LoPAG (London Platelet Action Group)

London Platelet User Survey

2018

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What is the LoPAG

A *'Multidisciplinary group consisting of haematology consultants, TPs, Patient Blood Management Practitioners, NHSBT representation, Senior Biomedical Scientists*'

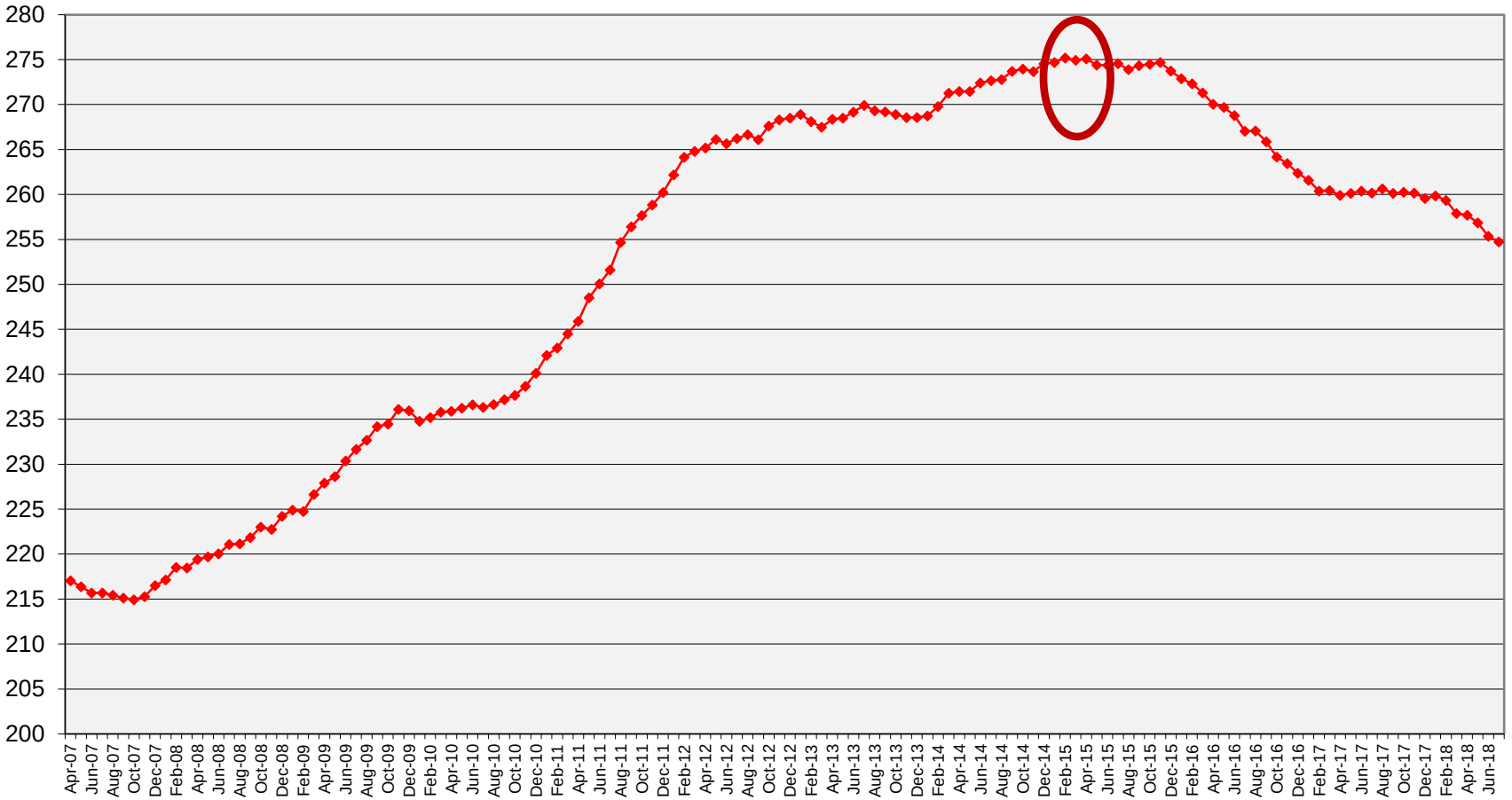
Primary Objective:

Develop strategies to support, educate and encourage hospitals in the London region to use platelets appropriately and reduce wastage.

Annual Platelet Issues

London Platelet Action Group

NHSBT – National Annual Total Platelet Issues (ATD) – 000'S



Donor Numbers

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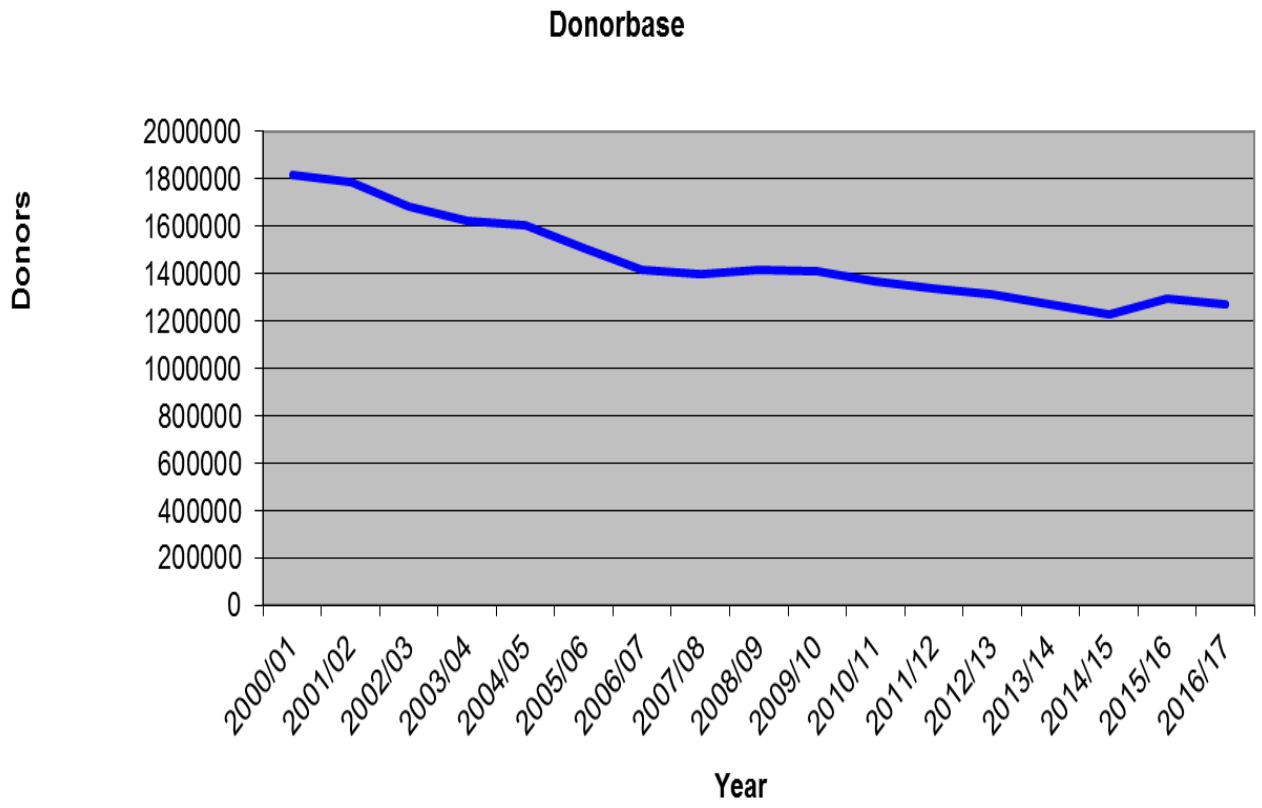

