



Blood and Transplant

Blood Supply and Wastage

Rhian Edwards NHSBT

Lab Matters Day, Oake manor, 20th June 2018

Caring Expert Quality

Blood supply

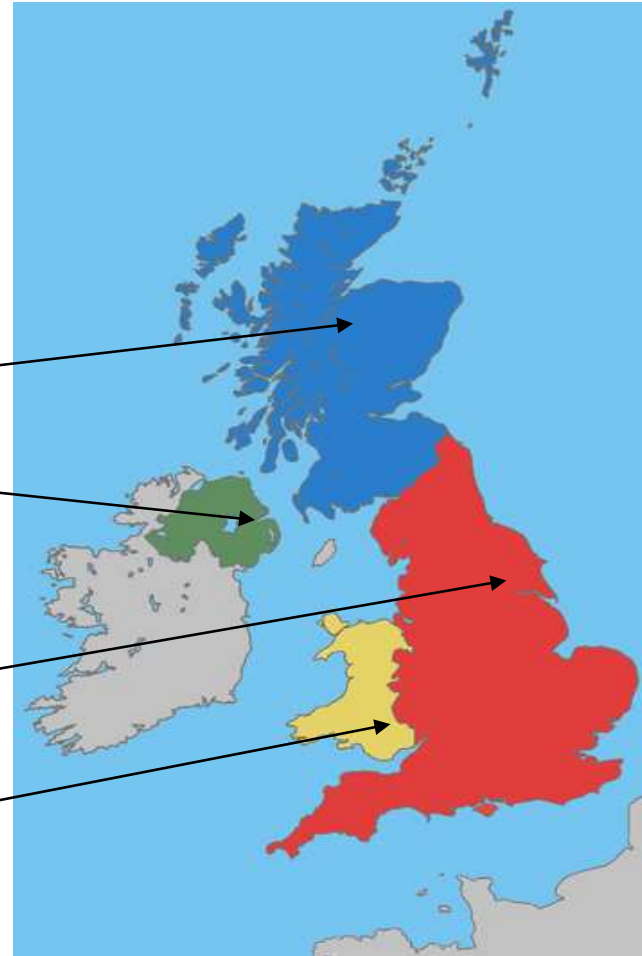
- UK supplied by 4 blood services:

