

The Blood Stocks Management Scheme (BSMS) was implemented in April 2001 as a partnership venture between the National Blood Service (NBS) and participating hospitals and is unique world-wide. Its aims are to increase understanding of the blood supply chain and improve blood stock management. Red cell stock data is collected from and disseminated back to the participants via an innovative web based application accessed through the Blood Stocks Management Scheme website (www.bloodstocks.co.uk)

Key Observations - blood supply system

Effective management throughout the blood supply chain is necessary to ensure:

- red cell availability to satisfy the transfusion needs of patients
- optimum shelf life of red cells at transfusion
- minimal wastage

The data highlights the need for:

- accurate, detailed forecasting by hospitals of their red cell volume requirements throughout the year
- appropriate stock holding levels in hospitals and the NBS
- pro-active management of stock to reduce stock holding and wastage including:

Hospitals

- Stock movement within large trusts of two or more hospitals or between local private and NHS hospitals.
- Effective monitoring and control of red cell units in areas outside the blood transfusion laboratory
- Regular monitoring of blood bank fridge alarm systems both inside and outside laboratory areas

NBS

- Effective stock movement across all NBS Blood centres
- Consistent methodology and improved categorisation of wastage monitoring across all NBS Blood Centres
- Introduction of innovative red cell management practices during periods of high stock levels to reduce associated red cell wastage

Challenges

- Ensure the NBS uses the full potential of the BSMS for effective management of the blood supply chain
- Improve understanding of the interface between supply and demand in order to minimise fluctuations in NBS stock levels
- Promote links between hospital and NBS IT systems to facilitate information exchange related to the BSMS data management system

Scheme Participation

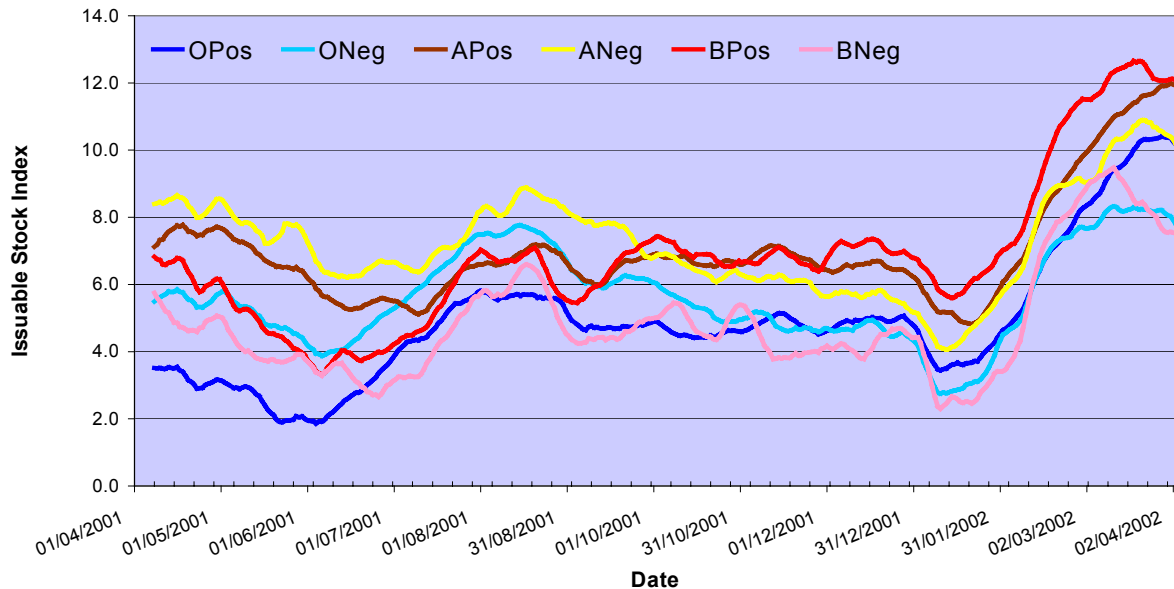
Hospital participation has increased by 23% from 145 at implementation to 179 at the end of the first year. The 179 hospitals account for 58% of hospitals supplied by the NBS and 66% of blood use. 79% of Teaching hospitals, 63% of District General and 40% of Private hospitals are registered.