Increase in amount of products required Vs reduction in number of donors

Aim of the survey

- To ‘better understand how platelets are being used across London’
- Help inform the LoPAG work plan going forward
- Help with planning future educational events

Looking at:

- Questionnaire complied to look at the following:

  - Platelet use
  - Stock holding
  - Special requirements
  - Service provision

Staff answering the questionnaire

Hospitals answering

Stock Holding

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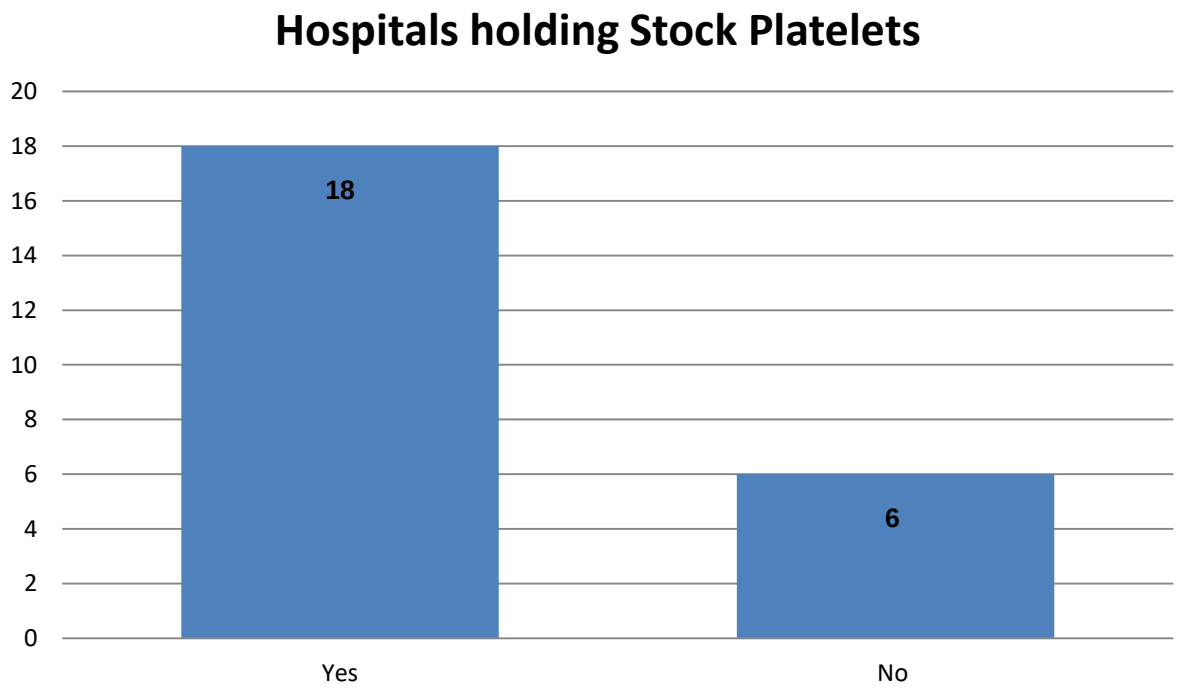
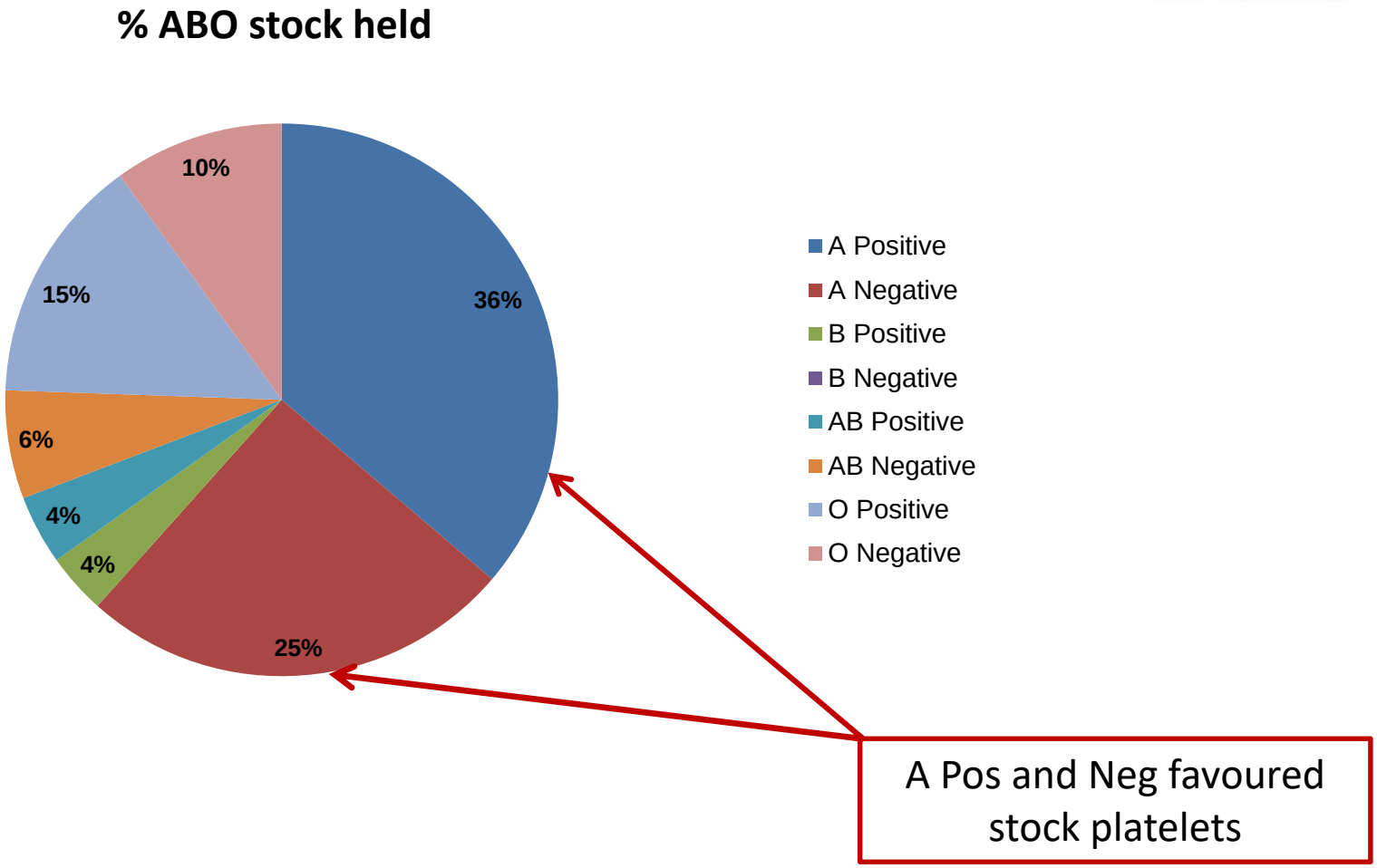
Defined as:
Ordering products that are not for any specific patient and using them on demand