SNBTS

NIBTS

NHSBT

WBS

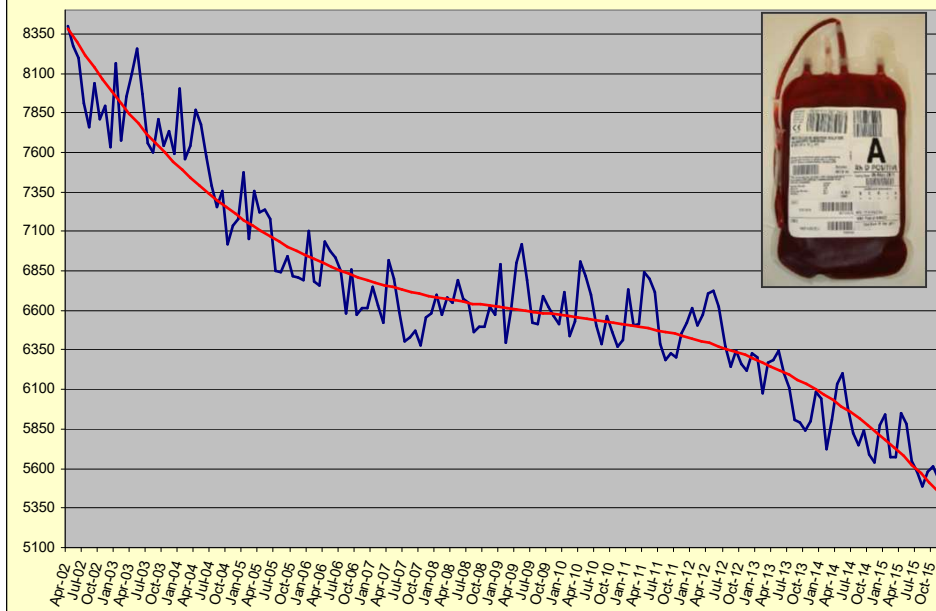


http://commons.wikimedia.org/wiki/File:Uk_map_home_nations.png

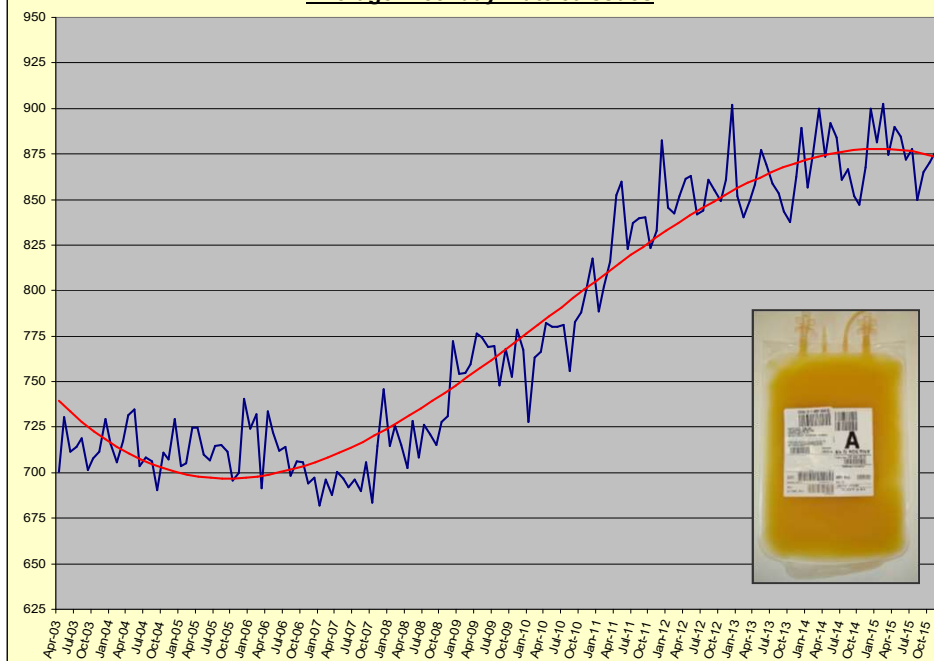
Blood supply

- NHSBT supply England
- and MOD
- Last year 2017/18 NHSBT issued to hospitals: (1000's)
 - 1441 units Red Cells
 - 261 units Platelets
 - 179 units FFP
 - 36 units Cryoprecipitate (pooled)

