

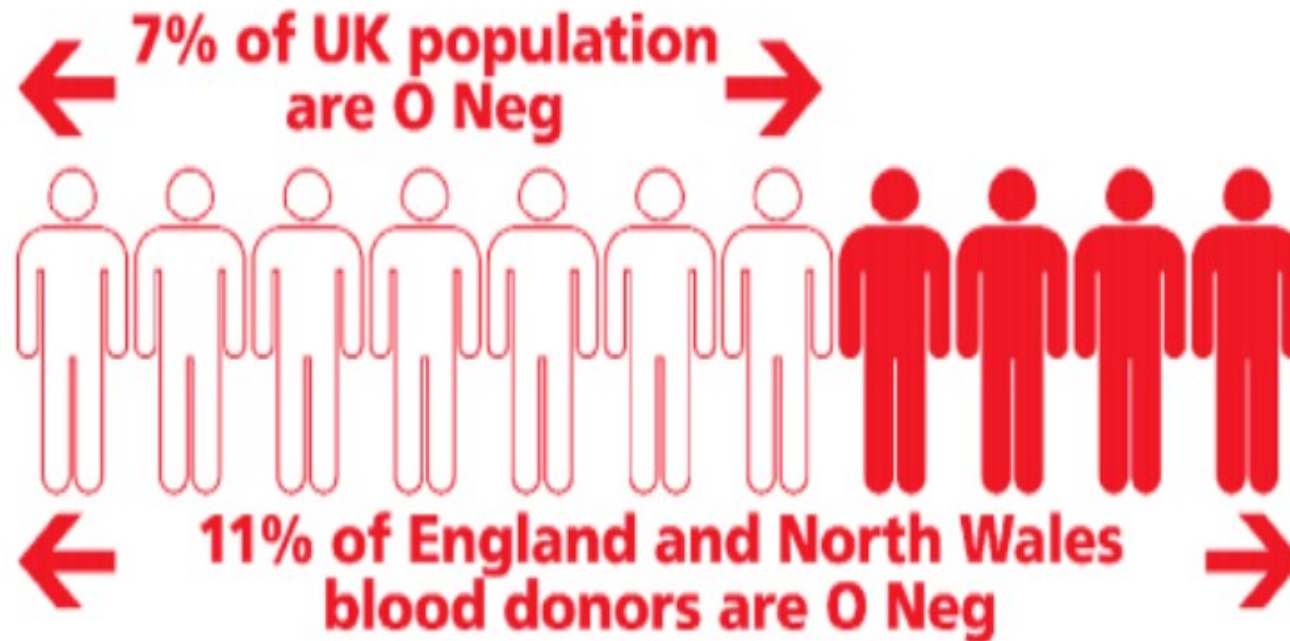
An Audit of Emergency Group O blood use in Royal Devon and Exeter Hospital

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Why are we looking at our use of Emergency Group O RhD negative blood?