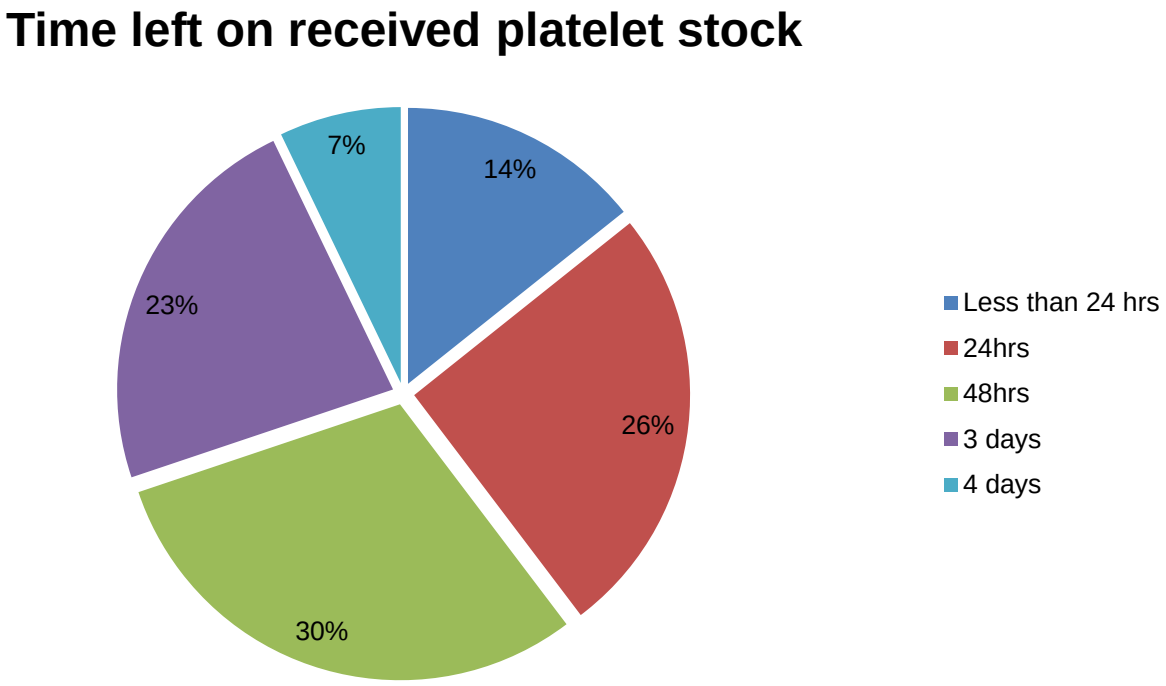


Why do hospitals stock hold?

Stock holding across ABO

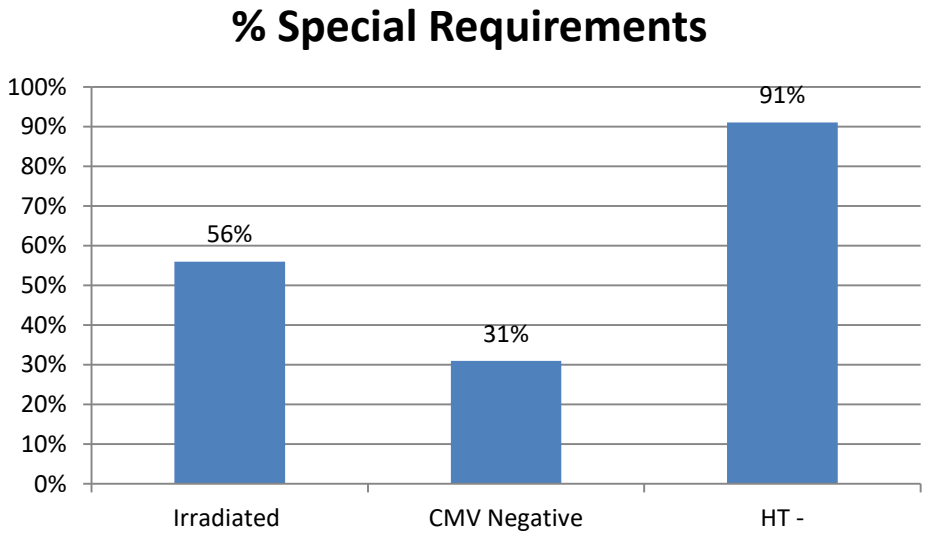


How old are your platelets?



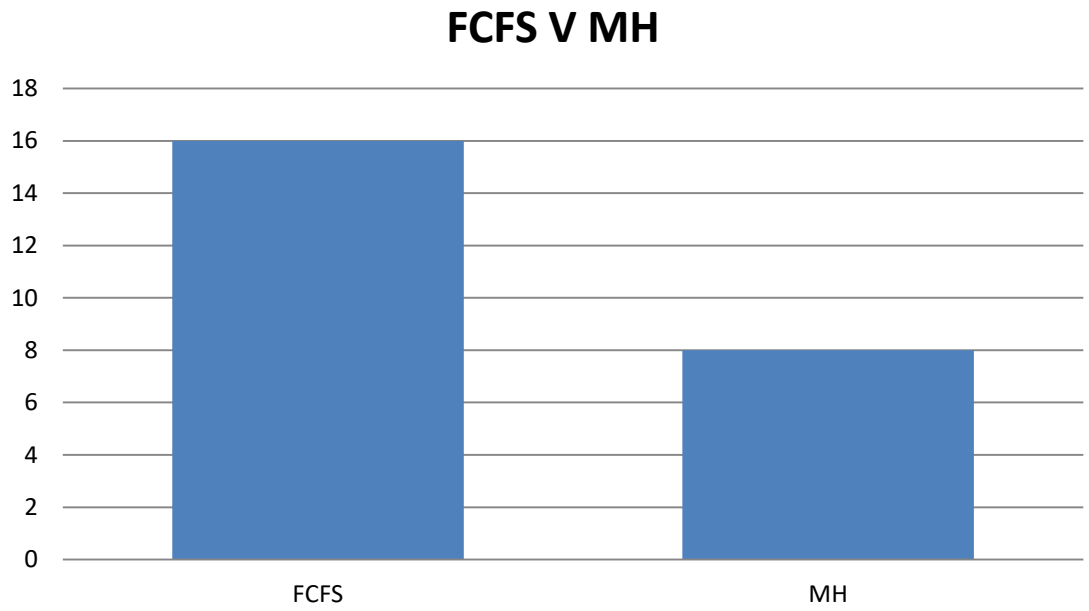
- 70% of platelets have less than 48 hours
- Shorter expiry times = harder to rotate stock ↑ wastage

