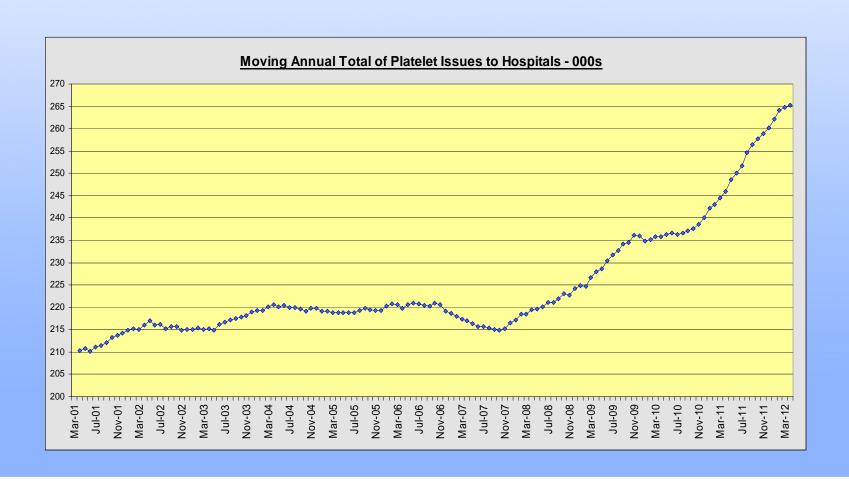


# Stemming the Flow of Platelets

Adrian Ebbs
TLM
Queen Elizabeth Hospital
Kings Lynn



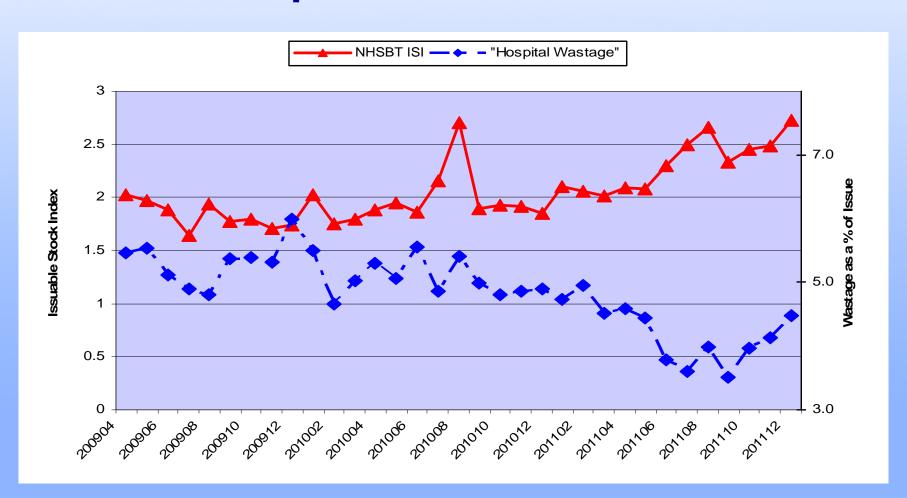
#### **NHSBT Total Platelet Issues 2001-2012**





**NHS Foundation Trust** 

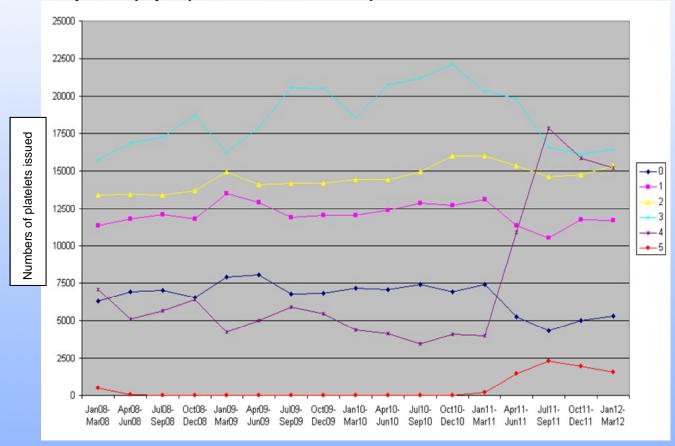
# Platelet Supply Chain NHSBT & Hospitals 2009-2012



# The Queen Elizabeth Hospital King's Lynn

**NHS Foundation Trust** 

#### Days to expiry of platelets at issue to hospitals



- 0 -> 0 and <1 days to expiry (oldest platelets)
- 1 > 1 and <2 days to expiry
- 2 > 2 and <3 days to expiry
- 3 > 3 and <4 days to expiry
- 4 > 4 and <5 days to expiry
- 5 > 5 and <6 days to expiry (freshest platelets HPA/HLA matched)



