascular surgery**, and organ transplantation. Cancer surgery with the intention of cure.	Surgery/Obstetrics Cancer surgery (palliative). Symptomatic but not life-threatening post-operative or post-partum anaemia. Urgent*** surgery.	Surgery Elective surgery which is likely to require donor blood support
Non-surgical anaemias Life-threatening anaemia including patients requiring in-utero support and high dependency care/SCBU. Stem cell transplantation, or chemotherapy **** Severe bone marrow failure. Transfusion-dependent anaemias including thalassaemia and myelodysplasia. Sickle cell disease (SCD) patients on regular transfusion programmes for prevention of complications of SCD. Organ transplant	Non-surgical anaemias Symptomatic but not life-threatening anaemia.	

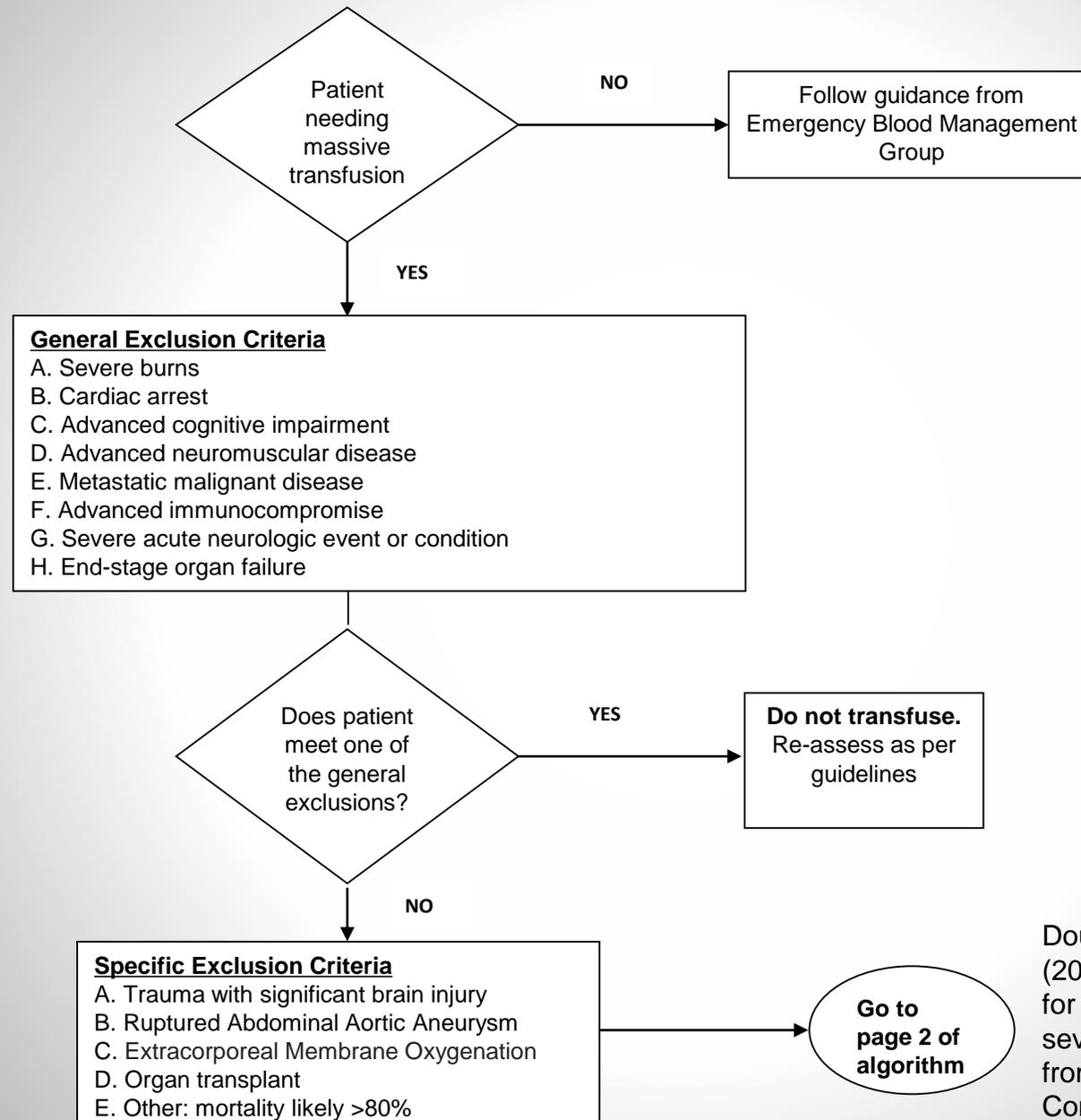
Planning for red cell shortages



Planning for platelet shortages

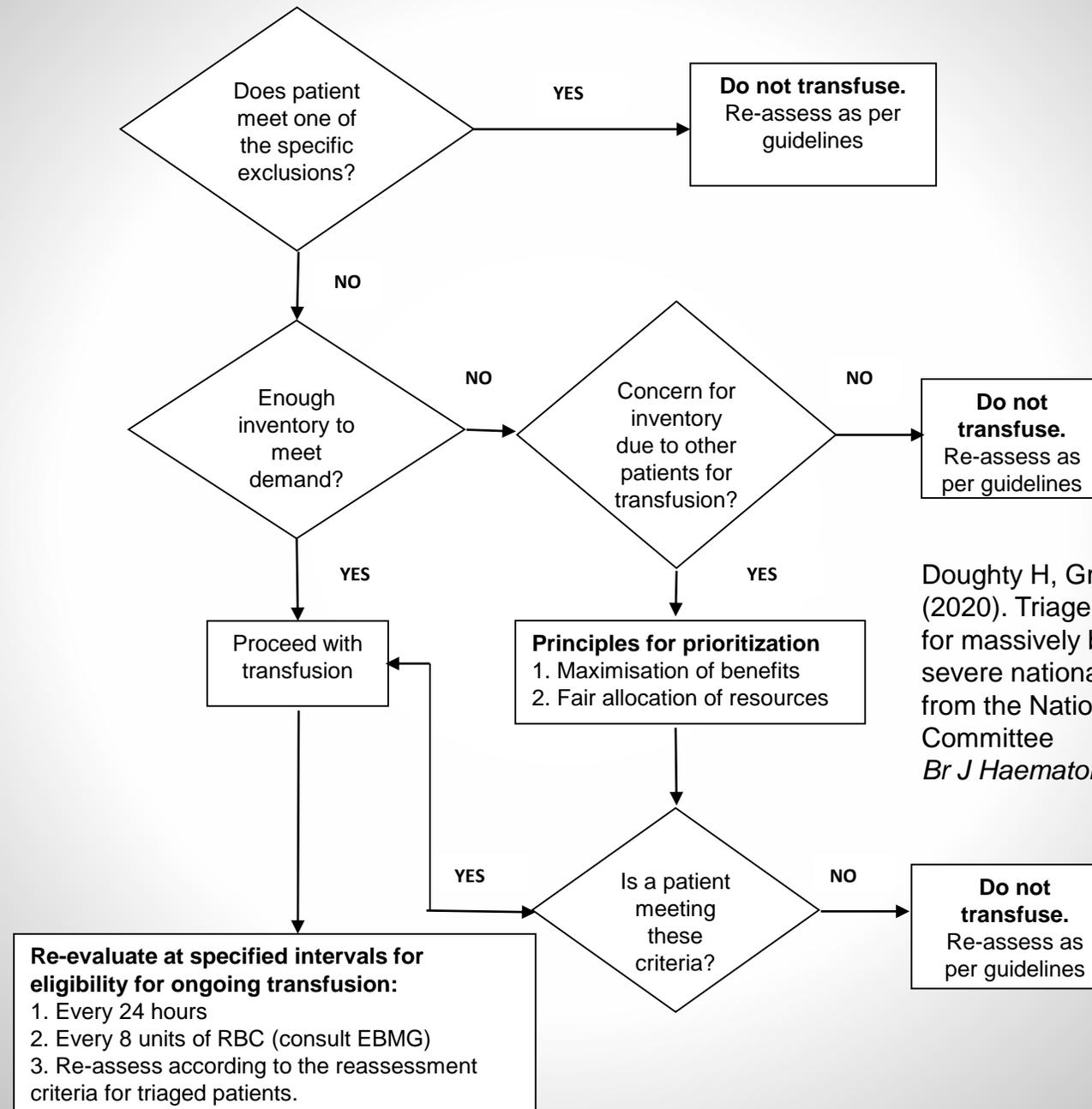


Emergency Framework - Algorithm for Triage Team (1)



Doughty H, Green L, Callum J, Murphy MF (2020). Triage tool for the rationing of blood for massively bleeding patients during a severe national blood shortage: guidance from the National Blood Transfusion Committee
Br J Haematol. 191: 340-346.

Emergency Framework - Algorithm for Triage Team (2)



Doughty H, Green L, Callum J, Murphy MF (2020). Triage tool for the rationing of blood for massively bleeding patients during a severe national blood shortage: guidance from the National Blood Transfusion Committee
Br J Haematol. 191: 340-346.

Final thoughts

- **Demand planning during the COVID pandemic presents a significant challenge for blood services worldwide**
- **But it also provides an opportunity for blood services to engage more closely with hospitals to:**
 - **improve communication through the supply chain**
 - **ensure the timely supply of blood when and where it is needed**
 - **reduce blood wastage**

Thank you: NHSBT PBM Team



Medical

**Nursing &
scientific**

