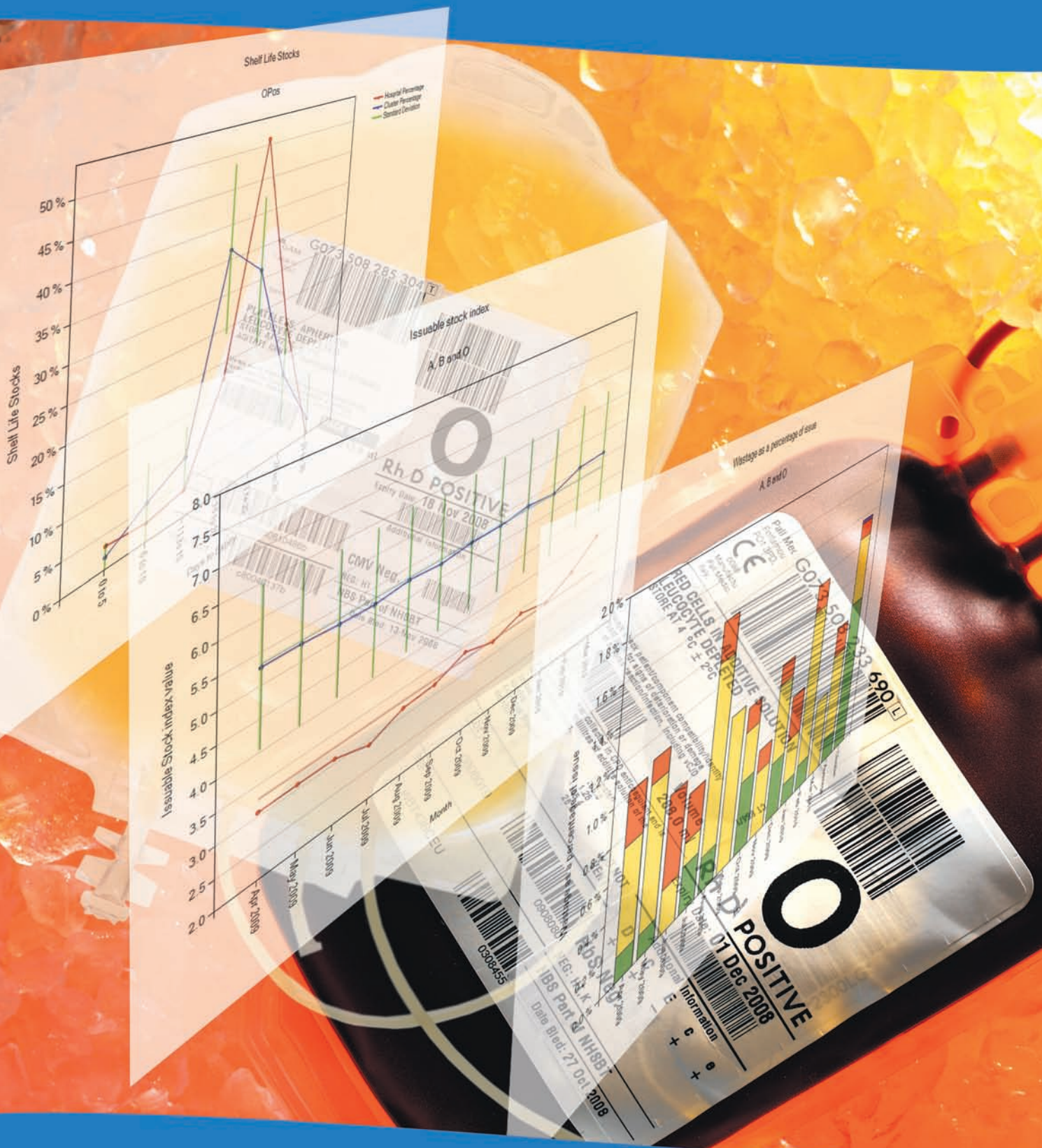


# Blood Stocks Management Scheme





# Blood Stocks Management Scheme

## Annual Report - 2009/10

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## Foreword

The Blood Stocks Management Scheme has been producing annual reports since 2001/02 and this year's report demonstrates further progress in both management of, and our understanding of blood stocks management.

The de-anonymisation of data has remained an important theme through the last year. Comparative data is being reported to the Regional Transfusion Committees in England and this is proving to be a useful tool in driving forward improvements in practice. With the recent upgrade to VANESA, comparative data is now easier to access and use by hospitals, and I hope that this will prove to be useful.

2011 is set to see further progress and change within the BSMS. We will be moving forward with IT and communication plans with the aim of increasing the transparency and usefulness of the data. It is our aim to improve the quality and breadth of communications from the Scheme, and to ensure that the hard work from participants results in tangible benefits. We hope that the repertoire of the Scheme will be expanded and that we will for the first time be collecting data on frozen components.

Research remains an important part of the activities of the Scheme and the inventory practice surveys continue to be well received, and provide important insights into stock management. This report highlights some important trends in wastage that may be a result of recent IT changes within hospitals and increasingly strict compliance with the Blood Safety and Quality legislation. The Scheme continues to have strong academic links and this year will be collaborating with a PhD student from University of Erlangen Nurnberg, Germany. We hope that 2011 will see further publications on inventory practice.

Participation in the Blood Stocks Management Scheme continues to be mandated by Better Blood Transfusion 3 Health Service Circular and I am pleased to say that participation in the Scheme has continued to grow. The Scheme is now collecting data from the blood services and hospitals in Scotland and the Republic of Ireland, and we have seen improving participation figures in Wales and Northern Ireland. I would like to thank all members of the Scheme, new and old, for your continued support.

I am sure that you will join me in thanking Sue Cotton and her team for their continued hard work in making the Scheme a continued success.

