

Better Practice Case Study: BloodMove Project

The Country Health South Australia Local Health Network (CHSA) BloodMove Project is a collaborative program to facilitate best practice in blood management throughout regional South Australia. BloodMove oversees 60 regional hospitals that are supplied with blood and blood products by both regional and metropolitan transfusion services.

BloodMove is supported by the Blood, Organ and Tissue Programs section of the SA Department for Health and Ageing and was implemented to minimise blood wastage through improvements to cold chain systems and inventory practices.

Aims

The main aims of BloodMove are to:

- > establish safe and effective blood inventory management systems
- > reduce blood wastage
- > ensure effective supply and use of emergency blood in regional centres.

In so doing, BloodMove identified:

- > The need to upgrade/replace existing blood refrigerator assets in regional SA and initiated an active focused replacement program
- > The need for on-site training of blood refrigerator maintenance and quality oversight as well as blood shipper packing
- > Opportunities for reducing the previous (15%) blood wastage due to known or suspected cold chain breaches or poor inventory practices



For more examples of better practice case studies visit www.blood.gov.au

Since its commencement, BloodMove has sustained and further improved upon reduction of avoidable blood wastage in CHSA - from 15% in July 2007 to less than 1% in January 2013.

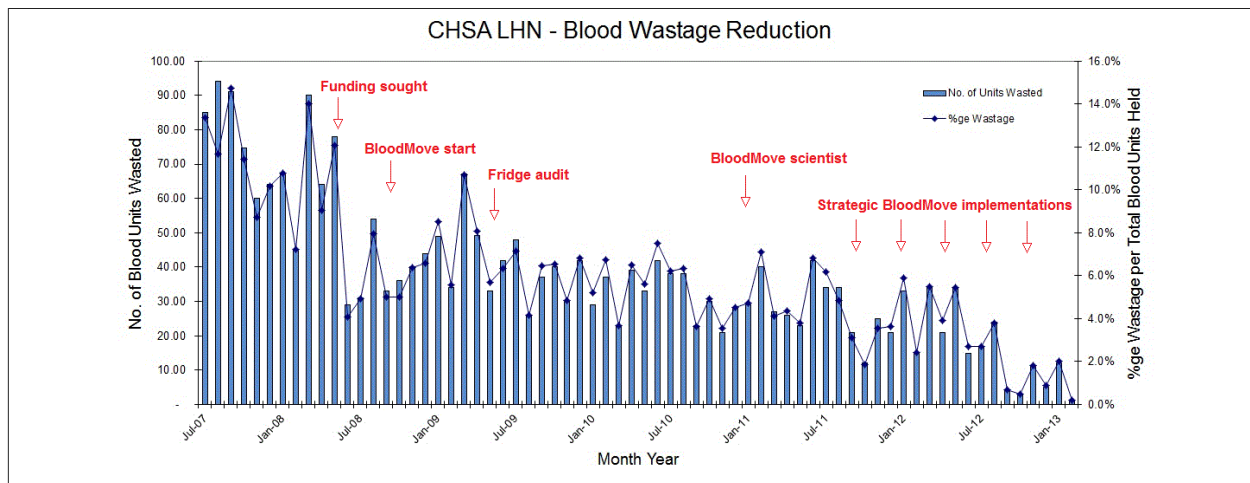


FIGURE: Demonstration of improved blood wastage reduction from July 2007 to January 2013 including milestones

Staffing and governance

BloodMove is managed and facilitated by a Project Team which consists of:

- > Medical Scientist Lead
- > Nurse Management Facilitator Lead
- > Regional Cluster BloodSafe Clinical Nurses (x10)
- > Site Blood Contact Nurses (each site)

Currently, each of the Regional Cluster BloodSafe Clinical Nurses looks after a regional cluster comprising between five (5) and eight (8) hospitals. Their role is to assist sites to manage blood related issues; including conducting audits and assessing inventories in hospitals within their region. This is further supported at each site through a Site Blood Contact Nurse; their role is to ensure site compliance with blood related policies and procedures. This process is overseen by the BloodMove Leads at a State level.