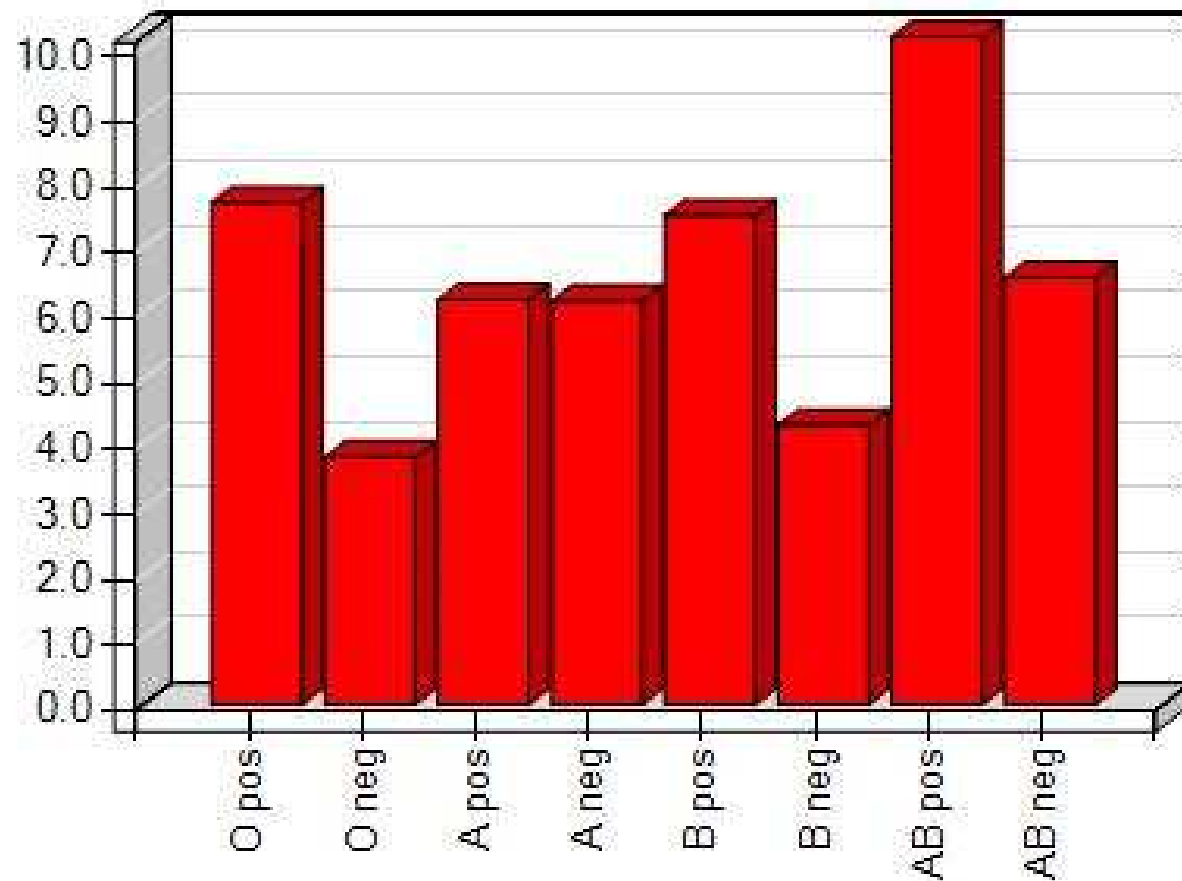
Following the **NHSBT National Audit** and re-audit of the **use of O RhD negative red cells** (2008 and 2010) and based on current prevalence of group O RhD negative in the population a **national target of 10.5% of total red cell stock** was set for hospitals.

As a hospital, the RD&E are running just below this recommended stock level.



On average each O RhD negative blood donor donates 20% more blood than other donor groups

Blood Stocks: A typical picture



NHSBT 2014 Laboratory Managers Survey
found that 58% of Trusts had a policy for using
O Rh Positive blood in adult males of unknown
blood group.

We don't, should we?

