NHS
Blood and Transplant

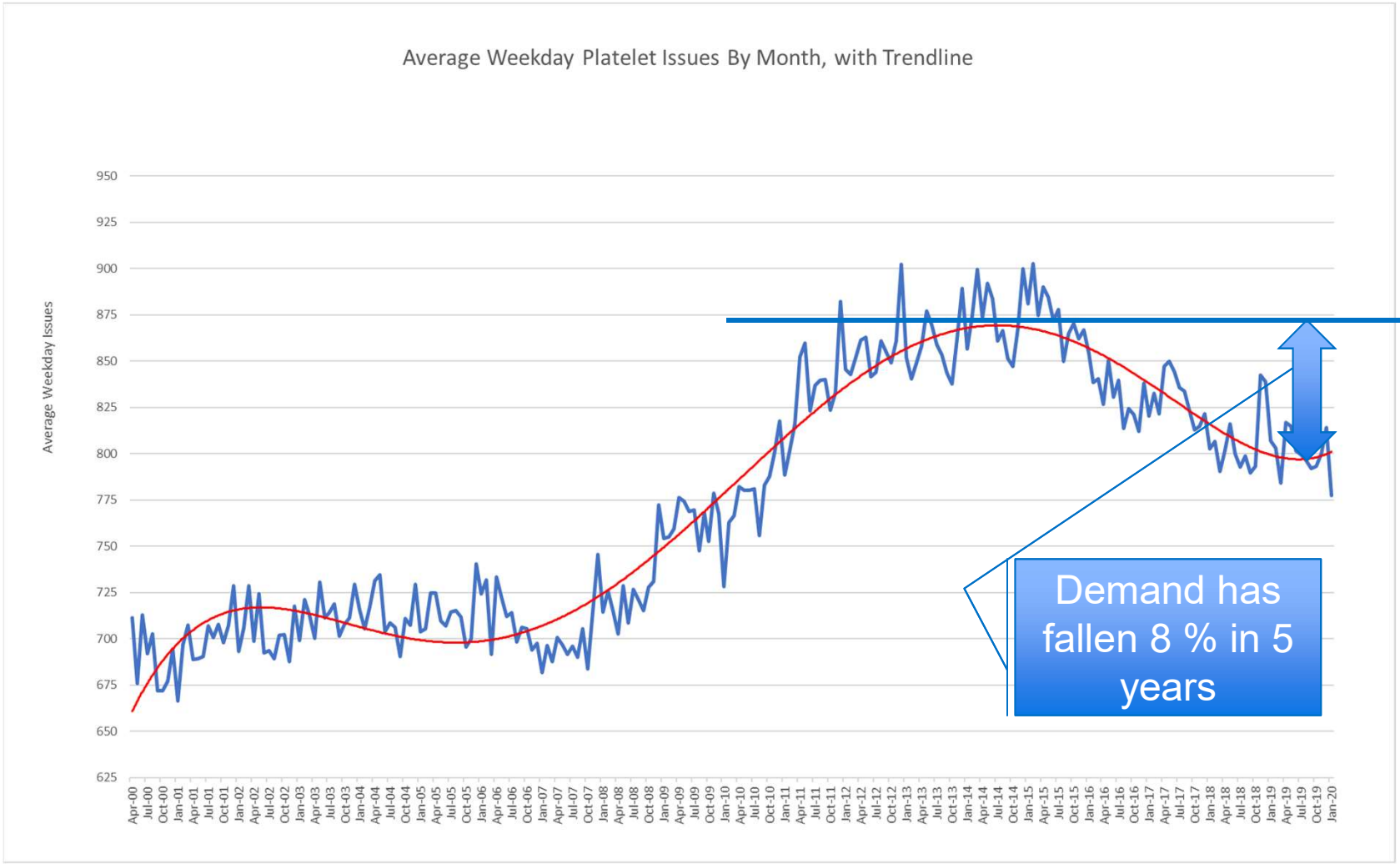
Platelet Supply Challenge

TG, TB & TU - 24th January 2020

Caring Expert Quality

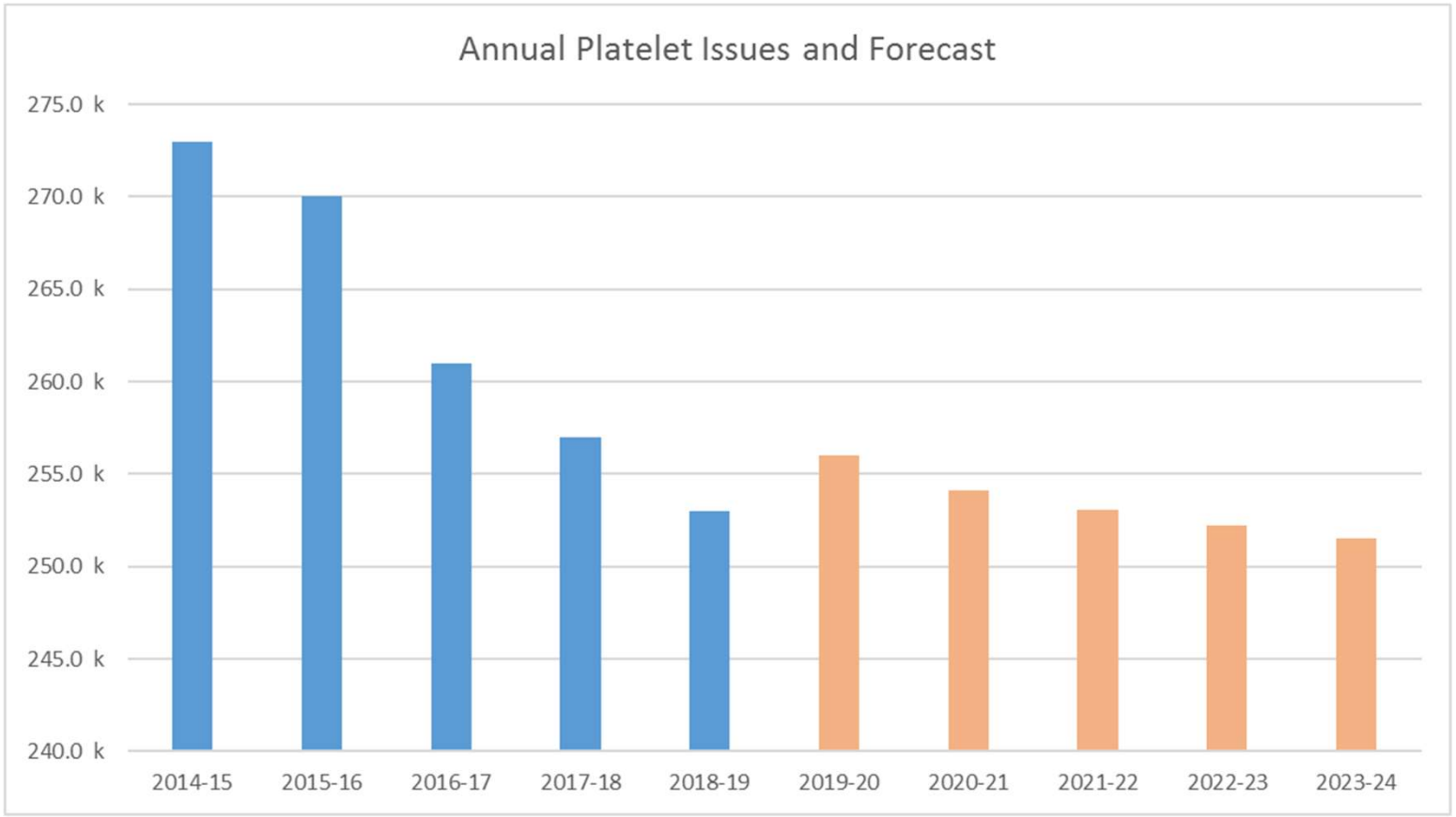
NHS
Blood and Transplant

Platelet Demand –



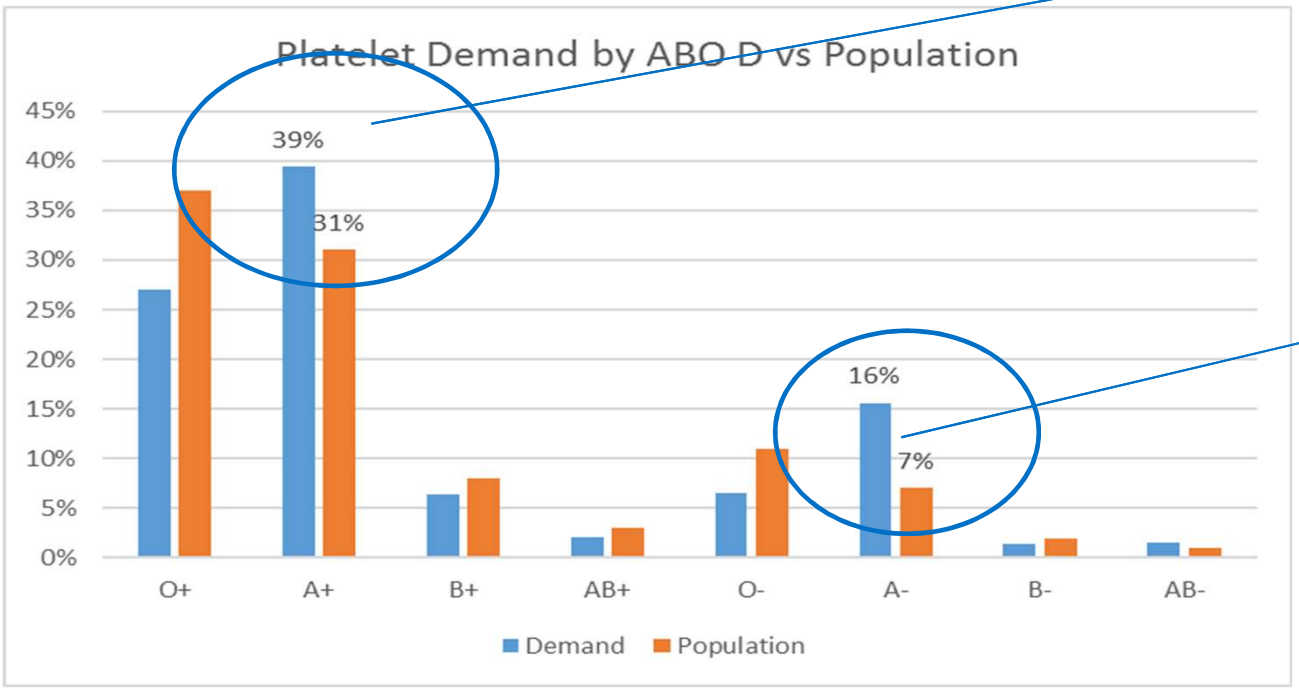
NHS
Blood and Transplant

Platelet Demand- Annual



NHS
Blood and Transplant

Platelet Demand – ABO D

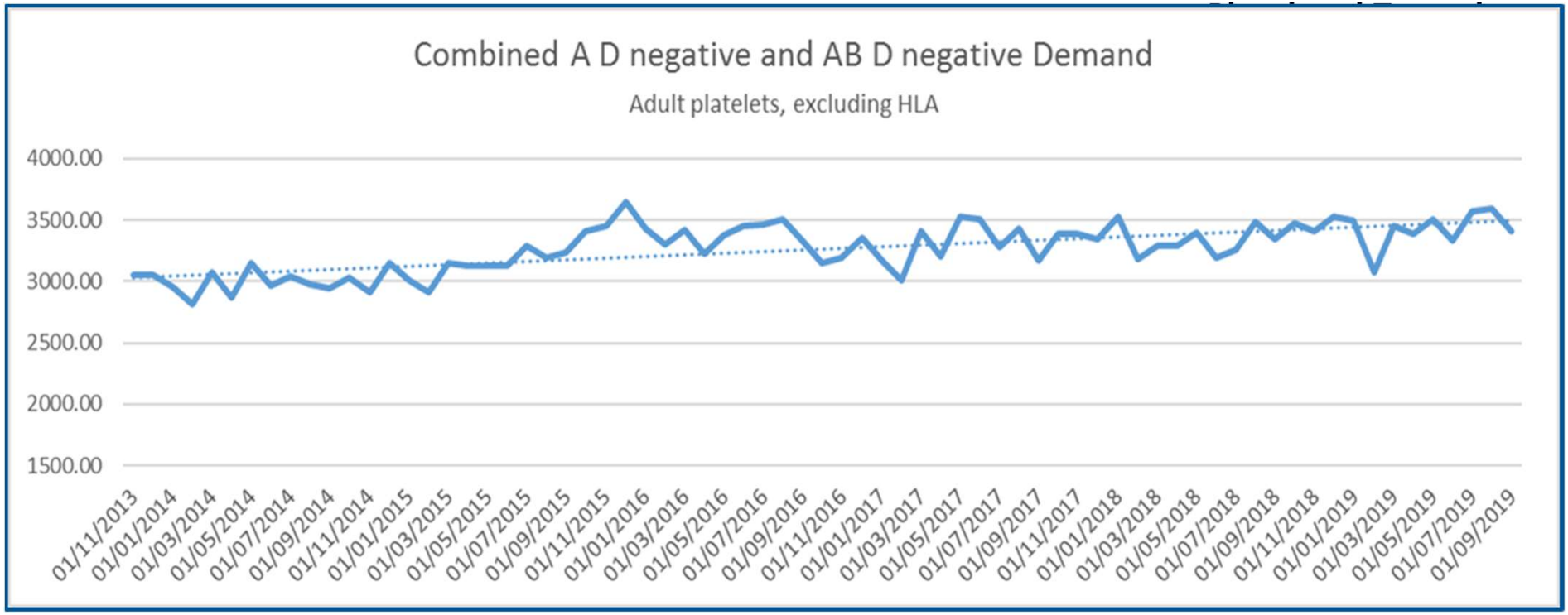


A pos Demand ahead of donor population

A neg Demand ahead of donor population

- A neg and AB neg Demand continues to rise in absolute numbers and as a percentage of demand for next year.

A neg Demand increase



- A neg demand increasing over 5 years