### Who holds stock platelets?

**BSMS** Platelet Inventory Survey

• 2003 10% (3% sometimes)

• 2009 23% (4% sometimes)



#### **NHSBT** Deliveries

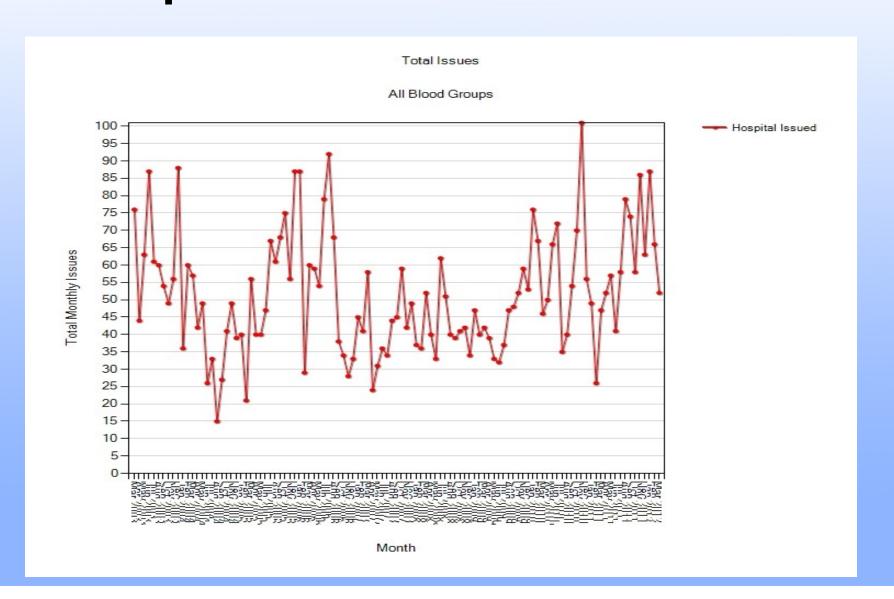
- 50 miles from NHSBT Issues (Cambridge)
- 1 routine delivery Mon –Fri
- Routine delivery time Midday
- Adhoc deliveries minimum 2hours
- Blue light target time 1hr 10mins (+ 45 mins preparation time).

## The Queen Elizabeth Hospital MHS King's Lynn NHS Foundation Trust





# King's Lynn King's Lynn King's Lynn King's Lynn



# The Queen Elizabeth Hospital WHS Theoretical Exercise King's Lynn NHS Foundation Trust

- Performed for 3 months November January 2007
- Ideal Stock unit would be A Rh negative, Irradiated,
   CMV negative and HT negative
- Kept actual data of all platelets ordered by adhoc delivery and their fate
- Compared this with 'pretend' data assuming a 48 shelf life
- Results indicated whether or not feasible to continue with a Practical Exercise

#### The Queen Elizabeth Hospital MHS **Theoretical Results** King's Lynn

**NHS Foundation Trust** 

	November – January 2007				
	No stock held		One theoretical sto		ock unit
	Blue light	Adhoc	Blue light	Adhoc	Routine
Number of deliveries	7	47	6	22	N/A
Total cost of deliveries	£216	0.00	£112	20.00	N/A
Number of units	11	67	8	28	47
Number of wasted units	5	5	4	1	8
Total cost of wastage	£2153.00		£2798.90		
Final cost of deliveries and wastage	£4313.00		£3918.90		

Note: One adult unit platelets £ 215.30, Adhoc / Blue light delivery £40.00

# **Actual Exercise**



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Performed for 3 months April – July 2007

Ordered 1 unit of stock platelets to come on the round

 If used, unit replaced either on next round or hitched a ride with an adhoc delivery

If ideal stock not available, next best was ordered

## **Actual Results**



**NHS Foundation Trust** 

	April – July 2007				
	No stock held		One stock unit l		held
	Blue light	Adhoc	Blue light	Adhoc	Routine
Number of deliveries	7	47	2	22	N/A
Total cost of deliveries	£2160.00		£960.00		N/A
Number of units	11	67	2	41	32
Number of wasted units	5	5	0	8	7
Total cost of wastage	£2221.60		£3332.40		
Final cost of deliveries and wastage	£4381.60		£4292.40		

Note: 1 Adult unit platelets £222.16, Adhoc / Blue light delivery £40.00





**NHS Foundation Trust** 

#### Algorithm to aid hospital decision making for holding stock platelets

The number of hospitals routinely holding a stock of platelets has increased from 10% in 2003 to 22% in 2009 (from 23 hospitals to 51 hospitals). There is anecdotal evidence that the number of hospitals holding stocks of platelets continues to increase.

