

BSMS – 2018/19 Report BSMS Annual Roadshow Matthew Bend – BSMS Manager

Caring Expert Quality

What to talk about?



- Changes to BSMS in 2018-19
- The past year & future plans for the scheme
- Current supply chain challenges
- The O Neg challenge
- Wastage trends





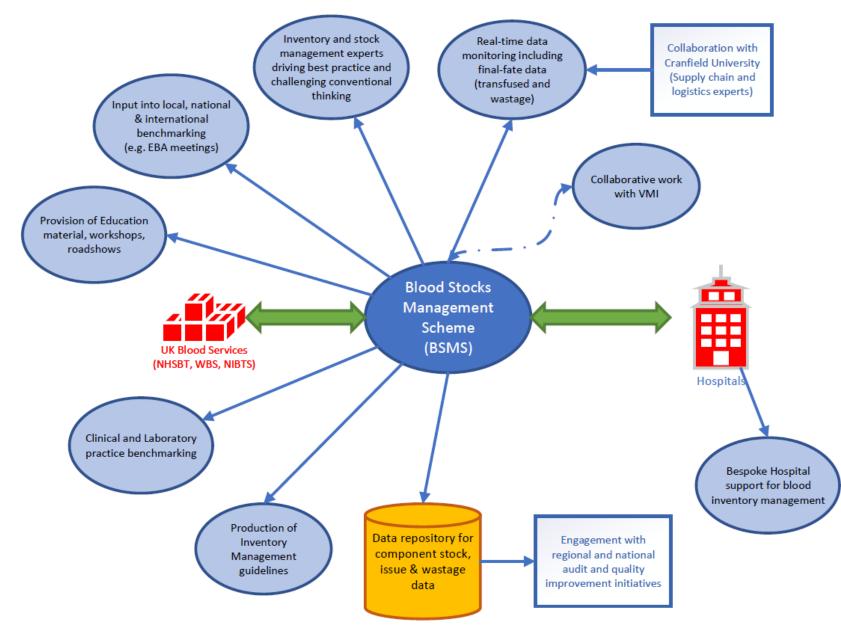


BSMS Update & all things relevant (or not!!)

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Blood Stocks Management





Updates



- Inventory Practice Survey
- Clinical benchmarking categories reviewed
- User category review complete
- New <u>BSMS Website</u> embedded within Hospitals & Science
 - Content reviewed and removed
 - Local control
 - Go-live w/c 5th August
- Automated email delivery of "top level" reports

- Inventory Management Guidelines
- Low RBC user stock model

User profiles - RBC



- BSMS Category setting 2019-20
- Annual RBC Issues 1,406,535

Pulse Code	Hospital Name	Product Group	Issues	RTC	% of Total
P287	University College Hospital	Red Cells	31596	London	2.2%
P124	Kings College Hospital	Red Cells	24915	London	1.8%
H031	University Hospital - Queen Elizabeth	Red Cells	23300	West Mid	1.7%
P275	Royal London Hospital	Red Cells	23208	London	1.7%
M103	Central Manchester Foundation Trust	Red Cells	21990	North West	1.6%
S016	Southampton University Hospital	Red Cells	21089	South Central	1.5%
C016	Hull Royal Infirmary	Red Cells	19773	Yorks & Hum	1.4%
P250	Addenbrooke's Hospital	Red Cells	19543	East of Eng	1.4%
P147	St. George's Hospital	Red Cells	18850	London	1.3%
C020	St James' University Hospital	Red Cells	18005	Yorks & Hum	1.3%
P614	Hammersmith Hospital	Red Cells	16714	London	1.2%
D012	Leicester Royal Infirmary	Red Cells	16560	East Mid	1.2%
T610	John Radcliffe	Red Cells	15897	South Central	1.1%
H041	Royal Stoke University Hospital	Red Cells	15896	West Mid	1.1%

• Top 14 account for >20% of total RBC use

User profiles - Platelets

- BSMS Category setting 2019-20
- Annual Platelet Issues 249,268

Pulse	Hospital Name	Product	Issues	RTC	lssues % of Total
P287	University College Hospital		10673	London	4.3%
S016	Southampton University Hospital	Platelets	7728	South Central	3.1%
H031	University Hospital - Queen Elizabeth	Platelets	6387	West Mid	2.6%
M103	Central Manchester Foundation Trust	Platelets	6138	North West	2.5%
P284	St. Bartholomew's Hospital	Platelets	5794	London	2.3%
P124	Kings College Hospital	Platelets	5633	London	2.3%
C020	St James' University Hospital	Platelets	5572	Yorks & Hum	2.2%
P614	Hammersmith Hospital	Platelets	5027	London	2.0%
P250	Addenbrooke's Hospital	Platelets	4997	East of Eng	2.0%
T150	Bristol Royal Infirmary	Platelets	4700	South West	1.9%
N083	Freeman Hospital	Platelets	4249	North East	1.7%
M020	Christie Hospital	Platelets	3910	North West	1.6%
P161	Royal Marsden Hospital, Sutton	Platelets	3877	London	1.6%
M308	Royal Liverpool University Hospital	Platelets	3806	North West	1.5%
D016	Nottingham University Hospital - City Campus	Platelets	3690	East Mid	1.5%
T610	John Radcliffe	Platelets	3427	South Central	1.4%
P633	Great Ormond Street Hospital for Children	Platelets	3350	London	1.3%
D021	Royal Hallamshire Hospital	Platelets	3123	Yorks & Hum	1.3%
P147	St. George's Hospital	Platelets	3055	London	1.2%
M201	Blackpool Victoria Hospital	Platelets	2939	North West	1.2%
D012	Leicester Royal Infirmary	Platelets	2924	East Mid	1.2%
C019	Leeds General Infirmary	Platelets	2889	Yorks & Hum	1.2%
H041	Royal Stoke University Hospital	Platelets	2878	West Mid	1.2%
N193	Royal Victoria Infirmary	Platelets	2799	North East	1.1%
H021	Birmingham Heartlands Hospital	Platelets	2716	West Mid	1.1%
H011	Birmingham Childrens Hospital NHS Foundation Trust	Platelets	2675	West Mid	1.1%
H047	University Hospitals Coventry & Warwickshire	Platelets	2557	West Mid	1.0%