Craig Taylor  
Steering Group Chair  
Blood Stocks Management Scheme  
January 2011

## About the Blood Stocks Management Scheme

The Blood Stocks Management Scheme was established in April 2001 with the aim of increasing understanding of the blood supply chain from blood service to hospital. Data are entered into a database either automatically or by manual entry via the VANESA website. The data stored include issues, inventory, wastage and shelf life of red cells and platelets. Web deployment gives flexibility in terms of multiuser access for the input and extraction of data and information. Reports are generated automatically from the data in real time allowing the use of information on a day to day basis by participants.

Blood services and hospitals from the UK and the Republic of Ireland participate in the BSMS providing a knowledge bank of information related to blood supply management. The BSMS has helped drive improvements in stock management through a number of initiatives including inventory practice surveys and reports, publications, meetings and training events.

## Participation in BSMS

During 2009/10 the Irish Blood Transfusion Service (IBTS) and the IBTS served hospitals joined the BSMS. Training was delivered to the IBTS served hospitals during March 2010 and these hospitals are beginning to enter data to the BSMS. This report will not reflect the data from the Irish Blood Transfusion Service as the associated hospital data is incomplete for 2009/10.

The Scottish National Blood Transfusion Service (SNBTS) began submitting data to the BSMS in January 2010. Training was delivered to 5 SNBTS served hospital centres during August 2010 and data entry to the BSMS has begun.

Regular input of data to the BSMS by participants enables detailed analysis of the supply chain. Activity of participants is monitored bi-monthly with email reminders warning participants of missing data. Missing data can be entered retrospectively.

Hospital activity is shown in Table 1 and compares activity in March 2009 with March 2010.

**Table 1 Hospital Activity by supplying Blood Service**

Blood Service	Activity status	Hospital count 2009	% 2009	Hospital count 2010	% 2010
NHSBT	Regular	208	77%	205	77%
NHSBT	Partial	50	18%	46	18%
NHSBT	None	14	5%	14	5%
NIBTS	Regular	8	73%	9	90%
NIBTS	Partial	3	27%	1	10%
WBS	Regular	8	50%	10	63%
WBS	Partial	6	38%	5	31%
WBS	None	2	12%	1	6%

BSMS activity is defined as regular if there are 16 or more entries per month of red cell stock, with at least 1 red cell wastage and 1 platelet wastage entry per month.

Partial activity is defined as less than 16 red cell stock entries per month or no data entry for red cell or platelet wastage.

No activity (none) means that no data has been entered during the month.

## Highlights from 2009/10

- We held training courses on VANESA, our data management system, for 140 hospital staff. Training enables hospital staff to have an increased understanding of the use of the system and empowers them to make improved blood stock management decisions.
- We facilitated the submission of data from both the Scottish National Blood Transfusion Service and the Irish Blood Transfusion Service. The hospitals served by the Irish Blood Transfusion Service joined the BSMS during March 2010. Five hospitals served by the Scottish National Blood Transfusion Service joined the BSMS during August 2010.
- We organised and delivered an open meeting for hospital and blood service staff during May 2009. 145 delegates attended from hospitals and blood services in England, Wales, Scotland and Ireland. The meeting provided an overview of supply chains, an insight into the demand planning process and how hospitals could contribute to the demand planning process.
- We designed, undertook and reported on the 2009 Hospital Inventory Practice Survey. The survey focussed on platelet and frozen component management and was comprised of a number of sections covering ordering, storage, stock and training in the ordering and use of platelet and frozen components. 230 completed questionnaires were received from 78% of BSMS participating hospitals in England, Wales and Northern Ireland. The results of the platelet survey are encouraging, identifying improvements and changes in practice since 2003. The outcomes from the survey were presented at the British Blood Transfusion Society Annual Scientific Meeting held in Bournemouth.
- We supported a MSc student from Cranfield University School of Management to undertake a thesis looking at the impact of hospital inventory management on wastage in the blood supply chain. The thesis concluded that it is the skill and experience of transfusion laboratory staff and their managers and not sophisticated and complex inventory models that lead to better inventory decisions and therefore optimisation of stock. The outcomes from the thesis were presented in the Young Scientists Symposium at the British Blood Transfusion Society, Annual Scientific Meeting, Bournemouth.
- We introduced a further development under phase 1 of the data transparency project. De-anonymised hospital data was provided to Regional Transfusion Committees in England and North Wales. By facilitating open discussion at these meetings it is envisaged that “best practice” in stock management will be promoted.

## Headline summary

### Red Cell Issues

- 1,864,000 adult red cells were issued by NHS Blood and Transplant (NHSBT) in England and North Wales, an increase of 0.32% when compared to 2008/09.
- 53,557 adult red cells were issued by Northern Ireland Blood Transfusion Service (NIBTS), an increase of 3.6% when compared to 2008/9.
- 86,654 adult red cells were issued by the Welsh Blood Service (WBS), a decrease of 5.4% when compared to 2008/09.

### Red Cell Wastage<sup>1</sup>

- Total NIBTS wastage was 3,681 units, an increase of 30% when compared to 2008/09. Wastage as a percentage of issues was 6.87% in 2009/10.
- Total WBS wastage was 429 units, a decrease of 70% when compared to 2008/09. Wastage as a percentage of issues was 0.5% in 2009/10.
- Average wastage per NHSBT BSMS participant was 183 units, an increase of 28 units per participant.
- Average wastage per NIBTS BSMS participant was 212 units, an increase of 41 units per participant.
- Average wastage per WBS BSMS participant was 134 units, an increase of 34 units per participant.

### Platelet Issues

- 236,000 adult platelet units were issued by NHSBT, an increase of 4% when compared to 2008/09.
- 6,574 adult platelet units were issued by NIBTS, a decrease of 4.3% when compared to 2008/09.
- Platelet data is not available from the WBS.