HT neg, CMV and Irradiation



- Currently GOSH, UCH and KCH providing their own irradiated units
- HT neg platelets requested across all groups including AB
- CMV negative platelets only required for neonates up to 28 days after due date, intrauterine tx, pregnant women

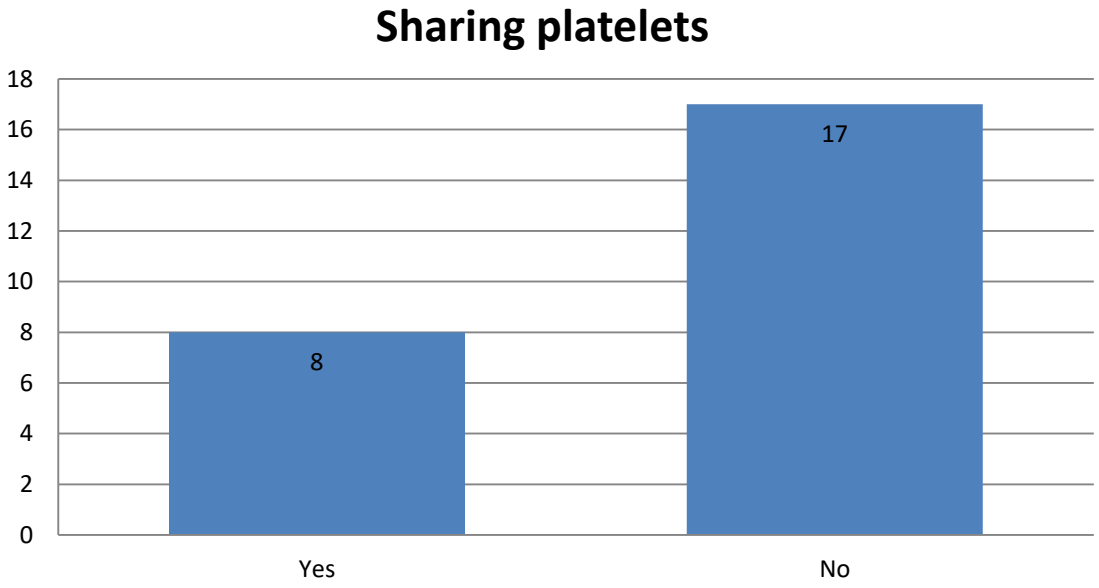
First Come First serve Vs MH*



- Stock holding – moving away from ‘named patient basis’
- More trauma centres – but hospitals not holding stock for trauma

*MH = Major Haemorrhage

Are we sharing?

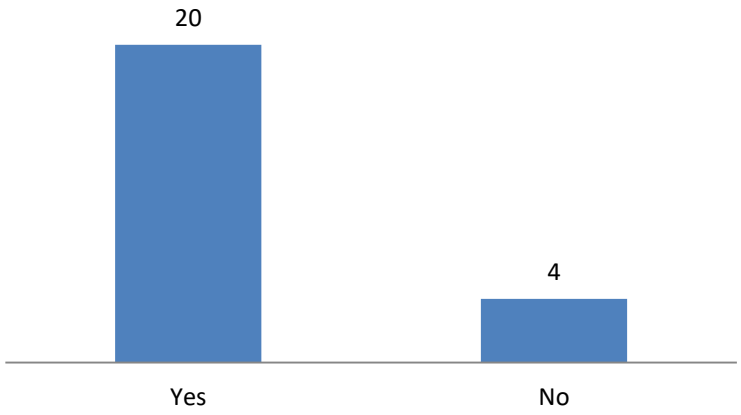


All 8 hospitals that share platelets do so within their own Trust.