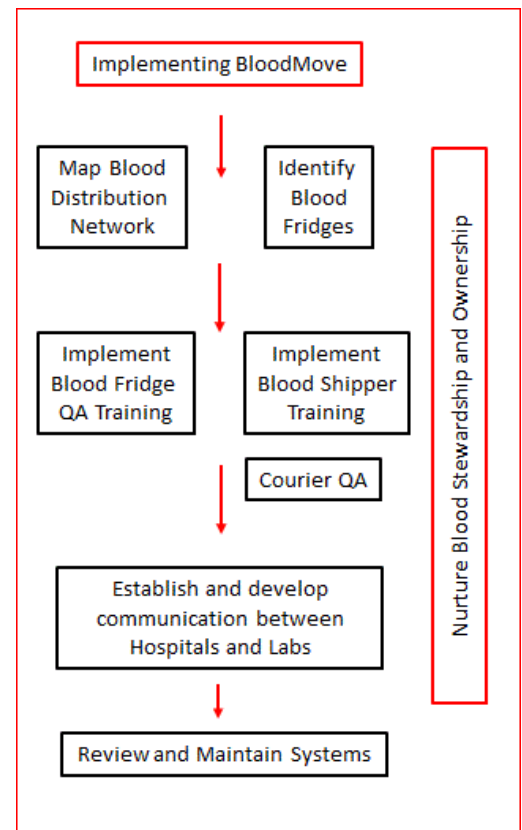
BloodMove reports to the CHSA Transfusion Committee which consists of representation from Regional and Metropolitan Medical, Nursing, Transfusion Laboratory Managers, the Blood Service and SA Health.

Implementation and hub-spoke arrangements

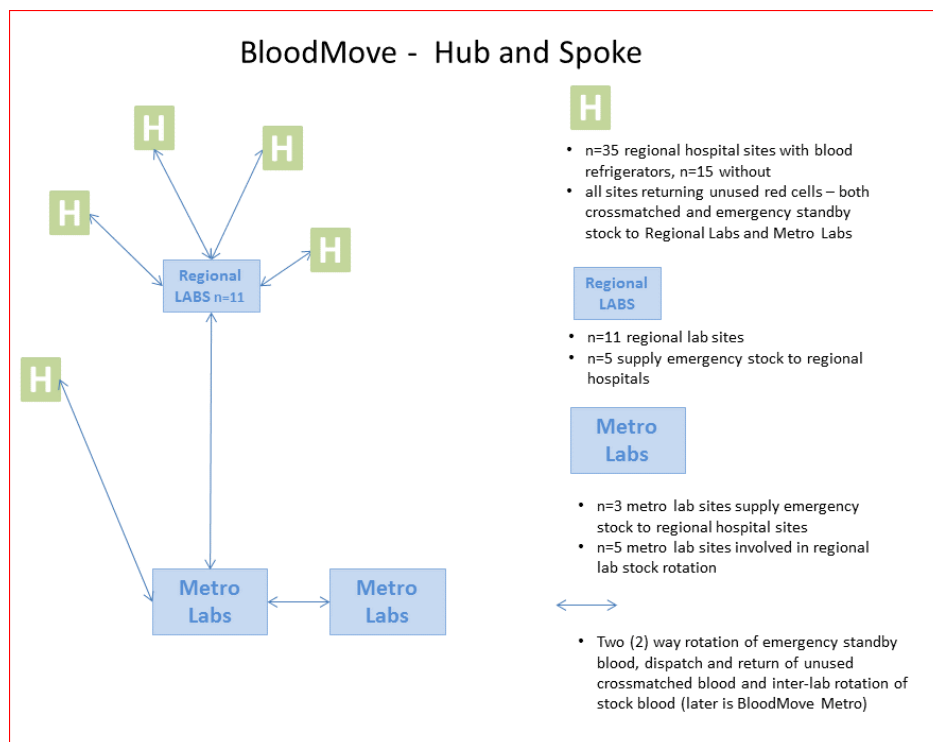
Implementing BloodMove

As illustrated in the image on the right, key steps for SA Health and CHSA in implementing the BloodMove project have been:

- > establishing a BloodMove Lead Team to facilitate the project,
- > identifying the blood distribution network (i.e. who supplies whom),
- > identifying blood fridges used at sites and dealing with any problems those fridges had,
- > implementing appropriate blood fridge quality assurance measures,
- > facilitating fridge oversight and shipper packing education,
- > identifying (and refining) courier systems for delivering blood,
- > establishing communication links between hospitals and laboratories,
- > reviewing and maintaining systems, and
- > instilling and nurturing a culture of blood stewardship and ownership.