- Has reached a point we could not meet demand on weeks with high demand and low collection
- Letters sent to hospitals
- A neg Whole Blood collection increased above that required for Red Cell demand

Meeting Demand from Apheresis Collection and Pooling

NHS Blood and Transplant

48% Apheresis Supply - to maintain HLA pool and allow for variation in Demand

52% Supply from Pooled units, made from Buffy Coats of four Whole Blood donations

- **We have challenges meeting A neg / AB neg Demand**

- A neg AB neg has exceeded supply capacity in some weeks.
  - Additional Whole Blood is collected for the Buffy Coat, to meet demand
    - However this is limited to reduce wastage

  - In weeks of lower apheresis collection, increased A neg demand, Pooled granulocyte production or lower WB collection stock shortages can occur.

Apheresis Donor Base

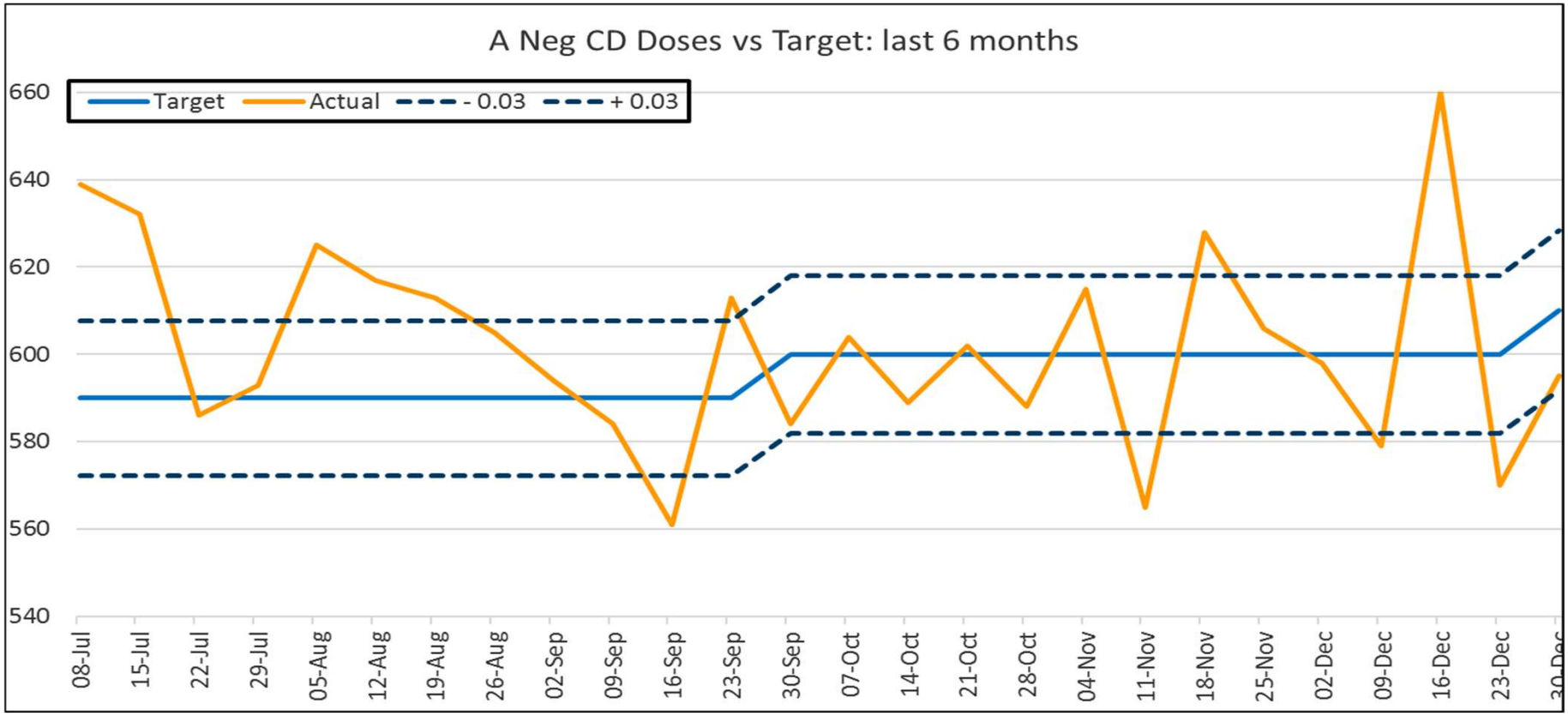
NHS
Blood and Transplant

Group	Donor Base	Gap to donor base target	Gap to donor base target as %	Change vs last month donor base	Current donor donation Freq	Donation freq req if donors not recruited
A-	2,624	-83	3.1%	28	6.03	6.22
A+	4,357	-151	3.3%	-23	5.92	6.12
B-	191	-45	19.2%	1	6.05	7.49
B+	633	-8	1.2%	-4	6.13	6.21
O-	597	-28	4.5%	-17	6.43	6.73
O+	1,889	50	0.0%	-22	5.87	5.87
AB-	199	23	0.0%	8	5.54	5.54
AB+	299	-9	2.8%	-11	5.32	5.47

