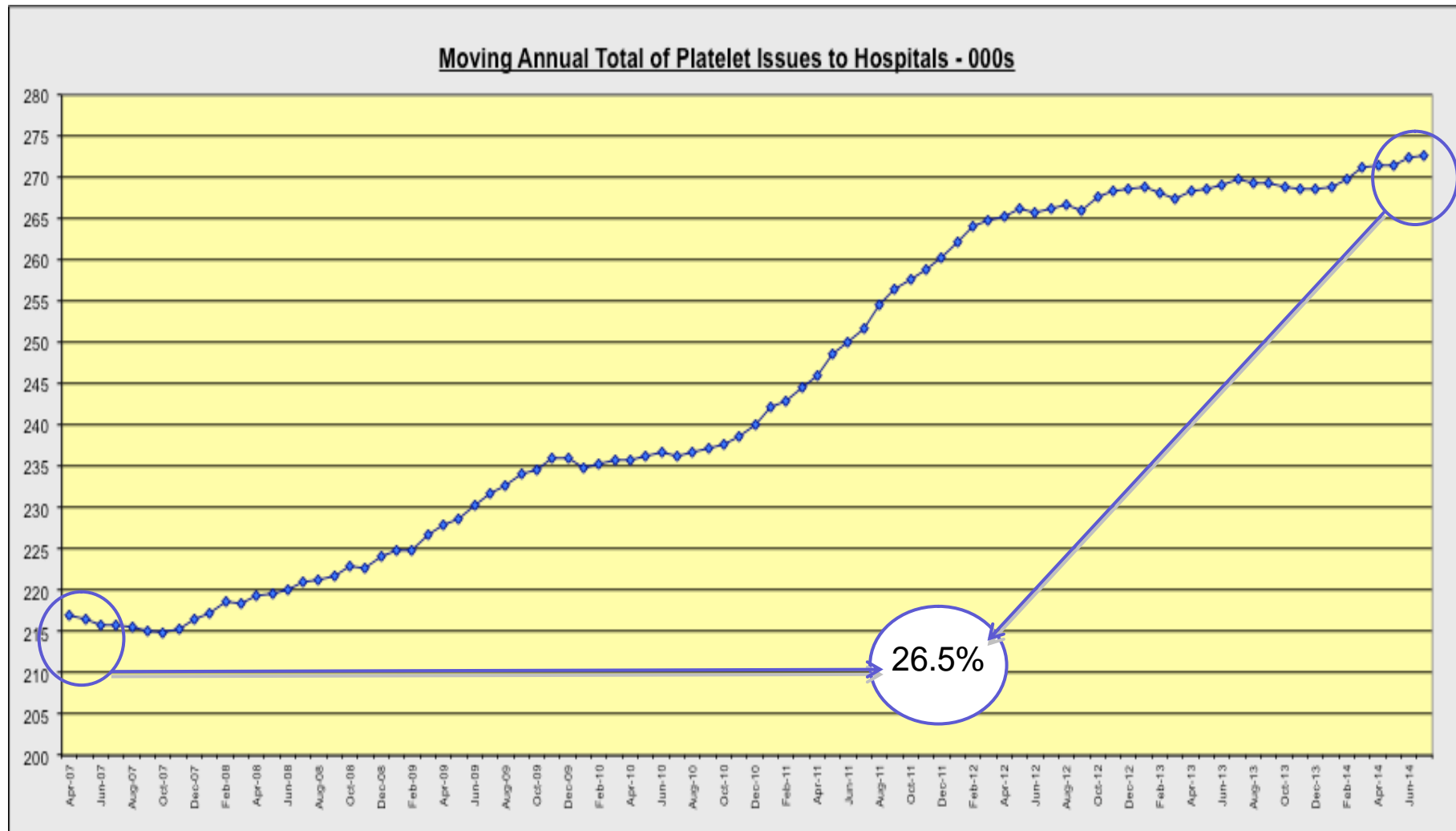


DON'T USE TWO
WHEN ONE WILL DO

LOPAG AUDIT OF DOUBLE-DOSE PLATELETS

Dr Megan Rowley, Haematologist NHSBT and ICHNT

Platelet usage in England has risen by 26.5% over 7 years



Do we use too many platelets?

- Generally, a single unit or 1 adult therapeutic dose (ATD) typically gives an immediate rise in platelet count of $20-40 \times 10^9/l$ in thrombocytopenic patients without platelet antibodies¹
- A randomised controlled trial showed no difference in the number of patients who had significant bleeding (WHO grade 2 or above) when they received single or double-dose platelet transfusions²

¹Norfolk D (Ed) (2013) *Handbook of Transfusion Medicine* 5th Edition, The Stationary Office.