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- Top 27 users account for nearly 50% (47.14%) of all platelet issues
- 15% of all platelets are used by 7 London Hospitals
- Platelet use is more variable (and changing) than that seen for RBC

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BSMS – webpages

Blood and Transplant

Q

BLOOD STOCKS MANAGEMENT SCHEME

Your search here



The Blood Stocks Management Scheme (BSMS) was established in 2001 to understand and improve blood inventory management across the blood supply chain.

Hospitals and blood services from the UK including NHS Blood and Transplant (NHSBT), the Welsh Blood Service and the Northern Ireland Blood Transfusion Service currently participate in the scheme.

BSMS is hosted by NHSBT but is funded via the UK Forum.

Central to our work is VANESA, a data management system, where hospital and blood service data is collected. In return participants can view real-time data and charts.

VANESA

For hospitals to submit their blood stock usage, and get real-time reporting.

Login



Roadshow presentations



Annual reports



Inventory practice survey 2019

BSMS

- VANESA v4 was a bespoke internal development
- Does it meet the need?

What should we aim for?

- Automated data
 - Set of standard data tokens stock, wastage, transfused data
- Greater & easier visibility of data
- Inclusion of KPI data
- Transparency of NHSBT data integration with PULSE
- Local dashboards
- Greater local control to cope with change
- Flexibility for user requests
- True real-time data





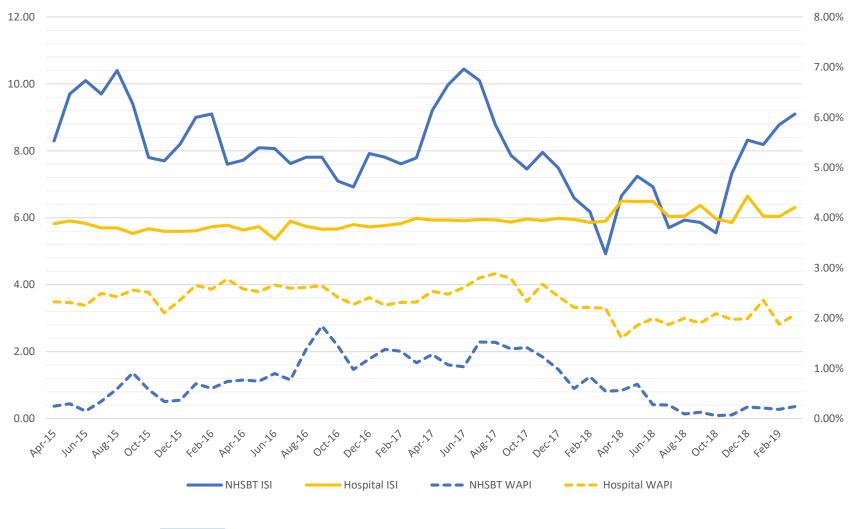


Supply chain update What are the current trends?