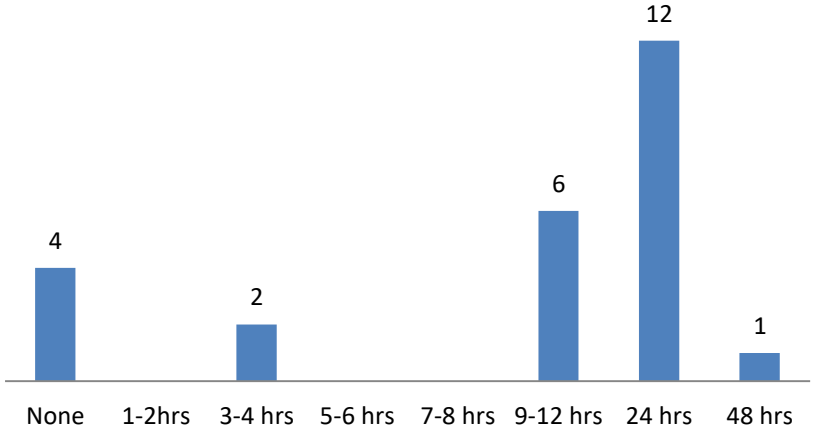
Allocating Platelets

Dereservation period – Time a components is reserved for a patient

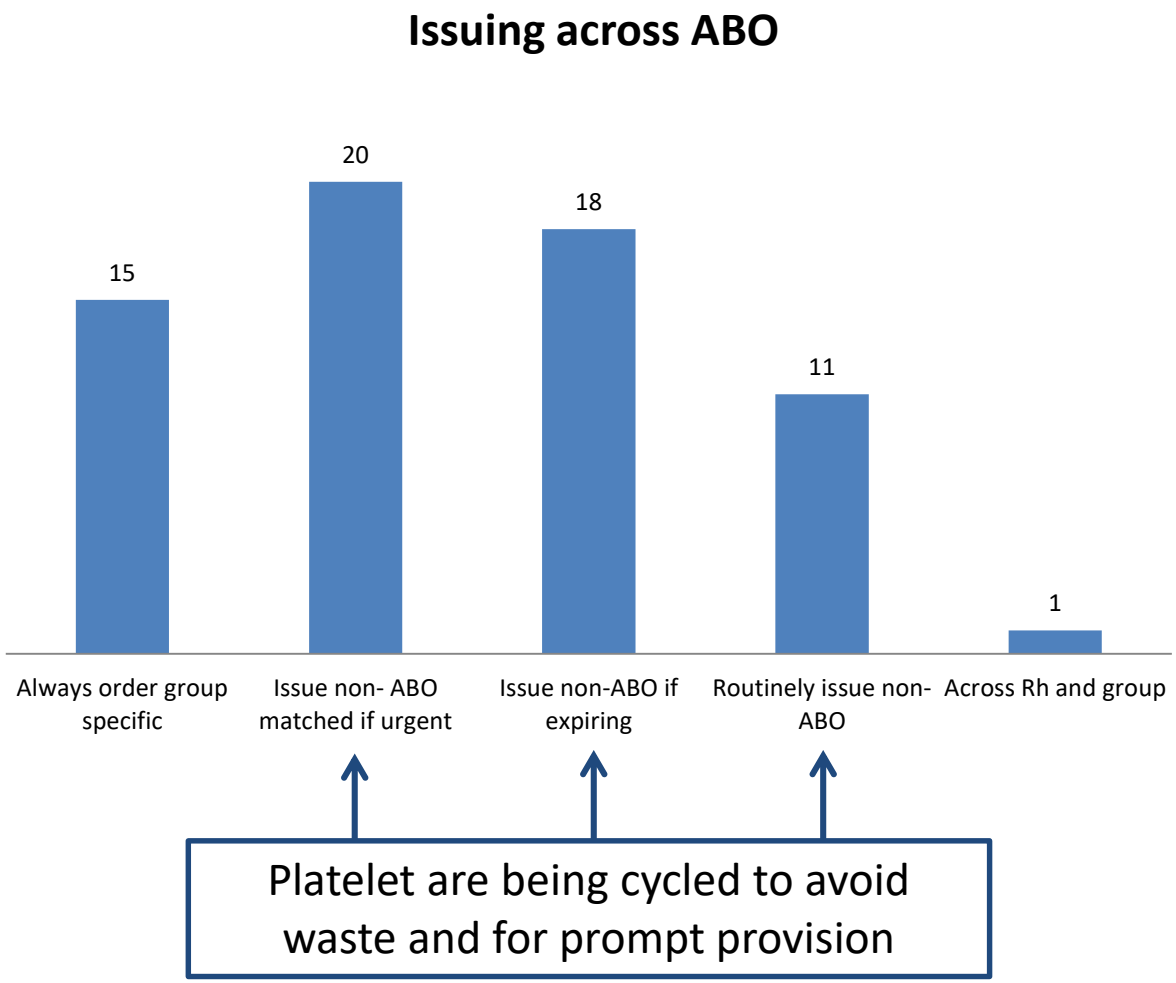
Defined dereservation period



Dereservation time period

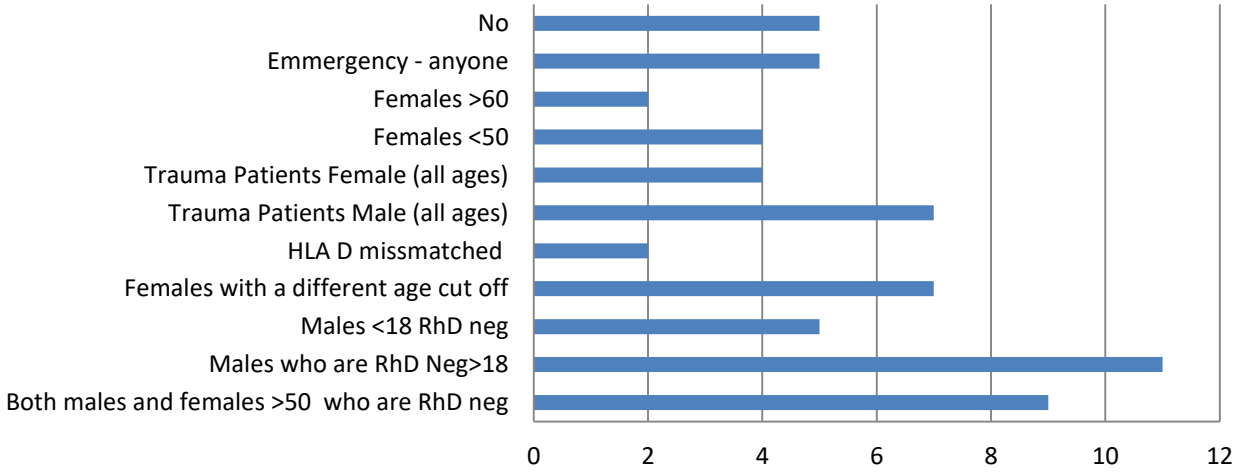


Using platelets across ABO

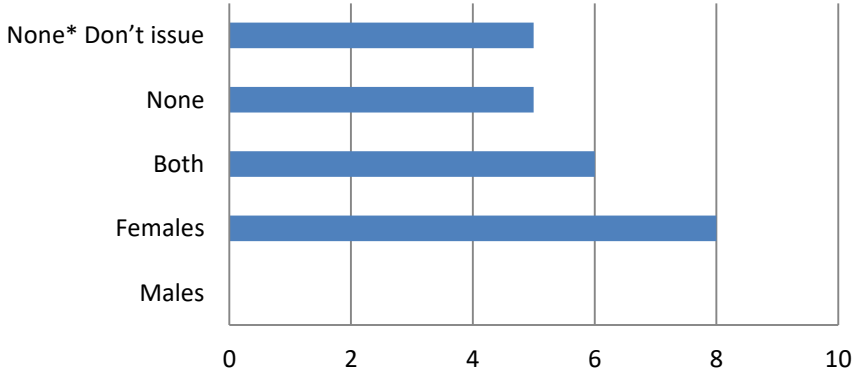


Using platelets across D

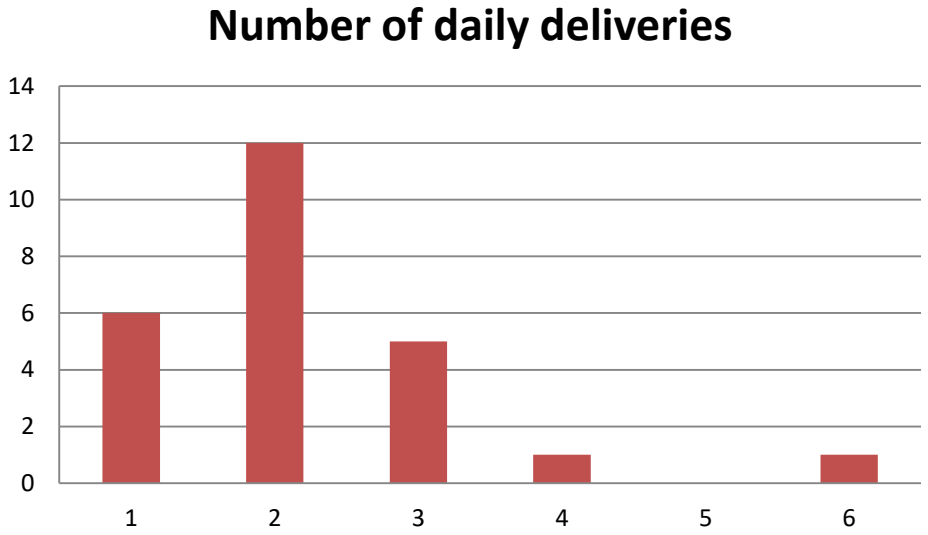
Issuing D Pos platelets to D Neg patients