- A neg – donor base has increased, but remained behind target
- A pos – donor base has decreased, and remains behind target
- AB neg – donor base has increased, and above target

A Neg Apheresis Platelet collection

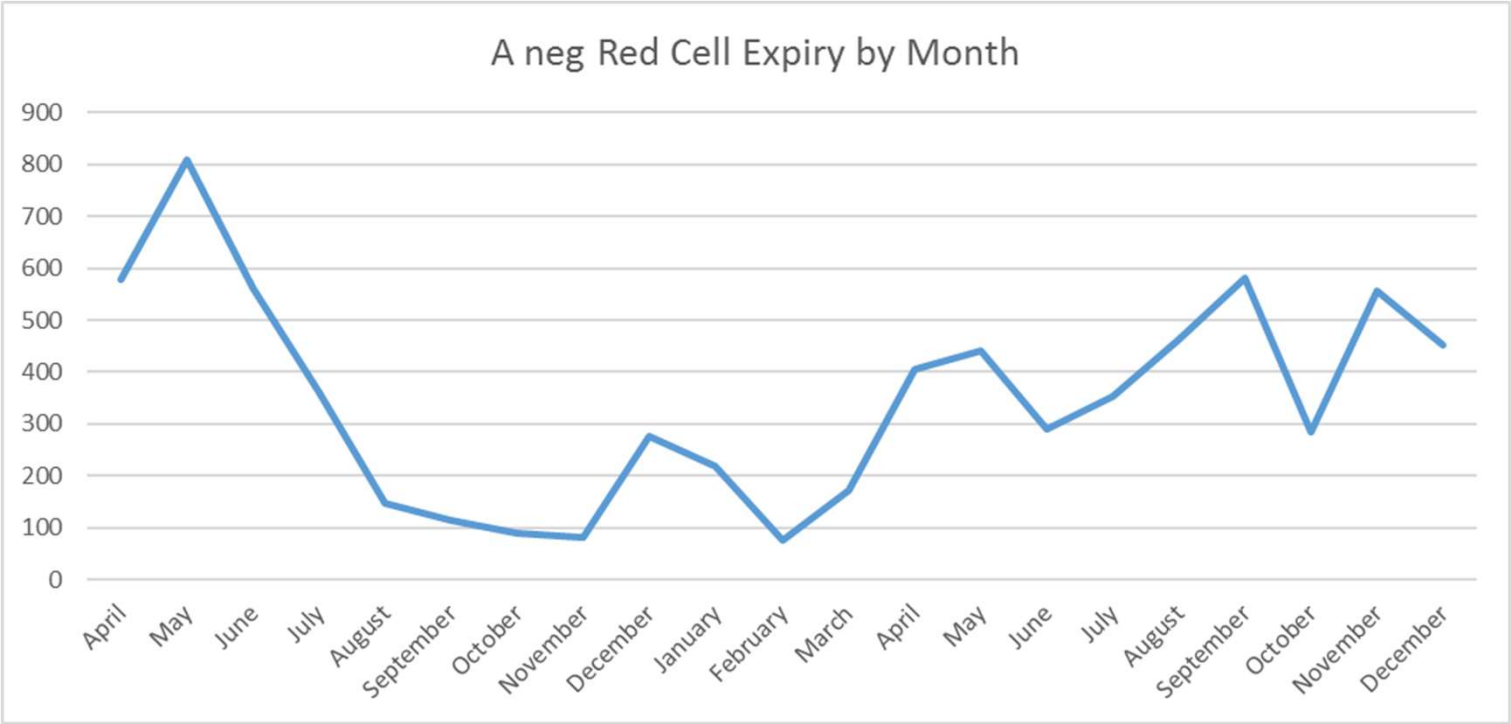
NHS
Blood and Transplant



- Even where our donor base is above target, our levels of collection can be inconsistent. This may be due to:
  - New donors appear on the donor base, but who subsequently decide they do not want to commit to the increased demands of platelet donation
  - Not allocating our platelet targets to Donor Centres with the best donor potential to collect them