²Slichter SJ *et al* (2010). Dose of prophylactic platelet transfusions and prevention of haemorrhage. *New England Journal of Medicine*;362:600-13

2010 NCA Platelet Use in Haematology Patients

Clinical Leads: Drs Lise Estcourt and Janet Birchall

- 139 Hospitals submitted 3296 platelet transfusion episodes – 40 sequential transfusions over 3 months
- The reason for transfusion was prophylactic in 69%, pre-procedure in 15%, therapeutic in 13% and unclear in 3%
- 10% (220/ 2277) of prophylactic platelet transfusions were double-dose transfusions
- The majority, 73% (161/ 220) of double-dose transfusions, were administered to inpatients

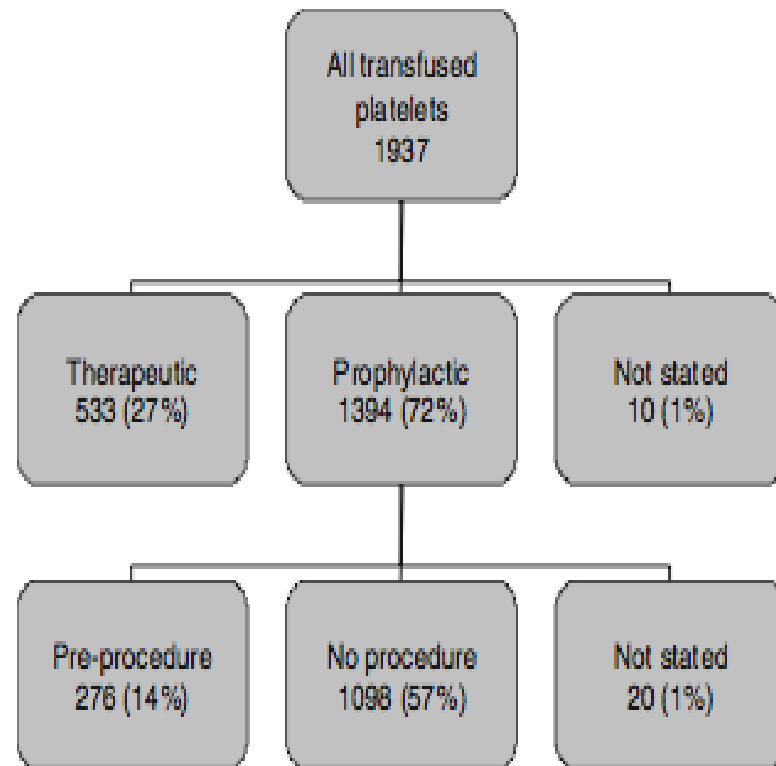
RECOMMENDATION

Double-dose prophylactic platelet transfusions should not be used routinely

A survey of platelet transfusion practice in the North of England

24% surgery
75% medicine*
[*54% haematology]

153 doses (8% of total)
•57 double-dose
•9 triple dose
•3 quadruple
47% of the multiple doses
were given to patients with
haematological disease.



Where did platelets go in 2012?
A. Charlton, J. Wallis, J. Robertson, D. Watson, A. Iqbal & H. Tinegate
Transfusion Medicine, 2014, **24**, 213–218

Platelets

Don't use two...



...when one will do

LoPAG Double-Dose Platelet Audit

AUDIT AIMS

1. To determine how common requests for double-dose (or multiple-dose) platelets are
2. To determine the reason for double-dose platelets and the clinical specialty making those requests
3. To determine how often review by a haematologist modifies the request for double-dose platelets

STANDARD

- The dose of platelets in adults should not exceed one unit (1 ATD)

Collect all double-dose requests for one week (Monday 9am to Monday 9am)

London RTC London Platelet Action Group (LoPAG) Double-Dose Platelet Audit

APPENDIX 1

London RTC Double-Dose Platelet Audit – Data Collection Log					Name of Hospital			Log Sheet No. (circle) 1 2 3 4
Audited Patient Number	Day Date & Time of request	Speciality	Pre transfusion platelet count	Number of (multiple) platelet units requested	Reason for transfusion (indication code)	Was the request referred to a haematologist? Y/N	If Y, what was the outcome?	Comment (optional)
1							SAME/REDUCE/CANCEL	
2							SAME/REDUCE/CANCEL	
3							SAME/REDUCE/CANCEL	
4							SAME/REDUCE/CANCEL	
5							SAME/REDUCE/CANCEL	
6							SAME/REDUCE/CANCEL	
7							SAME/REDUCE/CANCEL	
8							SAME/REDUCE/CANCEL	