Red Cell Stock

NBS Red cell stock

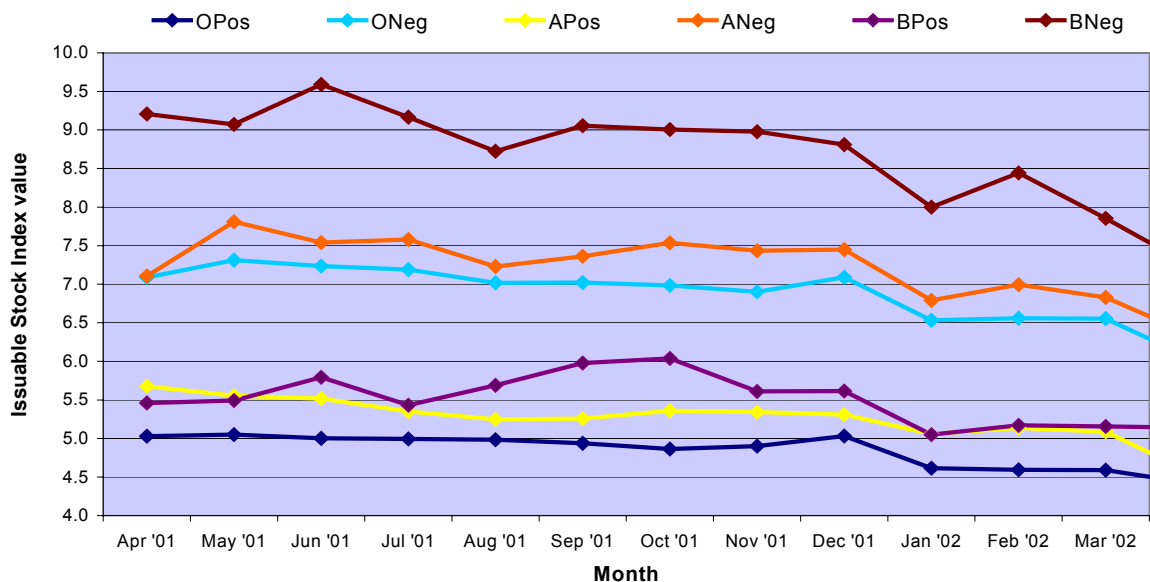
No red cell shortages were declared by the NBS during the report period.

Variation in NBS (average of all Blood Centres) issuable stock index over time of blood groups A, B & O



Participating Hospitals Red Cell stock

Average hospital monthly issuable stock index of blood groups A, B, & O.



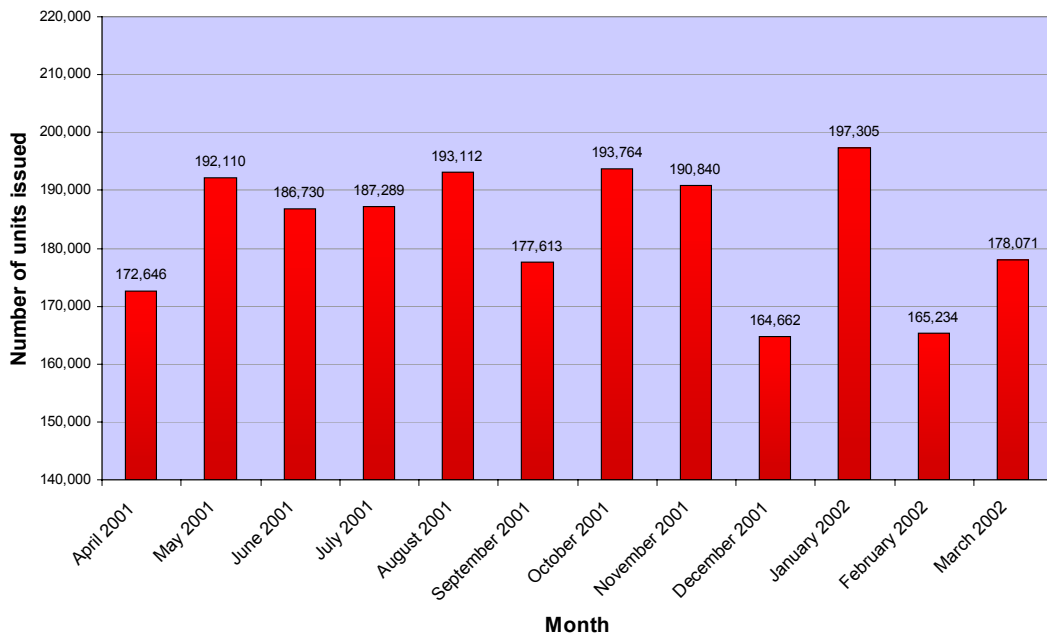
The two graphs highlight the difference between stock levels in the NBS and in participating hospitals. Stock levels in the NBS show much greater variation than the relatively constant stock levels within participating hospitals. The higher variation in NBS stock levels reflects the differing patterns in donation behaviour and usage by hospitals.