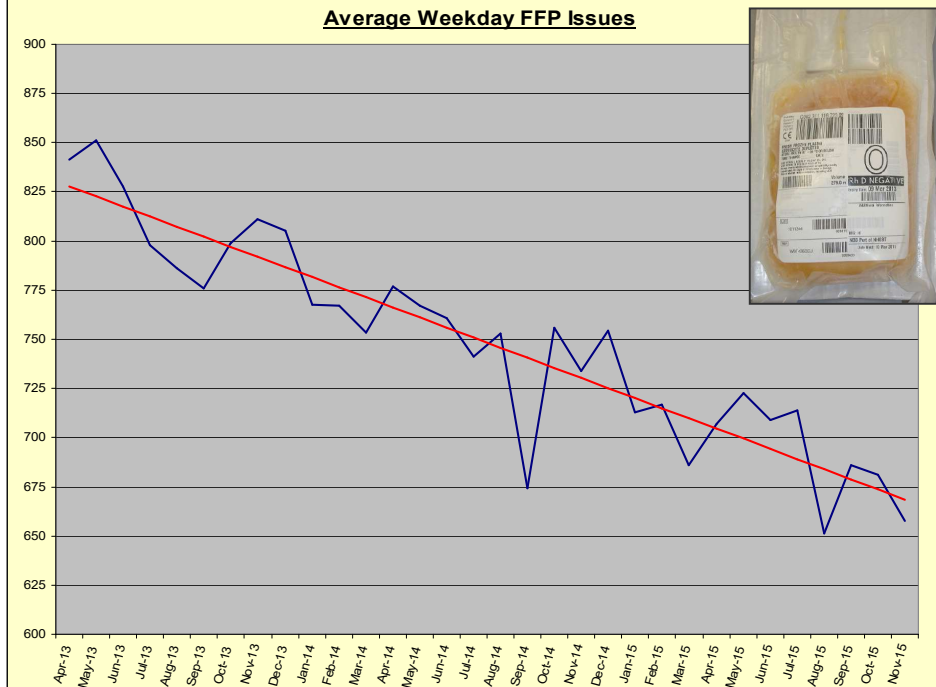
Average Weekday Red Cell Issues



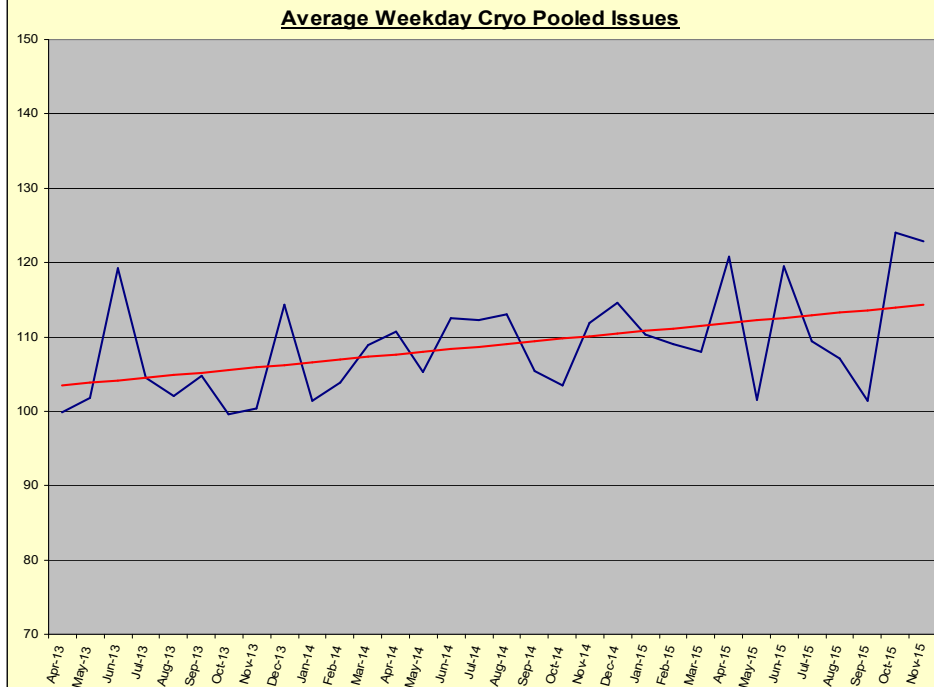
Average Weekday Platelet Issues



Average Weekday FFP Issues

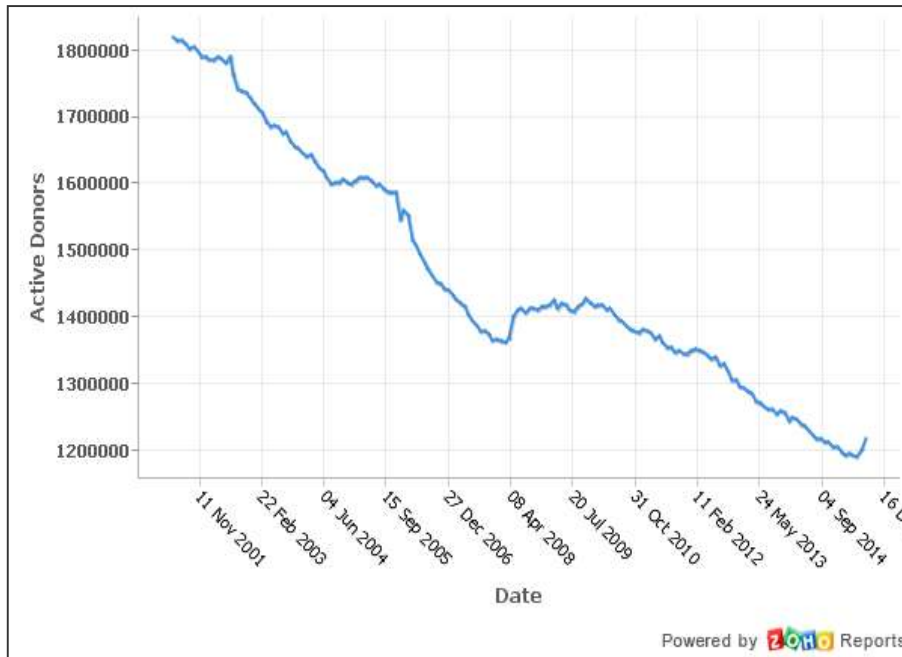


Average Weekday Cryo Pooled Issues



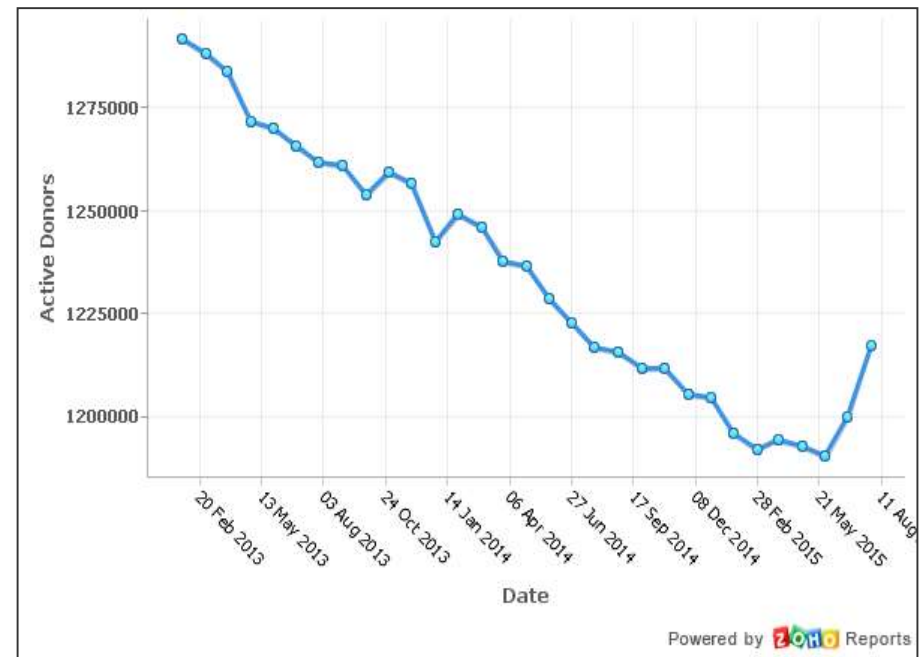
Donating population

Long Term Trend in Number of Active Donors:



Only 4% of adults are currently blood donors.

Recent Trend in Number of Active Donors:



Donating population

- We need over 6000 blood donations every day to treat patients in need across England. Which is why there is always a need for people to give blood.
- Each year we need approximately 200,000 new donors, as some donors can no longer give blood.
- Most people between the ages of 17 and 65 are able to give blood.
- Around half of our current donors are over the age of 45. That's why we need more young people (over the age of 17) to start giving blood, so that we can make sure that we have enough blood in the future.

Donor selection and care

Guidelines for the Blood Transfusion Services in the UK (8th Edition):

* Donor Selection:

- > age, weight, Hb, medical history, sex, life style, recent travel

* Microbiology testing:

- > mandatory (HIV, HepB, HepC, HepE, Syphilis, HTLV)
- > discretionary (Malaria, HepB core, T-Cruzi, West Nile Virus)
- > bacterial monitoring of platelets

* Minimise bacterial/viral contamination:

- > B: arm cleansing, diversion pouch, closed collection system
- > V: universal leucodepletion, irradiation

Donor selection and care

- Blood Safety and Quality Regulations (BSQR) [2005]
- Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) recommendations
- Clinical Support Teams ~ medical eligibility, 'hold' processing / 'recall' issue of components
- Donor recognition/awards

<http://www.transfusionguidelines.org.uk/red-book>

<http://www.transfusionguidelines.org.uk/dsg>

Donor selection and care

- No test for vCJD in use at present
- Patients born after 01/01/96 should ideally receive imported plasma components* and apheresis platelets (*SaBTO recommendation)
- Male only plasma used to make FFP and Cryoprecipitate
- Hep E testing started March 2016


<http://www.transfusionguidelines.org.uk/red-book>

<http://www.transfusionguidelines.org.uk/dsg>

Donations

- Voluntary non-renumerated (WHO 2020 goal)
- Donor – recipient unrelated
- No restrictions on patients receiving the blood components....
-but certain donors are selected to provide specific products (e.g. neonatal components)

