NHS
Blood and Transplant

South East Coast Regional Usage of Platelets

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Caring Expert Quality

NHS
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Sections

1. A D Negative Platelet
2. Platelet Stock Audit
3. Apheresis vs. Pooled

Platelet Demand

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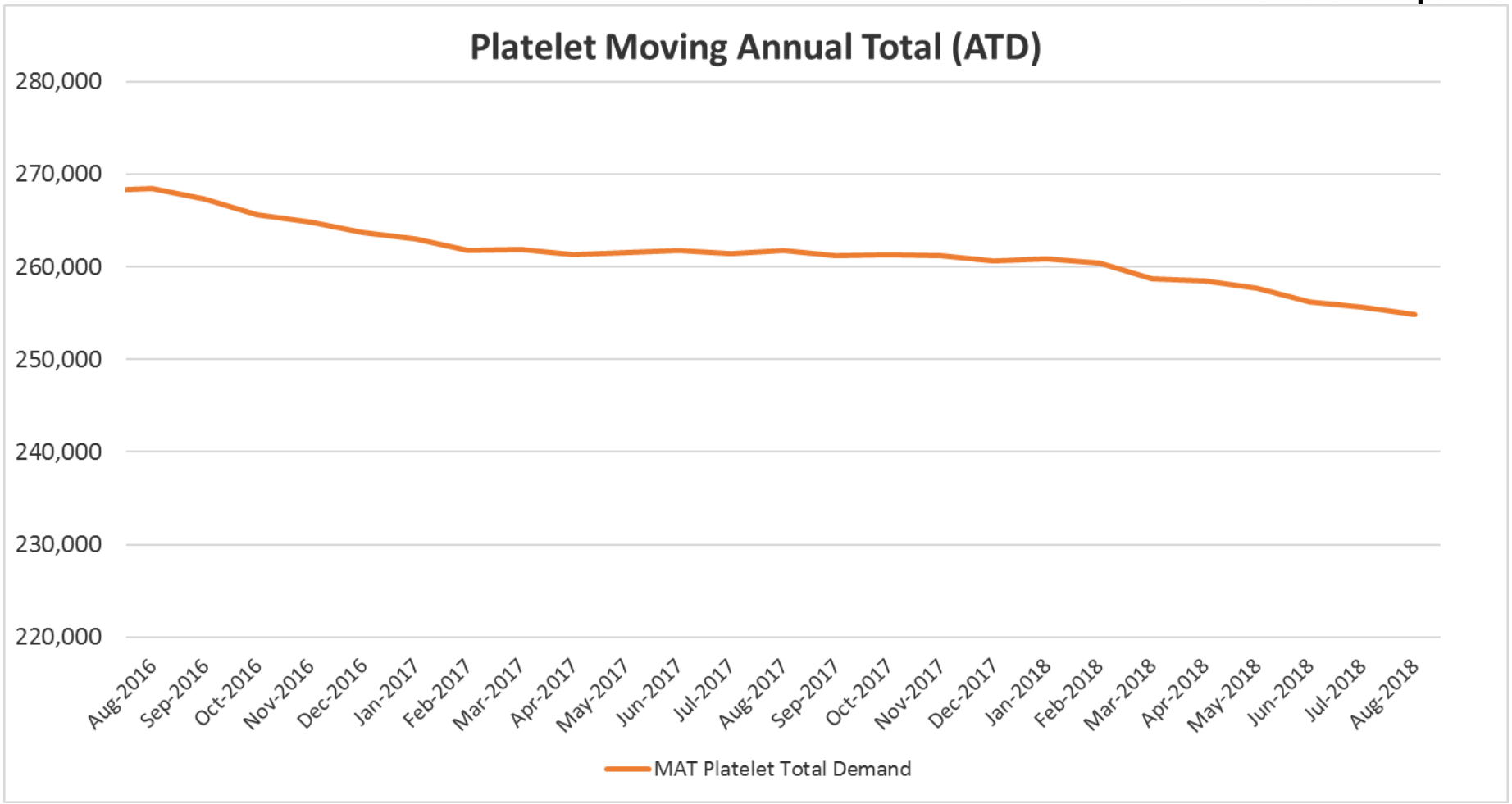