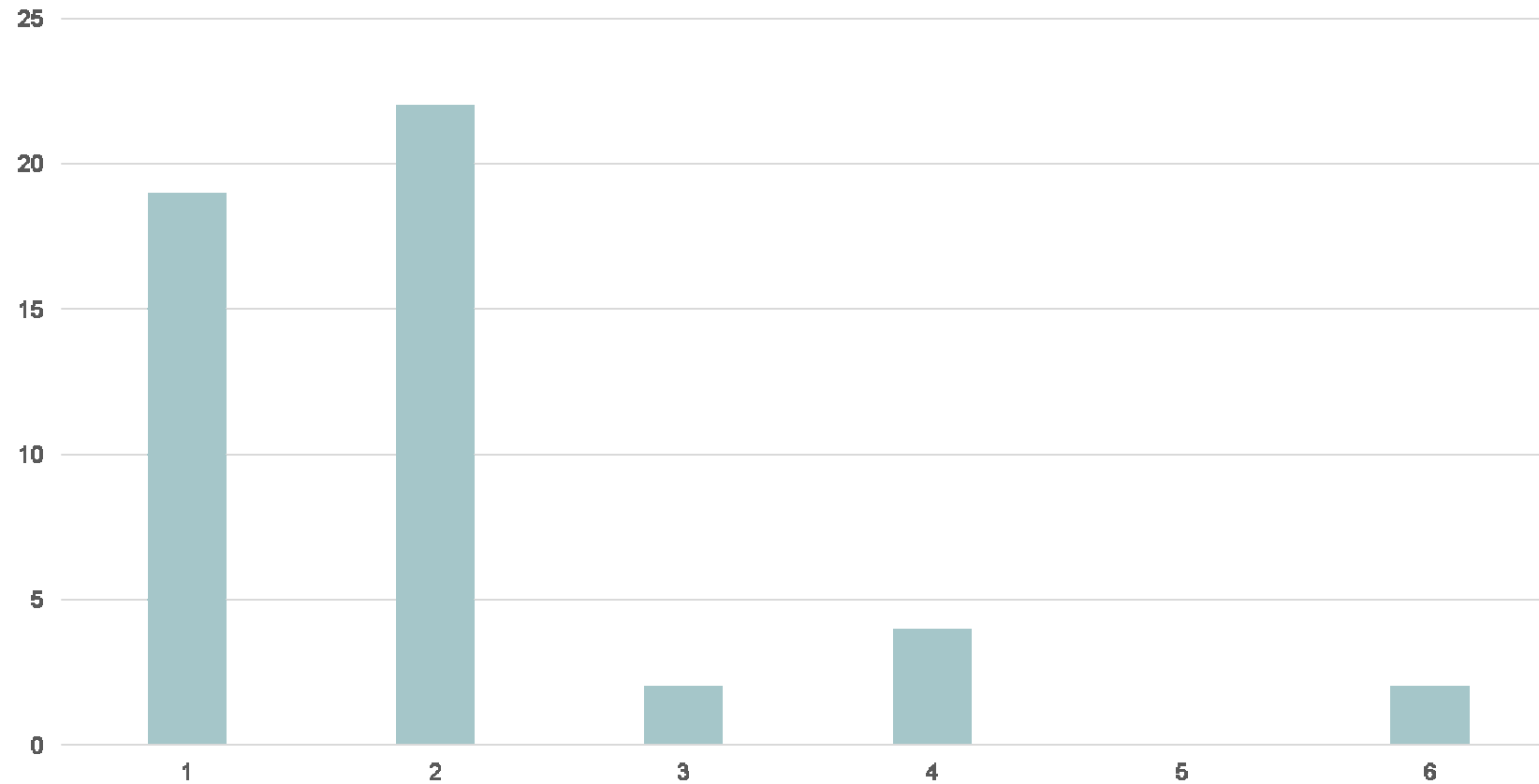
Audit

- We searched the LIMS system for all emergency Group O RhD negative uncrossmatched units issued at the RD&E during 2015.
- We then searched each patient by hospital number in the pathology system to find out how many units of uncrossmatched group O RhD Negative units they received within a 24hr period
- We also examined whether each patient received any additional cross matched units within that same 24hour period.

Results of Audit

- 49 Patients required Emergency Group O RhD blood in 2015 in the RD&E
- 97 units of Emergency Group O RhD Negative blood were transfused
- Average of 1.97 units per patient

The number of units of Emergency O RhD Negative Red Cell units used per patient In a 24 Hour Period.



Where were these O RhD Negative red cells used?

Where?	How many units?	Percentage of total use
Emergency Department	34	34%
ITU	30	31%
Surgical Wards	11	11%
Medical Wards	6	7%
Medical Triage/AMU	5	5%
Neonatal Unit	6	6%
Labour Ward	3	3%
Theatre Main	1	1%

Possible Strategies for conserving Group O RhD negative emergency stocks

1. Use a maximum of 2 units of O RhD negative blood in all cases and then move to O RhD positive blood after this in women over 60 and men over 18.

This would save 14 units of O RhD negative blood per year

2. Group O RhD positive blood for women aged over 60 and men over age of 18.

This would save 71 units of O RhD negative blood per year

Serological Risk: What are the risks of transfusing O Rh D positive blood to Rh D negative recipients?

Risk of Transfusion Reactions

- Transfusing a RhD negative patient who already has Anti RhD antibodies
 - Does this matter clinically?

Risk of antibody formation

- Risk of RhD antibodies developing in RhD negative patients.
 - Not a concern unless in the future the patient needs a second emergency transfusion with RhD positive blood.
 - Does this matter clinically?

What is risk of giving RhD negative patients Anti RhD antibodies ?

- 36/49 patients would have fulfilled criteria to receive Group O RhD positive blood & 6 of these patients were Group O RhD negative.
- Of the patients receiving Emergency Group O RhD Negative blood, 25 % died, leaving 4.5 patients alive and at risk of developing Anti RhD antibodies.
- We estimate that in our population about 50% of RhD negative patients given a RhD positive transfusion will develop Anti D.
- So by changing policy, we risk giving 2 people anti D antibodies.

Is it worth this risk?

System and Human Error

- Risk of a RhD negative woman of child bearing age receiving Group O RhD positive blood
- Risk of delay in provision of emergency blood through confusion with new policy
- The RD&E HTT felt that there was a risk of giving a RhD negative woman of childbearing age RhD positive blood and so a third strategy is being considered; **using Group O Positive blood for all males over 18 but not for women.**

How much Group O RhD negative blood would we save with 3rd option?

“ using Group O Positive blood for all males over 18 but not for women”

In 2015, a total of 54 Group O RhD negative units would have been saved.

What do you think?