NHS
Blood and Transplant

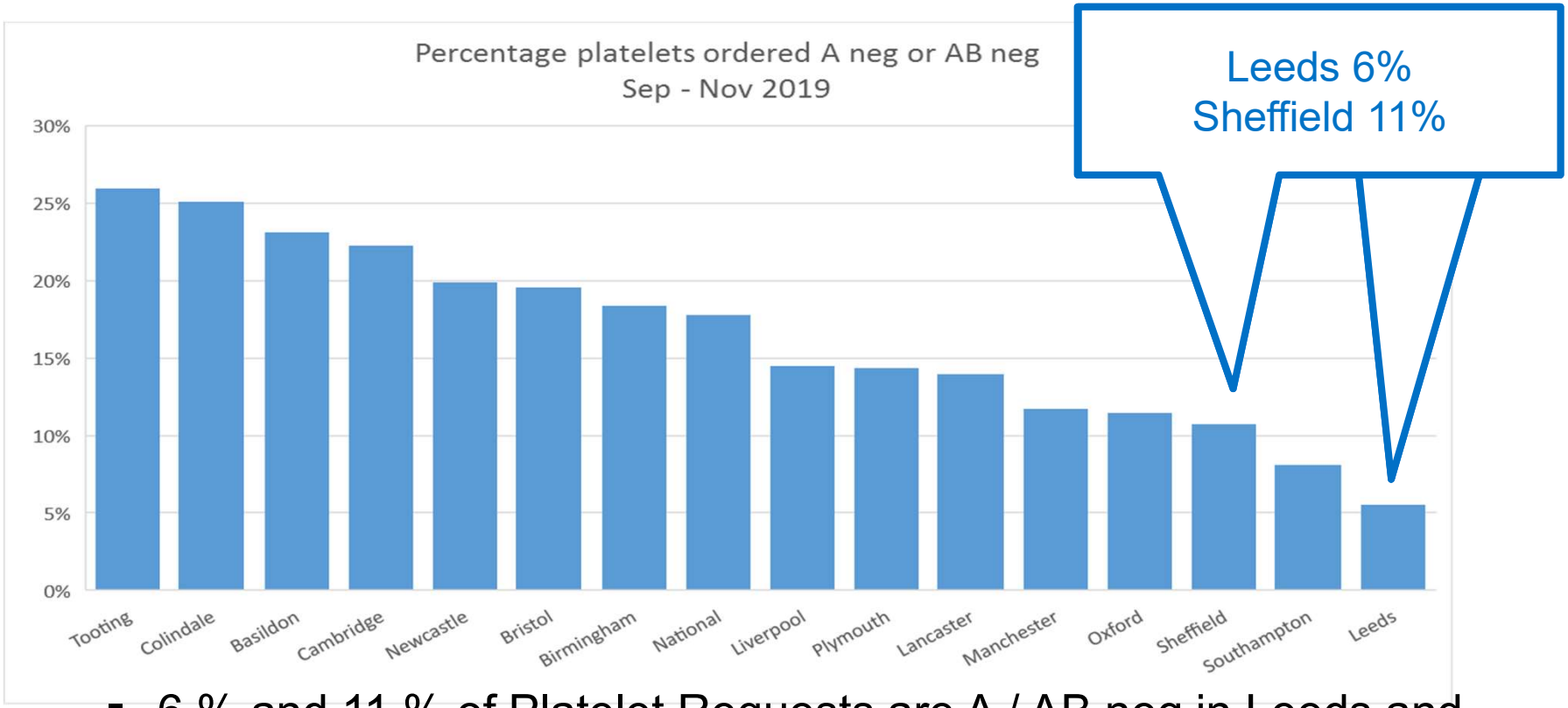
A neg Red Cell expiry 2018 - 2019



- A neg red Cells are expired as we collect additional Whole Blood to make pooled platelets

- 47% of all Red Cell expiries, 3800 units per year

Platelet Demand – A and AB neg



- 6 % and 11 % of Platelet Requests are A / AB neg in Leeds and Sheffield.
- Compares well with 17.4 % nationally

- NHSBT considering alternatives to A neg for stock, when in shortage.

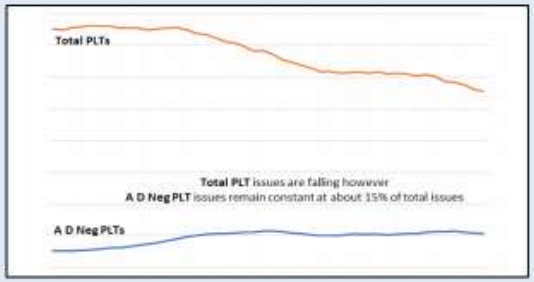
Conserving the supply of A D Negative platelets

NHS
Blood and Transplant

How you can help

Overall demand for platelets continues to reduce, whereas requests for group A D Negative platelets remains high and has resulted in several shortage alerts in the last 12 months.

There are strategies you can implement to help ensure the supply of this group is available for patients when they need it.



BSH Major Haemorrhage addendum, March 2017

If platelets are required before the blood group of the patient is known, group A should be used. D negative platelets should be used for females less than 50 years of age of unknown group.

CHANGED TO

It is acceptable to use ABO-incompatible platelets negative for high titre agglutinins in the management of patients with major haemorrhage.

Did you know…

- ABO-matched platelets give the highest platelet count increment. Major ABO mismatch gives the lowest increment. (1)
- It is not necessary to hold A D Negative platelets as emergency platelet stock.
- Units negative for high titre haemagglutinins & non-group O platelets are associated with a lower risk of haemolysis. (2)
- Pooled platelets suspended in PAS would also be expected to reduce the risk of haemolysis. (3)

What you can do…

- Develop practices which maximise the use of ABO and D identical platelets.
- Review ordering patterns – only order A D Negative platelets for named patients.
- Review activity and wastage of A D Negative platelets.
- Stock an alternative to A D Negative platelets – contact the BSMS for advice.
- Pilot change in practice.
- Review stock holding using the BSMS algorithm.(http://www.bloodstocks.co.uk/pdf/platelet-stock-algorithm.pdf)

Key messages from Patient Blood Management

NHS
Blood and Transplant

Message

- Please do not order A neg unless it is required.
- Please do not order AB unless you have a patient.

- Thank-you in the East Midlands for the current approach to A neg ordering.