Higher NBS red cell stock levels in February and March resulting from collection to target and lower hospital demand led to a greater than usual proportion of red cell units issued with a shelf life of 20 days or less. This was associated with an increase in NBS and hospital red cell wastage in March 2002.

Red Cell Issues

Although hospital stock levels remained relatively constant there were distinct highs and lows in monthly hospital red cell receipts. The lowest receipts were in December 2001 and February 2002 when demand was below forecast.

Total NBS red cell issues (from all Blood Centres) for each month between April 2001 and March 2002



Wastage

NBS Wastage

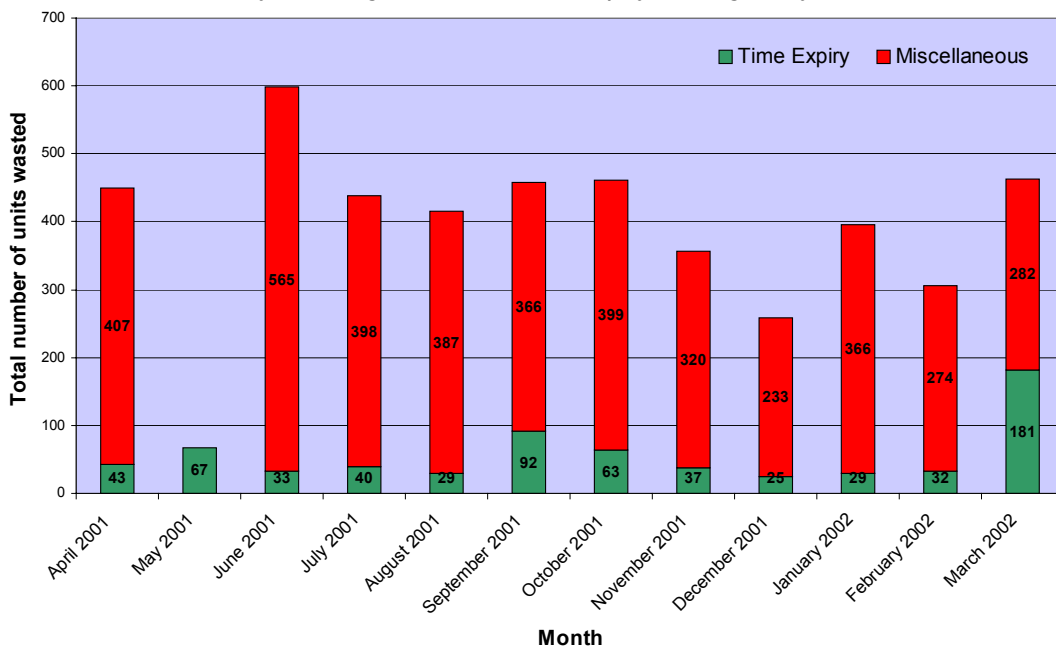
8885 A,B and O units were wasted. Total wastage as a percentage of issue was 0.2% over the report period. A bag fault withdrawal in May caused high levels of wastage therefore miscellaneous wastage for May has not been included in the data analysis.

NBS Wastage as a percentage of Issues

Blood grouping	O DNeg	A, B & O units	AB units
Average (excluding May)	0.07%	0.04%	0.28%

Total number of A, B and O units wasted by all Blood Centres for each month.

'May 2001' figure shows Time Expiry wastage only.