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General Supply Chain

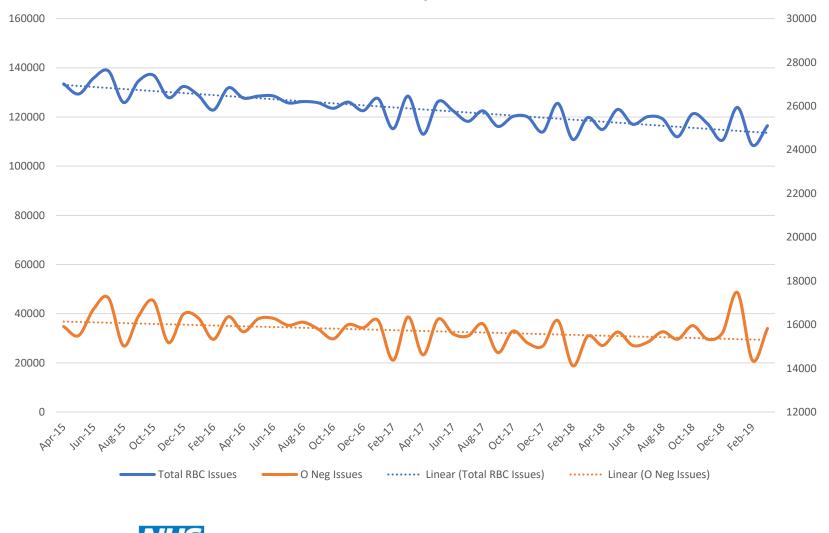
RBC Supply chain observations



Blood Service - NHSBT

NHS Blood and Transplant

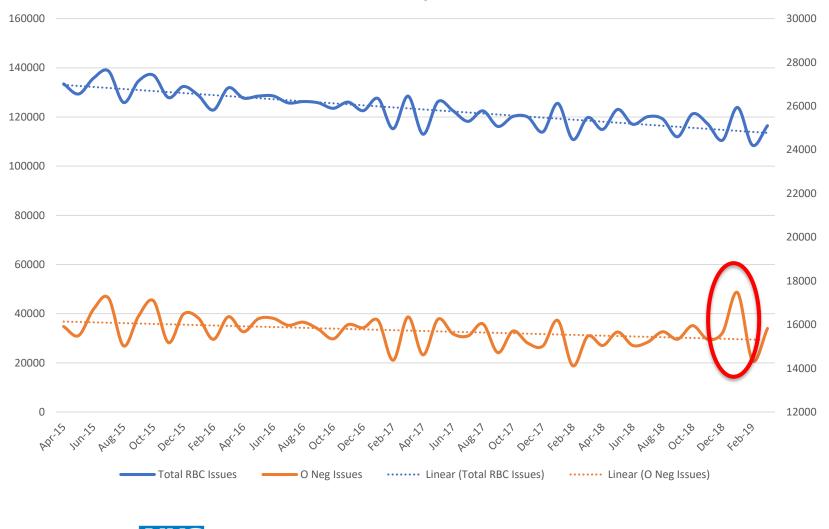
NHSBT Monthly RBC Issues



Blood Service - NHSBT

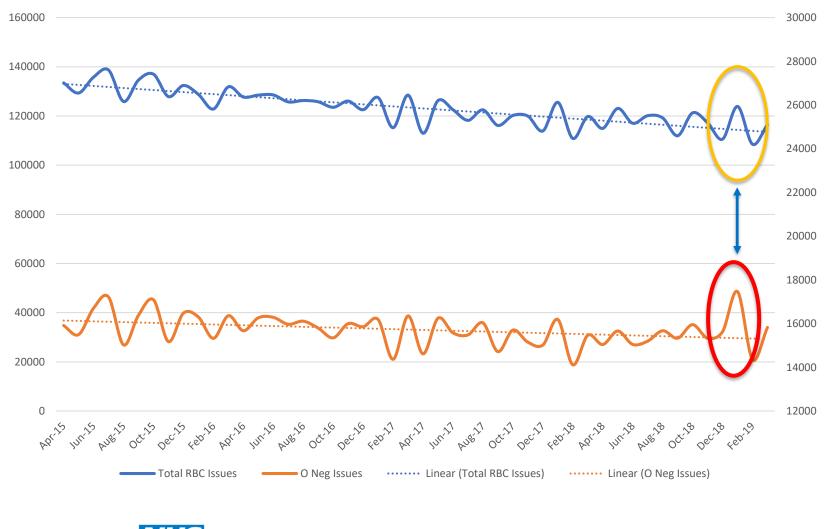
Blood and Transplant

NHSBT Monthly RBC Issues



Blood Service - NHSBT

NHSBT Monthly RBC Issues



Blood Service - NIBTS

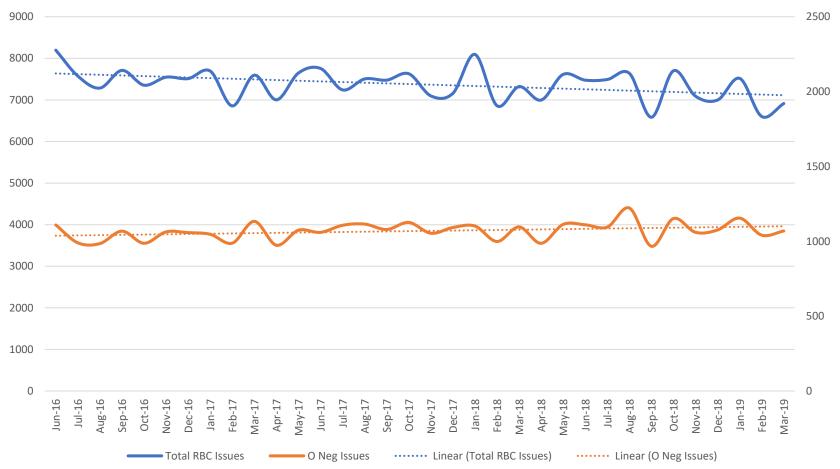
NIBTS Monthly RBC Issues





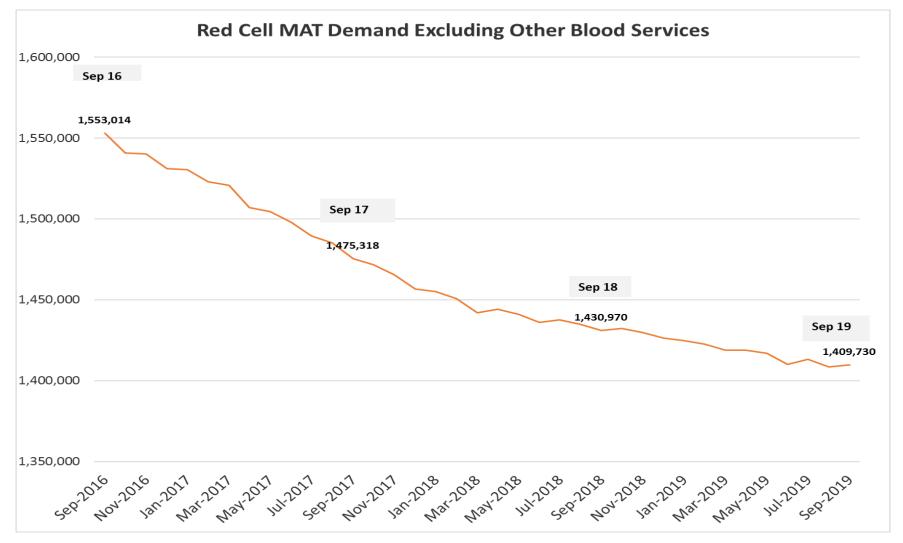
Blood Service - WBS





Red Cell Overall MAT Trend

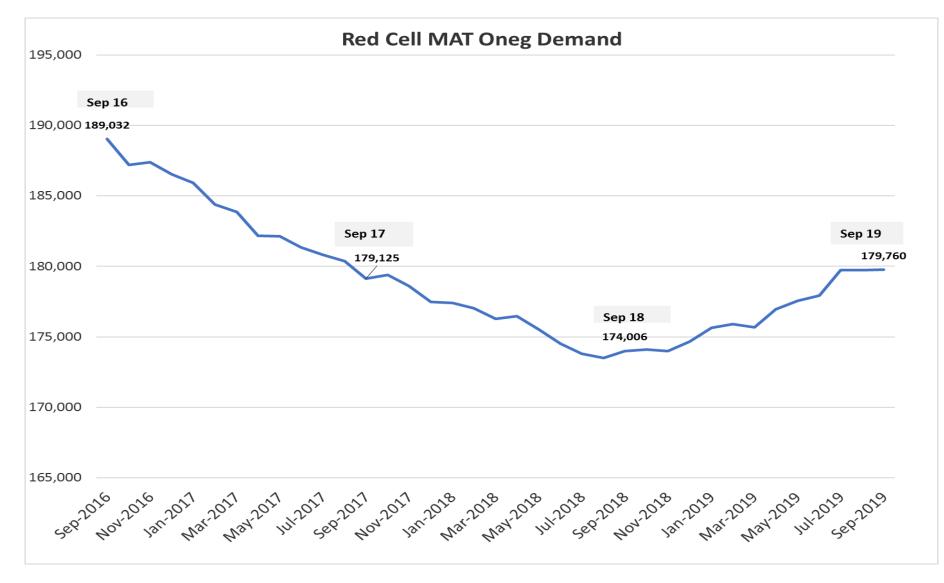




 The demand decline trend has however slowed down as compared with the previous 12 month period: -1.5% over the last 12 months v -3.0% 12 months prior.

Red Cell O neg demand





O D Neg – demand drivers



Clinical and safe transfusion drivers

- Use as 'universal component' in emergency settings.
- Increasing demand for Ro red cell units as more patients convert to therapeutic exchange treatment regimes
- Patients with atypical red cell antibodies and/or ABO group discrepancies where suitable phenotype matched alternatives are not available and requested either by hospitals or RCI
- Continuing support for patients undergoing stem cell/bone marrow transplants where serological anomalies present during engraftment
- Supplying components to neonatal recipients
- Implementation of the BSH (2012) guideline recommended 2 sample rule which impacts most on treatment of patient with unknown blood group requiring emergency treatment
- Potential increase in trauma cases including supply of D negative to emergency response vehicles and subsequent constant feed over time

Operational drivers

- Stocking remote refrigerators with O D negative red cells (both within hospitals but also offsite remote issue where 24/7 pathology staff are not available)
- The number of sites without on-site transfusion laboratory services has increased over time and is likely to increase again as pathology modernisation gathers pace and networks become more widely implemented
- The use of O D negative red cells for non-O D negative patients to prevent time expiry as laboratories elect to carry a disproportionate number of O D negative units to accommodate some of the reasons opposite