- The overall platelet demand continues to decrease

Platelet Demand

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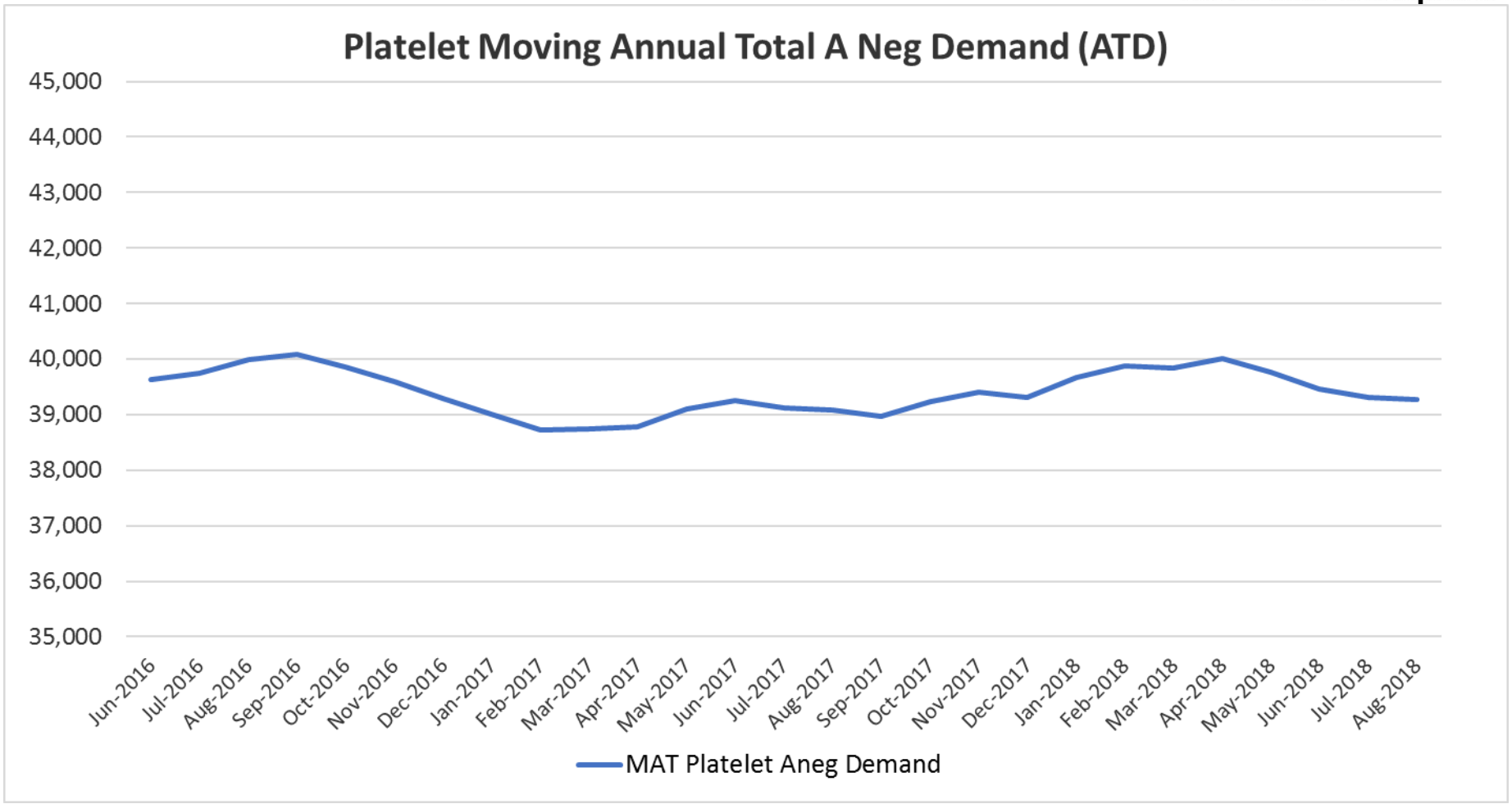