### Platelet wastage<sup>1</sup>

- 1,469 platelet units were wasted by the NIBTS an increase of 61 units (4.3%) from 2008/09.
- Average wastage per NHSBT BSMS participant was 50 units, an increase of 7 units per participant.
- Average wastage per NIBTS BSMS participant was 46 units, an increase of 2 units per participant.

### O Negative Red Cells

- NHSBT O Neg issues as a percentage of total issues were 10.4%, 0.3 percentage points higher than in 2008/09 (10.1%).
- NIBTS O Neg issues as a percentage of total issues were 13.4%, 0.3 percentage points lower than in 2008/09 (13.7%).
- WBS O Neg issues as a percentage of total issues was 8.8%, 0.4 percentage points lower than in 2008/09 (9.1%).

<sup>1</sup> There are technical issues with the provision of NHSBT wastage data for both red cells and platelets. The wastage data will follow as an addendum and will be posted on [www.bloodstocks.co.uk](http://www.bloodstocks.co.uk) as soon as it becomes available.

## Key Findings 2009/10

In 2009/10 the red cell stock levels of the Blood Services in England, Wales and Northern Ireland increased in preparation for the potential of a swine flu pandemic. Stock builds took place during July to September 2009. Adverse weather conditions were experienced across the UK in December and early January and this had an impact on red cell stocks, with stocks in all countries falling significantly. Red cell stocks recovered quickly to safe levels achieved through the efforts of donors and staff. This is reflected by an increase in the Issuable Stock Index (ISI) for each of the countries during the latter months of 2009 and a decrease at the beginning of 2010 (Table 2).

**Table 2 shows the average monthly Issuable Stock Index (ISI) for the Blood Services.**

Blood Service	September 2009	November 2009	January 2010	March 2010
NHSBT	11.6	10.0	7.7	9.6
Northern Ireland	12.4	12.6	7.5	16.7
Wales	9.7	9.8	6.8	12.1

The BSMS have previously reported the relationship between stock levels in the Blood Services, the days to expiry of red cell stock at issue to hospitals and the amount of wastage attributed to time expiry in both the Blood Services and hospitals. Stock levels increased in the three Blood Services during 2009/10 (Table 2, ISI for the Blood Services) in preparation for the potential of a swine flu pandemic. There was a decrease in the days to expiry of red cells at issue and a corresponding increase in time expiry wastage in hospitals served by NHSBT and NIBTS in 2009/10, when compared to 2008/09 (Table 3 and Table 4). The red cell stock levels held by the Welsh Blood Service did not increase to the same levels as the other Blood Services. The days to expiry at issue remained relatively stable.

**Table 3 shows the median days to expiry for 2008/09 and 2009/10 for the Blood Services.**

Blood Service	2008/09	2009/10
NHSBT	22	20
Northern Ireland	24	21
Wales	22	23

**Table 4 Time expiry wastage (total units) in hospitals**

Hospitals served by	2008/09	2009/10	% increase
NHSBT	27641	31302	13.2
Northern Ireland	1403	1653	17.8
Wales	1109	1593	43.6

There are a number of ways to counteract the increase in red cell time expiry wastage in hospitals (Table 4) when it is associated with increased stock levels in the blood service. The service level agreement between the blood service and hospitals could be adjusted by increasing the number of days to expiry of red cell stock at issue. i.e. the unit of red cells is issued with 18 days to expiry rather than 12 days to expiry. This would allow the blood services to hold the stock but for hospitals to be issued with fresher stock. NHSBT used this approach with some groups of red cells during October 2009. Another approach would be to issue fresher blood for smaller hospitals to allow more opportunity for the blood to pass through the reserved/unreserved loop and hence reduce wastage.

Individual hospitals need to regularly review their stock management of red cells ensuring that stock is actively managed especially when the Blood Services stock levels of red cells are high.

Hospitals can organise red cell movements between sites or enter into partnerships with smaller hospitals to ensure opportunities for increasing the probability of transfusing a unit of red cells and decreasing the potential for time expiry wastage. The BSMS are working with a PhD student to develop a framework for stock sharing partnerships which will identify not only the benefits of these relationships but recognise the challenges and limitations.

'Out of temperature control outside the laboratory' (OTCOL) red cell wastage has increased in NHSBT served hospitals by 16.8% from 2008/09 to 2009/10. This is an area of concern as it has contributed to 23% of the total hospital wastage in NHSBT served hospitals in 2009/10. There is anecdotal evidence that the introduction of information systems that monitor removal of red cells from the hospital issue fridge has led to an increase in OTCOL wastage in some of the implementation sites. A study is currently underway to examine the validity of the current maximum time limit of 30 minutes outside the refrigerator for a red cell unit. The Blood Safety and Quality Regulations introduced in 2005 continue to impact on the level of OTCOL red cell wastage.

The provision of O Negative red cells can challenge blood services. Demand from hospitals is disproportionate to the frequency in the population and this leaves O Negative stock levels vulnerable when there are times of short supply and increased demand. In times of 'normal' demand blood service inventory will meet hospital demand. However when there is pressure on the supply of O Negative the blood service inventory can fall rapidly. There is evidence from the BSMS that the disproportionate levels of O Negative in hospital inventories is related to both the number of emergency units held and the capacity for 'safe mismatching'. This suggests that hospitals should carefully review their holding of O Negative to conserve the blood service inventory and to minimise unnecessary 'safe mismatching'. Table 5 shows the percentage of O Negative units wasted within hospitals. There is an increase in O Negative red cell wastage in hospitals served by NHSBT and NIBTS when compared to 2008/9. Hospitals served by WBS have seen a reduction in the amount of O Negative wasted. A National Comparative Audit looking at O Negative was undertaken during 2010 and is due to report in early 2011.