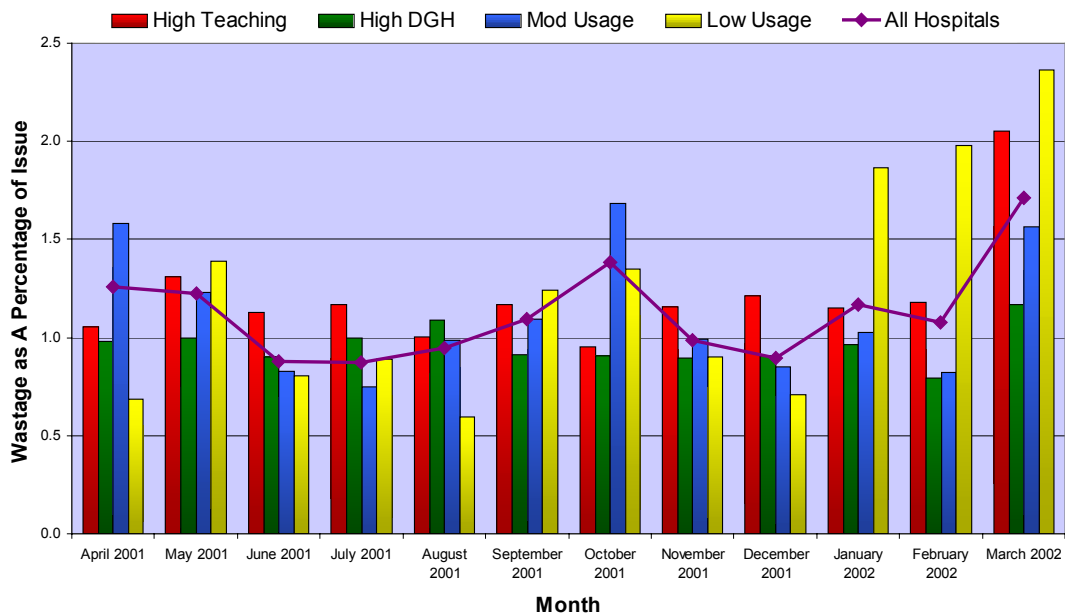


Participating Hospitals

14,457 A,B and O red cell units were wasted in participating hospitals at a value of £1,222,483.92 (@£84.56 per unit). If this level of wastage was replicated across the remaining hospitals supplied by the NBS the cost would be over £2.1M. A more detailed account can be found in the full report.

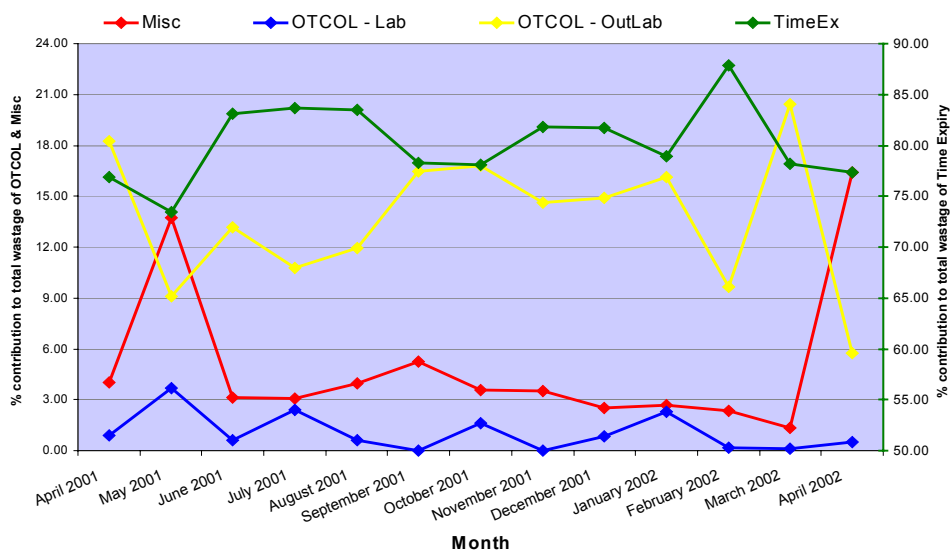
Average ABO wastage as a percentage of issue was 6.9% in the private cluster and ranged from 1.0 – 1.3% in the other hospital clusters. Average O DNeg wastage was 10.2% in the private cluster and ranged from 2.1 – 2.6% in the other clusters. Average wastage as a percentage of issue for all groups and all hospital clusters was 2.2%.

Average Wastage as A Percentage of Issue of A, B & O blood groups for each NHS hospital cluster



Out of temperature control wastage (OTCOL) in hospitals accounted for 8-18% of A,B & O wastage and 6-21% of O DNeg wastage. Several reports of fridge alarm failures contributed to miscellaneous wastage.

Percentage contribution to wastage - group O DNeg



Further information on the Scheme can be obtained from www.bloodstocks.co.uk or from the BSMS office; PO Box 33910, London NW9 5YH