Disruption to donation

- Adverse weather
 - Seasonal illness
 - Events – Olympics
 - Bank holidays
 - Decreasing donor pool – fewer younger donors?
-  <http://www.blood.co.uk>

Thinking of donating? 0300 123 23 23

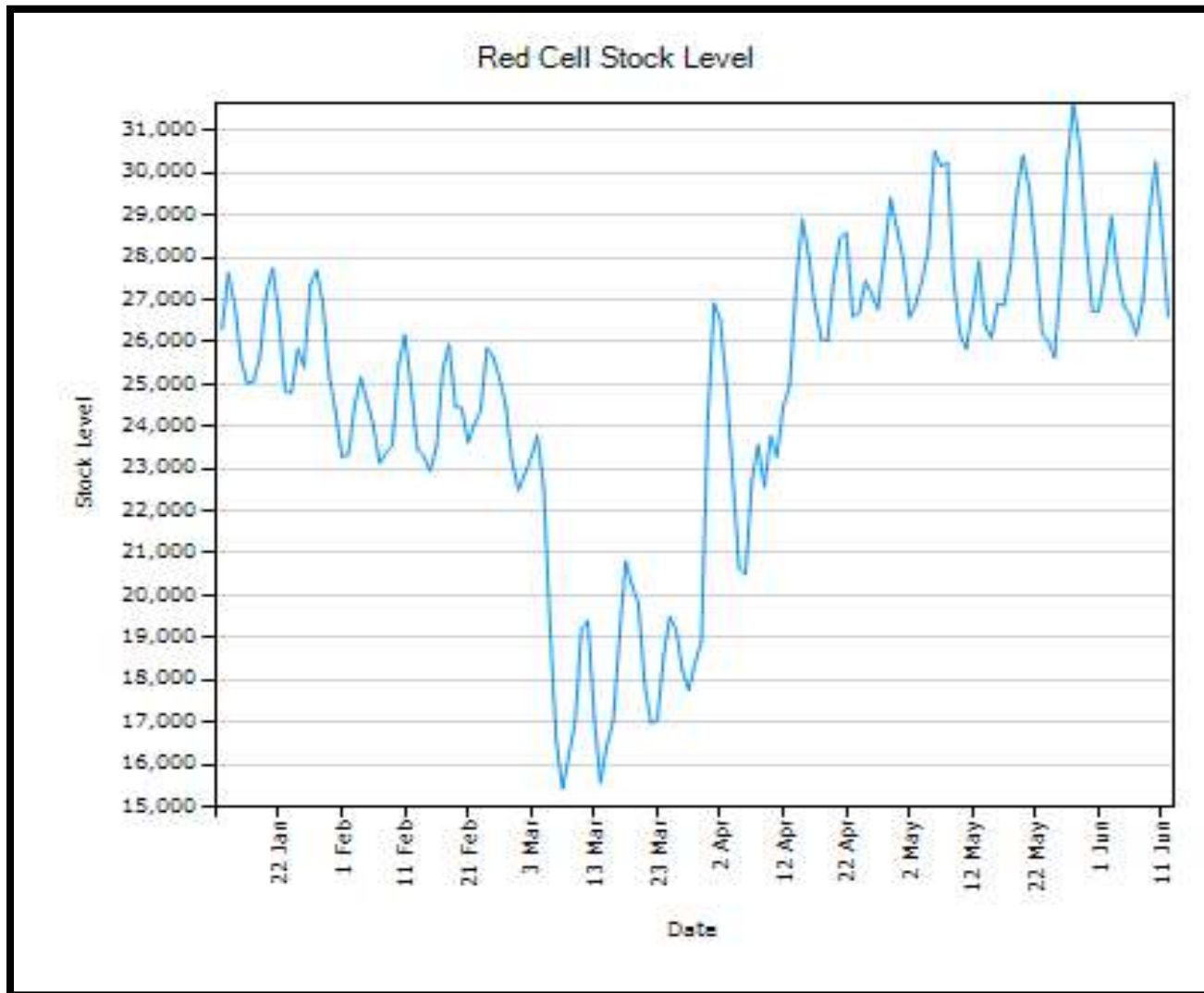


[@GiveBloodNHS](https://twitter.com/GiveBloodNHS)