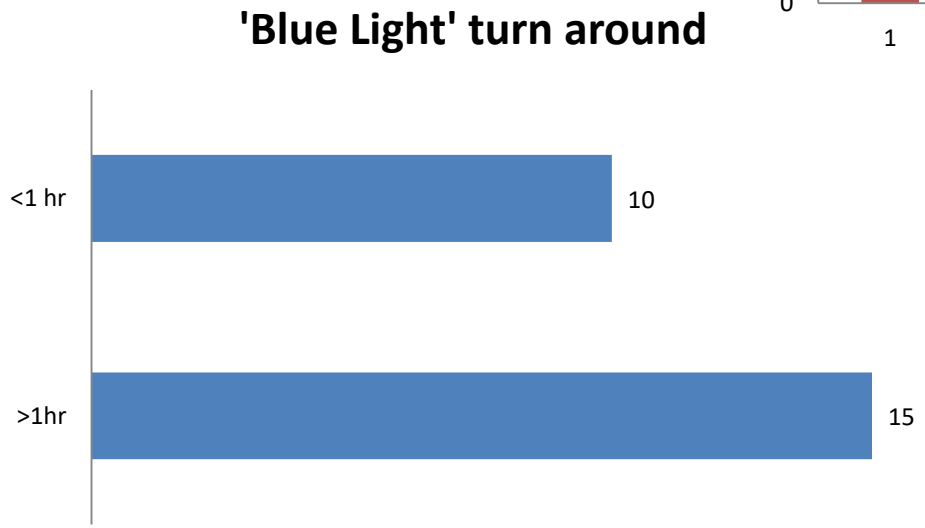


Using prophylactic anti-D

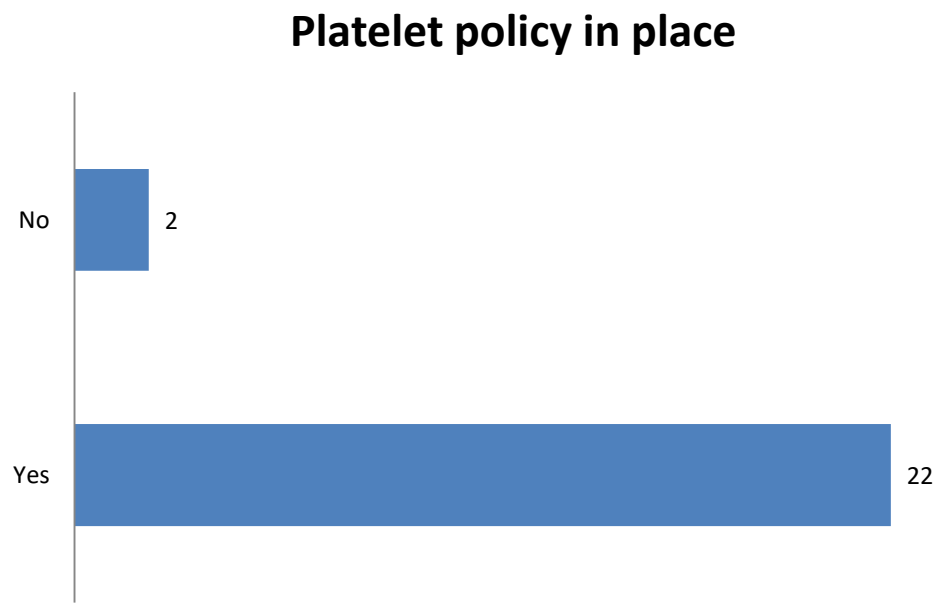


Routine and emergency deliveries





Platelet Use Guidance



- Either as part of an overall transfusion policy or stand alone

NBTC Codes

London Platelet Action Group

Guidance for the use of Blood Components

NHS

This guidance is based on the National Blood Transfusion Committee (NBTC) Indication Codes for Transfusion (June 2016)

National Blood Transfusion Committee

The indications for transfusion provided below are taken from national guidelines for the use of blood components in adults (see references). Amalgamation into this summary document aims to act as a prompt for clinicians to facilitate appropriate use and to enable robust documentation of indications. Each indication has been assigned a number, to permit reproducible coding, when requesting blood or for documentation purposes. Specific details regarding the patient's diagnosis and any relevant procedures to be undertaken should also be provided at request either on a written request form, electronic blood order or by telephone when the request is urgent. These are current guidelines and may change depending on new evidence.

Red cell concentrates

Dose – in the absence of active bleeding, use the minimum number of units required to achieve a target Hb. Consider the size of the patient; assume an increment of 10g/L per unit for an average 70kg adult.

R1. ***Acute bleeding***
Acute blood loss with haemodynamic instability.
After normovolaemia has been achieved/ maintained, frequent measurement of Hb (including by near patient testing) should be used to guide the use of red cell transfusion – see suggested thresholds below.

R2. ***Hb ≤ 70g/L stable patient***
Acute anaemia. Use an Hb threshold of 70g/L and a target Hb of 70-90g/L to guide red cell transfusion. Follow local/specific protocols for indications such as post cardiac surgery, traumatic brain injury, acute cerebral ischaemia.

R3. ***Hb ≤ 80g/L if cardiovascular disease***
Use an Hb threshold of 80g/L and a target Hb of 80-100g/L.

R4. ***Chronic transfusion dependent anaemia***
Transfuse to maintain an Hb which prevents symptoms. Suggest an Hb threshold of 80g/L initially and adjust as required. Haemoglobinopathy patients require individualised Hb thresholds depending on age and diagnosis.

R5. ***Radiotherapy maintain Hb ≥110g/L***
There is limited evidence for maintaining an Hb of 110g/L in patients receiving radiotherapy for cervical and possibly other tumours.

R6. ***Exchange transfusion***

Fresh frozen plasma (FFP)

Dose – 15ml/kg body weight, often equivalent to 4 units in adults.

F1. ***Major haemorrhage***
Early infusion of FFP is recommended in a ratio of 1 unit FFP:1 unit red cells for trauma and at least 1 unit FFP:2 units red cells in other major haemorrhage settings. Once bleeding is under control, FFP use should be guided by timely tests for coagulation as indicated below.

F2. ***PT Ratio/INR >1.5 with bleeding***
Clinically significant bleeding without major haemorrhage. FFP required if coagulopathy. Aim for a PT and APTT ratio of ≤1.5.

F3. ***PT Ratio/INR >1.5 and pre-procedure***
Prophylactic use when coagulation results are abnormal e.g. disseminated intravascular coagulation and invasive procedure is planned with risk of clinically significant bleeding.

F4. ***Liver disease with PT Ratio/INR >2 and pre-procedure***
FFP should not be routinely administered to non-bleeding patients or before invasive procedures when the PT ratio/INR is ≥2.

F5. ***TTP/plasma exchange***

F6. ***Replacement of single coagulation factor***

Prothrombin complex concentrate

Dose should be determined by the situation and INR. Local guidelines should be followed.

PCC1. **Emergency reversal of VKA for severe bleeding** or head injury with suspected intracerebral haemorrhage.

PCC2. **Emergency reversal of VKA pre emergency surgery**

Cryoprecipitate

Dose – 2 pooled units, equivalent to 10 individual units, will increase fibrinogen by approximately 1g/L. Cryoprecipitate is usually used with FFP unless there is an isolated deficiency of fibrinogen.

C1. **Clinically significant bleeding and fibrinogen <1.5g/L (<2g/L in obstetric bleeding)**

C2. **Fibrinogen <1g/L and pre procedure**

C3. **Bleeding associated with thrombolytic therapy**

C4. **Inherited hypofibrinogenaemia, fibrinogen**

Platelet concentrates

Dose – for prophylaxis, do not routinely transfuse more than 1 adult therapeutic dose. Prior to invasive procedure or to treat bleeding, consider the size of the patient, previous increments and the target count.