- Demand for platelet A neg (MAT) steadily increased from April 2017 with a peak at c.40k ATDs in Feb-18. Since then, it has been slowly decreasing but on average is relatively consistent

NHSBT Problem

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- A D neg platelet demand remains *consistent*
  - Stock platelets tendency to be A D neg
  - Preferential group as can ‘give to anyone’
  - Lack of understanding re use of other ABO groups
- 70% A D neg platelets are produced through Apheresis and 30% are Pooled. Limited demand for A D neg RBC = Expense
- Demand for CMV negative (c17.5% adult) and HT anti A/B neg (Avg c60% of apheresis units and 55% of non-apheresis requested as HT neg) an additional burden on supply chain
- Despite high apheresis collections, NHSBT need to over collect and so waste A D neg RBC to meet platelet demand

NBTC Components Workshop
19th March 2018

NHS Blood and Transplant

A D neg recommendations, hospitals should:

- Re-examine local policies and avoid default ordering of A D neg platelets for stock or otherwise.
- Consider use of D pos platelets for D neg patients not of child bearing potential. Use Anti D Ig if D pos platelets are used for D neg patient of child bearing potential.
- Educate local clinicians on SABTO recommendations for CMV negative components.
- Consider using HT –ve group O D neg pooled platelets as alternative to A D neg platelets.

Guidelines BSH Platelets
December 2016

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- RhD negative girls or women of childbearing potential should receive RhD negative platelets
- If unavailable, RhD positive platelets can be given with anti-D prophylaxis
- For RhD negative boys under 18 years of age, those who already have anti-D antibodies and transfusion dependant adults, **the platelets of choice are RhD negative.** RhD positive platelets can be given if RhD negative platelets are unavailable or to prevent wastage of RhD positive components. Anti-D prophylaxis is not required.

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Please Help NHSBT by reducing the demand for A D Negative Platelets

SEC RTC Platelet Stock Audit Sept 2018

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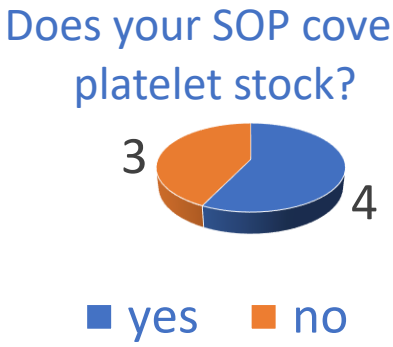
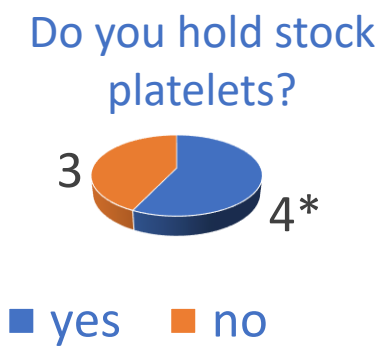
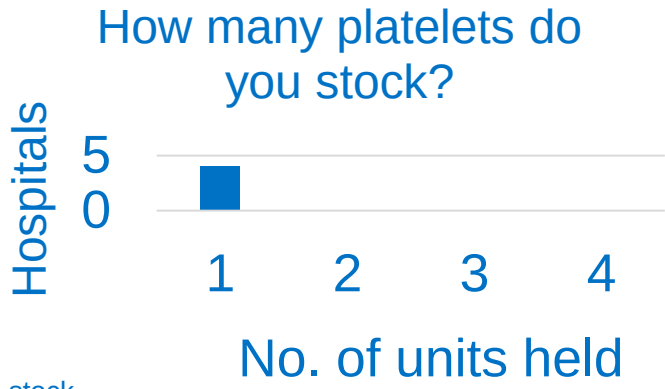
- NBTC Components Workshop March 2018 included the use of A D Negative platelets:

Demand for A D Negative platelets have been growing in the last 2 years leading to disproportionate effort to recruit, 9% of donor population is A D Negative. *Demand for A D* Negative *is 16% of the total platelet demand. Continuing high demand of A D* Negative *platelets compared to red cells is stretching service and donors, and leading to increased costs and unacceptable red cell wastage.*

- In response, SEC RTC conducted an audit in September 2018, 7 responses were received:







* 1 hospital fed back they were encouraged to stock platelets by NHSBT to reduce ad hoc deliveries

SEC RTC Platelet Stock Audit Sept 2018

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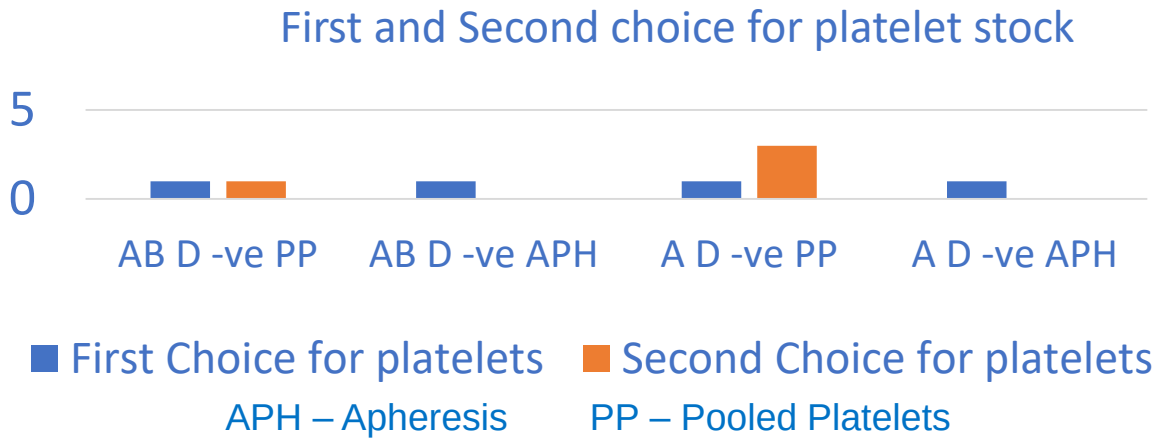
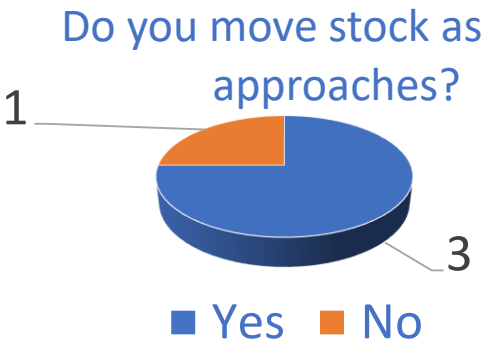
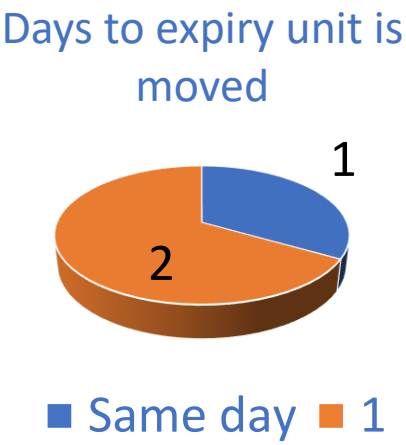
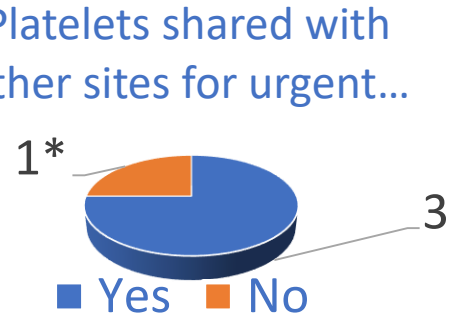


Any additional specific requirements requested?