NHS
Blood and Transplant

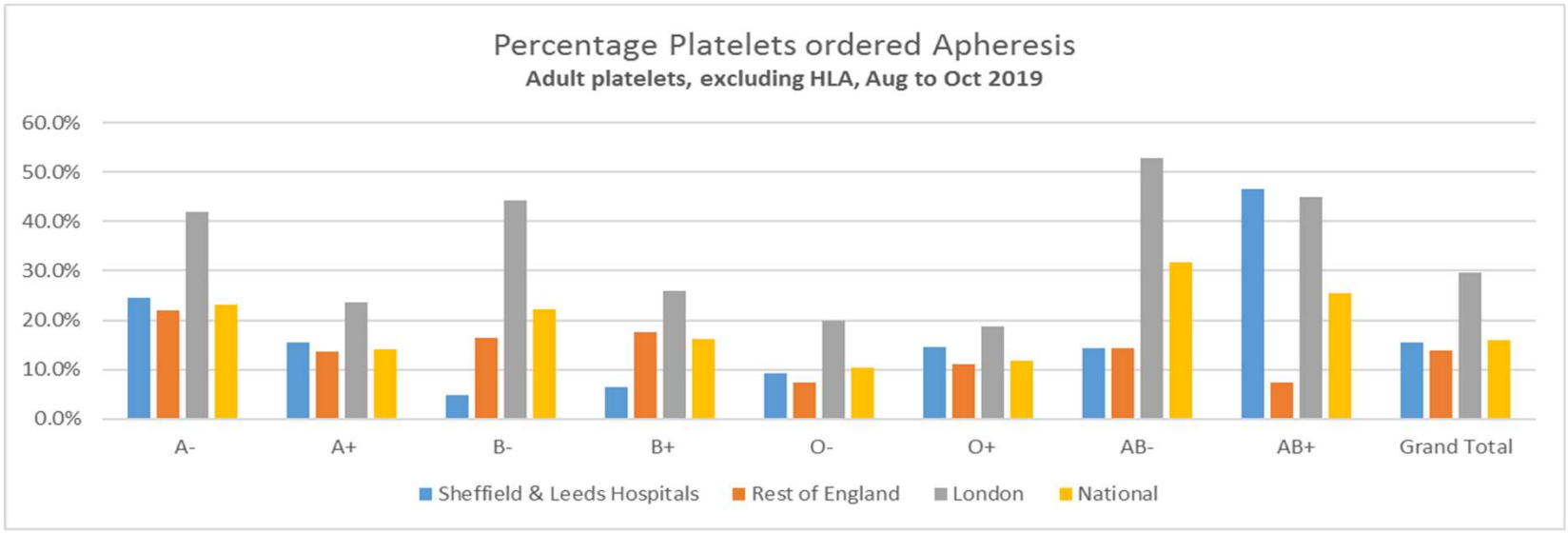
Platelet Expiry

TG, TB & TU - 24th January 2020

Caring Expert Quality

NHS
Blood and Transplant

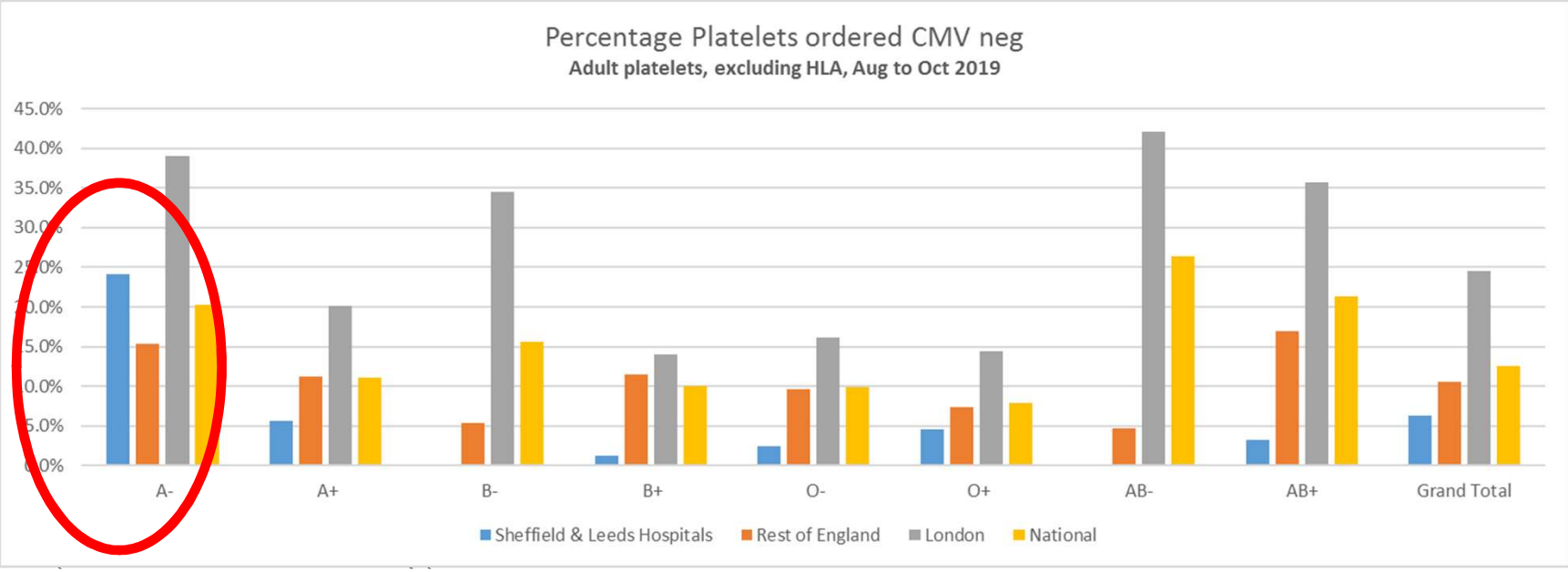
Apheresis Demand



- Apheresis platelets are required for HLA/HPA selected transfusions, neonatal usage, IUT and IgA- transfusions
- The advice that “Patients born after 1996 *may* benefit from reduced risk of vCJD” has been updated by SaBTO.
- Apheresis platelets are more likely to cause an allergic reaction than platelets pooled in PAS due to the presence of more plasma proteins.

NHS
Blood and Transplant

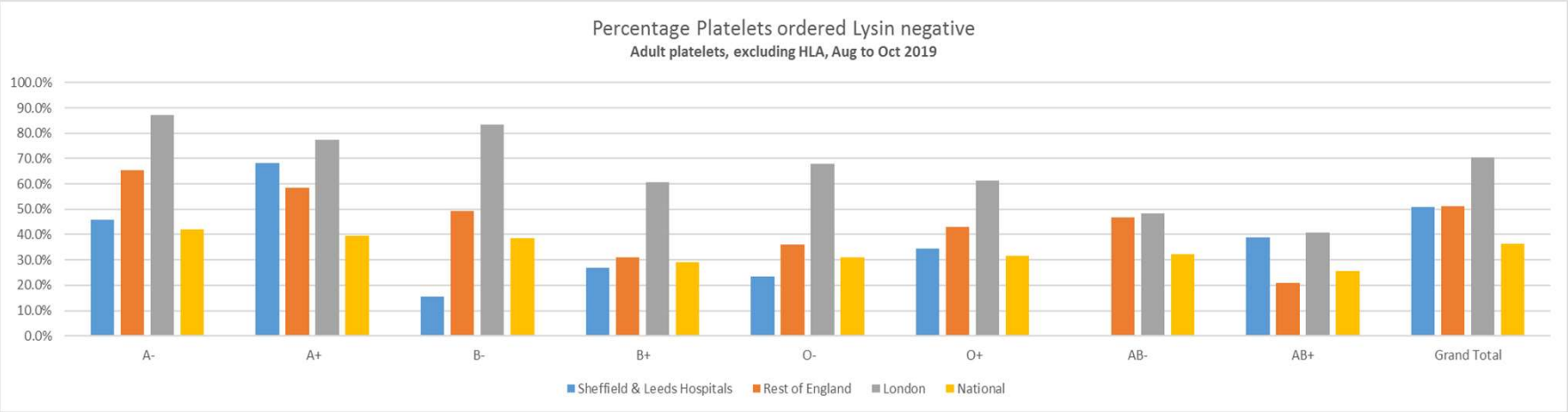
CMV negative Demand



- CMV is disproportionately available on apheresis units, which are all tested and 60% CMV neg
  - ONE test required for two ATDs.
- For pooled platelet EIGHT tests are required for two units
  - each negative result needs to be matched with three others in a pool