Blood stocks at NHSBT (June 2018)

	Red Cells			Platelets
Group	STOCK	ISI	TARGET	STOCK
O Pos	8540	5.3	10170	417
O Neg	2069	3.5	3701	126
A Pos	7741	5.7	8479	444
A Neg	4128	11.4	2297	243
B Pos	2606	7.1	2226	140
B Neg	487	4.2	691	31
AB Pos	813	8.2	608	27
AB Neg	218	6.2	231	11
Total	26602	6.4	28403	1439

Blood stocks at NHSBT (Jan - June 2018)





Blood and Transplant



Blood and Transplant

URGENT COMMUNICATION - ACTION REQUIRED

An electronic copy of this fax can be found on the Hospitals & Science "Home Page" via the urgent area highlighted in red - <http://hospital.blood.co.uk/>.

Date: Thursday, 03 January 2013

To: All Transfusion Laboratory Managers in hospitals served by NHS Blood and Transplant (NHSBT)

Dear Colleague,

Stocks of O RhD Negative Red Cells - Action Required

NHSBT has been very successful over the last two months in increasing overall stocks to protect the blood supply against winter viruses. We are however now starting to see a reduction in the number of donors attending pre-booked appointments due to illness which is affecting our O RhD negative stocks. Our Blood Supply team has already taken a series of actions to make personal contact with additional O RhD negative donors and you will also see an escalated level of activity in the media to ensure that stocks of this group do not fall any further.

Demand for Group O RhD negative over the last 12 months has increased as a percentage of total issues by over 1% to 11.5% with hospitals citing several reasons for this change. We now need your support to avoid a shortage and to help protect this group in the longer term.

It is important that all hospitals review their O negative usage data regularly and initiate actions to keep this group below the recommended level of 10.5% of total stock. There are some hospitals that are still consistently holding a much higher percentage of their stock as O RhD negative, and this is now increasing the pressure on supply.

Action required

We are taking the precautionary measure of asking hospitals to conserve stocks of group O negative red cells for group O negative patients in line with established guidelines.

Hospitals taking >10.5% of their red cells should review stock holding levels of this group and initiate actions to reduce inappropriate use as a priority with members of your transfusion team. Data to support this review outlined below is available via the Blood Stocks Management Scheme.

Blood group distribution

- O+ 36.9%

- O- 7.9%

- A+ 34.8%

- A- 7.7%

- B+ 7.7%

- B- 1.5%

- AB+ 2.8%

- AB- 0.6%

However demand for O- blood is greater than 13%!!

Cost of blood components

NHSBT price list 2018/19:

Red cells.....	£128.99
Platelets Pool/Aph.....	£185.86/£231.50
FFP.....	£28.46
MB FFP.....	£183.53
Cryoprecipitate.....	£31.63
MB Cryoprecipitate.....	£1113.45
Granulocytes.....	£1,127.58

- Additional component charges are applied for further testing (e.g. CMV) or processing (e.g. irradiation)
- Other costs include RCI, H&I and IBGRL sample testing services, and non-routine delivery.