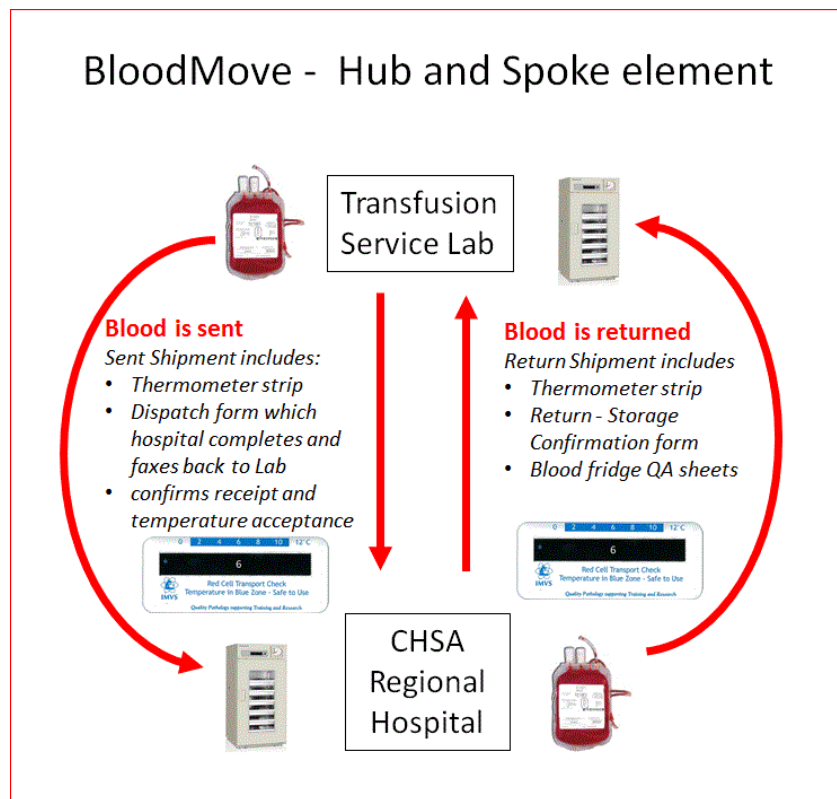


BloodMove – hub and spoke – South Australia



The image above demonstrates how the BloodMove process in South Australia involves partnering regional hospitals with regional and metropolitan laboratories (BloodMove Country). The laboratories supply emergency and cross-matched blood to these hospitals and any unused blood is returned to the laboratories. If necessary, regional laboratories may transfer their near-expiry blood to the central metropolitan laboratories for use. Smaller metropolitan laboratories (private and public) may also transfer near-expiry blood to larger metropolitan laboratories (BloodMove Metro) for use.

BloodMove - hub and spoke element



As depicted above, a transfusion service laboratory sends a shipment of either cross-matched or emergency standby blood to a CHSA regional hospital, which includes a thermometer and documentation. The receiving hospital verifies blood temperature on receipt, completes documentation and faxes it to the dispatching laboratory. If blood is not used or if the emergency standby blood approaches 10 days to expiry, it is returned to the dispatching laboratory. The return shipment includes a thermometer and the hospital's storage quality assurance documentation. This documentation includes a red cell return form which acts as confirmation that the blood was stored and handled correctly during its 'stay' at the hospital and copies of the blood fridge maintenance record form(s) and thermograph(s), which act as evidence.

BloodMove features and strengths

The standout features and strengths of BloodMove are:

- > effective **communication**
- > appropriate **cold chain security** processes
- > ongoing **education and training**
- > creating a sense of **stewardship and ownership** of blood-related processes.

Communication

Communication is ongoing between the BloodMove Team, hospitals and laboratories. In turn, a supportive network is now available that stakeholders can “tap into” – this supports blood management issues. This is particularly important, as BloodMove covers a number of clusters (i.e. regions) across a wide area in regional SA that are supplied by various transfusion laboratories.

Since the implementation of BloodMove:

- > existing communication channels have been enhanced and nurtured
- > additional communication channels have been established (e.g. communication between pathology laboratories and nominated site contact nurses)
- > BloodMove leads have visited sites to provide guidance, training and support to CHSA staff
- > BloodSafe clinical nurses meet via teleconference bimonthly; facilitating discussion on blood management
- > BloodMove leads provide guidance and support to “hub and spoke” stakeholders; to ensure best practice in blood cold chain management thus minimising waste.

At times there have been challenges with the BloodMove processes, however, these challenges have been resolved because of the established communication channels and continuous support offered by the BloodMove Team.

Cold chain security

BloodMove ensures that storage, transport and traceability for blood are undertaken in accordance with current standards, guidelines and criteria.

Compliance ensures that supplying laboratories are able to accept blood units back into their inventory for use before expiry.

Existing blood shippers and commonly used packing configuration were validated by BloodMove. Part of this validation involved examination of existing courier systems to identify possible temperature challenges during transport. It was found that the current shipper and transport system utilised were acceptable. BloodMove established that, when accompanied with onsite shipper packing education, the transportation of blood throughout regional SA would be assured. BloodMove will be providing an independent validation report for the shipper system used throughout SA (i.e. Blood Service Configuration R1).