Do not put unique patient identifiable information on this Audit Data Log
The Audit Data Log should be returned to NHSBT for data entry and analysis

Use these indication codes to record the reason for transfusion

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APPENDIX 3

London RTC Double-Dose Platelet Audit – NBTC Platelet Indication Codes

Code	Indication	Trigger (and target)	
P1	Prophylaxis in reversible bone marrow failure	10 x10 ⁹ /L	
P2	Prophylaxis in bone marrow failure with risk factors	20 x10 ⁹ /L	
P3	Prophylaxis for invasive procedures	Most surgery or procedures 50 x10 ⁹ /L, 80 x10 ⁹ /L epidural, 100 x10 ⁹ /L brain and eyes	
P4	Massive blood transfusion	Give foundation formula initially until FBC and coag. screen available 75 x10 ⁹ /L, 100 x10 ⁹ /L Multiple trauma esp. brain and eyes	
P5	Acquired platelet dysfunction	Aspirin, clopidogrel, cardiac bypass	
P6	Acute DIC if bleeding	20-50 x10 ⁹ /L	
P7	Inherited platelet dysfunction	e.g. Glanzmann's	Cases unlikely to be included in this audit
P8	Primary ITP	Not usually indicated unless major haemorrhage or surgery	
P9	Post Transfusion Purpura (PTP)	PTP with major haemorrhage	
P10	NAIT	If bleeding aim for 30 x10 ⁹ /L	
If the indication for platelet transfusion does not exactly match choose a best match If there is no best match put 'other' and indicate the indication in the comment column			

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Send back the data with some overall usage and wastage data for the same week

This badly worded questions on the data collection form meant we did not get denominator data



APPENDIX 4

London RTC Double-Dose Platelet Audit Audit Data Summary

Name of Hospital:

Data collection period (one week)

Date/time data collection started 00.00 → dd/mm/2014

Date/time data collection ended 00.00 → dd/mm/2014

Contact Details (Platelet Channel)

Name:

Job Role/Title:

Email:

Summary of cases audited

In the week covered by this double-dose platelet audit

Number of double-dose platelet requests audited* requests

How many platelet units did you issue that were fated as transfused

units

Number of Audit Data Logs returned** 0 1 2 3 4 (circle)

How many platelet units did you issue that were fated as wasted

units

Use this box to make any general comments about the audit or to send any messages to the Data Analyst/Regional Audit manager