**Table 5 % of O Negative red cells wasted in hospitals**

Hospitals served by	2008/09	2009/10
NHSBT	4.0%	4.4%
Northern Ireland	3.9%	5.8%
Wales	3.5%	2.8%

A high proportion of platelet wastage is due to platelets that are ordered for medical patients and subsequently not used. The majority of hospitals order platelets on a per patient basis and do not hold platelet stocks. The 2009 Inventory Practice Survey undertaken with hospitals has shown that increasing numbers of hospitals are holding stocks of platelets when compared with the results from a similar survey in 2003. Hospitals should consider the improvement in availability, especially in emergency situations, and the associated quality of service, the potential increase in wastage and transport pressures (time taken for an adhoc delivery) when considering holding stock platelets. There is evidence from the survey that group A platelets are more widely stocked by hospitals than group O. A Negative platelets are the choice for those hospitals considering holding stock. Flexibility and collaboration between the hospital laboratory and blood service is essential when ordering stock platelets.

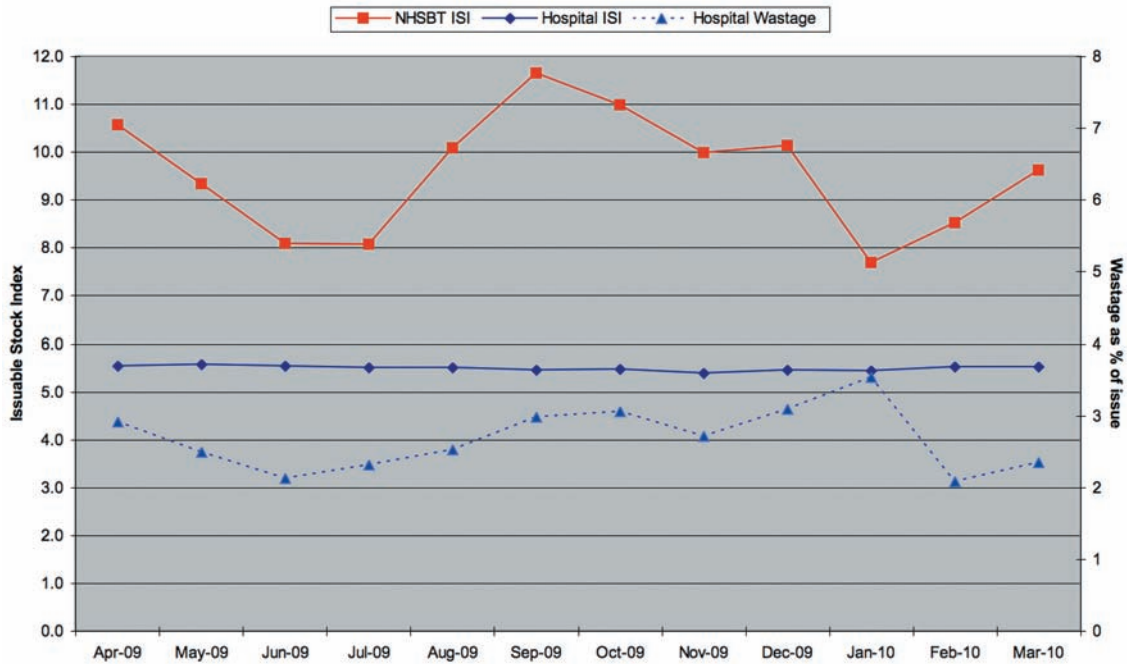
The 2009 Inventory Practice Survey asked for hospitals' views on whether the BSMS should collect data on the stock and wastage of frozen components. 66% of hospitals indicated that the BSMS should collect data on stocks and wastage of frozen components. The BSMS will look at the possibility of facilitating the collection of frozen component data during 2011/12.

# Red Cell Blood Supply System

## England and North Wales (NHSBT)

Figure 1 shows the red cell supply chain using stock and wastage data taken from NHSBT participants and NHSBT. The chart highlights the relationships across the supply chain. Hospital time expiry continues to mirror NHSBT stock levels. Figure 1 illustrates the impact of the severe weather experienced in January 2010 where stock levels in NHSBT fell and hospital wastage increased.

Fig 1 Total red cell stock (ISI) held in BSMS NHSBT hospitals and in NHSBT together with the total WAPI for all BSMS NHSBT hospitals.



### NHSBT Issuable Stock Index (ISI)

The NHSBT ISI has fluctuated between a high point of 11.6 in September 2009 and a low point of 7.7 in January 2010.

### England and North Wales hospital ISI

The average ISI by hospital category remains variable between the hospital red cell usage categories<sup>2</sup> (Table 6). The lowest ISI is found in the Very High usage hospital category for all blood groups and for group O Negative.

For all groups and group O Negative the ISI for the Very Low usage category is approximately 3 times greater when compared to the Very High usage category.

When compared to previous years the ISI in both the Low and Very Low usage categories has reduced in 2009/10. This could be due to the development of stock sharing relationships between hospitals where stock is moved between hospitals to make best use of the resource.

**Table 6 Average ISI by hospital category for NHSBT BSMS hospitals**

	Very High	High	Moderate	Low	Very Low
All Groups	4.7	5.4	6.3	8.6	15.2
O Neg	6.5	7.7	8.6	11.7	19.3

<sup>2</sup>Red cell usage categories are defined in the glossary

## NHSBT red cell issues

NHSBT issued 1,864,000 adult red cell units between April 2009 and March 2010, an increase on the previous year of 0.32% (cf. 1,858,000).

The median number of days to expiry at issue was 20 days in 2009/10. This is a decrease of 2 days since 2008/9. The percentage of units with at least 20 days to expiry ranged from 27% in September 2009 to 70.5% in July 2009.

O Negative issues to BSMS participants as a percentage of total issues was 10.4%, 0.3 percentage points higher than in 2008/09 (10.1%).

## NHSBT Wastage

There are technical issues with the provision of NHSBT wastage data for both red cells and platelets. The wastage data will follow as an addendum and will be posted on [www.bloodstocks.co.uk](http://www.bloodstocks.co.uk) as soon as it becomes available.