- 1 hospital request irradiated and High Titre (HT) neg for A D Negative
- 1 hospital request irradiated, CMV negative and HT negative







* Hospital fed back that distance is too far to share in an emergency

SEC RTC Platelet Stock Audit Sept 2018

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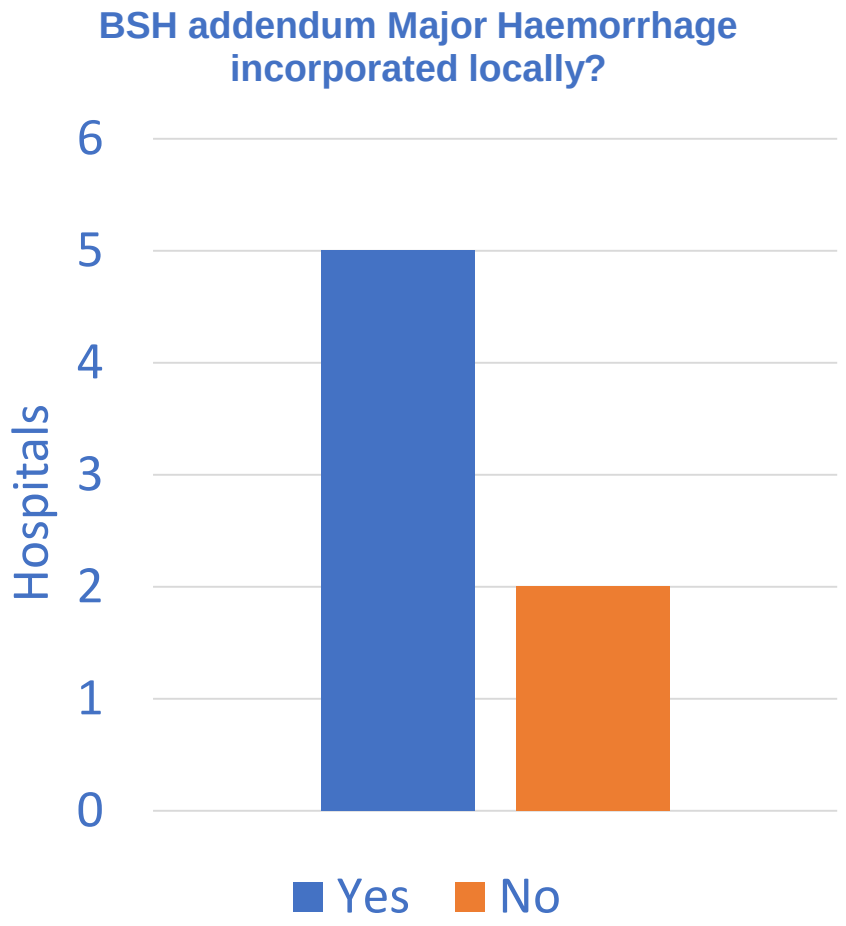
Last Question:
Have you incorporated the following addendum to the BSH guideline for the haematological management of major haemorrhage (2015) to your hospital policy?

"It is acceptable to use ABO incompatible platelets negative for high titre agglutinins in the management of patients with major haemorrhage (Estcourt et al 2017). RhD negative platelets should be used for females less than 50 years of age with unknown group"



Apheresis vs Pooled

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Pooled Platelets	2018-19	£185.86
Apheresis Platelets	2018-19	£231.50
	Difference	£45.64

If an order for Adult Platelets is requested NHSBT will provide a unit from the available stock

NHSBT Stock constantly changes.