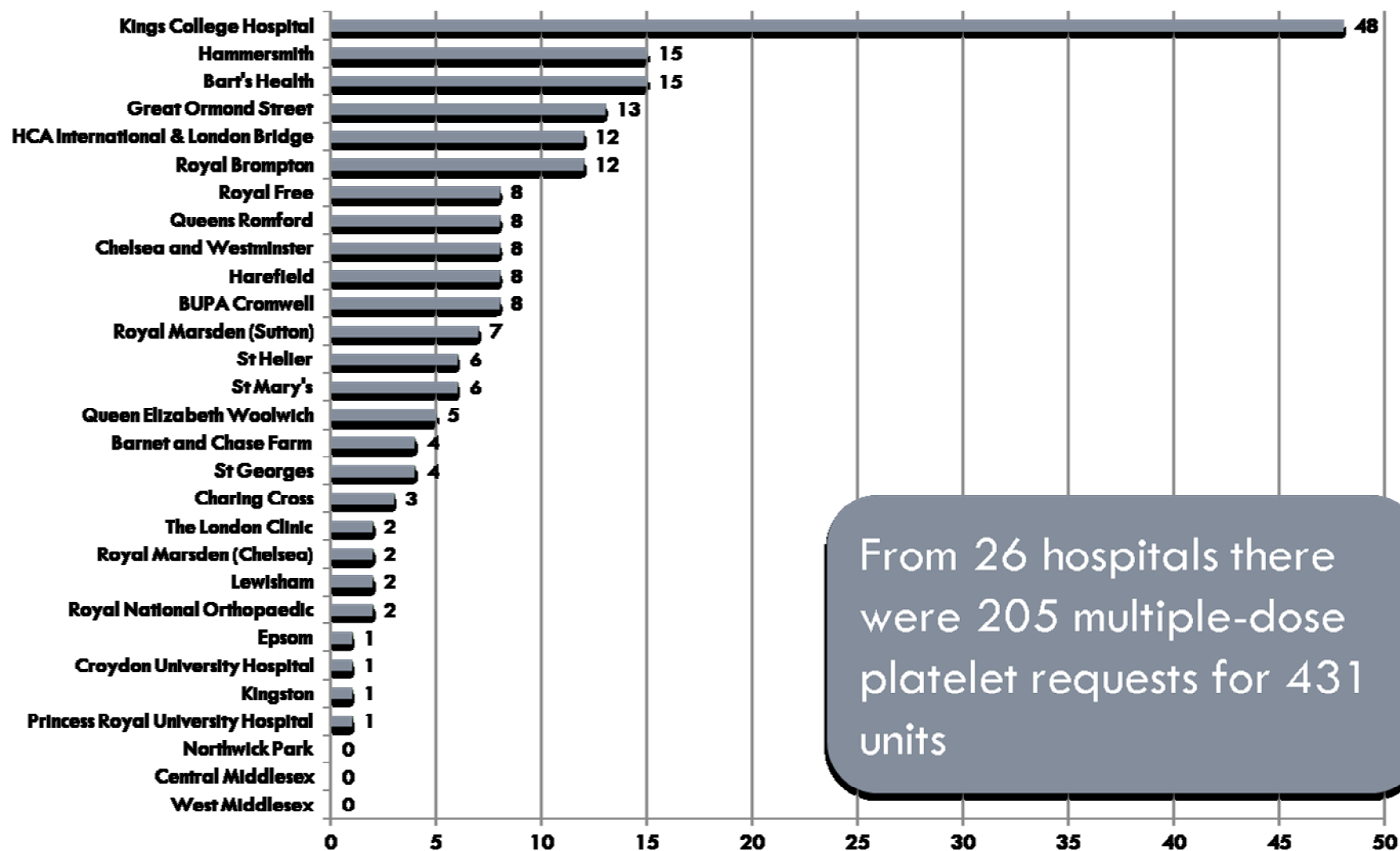
* If there were no requests for double-dose platelets during the stated audit period please completed and return this form a 'nil return in which case the Audit Data Log does not need to be returned so this section should say '0'

Results



- 29/ 50 (58%) hospitals in the London RTC
- At least 1 multiple dose platelet request was received by 26/ 29 (90%) hospitals (3 'nil returns')
- 205 separate multiple transfusion requests for 431 units of platelets
- 4/ 29 (14%) did not supply data for the total number of platelets fated as transfused during the audit period (no denominator)
- 6/ 29 (21%) did not supply data for the number of units fated as wasted during the audit period

Number of multiple-dose platelet requests



Clinical Specialty Requesting Multiple Dose Platelets

Clinical Speciality	No of Cases
Haematology	62
Cardiac	30
Liver	23
Oncology	19
ITU	10
Surgical	12
Theatres	8
A&E	6
Total	170

36% of multiple dose requests were in haematology patients

Only 2 of the 30 multiple dose requests in cardiac/cardiac surgery were referred for haematological advice

Indication and appropriate transfusion

Indication Code	Threshold Pl count (x10 ⁹ /L)	Cases	% requested outside threshold
P1: Prophylaxis in BMF	10	17	53%
P2: Prophylaxis in BMF + risk	20	15	73%
P3: Prophylaxis for invasive procedures	50	8	35%
P4: Massive transfusion	75	3	50%
P6: DIC		5	-
P10: NAIT**	30	15	73%
Other		12	-
Not recorded		73	
Total		205	

** one hospital ? correct indication code used

Advice of a haematologist

- Haematological advice was sought in 111/ 205 (54%) of cases
- 86% (96) double platelet dose was issued
- 6% (7) the dose was reduced
- 3% (3) requests were cancelled
- 5% (5) the outcome was not documented

Summary

- Hopefully this audit highlighted the extent of multiple dose platelet use to the transfusion teams who undertook the data collection and triggered local discussion
- Haematology and Cardiac Surgery account for the largest number of double-dose platelets and many were given above the threshold for that indication code
- Asking a haematologist to clarify if the double-dose was indicated did not make a difference in the majority of cases

Discussion



- Can we use audit to improve platelet prescribing?
- If so, what do we do next?

Discussion – what do you want?

- You can choose which week you do and, if there are no double dose requests then it would be helpful to have a 'nil return'
- Get your haematologists on board with the indication codes and vetting of requests – may need some negotiation particularly if you don't do this already. What about the overnight requests?
- Brian Hockley will analyse the data and produce us a regional report and a local report. He said he could set up an on-line data collection tool - do you want that?