NHS
Blood and Transplant

Lysin negative Demand

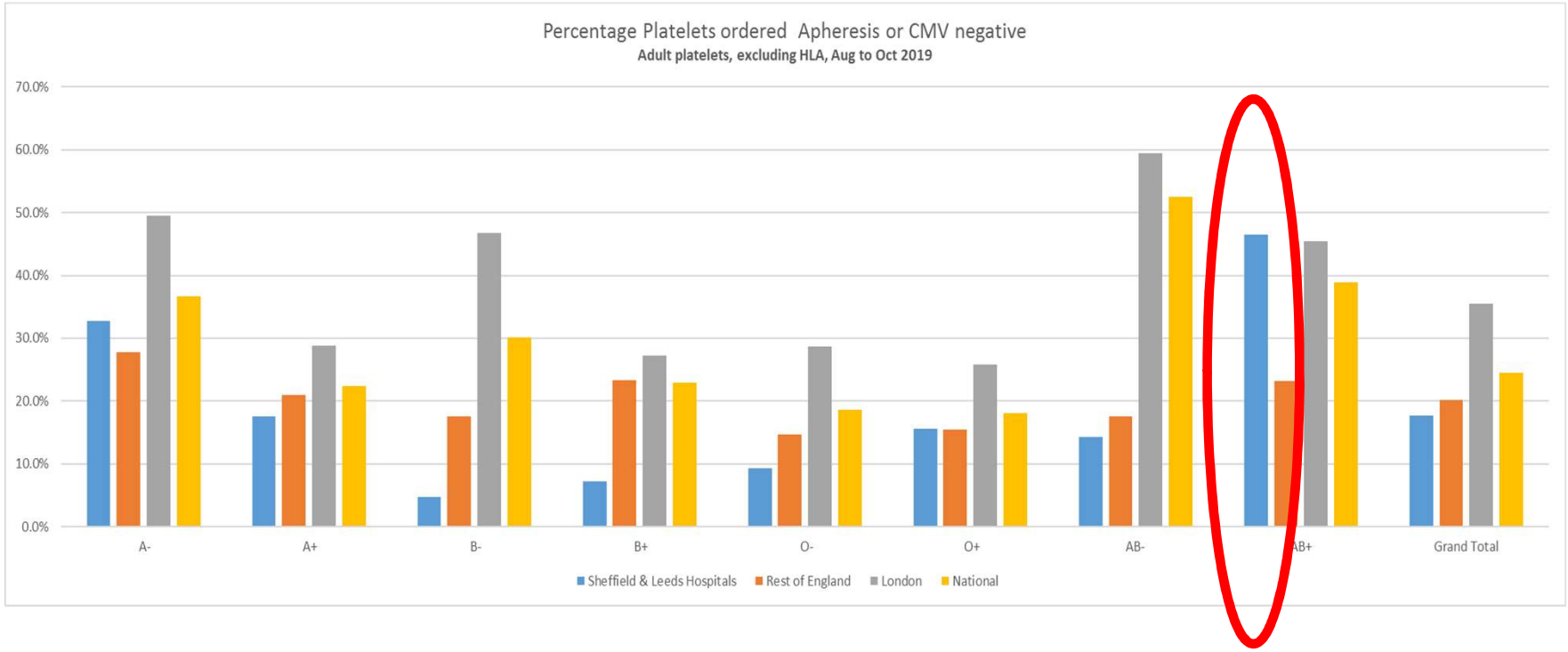


- Platelets tested to show lower presence of Anti-A and Anti-B haemagglutins
- These allow platelets to be transfused across groups as below:

Recipient Group	O	A	B	AB
1st Choice	O	A	B	AB
2nd Choice	A B	AB B High Titre O High Titre*	AB A High Titre O High Titre*	A High Titre B High Titre O High Titre*
*O Platelets are not recommended for non-O neonates and children due to risk of haemolysis				

- Named patients should have a known group and so be ABO RhD Matched

Combined CMV neg or Apheresis



- Nationally 25 % of platelets are ordered either CMV neg and/or apheresis
- An additional 4% apheresis HLA demand
- 48% allows limited scope to meet variations in demand at ABO D and on a daily and SHU level

NHS
Blood and Transplant

Effect of High Specification on Expiry

- High specification, beyond the BSH guidelines leads to:
- platelet expiry
- delays
- cost – as units are sought from other locations
- In 2016 NHSBT expiry was 6 – 7% of issues

