

Smarter Blood Stocks Management

BMS Empowerment March 2021

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- What is the Blood Stocks Management Scheme (BSMS)?
- Vanesa live demo
 - Data entry
 - Data analysis
- Smarter and more informed stock management decisions
 - Stock platelets a case study

BSMS Team



- Manager, lead specialists x2, data analysts x2, admin support
- What do we do?
 - Blood product inventory management specialists
 - $\odot \textsc{Engage}$ with hospitals to improve outcomes
 - Provide evidence based intelligence to blood services for provision of blood
 - \circ Education workshops, roadshows
 - Benchmarking routine reports
 - Recommendations and guidelines for inventory management best practice

VANESA = <u>V</u>ital <u>Appropriate Knowledge</u> <u>Enhances</u> <u>Stock</u> <u>Analysis</u>

- Web based platform for data entry/analysis for UK hospitals (UK, Wales, Northern Ireland) and blood services including
 - NHS Blood and Transplant (NHSBT)
 - The Welsh Blood Service (WBS)
 - The Northern Ireland Blood Transfusion Service (NIBTS)
- Developed 21 years ago
- 258 hospitals, 21 NHSBT centres
- Data collected includes: Stock, wastage, issues, movements, transfusions
- RBC, PLT, Frozen products FFP, Cryo, Commercial (Octaplas)

Examples of how VANESA data is used



- Participants can view real-time data and charts.
- Routine reports
- Benchmarking
- Hospital site stock/wastage analysis
- Progress monitoring following improvement measures
- Trend analysis e.g. during a pandemic, specific blood groups of interest
- Evidence for change e.g. wastage data for specific products or practices

Examples of how VANESA data is used







Live demo

| Welcome to Blood Stocks Management Scheme | User Name Password | Blood and Transpl |
|--|-----------------------|--|
| ***LIVE ENVIRONMENT*** Blood Stocks Management Scheme 4.0.18(BSMS Data:4.0.11) NDCVE183 | | Register Activate Forgotten password |
| | | Sign in |

VANESA actions



- Data entry
- Hospital data graphs and tables
- Transparency tables

Understanding your hospital stock levels



| Blood Group | Ideal stock | Issuable stock | Nominal stock | Issuable Stock Index |
|-------------|-------------|----------------|---------------|----------------------|
| O Pos | 35 | 25 | 14.81 | 1.69 |
| O Neg | 30 | 31 | 8.89 | 3.49 |
| A Pos | 30 | 8 | 10.54 | 0.76 |
| A Neg | 14 | 21 | 3.86 | 5.44 |
| B Pos | 6 | 10 | 2.8 | 3.57 |
| B Neg | 4 | 4 | 0.95 | 4.21 |
| AB Pos | 4 | 9 | 1.25 | 7.19 |
| AB Neg | 2 | 2 | 0.17 | 11.81 |

- VANESA Nominal Stock and Issuable Stock Index (ISI) found on the daily stock entry page
 - Nominal Stock is a measure of how much of each group used per day. Calculated over a rolling 12 month period and excludes wasted units.
 - ISI is a measure of how many days worth of stock of each group you are holding.











Graph type: Wastage as a percentage of issue (RedCells) Blood group: All Blood Groups

Cluster: Cluster count: 289









| Home | Adult Red Cell | Adult T Platelet | Frozen 🔻 | Hospital Profile | HTT Audit 🔹 🔻 | Transparency T ables | E-Reports 🔻 | Help |
|------|-------------------|----------------------------|----------|---------------------|---------------|-----------------------------|-------------|------|
| | | | | | | | | |