- SHU Stock Target is dependant on predicted demand
- Apheresis units are dependant on Donors
- Pooled units are manufactured from WB Donors the number made is adjusted to top up Apheresis Stocks
- Percentages of Blood Groups adjusted to meet demand

Apheresis vs Pooled

NHS Blood and Transplant

- Number of Apheresis Platelets held in NHSBT stock tend to be more than Pooled Platelets
- NHSBT will guarantee the provision of an Apheresis Platelet unit only if the order requests it or if the unit is HLA / HPA selected
- All other orders will be random either Apheresis or Pooled based on available stock of the available blood group
- Where an Apheresis Platelet is not requested the charge for the ATD is the cost of a Pooled unit

Platelets

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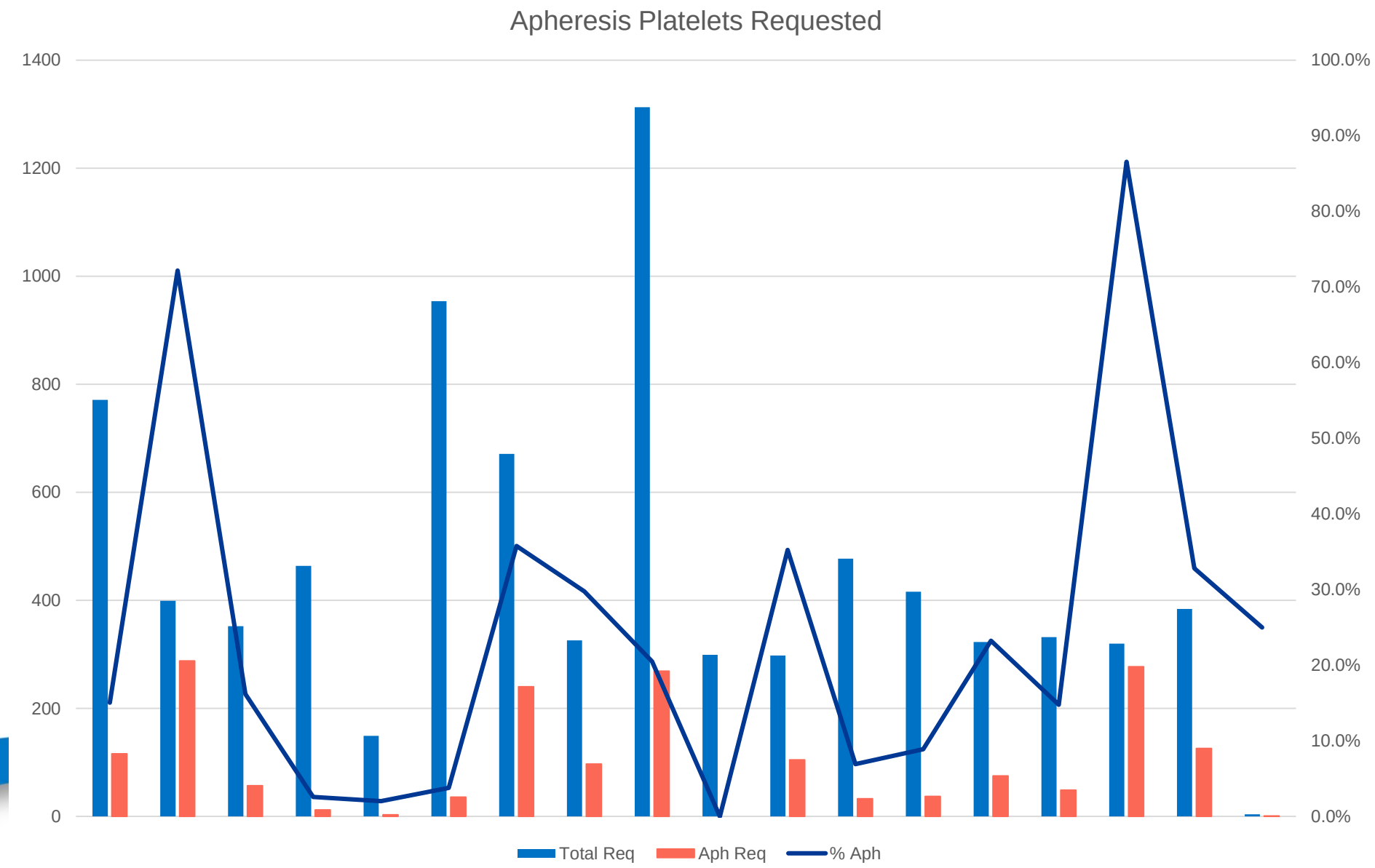
- Up to 67% of all platelets are used for patients who have a haematological malignancy
- Apheresis and pooled platelets are functionally equivalent and should be used interchangeably
- However, NHSBT recommends that recipients born on or after 1st January 1996 should receive apheresis donation platelets where possible