## England and North Wales BSMS hospital wastage

The percentage of all issues that were recorded as wasted by hospitals was 2.7% compared to 2.1% 2008/9.

The percentage of all O Negative units that were recorded as wasted was 4.4% compared to 4.0% 2008/9

Average total wastage per participant hospital for all blood groups was 183 per participant an increase of 28 units from 2008/9 (Table 7).

Average TIMEX wastage per hospital participant has risen over the last two years. Average TIMEX wastage per participant hospital for all blood groups rose from 107 per participant in 2008/9 to 125 per participant in 2009/10, an increase of 18 units.

Average OTCOL wastage per hospital participant has also risen over the last two years.

**Table 7 England and North Wales BSMS hospitals wastage, by wastage reason and average per participant since 2002/3**

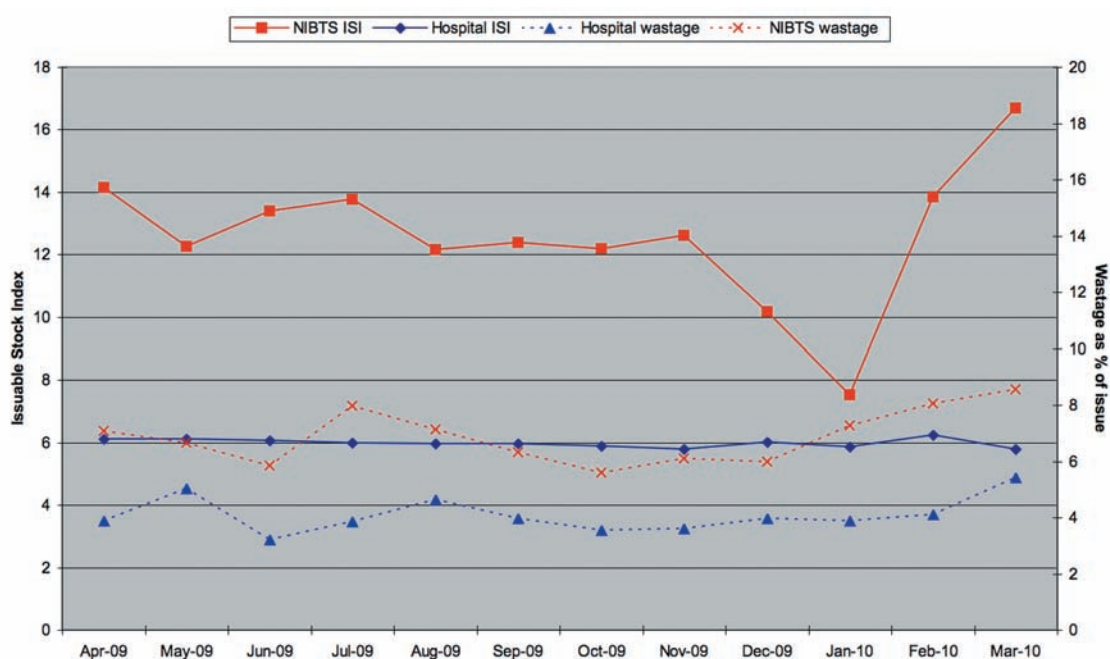
	TIMEX	OTCOL	MISC	FF	Total
<b>Total 2009/10</b>	<b>31302</b>	<b>10608</b>	<b>2891</b>	<b>1122</b>	<b>45923</b>
Ave. per BSMS participant 2009/10	125	42	12	4	183
Ave. per BSMS participant 2008/9	107	35	9	3	155
Ave. per BSMS participant 2007/8	92	29	8	3	133
Ave. per BSMS participant 2006/7	97	28	10	2	138
Ave. per BSMS participant 2005/6	104	26	8	3	142
Ave. per BSMS participant 2004/5	139	25	8	3	175
Ave. per BSMS participant 2003/4	91	23	7	2	125
Ave. per BSMS participant 2002/3	103	21	*7	N/A	135

\*includes fridge failure

## Northern Ireland (NIBTS)

Figure 2 shows the red cell supply chain using stock and wastage data taken from NIBTS participants and NIBTS.

Fig 2 Total red cell stock (ISI) held in all BSMS NIBTS hospitals and in the NIBTS and the total WAPI for all BSMS NIBTS hospitals and the NIBTS.



### NIBTS ISI

The NIBTS ISI remained between 12 and 14 from March until November 2009 before falling to a low point of 7.5 in January 2010 and rising again to a high point of 17 in March 2010.

### Northern Ireland hospitals ISI

The average ISI by hospital category remains variable between the hospital red cell usage categories<sup>2</sup> (Table 8). The lowest ISI is found in the Very High usage hospital category for all blood groups and for group O Negative.

When compared to previous years the O Negative ISI in the Low usage category has reduced in 2009/10.

**Table 8 Average ISI by hospital usage category for Northern Ireland BSMS hospitals**

	Very High	Moderate	Low
All Groups	5.3	6.0	8.2
O Neg	6.1	8.2	9.2

### NIBTS red cell issues

NIBTS issued 53,557 red cell units between April 2009 and March 2010, an increase of 3.6% when compared to 2008/09 (cf. 51,707).

The median number of days to expiry at issue was 21 days in 2009/10 compared to 24 days in 2008/09; a decrease of 3 days. The percentage of units issued with over 20 days to expiry was 84% in January 2010 decreasing to 28% in March 2010.

O Negative issues to BSMS participants as a percentage of total issues was 13.4%, 0.3 percentage points lower than in 2008/09 (13.7%).

<sup>2</sup>Red cell usage categories are defined in the glossary

## NIBTS wastage

Wastage is separated into two categories – TIMEX and MISC. MISC wastage is composed of any unit that is available for issue and has been discarded for a reason other than “time expired”. NIBTS MISC includes pre and post validation wastage.