Red Cells Transparency - Kings College Hospital

Select from the criteria below

- Wastage
- O Net issues to the hospital

| From the start of January | 2019 × to | the end of Ma | arch ~ | 2019 🖂 | | |
|--|-------------------------------|---------------|------------|--------|---|--------------------------------|
| Red Cell Usage - Very High NHSBT Served Hospital Major Trauma Centre Adult & Children's Major Trauma Centre | ∧∨ | < >> << | London RTC | | < | All selected categories \sim |



| Blood Service Name | ∇ Hospital Name | А, В & О | O Neg | A, B&OWAPI | ONeg WAPI | Entries |
|--------------------|--|----------|-------|------------|-----------|---------|
| NHSBT | Barnet General | 70 | 13 | 6.44 | 11.61 | 62 |
| NHSBT | BMI London Independent Hospital | 10 | 8 | 16.67 | 36.36 | 21 |
| NHSBT | BMI The Blackheath Hospital | 17 | 7 | 14.41 | 9.86 | 3 |
| NHSBT | Central Middlesex Hospital | 0 | 0 | 0.00 | 0.00 | 3 |
| NHSBT | Charing Cross Hospital | 6 | 0 | 0.70 | 0.00 | 2 |
| NHSBT | Chase Farm Hospital | 0 | 0 | 0.00 | 0.00 | 37 |
| NHSBT | Chelsea and Westminster Hospital | 20 | 8 | 2.04 | 6.06 | 22 |
| NHSBT | Cromwell Hospital | 4 | 4 | 1.79 | 14.81 | 3 |
| NHSBT | Croydon University NHS Trust | 0 | 0 | 0.00 | 0.00 | 0 |
| NHSBT | Ealing BMI | 0 | 0 | 0.00 | 0.00 | 2 |
| NHSBT | Ealing General Hospital | 7 | 3 | 0.99 | 1.88 | 3 |
| NHSBT | Epsom General Hospital | 9 | 2 | 2.02 | 2.06 | 3 |
| NHSBT | Great Ormond Street Hospital for Children | 16 | 3 | 1.85 | 1.03 | 3 |
| NHSBT | Guy's Hospital | 159 | 39 | 3.81 | 4.32 | 3 |
| NHSBT | Hammersmith Hospital | 27 | 3 | 0.67 | 0.35 | 3 |
| NHSBT | Harefield Hospital | 33 | 5 | 3.34 | 4.81 | 3 |
| NHSBT | HCA Laboratories | 12 | 1 | 1.10 | 0.72 | 3 |
| NHSBT | Hillingdon Hospital | 16 | 0 | 1.14 | 0.00 | 49 |
| NHSBT | Homerton Hospital | 11 | 5 | 0.56 | 1.23 | 34 |
| NHSBT | King George Hospital | 1 | 0 | 0.23 | 0.00 | 2 |
| NHSBT | Kings College Hospital | 148 | 38 | 2.55 | 3.74 | 91 |
| NHSBT | Kingston Hospital | 0 | 0 | 0.00 | 0.00 | 0 |
| NHSBT | London Bridge Hospital | 0 | 0 | 0.00 | 0.00 | 0 |
| NHSBT | Newham University Hospital | 26 | 6 | 2.46 | 3.23 | 91 |
| NHSBT | North Middlesex Hospital | 36 | 11 | 1.61 | 2.44 | 20 |
| NHSBT | Northwick Park Hospital | 10 | 5 | 0.41 | 1.67 | 10 |
| NHSBT | Parkside Hospital | 4 | 4 | 6.78 | 12.90 | 11 |
| NHSBT | Princess Royal University Hospital,(Farnborough) | 17 | 8 | 1.27 | 4.40 | 2 |
| NHSBT | Queen Elizabeth Hospital, (Woolwich) | 32 | 12 | 2.14 | 4.32 | 3 |
| NHSBT | Queen's Hospital (Romford) | 25 | 5 | 1 27 | 2 29 | 3 |



| Select from the criteria be | elow |
|-----------------------------|------|
|-----------------------------|------|

- Stock level
- 🔾 Wastage
- Gross issues to the hospital
- Net issues to the hospital
- O Movement between hospitals

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2019 🖂

to the end of January

O Transfused

| From the start of | January |
|-------------------|---------|
|-------------------|---------|