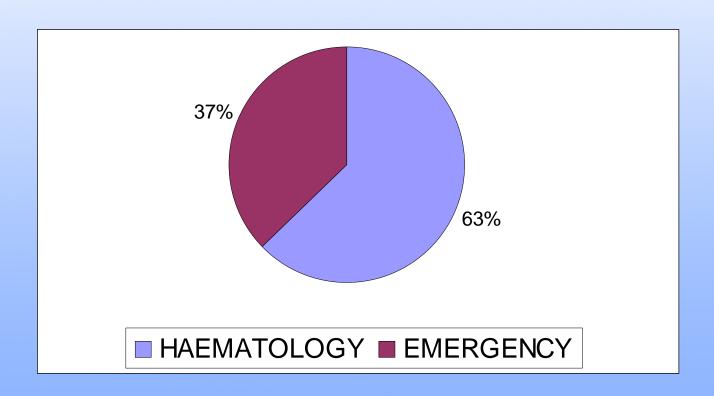
The objective of the algorithm is to aid hospital decision making for holding platelet stock and has been collated using output from hospital participants at the BSMS regional meetings which took place in May 2011.

High usage	Consider holding stock platelets	Hold Stock Platelets
> 1000	Factors to consider:	Factors to consider:
units/annum	➤ Level of Blood Service delivery. Avoidance of delay in clinical treatment.	➤Group mix and availability of stock held  ➤Discuss needs/flexibility with supplying Blood Service
	➤ Level of ad hoc/emergency deliveries. Holding stock may result in a reduction.	➤Trial stockholding and audit: taking into account following factors:
	➤Time spent ordering and managing stock	➤ Clinical availability ➤ Time Expiry/waste
Platelet	➤If the laboratory serves a trauma centre	<ul> <li>Ability to reassign platelets between a number of clinical specialties</li> </ul>
Usage	Evaluate need to hold stock platelets	Consider holding stock platelets
	Factors to consider:	Factors to consider:
>1	≻Patient mix – haematology /oncology patients	➤Level of Blood Service delivery. Avoidance of delay in clinical treatment.
	➤Level of Blood Service delivery. Avoidance of delay in clinical treatment	≻Patient mix – haematology /oncology patients
	olinical treatment ➤ Reduction in level of ad hoc/emergency deliveries. Holding	➤Patient mix – haematology /oncology patients ➤If the laboratory serves a trauma centre
Low usage	clinical treatment	37 37.
Low usage < 400 units/annum	olinical treatment ➤ Reduction in level of ad hoc/emergency deliveries. Holding	➤If the laboratory serves a trauma centre





#### **Transfused Stock Platelets**



Both preliminaries and the final study have shown the transfused patient category as approximately 60% Haematology & 40% Emergency

# The Queen Elizabeth Hospital King's Lynn

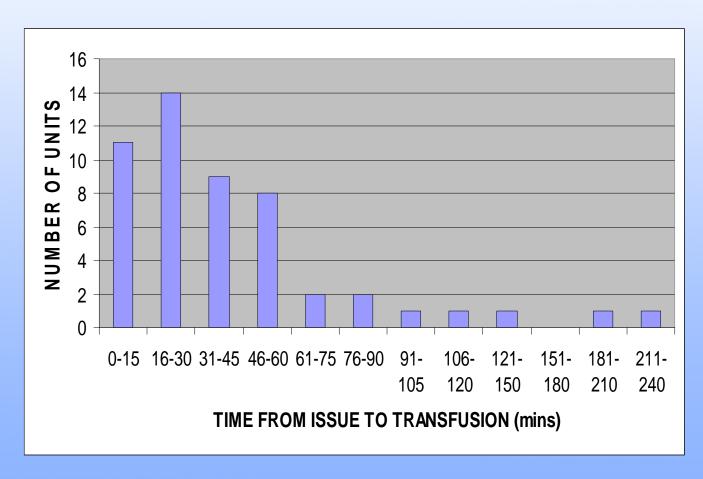
NHS Foundation Trust



# The Queen Elizabeth Hospital WHS Transfusion Time King's Lynn

**NHS Foundation Trust** 

- in Emergency Cases



90% before guaranteed delivery time (115 mins)

~80% before usual delivery time (60+ mins)