- Loss of experienced staff in laboratories who understand and can anticipate and react to stock management subtleties – exaggerated over prolonged periods of reduced staffing
- Loss of confidence in NHSBT supply chain

O D Neg – demand drivers



Clinical and safe transfusion drivers

- reliber where October 20

- requiring emergency treatment
- Fotential increase in trauma cases including supply of D negative to emergency response vehicles and subsequent constant feed over time

Operational drivers

Stocking remote refrigerators with O D negative hospitals but also offsite 1/7 pathology staff are not

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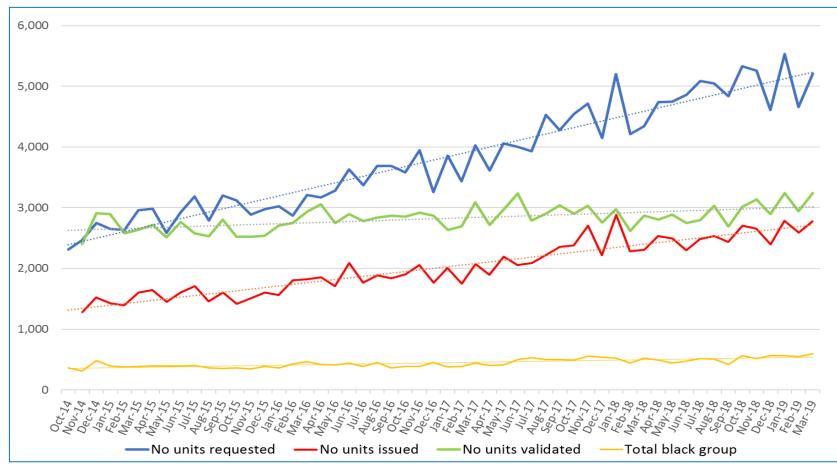
O D Neg – demand drivers



DEMAND DRIVER		SUPPORTING EVID	ENCE / INTELLIGENCE	
TRAUMA Increase in trauma cases & use of blood in pre- hospital care	The number of O Neg RBCs used as "emergency units" is increasing 5.5% (2010) ⇔ 16% (2018)	Increase in pre-hospital transfusion 25 HEMS operating in England (1 carrying RBCs in 2012; 8 in 2017; >12 in 2019)	Use of O D Neg in pre- hospital care results in continuation of support with O D Neg	Since MTCs inception (2012), there has been a 19% increase in survival = additional 1900 patients
STAFFING Deskilling, understaffing, low morale in hospital transfusion labs	In 2017, 35.9% (61/170) laboratories reported a decrease in qualified staff	39.2% reported the use of locum and agency staff (1 or more)	10.8% of O D Negative red cells were used as a substitution by hospitals. Approx. half could have been met by suitable O D Positive RBCs	Number of laboratories reporting vacancies also increasing placing additional strain on those remaining (difficulty to maintain training requirement)
PATHOLOGY MODERNISATION	NHSI proposal to form 29 Pathology Networks with centralised LIMS, governance, management and logistics	Stock holding data suggests 90 laboratories had O D Neg stockholding >12%	32 sites had stockholding between 10 – 12%. Only 12 sites reported a stockholding of less than 10%	The number of sites where O D Negative stockholding was greater than 12.5% has increase from 46% to 64% (2010 v's 2018)