Wastage as a percentage of issue rose to 6.87% in 2009/10, an increase of 1.41 percentage points compared to 2008/09.

**Table 9 Total NIBTS wastage by wastage reason since 2004/5**

	TIMEX	MISC	Total	WAPI%
<b>2009/10</b>	<b>1171</b>	<b>2510</b>	<b>3681</b>	<b>6.8</b>
<b>2008/9</b>	<b>1157</b>	<b>1666</b>	<b>2823</b>	<b>5.4</b>
<b>2007/8</b>	<b>1170</b>	<b>1431</b>	<b>2601</b>	<b>4.8</b>
<b>2006/7</b>	<b>944</b>	<b>1253</b>	<b>2197</b>	<b>3.8</b>
<b>2005/6</b>	<b>1214</b>	<b>1108</b>	<b>2322</b>	<b>3.8</b>
<b>2004/5</b>	<b>1098</b>	<b>1354</b>	<b>2452</b>	<b>3.9</b>

## Northern Ireland BSMS hospitals wastage

The percentage of all issues that were recorded as wasted was 4.1% compared to 3.6% in 2008/09.

The percentage of all O Negative units that were recorded as wasted was 5.8% compared to 3.9% in 2008/09.

Average total wastage per participant hospital for all blood groups was 212 per participant an increase of 41 units from 2008/9 (Table 10).

Average TIMEX wastage per participant hospital for all blood groups rose from 128 per participant in 2008/9 to 165 per participant in 2009/10, an increase of 37 units.

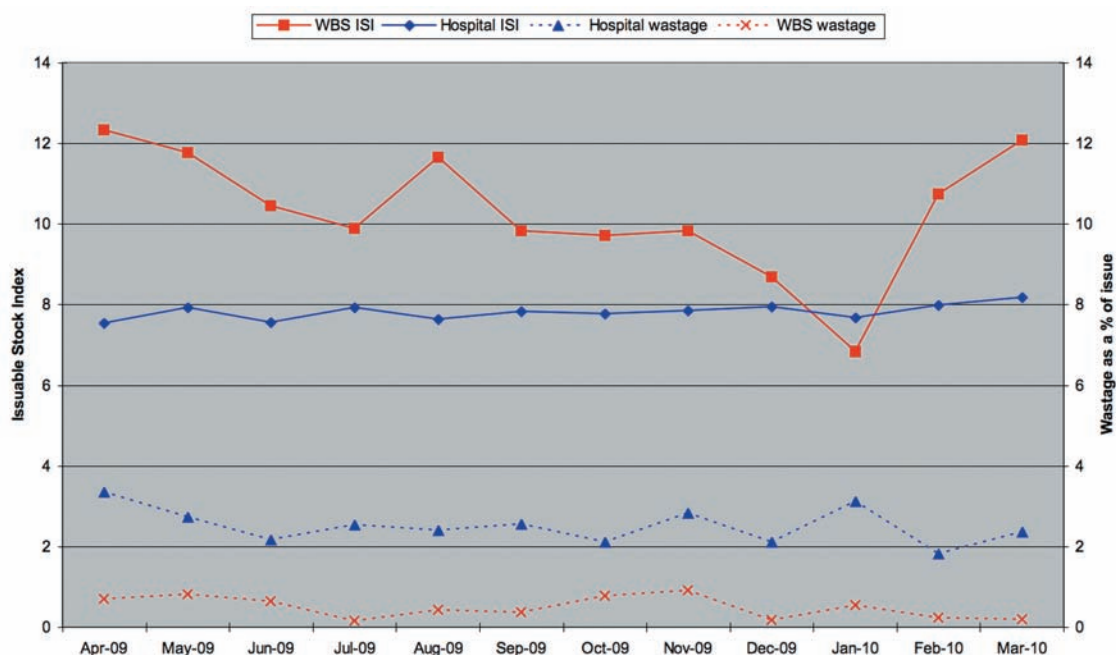
Average OTCOL wastage per hospital participant has decreased over the last year.

**Table 10 NIBTS BSMS hospitals wastage by wastage reason and average per participant since 2004/5**

	TIMEX	OTCOL	MISC	FF	Total
<b>Total 2009/10</b>	<b>1653</b>	<b>257</b>	<b>179</b>	<b>33</b>	<b>2122</b>
Ave. per BSMS participant 2009/10	165	26	18	3	212
Ave. per BSMS participant 2008/9	128	31	8	4	171
Ave. per BSMS participant 2007/8	139	34	11	1	185
Ave. per BSMS participant 2006/7	180	37	10	1	228
Ave. per BSMS participant 2005/6	210	33	9	3	255
Ave. per BSMS participant 2004/5	197	25	7	1	230

## South Wales (WBS)

Fig 3 Total red cell stock (ISI) held in all BSMS WBS hospitals and in the WBS and the total WAPI for all BSMS WBS hospitals and the WBS.



## WBS ISI

The WBS ISI fluctuated between 10 and 12 from April until November 2009. The ISI fell to a low point of 7.5 in January 2010 before recovering to end the year at 12.

## WBS hospital ISI

The average ISI by hospital category remains variable between the hospital red cell usage categories<sup>2</sup> (Table 11). The lowest ISI is found in the Very High usage hospital category for all blood groups.

For group O Negative the ISI for the Very Low usage category is approximately 3 times greater when compared to the Very High usage category. When compared to 2008/09 the ISI in all red cell usage categories has increased in 2009/10.

**Table 11 Average ISI by usage category for WBS BSMS hospitals**

	Very High	Moderate	Low	Very Low
All Groups	6.8	8.2	10.7	13.8
O Neg	11.3	11.3	16.0	31.2

## WBS red cell issues

The WBS issued 86,654 adult red cell units between April 2009 and March 2010 a decrease of 5.4 % when compared to 2008/09 (cf. 91,609)

The median number of days to expiry at issue was 23 days in 2009/10. An increase of 1 day when compared to 2008/09. The percentage of units with at least 20 days to expiry ranged from 55% in April 2009 to 87% in January 2010.