Prophylactic platelet transfusion

P1. **Plt <10 x 10^9/L reversible bone marrow failure Not indicated in chronic bone marrow failure**

P2. **Plt 10 – 20 x 10^9/L sepsis/haemostatic abnormality**

Prior to invasive procedure or surgery

P3. **To prevent bleeding associated with invasive procedures.** Platelets should be transfused if:

- **P3a Plt <20 x 10^9/L central venous line**
- **P3b Plt <40 x 10^9/L pre lumbar puncture/spinal anaesthesia**
- **P3c Plt <50 x 10^9/L pre liver biopsy/major surgery**
- **P3d Plt <80 x 10^9/L epidural anaesthesia**
- **P3e Plt <100 x 10^9/L pre critical site surgery e.g. CNS.**
- **Transfusion prior to bone marrow biopsy is not required.**

Therapeutic use to treat bleeding (WHO bleeding grade 2 or above)

P4a **Major haemorrhage Plt <50 x 10^9/L**

P4b **Critical site bleeding e.g. CNS/traumatic brain injury Plt <100 x 10^9/L**

P4c **Clinically significant bleeding Plt <30 x 10^9/L.**

Specific clinical conditions

P5a **DIC pre procedure or if bleeding.**

P5b **Primary immune thrombocytopenia (emergency treatment pre-procedure/severe bleeding).**

Platelet dysfunction

P6a **Consider if critical bleeding on anti-platelet medication.**

P6b **Inherited platelet disorders directed by specialist in haemostasis.**

References
British Committee for Standards in Haematology (2012). Guidelines on the management of anaemia and red cell transfusion in adult critically ill patients. *British Journal of Haematology*, **160**, 445–64.
British Committee for Standards in Haematology (2016). A practical guideline for the haematological management of major haemorrhage. *British Journal of Haematology*, **170**, 788–803.
British Committee for Standards in Haematology (2016). Draft guidelines for the use of platelet transfusions.
British Society of Gastroenterology (2015). UK guidelines on the management of variceal haemorrhage in cirrhotic patients. *GUT*, **0**, 1–36.
British Society of Gastroenterology, Clinical Services, Care Bundles. British Society of Gastroenterology & British Association
European Journal of Anaesthesiology, **30**, 270–382
National Institute for Health and Clinical Excellence (2015). Blood transfusion NG24. nice.org.uk/guidance/ng24
Royal College of Obstetricians & Gynaecologists (2015). Blood Transfusion in Obstetrics. Green-top Guideline No.47.

Further information on blood transfusion will be available on hospital intranet sites or from the blood transfusion laboratory.

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Platelet concentrates

Dose – for prophylaxis, 1 adult therapeutic dose. Prior to invasive procedure/to treat bleeding, consider patient size, previous increments and target count.

Prophylactic platelet transfusion

- **P1 Plt <10 x 10^9/L reversible bone marrow failure. Not indicated in chronic bone marrow failure.**
- **P2 Plt 10 – 20 x 10^9/L sepsis/haemostatic abnormality.**

Prior to invasive procedure or surgery if:

- **P3a Plt <20 x 10^9/L central venous line.**
- **P3b Plt <40x10^9/L pre lumbar puncture/spinal anaesthesia.**
- **P3c Plt <50x10^9/L pre liver biopsy/major surgery.**
- **P3d Plt <80x10^9/L epidural anaesthesia.**
- **P3e Plt <100x10^9/L pre critical site surgery e.g. CNS.**
- **Transfusion prior to bone marrow biopsy not required.**

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

- **P4a Major haemorrhage Plt <50 x 10^9/L.**
- **P4b Critical site bleeding e.g. CNS Plt <100 x 10^9/L.**
- **P4c Clinically significant bleeding Plt <30 x 10^9/L.**

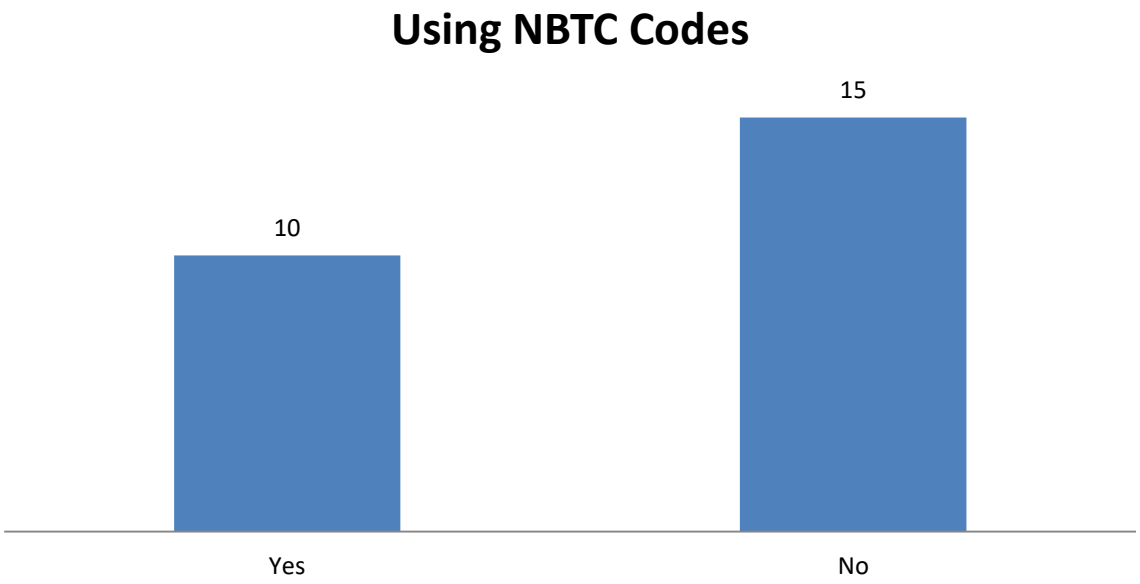
Specific clinical conditions

- **P5a DIC pre procedure or if bleeding.**
- **P5b Primary immune thrombocytopenia (emergency pre-procedure/severe bleeding).**

Platelet dysfunction

- **P6a Consider if critical bleeding on anti-platelet agent.**
- **P6b Inherited platelet disorders directed by haemostasis specialist.**

NBTC Codes



- Most hospitals not using NBTC Codes to govern transfusion decisions
- Hospitals did reported that they had similar guidance
- Unable to make it part of IT
- To rigid and not always easy to place patients it to the groups

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Part 2:
Wastage and VANESA

Wastage

- Looking at wastage in 2017 and general wastage management
- Less responses (12 Vs 24)
- Looking also at the use of The Blood Stocks Management scheme and VANESA

Total Wastage

- Total of **480** platelet units reported wasted in 2017 across the twelve sites – four of which were trauma centres

That's the equivalent of:

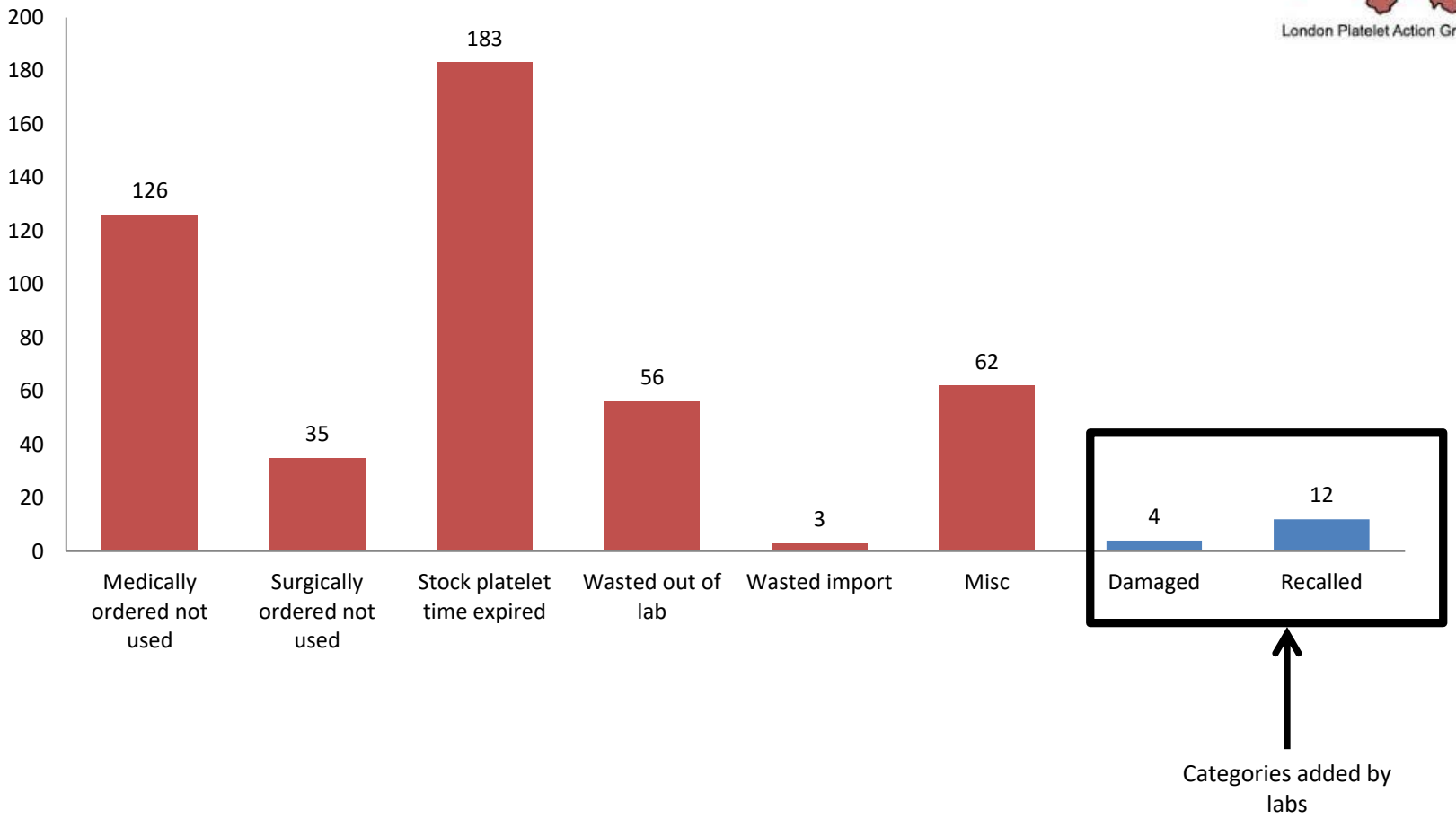
- 1920 individual donations to pool
- 480* apheresis donations

Categories of Wastage

Main laboratory wastage categories:

- Medically ordered not used
- Surgically ordered not used
- Stock –Platelets- Time Expired
- Wasted import
- Miscellaneous

Categories of wastage

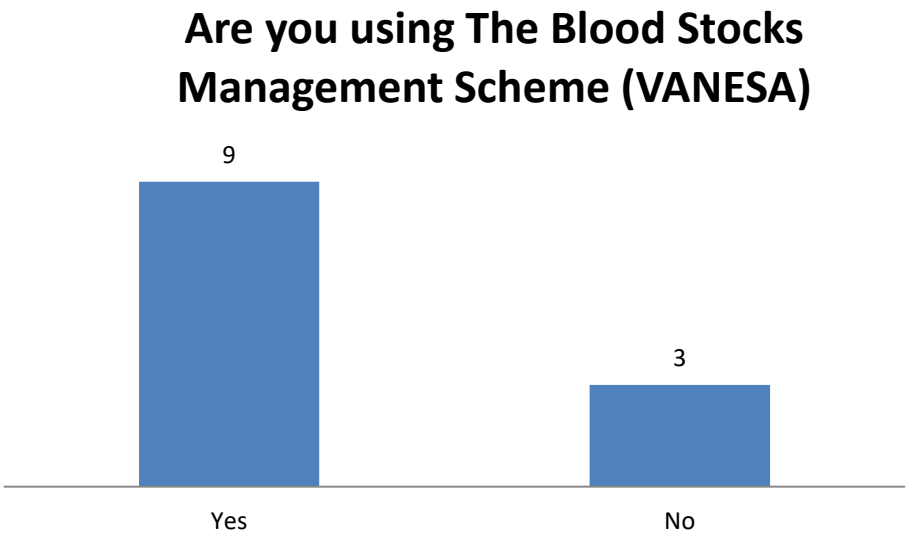


- Stock platelets – main wastage category – previously medically ordered not used
- ? Categories like ‘miscellaneous ’ and ‘wasted import’ –

Blood Stocks Management Scheme and VANESA

- Established in 2001 to understand and improve blood inventory management across the blood supply chain.
- Hospitals and Blood Services from the UK and Republic of Ireland are currently participating in the scheme.
- Uses VANESA to collect data so that users can have real time data and graphs

Using VANESA



Reasons for not using VANESA –

- Time – Not enough, not allocated
- Didn't know about it

- VANESA is **free** and some data comparable
- Can be used to review usage and document wastage of components

Contact Gemma Fawke or Clare Denison (PBMP)for further details

Clinical Engagement on Waste

- Clinical engagement is defined as 'engagement from outside the core transfusion team'

Methods used to inform:

- HTC
- Datix

- Most hospitals reported little or no clinical engagement outside the immediate transfusion team (HTC/HTT).

Summary…

☆ Usage

Achievements

- NHSBT showing a decreasing demand
- More sharing happening
- Guidelines in place in most hospitals

Things to work on

- Stock holding – overtaking MONU – can we change it/ reduce it
- A Neg stock holding needs to be addressed across ALL hospitals

Summary…

☆Wastage

Achievements

- VANESA proving useful in collating data
- Introduction of sharing
- *Is 480 platelets in a year over 12 sites really bad? ~ 3/month*

Things to work on

- More clinical engagement – outside of the converted!
- Openness with data sharing

Thank you

(On behalf of

The LoPAG Group)!