The Ro supply challenge

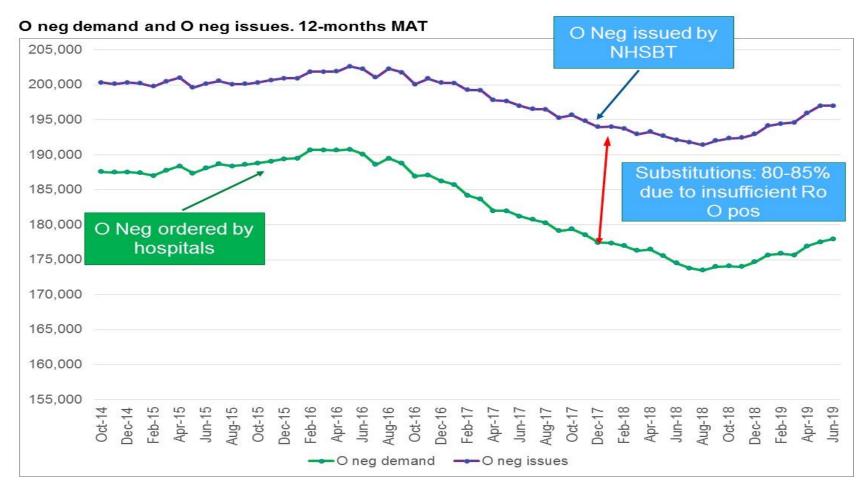




- We are meeting about 55% of the demand for Ro units.
- Ro collections from black donors only account for c.10% of total Ro demand.
- Knock-on effect on O neg with Ro related substitutions growing from c.12.8k units in 2017 to c.17.0k currently.
- Ro demand expected to continue to grow by c10% p.a. driven by further adoption of NICE guidelines on use of automated exchanges and sickle cell population growth.

The Ro supply challenge

Blood and Transplant



• O neg demand growing in absolute terms and as percentage of total (c.200k units of issues or 14% of total RBC demand).

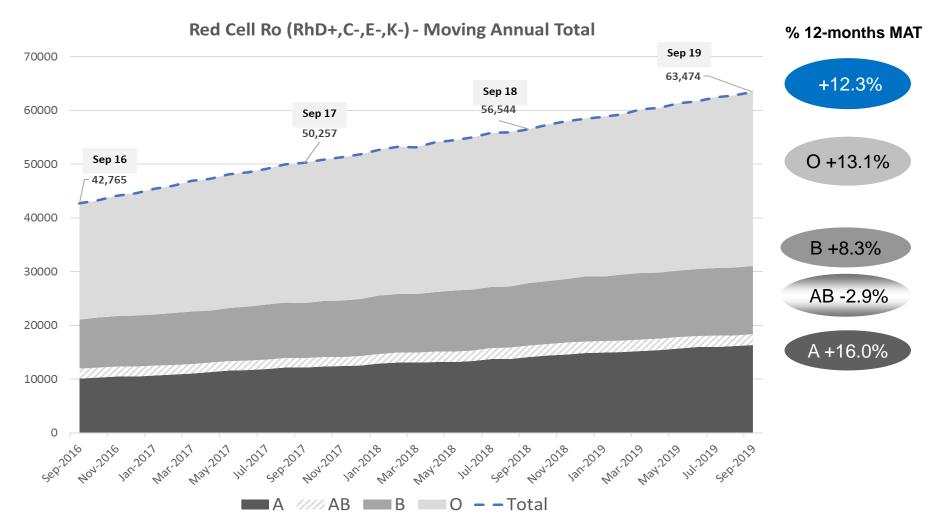
• O neg issues have also been growing due to the increase in substitutions due to insufficient Ro O pos supply.

If current trend continues, O neg issues forecast to range between c.213k-225k in 2020-21 or grow by c.18.3k-30.3k vs. 2018-19.

Similar trend/challenge observed with B neg.

Red Cell Ro Demand

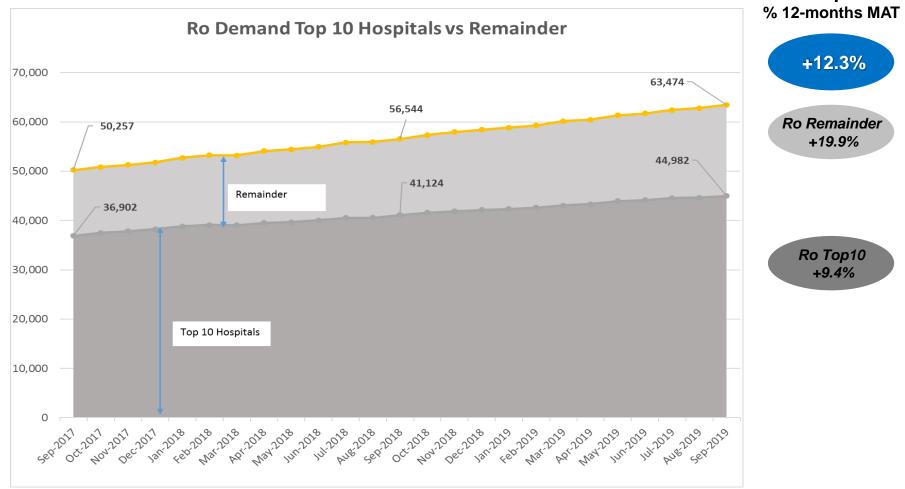
Blood and Transplant



 Red Cell Ro moving annual demand demonstrates 12.3% growth as compared with the previous 12 months, broadly in line with forecast (+12.7%).