O Negative issues to BSMS participants as a percentage of total issues was 8.8%, 0.3 percentage points lower than in 2008/09 (9.1%).

<sup>2</sup>Red cell usage categories are defined in the glossary

## WBS wastage

Wastage is separated into two categories - TIMEX and MISC. MISC wastage is composed of any unit that is available for issue and has been discarded for a reason other than "time expired".

Wastage as a percentage of issue fell to 0.50% in 2009/10. A decrease of 1.03 percentage points compared to 2008/09.

**Table 12 Total WBS wastage by wastage reason since 2006/7**

	TIMEX	MISC	Total	WAPI%
2009/10	269	160	429	0.50
2008/9	1237	172	1409	1.53
2007/8	694	167	861	0.90
2006/7	546	136	682	0.72

## WBS BSMS hospital wastage

The percentage of all issues that were recorded as wasted by hospitals was 2.5% compared to 1.6% in 2008/9.

The percentage of all O Negative units that were recorded as wasted was 2.8% compared to 3.5% in 2008/09.

Average total wastage per participant hospital for all blood groups was 134 per participant an increase of 28 units from 2008/9 (Table 13).

Average TIMEX wastage per participant hospital for all blood groups rose from 79 per participant in 2008/9 to 106 per participant in 2009/10, an increase of 27 units.

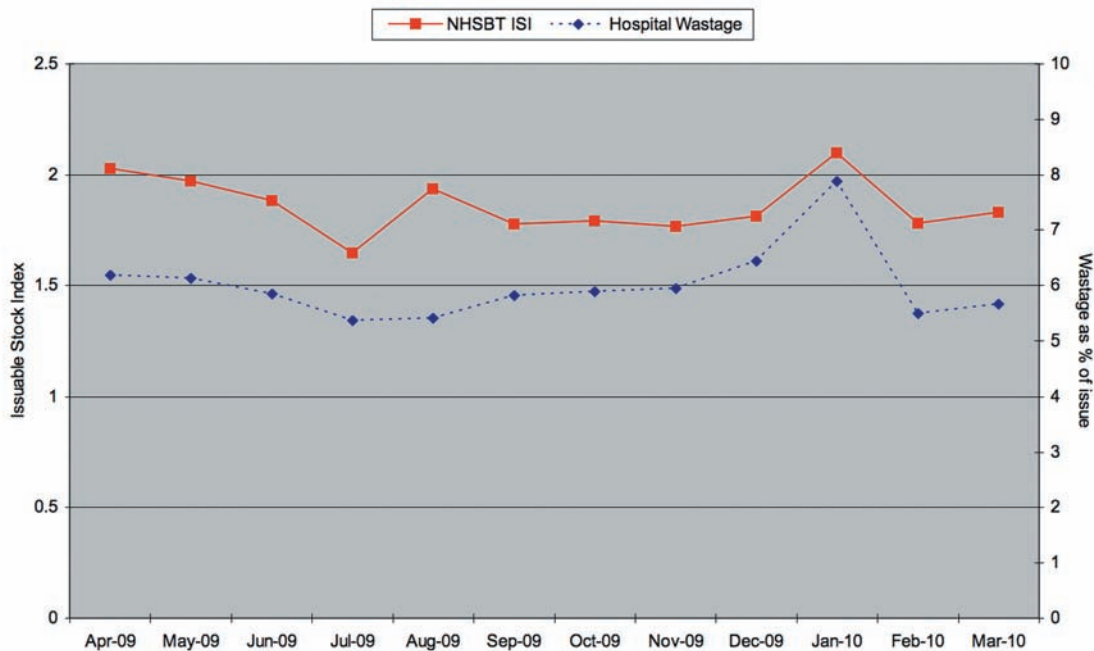
**Table 13 WBS BSMS hospitals wastage by wastage reason and average per participant for 2009/10**

	TIMEX	OTCOL	MISC	FF	TOTAL
2009/10	1593	334	47	33	2007
Ave. per BSMS participant 2009/10	106	22	3	2	134
Ave. per BSMS participant 2008/9	79	20	7	<1	106

# Platelet Supply System

## England and North Wales (NHSBT)

Figure 4 Total Platelet stock (ISI) held in NHSBT and the total wastage as a WAPI for all NHSBT BSMS hospitals.



The adverse weather conditions in January 2010 resulted in a peak in stock levels in NHSBT and a peak in wastage occurring in hospitals (Figure 4).

### NHSBT ISI

The NHSBT platelet ISI remained relatively stable at 1.6-1.8 apart from bank holiday periods and January 2010 when it increased. The increase during the bank holiday periods is to ensure an adequate supply during periods of reduced collection. Production was increased during January to ensure sufficient supply due to the impact the severe weather had on donor attendance.

### NHSBT issues

NHSBT issued 236,000 adult platelet units between April 2009 and March 2010, an increase of 4% from 2008/09.

### NHSBT wastage

There are technical issues with the provision of NHSBT wastage data for both red cells and platelets. The wastage data will follow as an addendum and will be posted on [www.bloodstocks.co.uk](http://www.bloodstocks.co.uk) as soon as it becomes available.

### England and North Wales BSMS hospital wastage

Total platelet wastage for 2009/10 was 12,516.

The average hospital platelet wastage per participant was 7 units higher than in 2008/9 (Table 14).

The highest wastage rates occurred in the Medically Ordered Not Used category.