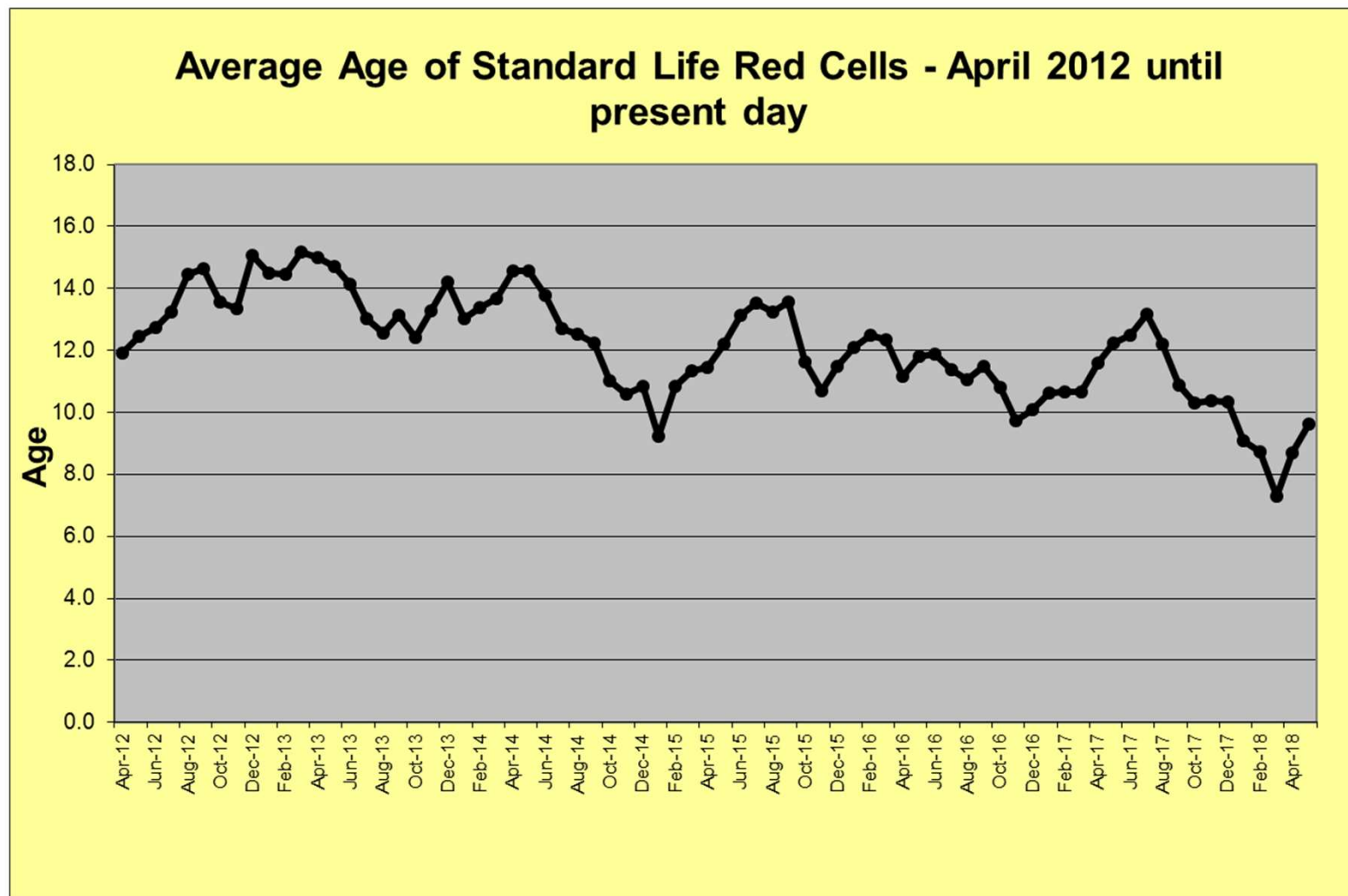
Blood components – spec.

Expiry (shelf-life)

- Red cells – 35 days
14 days (irradiated)
- Platelets – 7 days
- FFP/Cryo – 36 months

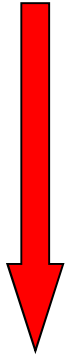
Component name	Red Cells in Additive Solution Leucocyte Depleted		
Red Book reference	8 th Edition Section 7.6		
Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	274	220-340	
Haemoglobin (g/unit)	52.43	>40	
Haematocrit (L/L)	0.59	N/A	
WBC count (x10 ⁹ /unit)	0.30	<1	
Granulocytes (x 10 ⁹ /unit)	N/A	N/A	
Platelet concentration (x10 ⁹ /L)	N/A	N/A	
Platelet yield (x10 ⁹ /unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Average age of Red Cells at issue (days)



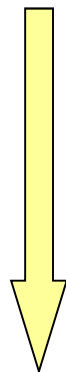
Wastage - reason

Red cells:



- Time expired
- Out of temperature control outside lab.
- Miscellaneous
- Fridge failure

Platelets:



- Medically ordered not used
- Stock time expired
- Surgically ordered not used
- Miscellaneous
- Wasted outside of lab.

Summary

- Almost 1.5 million units Red Cells issued by NHSBT in 2017
- All sourced from volunteer unpaid donors
- Donor Health Check, mandatory testing, infection control & leucodepletion = safe 'product'
- Critical balance between stock and issues
- Wastage is avoidable and is in your control!