Red Cell Ro Demand

Blood and Transplant



- The increase in the Top 10 hospital demand continues to slow down: +9.4% over the last 12 months vs. +11.4% in previous 12 months.
- Demand from the remainder is considerably lower, but its increase rate continues to grow: +19.9% over the last 12 months vs. +15.5% previously.

O D Neg – Guidance summary



O D neg guidance- key highlights

National Blood Transfusion Committee

- Consider using O D positive red cells for unknown adult male patients and women > 50 years
- Aim for O D negative stocks as a percentage of total red cell stock of 12.5% or less
- Hospitals should monitor the number of days their stocks are held before being transfused (Issuable Stock Index - ISI) aiming for the ISI for O D negative to between 3-4 days.
- Aim for minimal wastage of O D negative red cells of at least less than 4% of total O D negative stock
- For Ro patients needing phenotyped matched blood, O D negative red cells should be selected only in the absence of ABO compatible D negative units

The appropriate use of group O D negative red cells

Summary

This guidance is designed to ensure that hospitals and NHS Blood and Transplant (NHSBT) can work within a consistent framework to ensure equal access for patients to available group O D negative and K negative (K-) red cells based on need. It also aims to prevent significant shortages of O D negative and K- blood. This guidance covers both clinical and laboratory management and is endorsed by the National Blood Transfusion Committee (NBTC).

Method

The recommendations are based on the previous NBTC Guidelines on the Appropriate use of O D negative red cells, national audits for the usage of O D negative red cells,¹ and practical considerations. They are consistent with the BSH guidelines for pre-transfusion compatibility procedures² and management of patients with major haemorrhage.³ For female patients, the age of 50 years is considered the upper limit of childbearing potential.²

Background

Although usage of red cells has reduced by 25% over the last 15 years, demand for O D negative red cells as a percentage (of the overall demand) continues to rise. Blood services worldwide have encountered shortfalls of O D negative red cells and demand may exceed supply. It is important that NHSBT and hospitals work together to reduce the risk of group O D negative red cell shortages by managing both supply and demand. In the event of blood shortages, the NBTC red cell shortage plan should be activated.⁴ For emergency preparedness and mass casualty situations refer to relevant guidance from the NBTC and NHS England. ^{5,6}

Clinical management

O D negative red cells

Group O D negative blood should be used for transfusion of red cells in an emergency.^{3,7} However, over dependence on group O D negative transfusions may have a negative impact on blood stock management. Patients where the use of group O D negative red cells is essential should be prioritised.

1. Indications for usage of Group O red cells

A. Major haemorrhage

Major haemorrhage is associated with a variety of conditions including multiple trauma, childbirth, gastrointestinal bleeding, liver transplantation and complex surgery. All emergencies may require urgent transfusion of red cells. Major

O D Neg – Guidance summary



O D neg guidance- key highlights

- Consider using O D positive red cells for unknown adult male patients and women > 50 years
- Aim for O D negative stocks as a percentage of total red cell stock of 12.5% or less
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- For Ro patients needing phenotyped matched blood, O D negative red cells should be selected only in the absence of ABO compatible D negative units

Each hospital can use stock data to optimise stockholding – review and consider alternative strategies

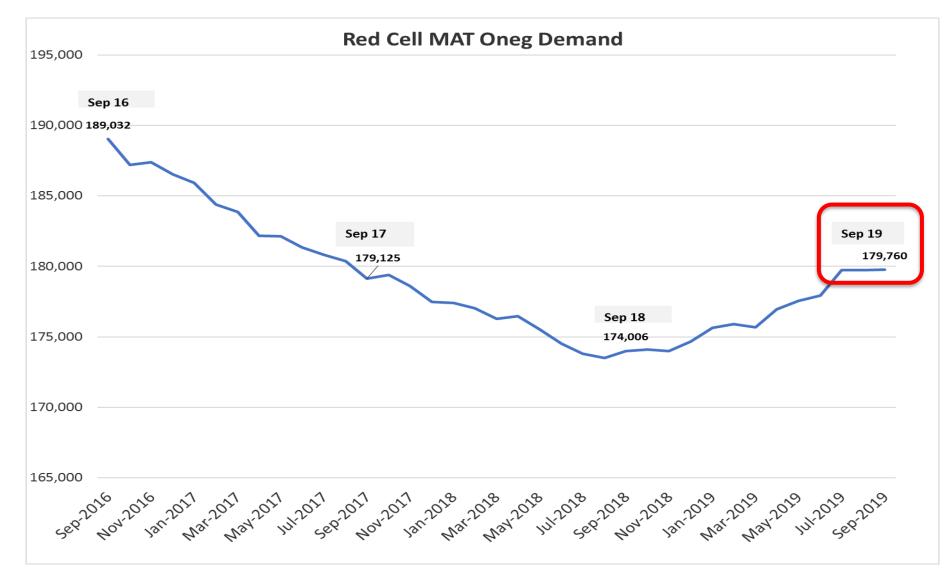
The aim is to encourage hospitals to review stocks based on what that stock do rather than ordering to a fixed value.

Analyse reasons for wastage and set internal targets – follow a stepwise approach

Exploration of increased extended phenotyped units required.

Red Cell O neg demand





Why worry?



"This will pave the way for what is shaping up to be a colder than average winter with some extreme cold weather events.

"While these could start to make an impact within the next few weeks they will be particularly troublesome from December onwards."