Submit

Export To Excel

Total monthly net issue data

| Date | O Pos | O Neg | A Pos | A Neg | B Pos | B Neg | AB Pos | AB Neg | Total | Last Updated |
|----------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|----------------------|
| January 2021 | 470 | 185 | 488 | 90 | 97 | 33 | 27 | 0 | 1390 | 14 Feb 2021 17:00:16 |
| December 2020 | 422 | 232 | 498 | 156 | 80 | 24 | 17 | 0 | 1429 | 14 Feb 2021 17:00:16 |
| November 2020 | 440 | 184 | 456 | 140 | 93 | 16 | 33 | 1 | 1363 | 31 Jan 2021 17:00:18 |
| October 2020 | 653 | 206 | 512 | 163 | 80 | 18 | 27 | 0 | 1659 | 27 Dec 2020 17:00:16 |
| September 2020 | 683 | 282 | 499 | 190 | 61 | 25 | 31 | 1 | 1772 | 29 Nov 2020 17:00:21 |
| August 2020 | 497 | 257 | 475 | 130 | 78 | 34 | 29 | 1 | 1501 | 25 Oct 2020 17:00:19 |
| July 2020 | 518 | 216 | 501 | 175 | 74 | 28 | 23 | 0 | 1535 | 27 Sep 2020 17:00:15 |
| June 2020 | 561 | 264 | 345 | 132 | 92 | 19 | 27 | 1 | 1441 | 30 Aug 2020 17:00:14 |
| May 2020 | 516 | 202 | 411 | 107 | 87 | 24 | 8 | 4 | 1359 | 26 Jul 2020 17:00:20 |
| April 2020 | 416 | 196 | 306 | 128 | 73 | 22 | 19 | 2 | 1162 | 28 Jun 2020 14:00:20 |
| March 2020 | 452 | 213 | 419 | 135 | 84 | 30 | 27 | 2 | 1362 | 31 May 2020 14:00:17 |
| February 2020 | 446 | 194 | 589 | 140 | 77 | 24 | 8 | 0 | 1478 | 26 Apr 2020 14:00:16 |
| January 2020 | 579 | 254 | 576 | 152 | 87 | 30 | 35 | 12 | 1725 | 29 Mar 2020 14:00:15 |
| December 2019 | 618 | 274 | 430 | 175 | 98 | 31 | 22 | 9 | 1657 | 23 Feb 2020 14:00:13 |
| November 2019 | 483 | 210 | 531 | 143 | 70 | 32 | 19 | 8 | 1496 | 26 Jan 2020 14:00:13 |
| October 2019 | 634 | 283 | 583 | 138 | 107 | 50 | 37 | 10 | 1842 | 29 Dec 2019 14:00:15 |
| September 2019 | 619 | 271 | 496 | 140 | 75 | 64 | 36 | 16 | 1717 | 24 Nov 2019 14:00:15 |
| August 2019 | 575 | 181 | 429 | 165 | 74 | 39 | 24 | 9 | 1496 | 27 Oct 2019 14:00:14 |
| July 2019 | 526 | 241 | 461 | 124 | 35 | 69 | 18 | 5 | 1479 | 29 Sep 2019 14:00:16 |
| June 2019 | 668 | 210 | 536 | 128 | 85 | 77 | 32 | 10 | 1746 | 25 Aug 2019 14:00:19 |
| May 2019 | 636 | 180 | 570 | 179 | 102 | 34 | 23 | 5 | 1729 | 28 Jul 2019 14:00:26 |
| April 2019 | 750 | 225 | 548 | 170 | 101 | 43 | 20 | 12 | 1869 | 30 Jun 2019 14:00:19 |
| March 2019 | 619 | 219 | 448 | 147 | 97 | 38 | 45 | 7 | 1620 | 26 May 2019 14:00:30 |
| February 2019 | 671 | 264 | 411 | 99 | 117 | 23 | 17 | 13 | 1615 | 28 Apr 2019 14:00:29 |
| January 2019 | 736 | 261 | 448 | 96 | 100 | 62 | 18 | 14 | 1735 | 31 Mar 2019 14:00:22 |

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2021 V by Month V

VANESA



'Homework' –

- Log in with your hospital account/get your own account
- Have a look at your hospital data are there any trends?
- Have a look at the transparency tables how does your hospital compare with your cluster/peers?
- Can you see any opportunities to improve?
- If your hospital doesn't supply stock/wastage data why might this be?