**Table 14 Total NHSBT BSMS hospitals platelet wastage by wastage reason and average platelet wastage per NHSBT BSMS participant since 2003/4**

	STEX	MISC	MONU	SONU	WOL	WI	Total
<b>2009/10</b>	<b>2892</b>	<b>642</b>	<b>6199</b>	<b>2504</b>	<b>254</b>	<b>25</b>	<b>12,516</b>
Ave. per BSMS participant 2009/10	12	2.6	25	10	1	<1	50
Ave. per BSMS participant 2008/9	9	1.4	23	8	<1	<1	43
Ave. per BSMS participant 2007/8	7	1.4	21	7	<1	<1	37
Ave. per BSMS participant 2006/7	9	1.3	20	8	<1	<1	39
Ave. per BSMS participant 2005/6	7	1.8	19	11	<1	<1	34
Ave. per BSMS participant 2004/5	6	1.6	19	7	<1	<1	34
Ave. per BSMS participant 2003/4	4	1.6	6	1	<1	<1	0

## Northern Ireland (NIBTS)

### NIBTS issues

The NIBTS issued 6,574 platelet units between April 2009 and March 2010, a decrease of 4.3% from 2008/09.

### Northern Ireland wastage

1,469 platelet units were wasted by NIBTS, an increase of 61 units (4.3%) from 2008/9.

### Northern Ireland BSMS hospital wastage

Total platelet wastage for 2009/10 was 456 units.

The average hospital platelet wastage per participant was 2 units higher than in 2008/9 (Table 15).

The highest wastage rates occurred in the Medically Ordered Not Used category.

**Table 15 NI BSMS hospital platelet wastage by wastage reason and average platelet wastage per NIBTS BSMS hospital participant since 2004/5**

	STEX	MISC	MONU	SONU	WOL	WI	Total
<b>2009/10</b>	<b>157</b>	<b>6</b>	<b>239</b>	<b>52</b>	<b>2</b>	<b>0</b>	<b>456</b>
Ave. per BSMS participant 2009/10	16	<1	24	5	<1	0	46
Ave. per BSMS participant 2008/9	11	<1	20	9	<1	0	44
Ave. per BSMS participant 2007/8	21	1	24	5	<1	<1	52
Ave. per BSMS participant 2006/7	19	1.5	23	7	<1	<1	52
Ave. per BSMS participant 2005/6	22	1	21	7	<1	<1	53
Ave. per BSMS participant 2004/5	16	1	21	11	<1	<1	50

## WBS

Platelet data is not collected from hospitals supplied by WBS.

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## Glossary of terms

### Activity Status

- Indicates regularity of hospital data entry onto VANESA; status is one of 'regular', 'partial' or 'none'.

### BSMS – Blood Stocks Management Scheme

#### Hospital Red Cell Usage Categories

- Very High – > 10,001 red cell units per annum.
- High – 6,501 -10,000 red cell units per annum.
- Moderate – 4,001 – 6,500 red cell units per annum.
- Low – 801 – 4,000 red cell units per annum.
- Very Low – 0 – 800 red cell units per annum.

#### IPS – Inventory Practice Survey

- Annual survey distributed to BSMS hospitals; designed to collect information on current inventory practice in hospitals.

#### ISI – Issuable Stock Index

- (*Hospital or Blood Service*) ratio of current issuable stock to nominal stock. Used to assess relative stock levels in hospitals and/or blood centres.

#### Issues (Gross)

- (*Hospital*) Number of Red Cell or Platelet units issued from a blood service to a hospital.

#### Issues (Net) –

- (*Hospital*) Gross Issues plus or minus Red Cell or Platelet stock movements to or from other hospitals/ trusts.

#### MISC – Miscellaneous

- (*Hospital wastage reason*) Red Cell units that are wasted for reasons other than **TIMEX**, **OTCOL** or **FRIDGE FAIL**. Additionally for Platelets, wasted for reasons other than **MONU**, **SONU**, **WOL**, **WI**.
- (*Blood service wastage reason*) Red Cell or Platelet units that are wasted for reasons other than **TIMEX**.

#### MONU – Medically ordered not used

- (Platelet wastage reason) Platelet unit ordered for a medical patient, but subsequently not used and wasted.

#### NHSBT – NHS Blood and Transplant

- Blood service supplying the hospitals of England and North Wales.

#### NIBTS – Northern Irish Blood Transfusion Service

- Blood service supplying the hospitals of Northern Ireland.

#### Nominal Stock – Approximation of a single days stock

- (*Hospital*) Mean daily number of Red cell or Platelet unit issues from a blood service, during a six month period.
- (*Centre*) Mean daily number of Red cell or Platelet units issued, during a six month period.

**OTCOL – Out of temperature control outside the laboratory**

- Hospital wastage reason for Red cells.

**Pre-validation wastage**

- Blood centre wastage that occurs prior to a unit of red cells and platelets being validated.

**Post-validation wastage**

- Blood centre wastage that occurs after a unit of red cells and platelets has been validated. Post validation may include pre-validation wastage that was discovered post-validation e.g. pack label fault.

**SONU – Surgically ordered not used**

- (*Platelet wastage reason*) Platelet unit ordered for a surgical patient, but subsequently not used and wasted.

**STEX – Stock platelet time expiry**

- (*Platelet wastage reason*) Platelet unit that exceeds its natural shelf life; only applicable to hospitals that hold stock platelets.

**TIMEX – Time Expiry**

- (*Hospital or Blood service wastage reason*) Red cell units that exceed their natural shelf life.

**VANESA**

- Blood Stocks Management Scheme data management system.

**WAPI – Wastage As a Percentage of Issue**

- (*Hospital*) Total number of wasted units (Red cell or Platelet) divided by the total number of units issued to the hospital.
- (*Blood Centre*) Total number of wasted units (Red cell or Platelet) divided by the total number of units of donations the Blood Centre receives.

**WBS – Welsh Blood Service**

- Blood service supplying the hospitals of South Wales.

**WI – Wasted import**

- (*Platelet wastage reason*) Platelet unit imported from another hospital, with a patient, but then not used and wasted.

**WOL – Wasted out of the laboratory**

- (*Platelet wastage reason*) Platelet unit taken from the laboratory, left on the ward and wasted.