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Support required



In hospitals

- ✓ Follow guidelines on O D negative use
- Effective stock management of O D negative red cells
 - ✓ Set KPI's for stock holding and for wastage
- Review ordering processes for O D neg in particular around Bank Holiday
- Provide intelligence to support NHSBT future demand planning

In regions

- Use RTC events to promote O D negative key messages including benchmarking of hospitals demand and wastage data and sharing good practice
- Consider holding BSMS workshop and encourage attendance



Blood Donation - actions



What is NHSBT doing?

Blood Donation background

- Across the country we deploy total of:
 - 50 Mobile Teams
 - 23 Donor Centres
- In 2019/20 we plan to collect:
 - 1.45 million whole blood donations
 - 132K Platelet doses



- To date this year 24% of whole blood has been collected in donor centres and 76% through mobile teams.
- Our on session deferrals are at 15.7% and our Donor Not Attend rate for donors on session is around 8.5% YTD.





Supply challenge actions

Ro supply challenge				
Actions complete	Actions planned (6-12 months)			
 Dedicated Call Centre number for Ro donors; offer any appointment they want Dedicated Call Centre team with target to reactivate 5.7k Ro donors in 2019-20 Investment in recruitment on black communities (donor base up from 3k to 5k in the last 2 years) Further operational improvements to maximise use of Ro units for Ro orders 	 Utilising 30 newly recruited community ambassadors to tackle barriers to black donor recruitment and retention London capacity to increase by 15% vs. previous year, including a London dedicated bloodmobile Partnerships with faith based organisations, NHS Trusts (e.g. Barts), London Assembly and Councils etc. Engage professional services to re- image the donor journey 			

Supply challenge actions



O D Neg supply challenge				
Actions complete	Actions planned (6-12 months)			
 Dedicated Call Centre team with target to reactivate 27.6k O neg donors in 2019-20 Priority appointments increased from 13% of total grid to 18% First to third donation programme in place to improve O neg retention up from 72% Dedicated sessions planned to return to previously consolidated areas (e.g. Telford) Bespoke O neg reactivation mailing and on-going targeted discretionary marketing 	 Launch of "First Responders" O neg programme Launch of bespoke booking telephone line to NCC New early donor journey actions Engage professional services to re- imagine donor journey Operational changes to reduce substitutions (LVT supply, increased C neg testing, phenotype management) 			



RBC Wastage data National wastage trends

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All RBCs (supplied by NHSBT)

	FF	Misc	OTCOL	TIMEX	TOTAL	WAPI
2018/19	512	3167	7376	21169	32224	2.3%
2017/18	462	3193	7930	24064	35649	2.4%
2016/17	839	3354	8706	24046	36945	2.5%
2015/16	869	2640	9714	25404	38627	2.5%

O Neg RBCs (supplied by NHSBT)

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2018/19	119	828	1904	5677	8528	4.6%
2017/18	128	665	2052	5776	8621	4.6%
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2015/16	194	528	2463	5838	9023	4.7%



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1 in 4 TIMEX units is an O Neg RBC

Blood Stocks Management Scheme



All RBCs (supplied by NHSBT)

	TOTAL	TIMEX	OTCOL	Misc	FF	
→ £4,299,970.56	32224	21169	7376	3167	512	2018/19
	35649	24064	7930	3193	462	2017/18
	36945	24046	8706	3354	839	2016/17
	38627	25404	9714	2640	869	2015/16

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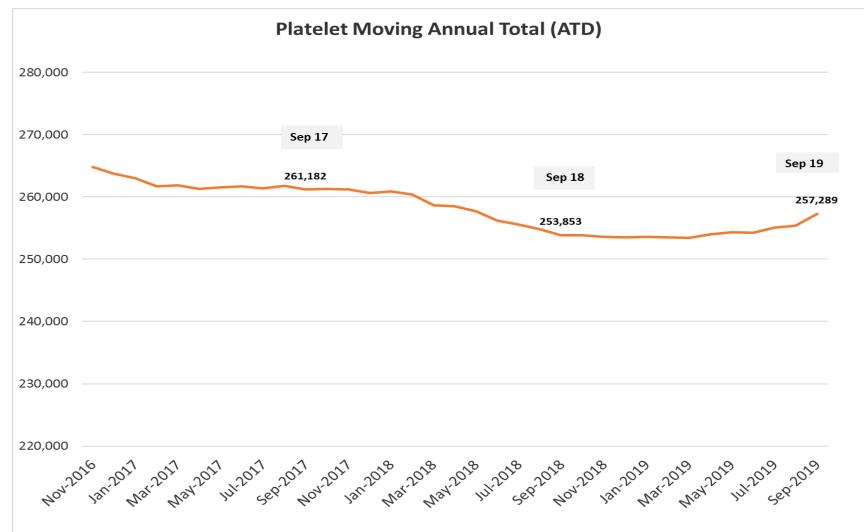


Platelet demand Demand information

Caring Expert Quality

Total Platelet MAT demand

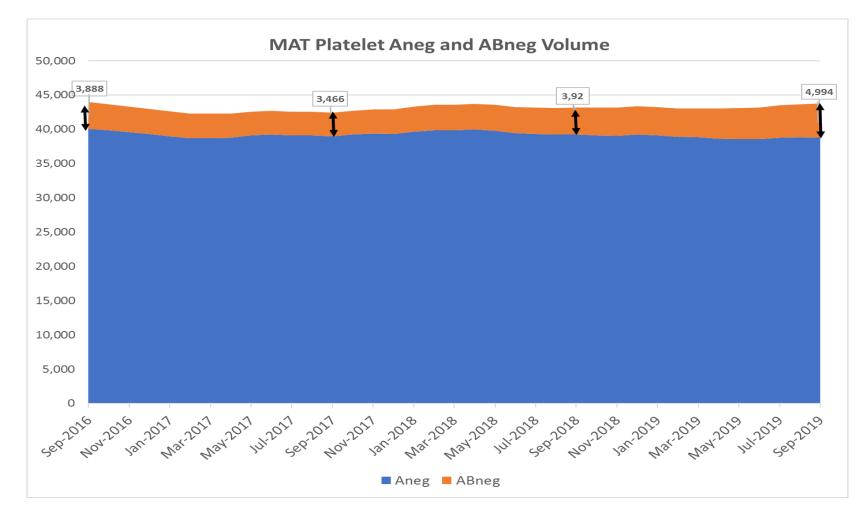




 Overall platelet moving annual demand increased in September to 257.3k after having plateaued around c.254k from August 2018

A neg + AB neg Platelet demand





 The moving annual demand for 'A neg + AB neg' in September totals 43.8k (current forecast for 2019-20 is 43.9k).