Discussion Point

Stock platelets case study

We are thinking of stocking platelets at our hospital. Could you advise me if any of the data we have on blood stock management scheme would be useful to us?



Stock platelets – Questions for the audience

- 1. Do you routinely hold stock platelets in your lab?
- 2. Do you think holding stock platelets is a good idea?
- 3. Do you think holding stock platelets increases wastage?
- 4. Why do you think holding stock platelets is a good idea?



- 1. Hospital size
- 2. Specialties
- 3. Distance from NHSBT stock holding unit
- 4. Annual platelet usage

Hospital profile:



- Small district general hospital (430 beds)
- ED, obstetrics, haematology day case and inpatient but no haematology stell cell transplant work, cardiology diagnostics unit.
- Not a trauma centre
- General surgery (not vascular and heart/lung)
- 2 hours from NHSBT (SLA) (in reality it is 1 hour)
- No ability to stock share
- MHP activation = 2 units of platelets (A neg) unless clinicians do not want platelets
- All the hospitals in the region hold stock platelets
- The laboratory think it will reduce ad-hoc deliveries.

The data?



PLT issues

 Issues have increased in 2020, A neg PLT have increased from <10 to >10 per month.



PLT Wastage vs Issues

• Wastage has not increased with increasing issues.



More data



Ad-Hoc deliveries summary 2020

• Weekday Adhoc deliveries have increased in 2020, weekend OOH Adhoc (negligible increase) ?whether utilised for PLTs.



Is holding stock platelets the smart thing to do? Blood Stocks Management Scheme

- Consider guidance for platelet utilisation
- Decision should be patient focused what will give the best outcome for the patient?
- Consider blood group and specification of stock platelet(s)

Stock platelets – guidance









CMV negative platelets are rarely
needed: do not order unless the
patient requires themImage: state of the state of the

The use of platelets of a different group should be limited to patients where:

1 the blood 2 th group is n unknown p

2 there is a need to prevent are necessary wastage due to time expiry









If you stock platelets establish a strategy to maximise transfusion of ABO/D compatible units



Is holding stock platelets the smart thing to do? Blood S

Blood Stocks Management Scheme

Stock platelets – Questions for the audience

5. Which group and specification could a stock platelet unit be?

Adult platelet manufacturing

Blood Stocks Management Scheme



The platelet supply chain is complex



- 1 product donated
- Manufactured into several products/possibilities dependent on demand
- National supply chain complex
- Impact of one additional platelet unit request could affect the supply chain
- In order for the supply chain to continue to deliver optimally, the interaction & engagement between blood service and hospitals is essential to understand the changing dynamic.





The reality may be significantly more complicated



- Clinical need vs logistical need
- Cost of wastage vs cost of ad-hoc transport
- Which blood group to stock not necessary to hold A Neg, not necessary for these to be apheresis (unless supporting a children's hospital)
- Strategy to use best ABO matched units Use of non-ABO matched platelets may result in low increments unnecessary transfusion
- The impact on the supply chain
- Strategy to replenish used stock



We advised that we think there are 3 options:

- 1. Decide that there is insufficient benefit to holding stock platelets and continue to order as required.
- 2. Decide to hold stock platelets and potentially operate a trial period (1-2 months) and compare against current data for clinical benefit, wastage and transport. Review and reject or revise as required upon review.
- 3. Decide to do option 2 but consider holding stock platelet Monday-Friday only this might balance against the demand better but clear protocols for re-order need to be established. Review and reject or revise as required upon review.

Ask the audience:

6. Which option would you choose if you were this hospital?



- Understand the complex decision making behind the decision to hold stock
- Understand the impact on the supply chain of the demand
- Using data can help make informed decisions based on evidence



Questions? Comments?

Contact the BSMS Team

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