SEC RTC demand

NHS Blood and Transplant



Apheresis Platelets Myth Buster

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Which platelets MUST be apheresis?

1. Human Leucocyte Antigen / Human Platelet Antigen (HLA/HPA) selected platelets for a named patient
2. Platelets for intra-uterine and neonatal transfusions
3. Platelets from an IgA deficient donor

For IgA deficient patients order by arrangement with an NHSBT Consultant

Platelet changes • Change in provision of apheresis platelets

Are apheresis platelets preferred in children and young people?

Those born after 1/1/96 may benefit from apheresis platelets to reduce the risk of variant Creutzfeldt-Jakob Disease (vCJD). The evidence to support this is very low quality. If this would delay treatment or the patient is at an increased risk of an allergic reaction pooled platelets which are suspended in Platelet Additive Solution (PAS) should be used.

Platelet changes • Change in provision of apheresis platelets • BSH Clinical guidelines

Risk of HLA sensitisation from platelets

The TRAP study shows no significant difference in the rate of alloimmunisation between apheresis and pooled platelets. Both apheresis and pooled platelets are leucodepleted reducing the risk of HLA sensitisation.

What about cytomegalovirus (CMV)?

CMV negative blood is rarely required.

Do not order CMV negative components unless the patient requires them

- Intra-uterine transfusions
- Neonates up to 28 days post expected date of delivery
- Elective transfusions during pregnancy (not during labour or delivery)

DO NOT DELAY EMERGENCY TRANSFUSION IF CMV NEGATIVE COMPONENTS ARE NOT AVAILABLE

Cytomegalovirus Tested Blood Components • CMV Factsheet

Myth: "Apheresis platelets should be used for patients who are not demonstrating a good post-transfusion platelet increment."

Fact: There is no benefit from giving randomly selected apheresis platelets in these cases. Instead, take an immediate platelet increment (10-30mins post transfusion) after administering ABO matched platelets. If the increment result is poor, perform investigations for HLA-antibodies

Clinical guidelines • Slichter SJ et al • TRAP study

Myth: "Apheresis platelets are a better component than pooled platelets and should be held as stock."

Fact: NHSBT does not recommend holding apheresis platelets as stock unless this is to support a children's hospital.

Platelet changes • Change in provision of apheresis platelets

Myth: "Apheresis platelets cause fewer allergic reactions."

Fact: There is evidence that apheresis platelets are likely to cause more allergic reactions. Allergic reactions are usually caused by plasma proteins therefore pooled platelets suspended in a 70:30 PAS:plasma ratio rather than apheresis platelets suspended in 100% plasma are preferred in patients at an increased risk.

SHOT

Some Observations

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- If NHSBT were to randomly provide an ATD that might be Apheresis or Pooled how important is it to order Apheresis?
- Are Apheresis Platelets being transfused to the population born before 1996?