NHSBT Stock Holding



• NHSBT Platelet stock as of Tuesday 23rd October.

Option	NHSBT Platelet Stock
А	0-1,000
В	1,000 – 2,500
С	2,500 – 5,000
D	5,000 – 10,000

• Hands up!!





NHSBT Stock Holding



• NHSBT Platelet stock as of Tuesday 23rd October.

Option	NHSBT Platelet Stock
Α	0-1,000
В	1,000 – 2,500
С	2,500 – 5,000
D	5,000 – 10,000

• Total Platelet Stock = <u>1181</u> (1.4 days worth of stock)



NHSBT Stock Holding

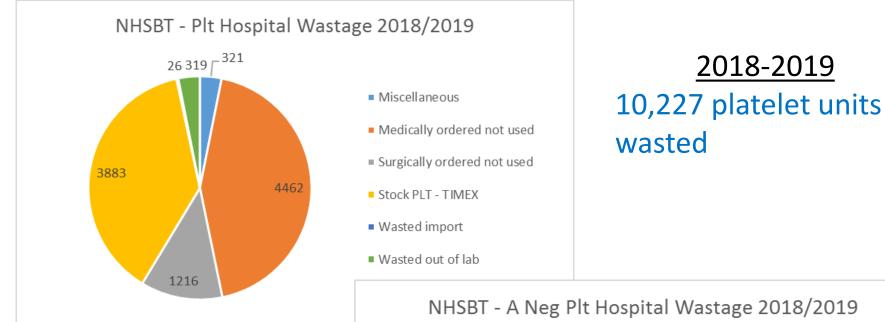


- NHSBT Platelet stock as of Tuesday 23rd October.
- Total Platelet Stock = 1181 (1.4 days worth of stock)

0-	0+	A-	A+	B-	B+	AB-	AB+
127	292	160	491	20	51	9	31
1.9	1.2	1.2	1.4	1.3	1	1.5	2.1



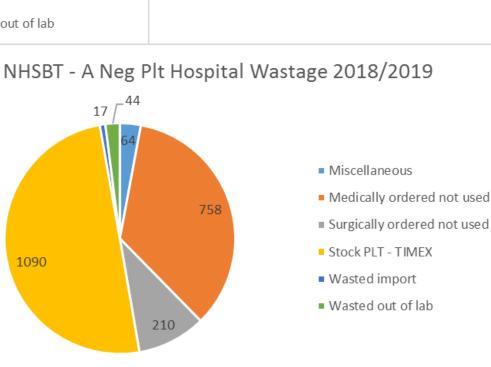
Platelet Wastage



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Blood and Transplant

2018-2019



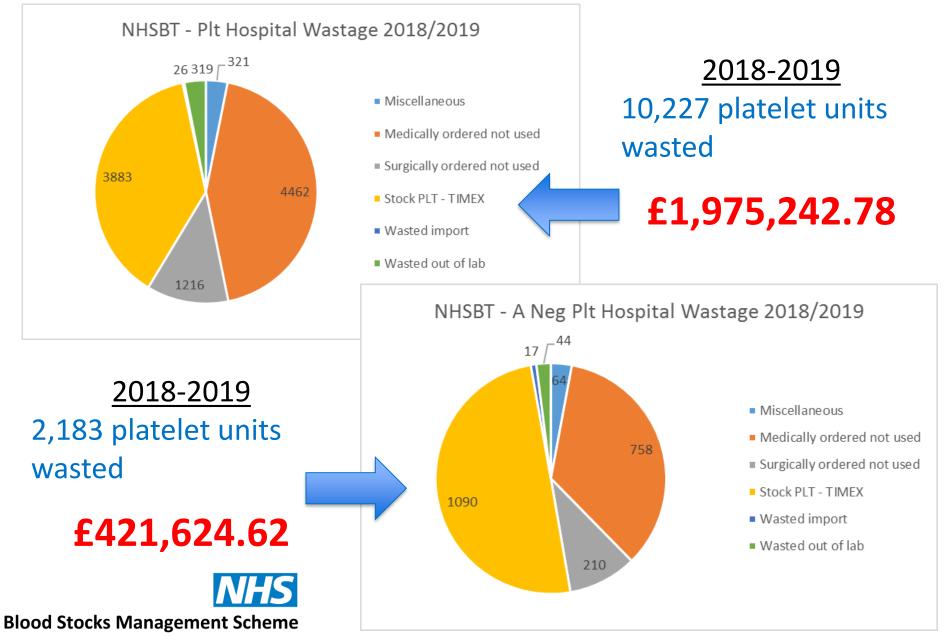
2018-2019

2,183 platelet units wasted



Blood Stocks Management Scheme

Platelet Wastage



Help is available



matthew.bend@nhsbt.nhs.uk

Blood Stocks Management Scheme can be contacted on <u>BSMS@nhsbt.nhs.uk</u>





Thank you for listening.

Any Questions?