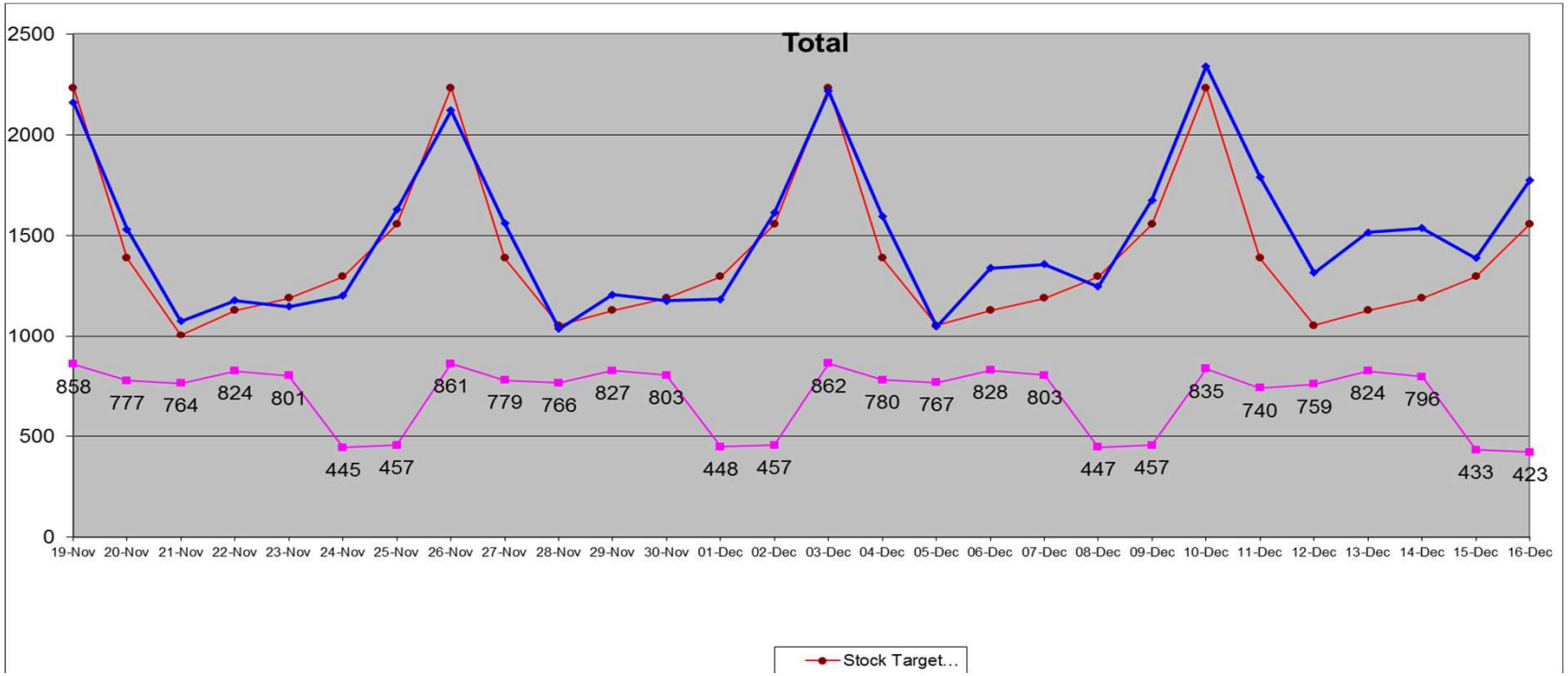
Actions to address expiry

- Reduce stock peaks
    - Improve freshness, by collecting more units at the weekend where this is cost-effective
    - e.g. at West End Donor Centre
- Improve stock management in Hospital Services
- Improve Distribution to SHUs –:
    - Pull more apheresis and CMV neg units into London
    - Push more pooled units from Colindale to the north
- Work with Customer Services and Hospital Services to:
    - Reduce Demand for apheresis and CMV neg
    - Manage appropriate Demand for HT neg

NHS
Blood and Transplant

Reducing Stock Peaks

- Collection is mostly Monday to Friday,
- All platelets need 2 days to be fully Bacterially tested before validation
- This requires NHSBT to build stock in advance of demand which causes older stock to be issued mid week.
- Additional weekend collection lowers the peak, giving fewer less desirable “older” units on Tuesday and Wednesday.

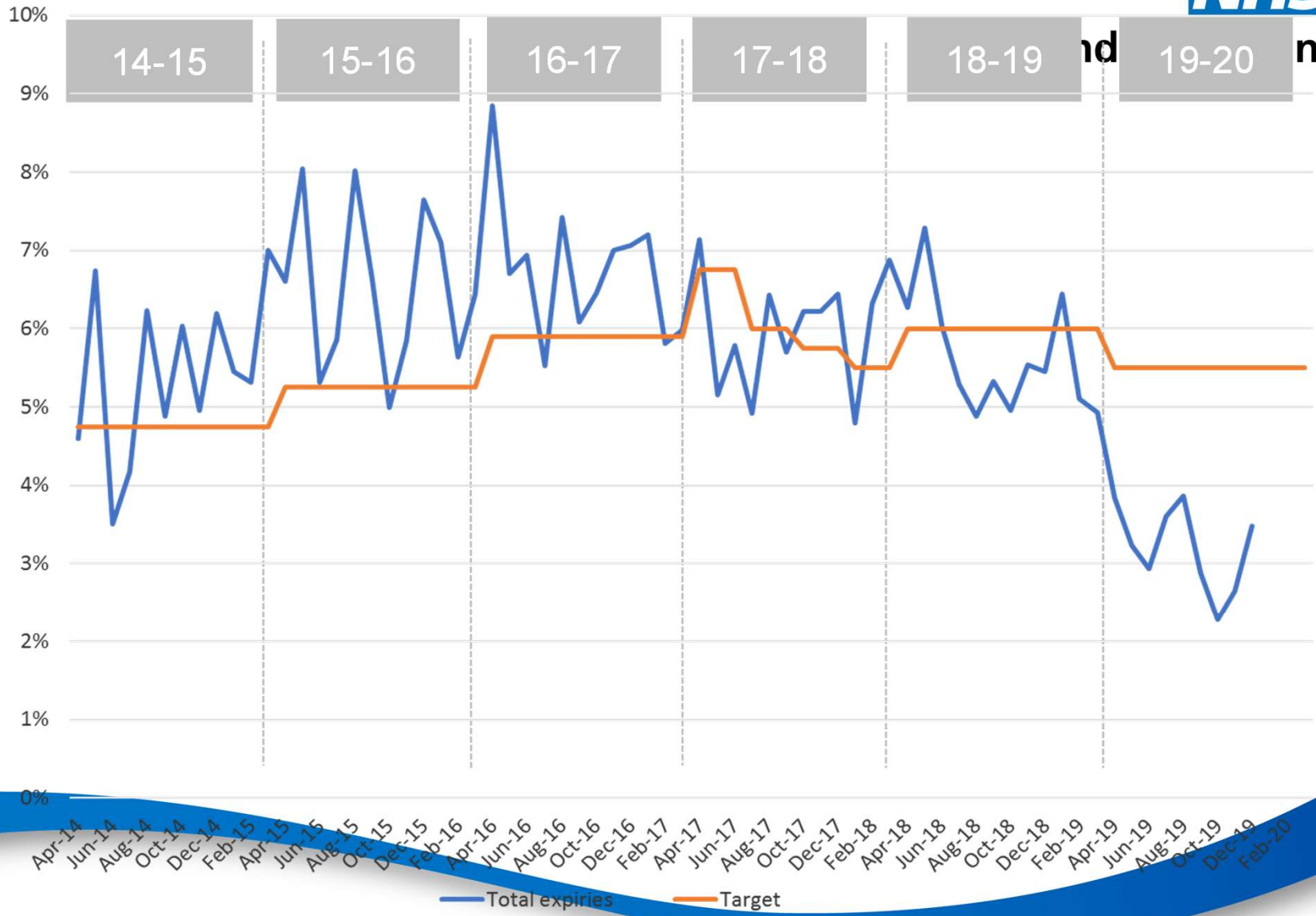


Improve Stock Management in Hospital Services

NHS
Blood and Transplant

- Layout change in Hospital Services
- Providing contracted shelf life
- Substituting RhD Neg into RhD Pos
- Substituting Irradiated into non-Irradiated orders
- HT for Stock only and transfusion across ABO group
- Querying Apheresis/CMV orders

Overall Platelet expiries



- Platelet expiries increased in December to 3.48% from 2.65% in November, overall expiries were below the target level of 5.5%

Message

NHS
Blood and Transplant

- Please continue to order to BSH guidelines
- Consider if there is a clinical requirement for apheresis and/ or CMV neg specifications
- accept a mix of HT neg and non HT neg units
- recognise we will be working to our SLA with age of platelets