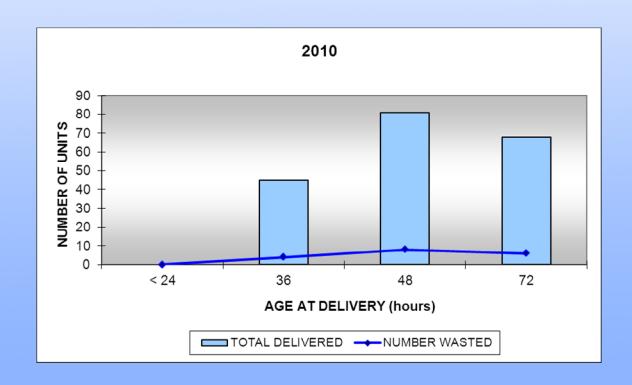
50% by 30 minutes

NOTE: Guaranteed delivery time for blue light is 115 minutes



2010 PLATELETS			
SHELF LIFE (HRS)	TOTAL DELIVERED	NUMBER WASTED	
< 24	0	0	0%
36	45	4	8.90%
48	81	8	9.90%
72	68	6	8.80%

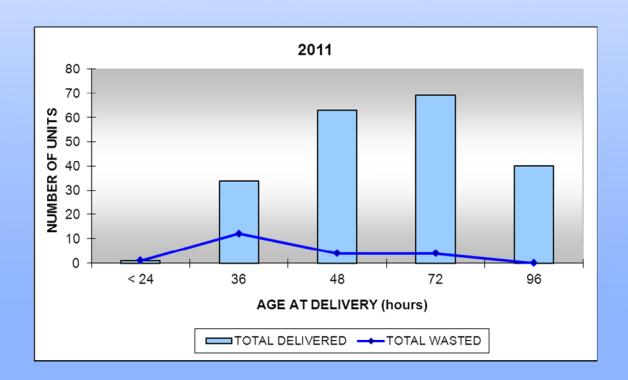






2011 PLATELETS			
SHELF LIFE (HRS)	TOTAL DELIVERED	NUMBER WASTED	
< 24	1	1	100%
36	34	12	35.20%
48	63	4	6.30%
72	69	4	5.80%
96	40	0	0%





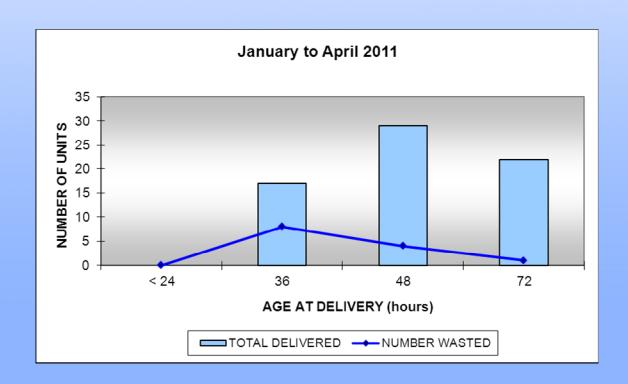


# QEH Stock Platelet Wastage Jan - April 2011

SHELF LIFE (HRS)	TOTAL DELIVERED	NUMBER WASTED
< 24	0	0
36	17	8
48	29	4
72	22	1



# QEH Stock Platelet Wastage Jan-Apr 2011





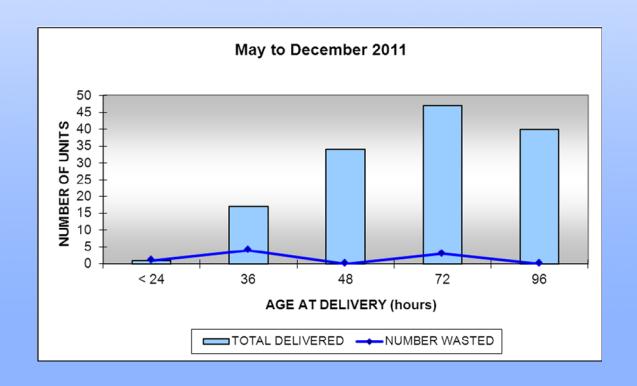
# QEH Stock Platelet Wastage May-Dec 2011

SHELF LIFE (HRS)	TOTAL DELIVERED	NUMBER WASTED
< 24	1	1
36	17	4
48	34	0
72	47	3
96	40	0



**NHS Foundation Trust** 

# QEH Stock Platelet Wastage May-Dec 2011





### **QEH Platelet Wastage 2011**







### What Else?

- MBL protocols
- Haem patients
- Filton Flood
- Pathology networks Stock sharing
- TEAMWORK AND COMMUNICATION!