When hospital staff are returning blood, it is a requirement that the following are included in the shipper:

- > *Red Cell Return Form* (details blood being returned and confirms that blood was stored and handled correctly whilst at the hospital)
- > *Copy of Blood Fridge Maintenance Record* (evidence of fridge oversight and checking)
- > *Copy of Temperature Record Charts* (e.g thermographs) (objective evidence of storage temperature)

This documentation is used to declare that the appropriate checks have been performed by the hospital whilst storing the blood.



FIGURE: A pathology laboratory staff member prepares a shipper for the transfer of blood

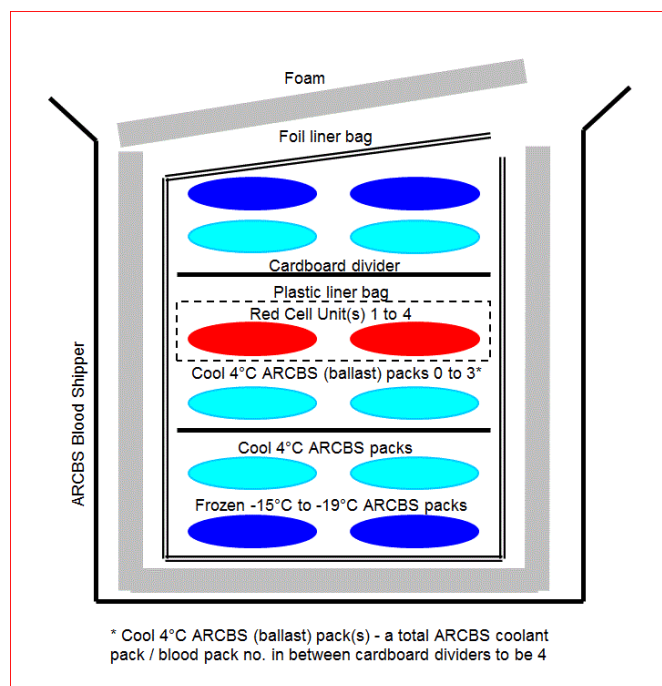


FIGURE: BloodMove Shipper Configuration

All CHSA sites use blood refrigerators that are serviced and used in accordance with Australian Standard AS3864. Blood refrigerator quality assurance is achieved by:

- > training staff on how to maintain and use blood refrigerators
- > continuous temperature monitoring via thermographs
- > regular alarm testing of power loss, high and low temperature challenges and remote activation
- > all manual temperature monitoring and alarm tests are recorded on Blood Fridge Maintenance Record.

All of the above requirements provide assurance to laboratories and hospitals that any blood they are physically receiving has been stored appropriately, can be safely re-introduced to existing inventory and used when required. This is supported and maintained by regular auditing of hospital blood fridge and inventory documentation and processes.

Education and training

A key role of the BloodMove Team is to offer education, training and guidance to the hospital on:

- > Accreditation and compliance with applicable standards and guidelines
- > Correct storage, transportation and handling of blood
- > Correct completion of all documentation
- > Emphasising the need to report blood management incidents into the SA Health Safety and Quality incident database
- > Administration of blood and blood products to patients
- > Nurturing blood stewardship and respecting this valuable donated product.

This is an ongoing process that is standardised across all hospitals in accordance with best practice.

Stewardship and ownership

BloodMove has achieved a cultural change across regional SA on important issues such as blood-related costs, inventory management and minimising avoidable blood wastage.

The change has been brought about by the education provided by BloodMove site visits detailing the sense of blood stewardship and ownership in their duties whilst the blood is in their possession. CHSA hospital staff and transfusion laboratory staff now are mindful of any blood wastage and question and attempt to resolve all causes whereas in the past such wastage was accepted as unavoidable.

BloodMove has become part of normal accepted practice at sites across country South Australia. A recent highlight for the BloodMove Team and for all stakeholders was that there was only one (1) blood unit being wasted in the whole of regional SA in February 2013. The Team even investigated that one, to see what could have been done to prevent it.

The future

BloodMove is continuously assessing new systems and processes to further improve on blood wastage minimisation, cold chain security and inventory practices.

Following the success of BloodMove in regional SA, it is now being expanded to incorporate the private hospital sector within metropolitan Adelaide. The next phase of BloodMove will address “hub to hub” blood inventory management between metropolitan public and private transfusion laboratories.

For more information

This case study is accompanied by short media clips which explain further some of the content available in this factsheet. Additionally, there are downloadable tools and material which may also be useful. To see this case study in full or for information on other case studies visit www.blood.gov.au/case-studies

Contact officers

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In particular a special thank you to:

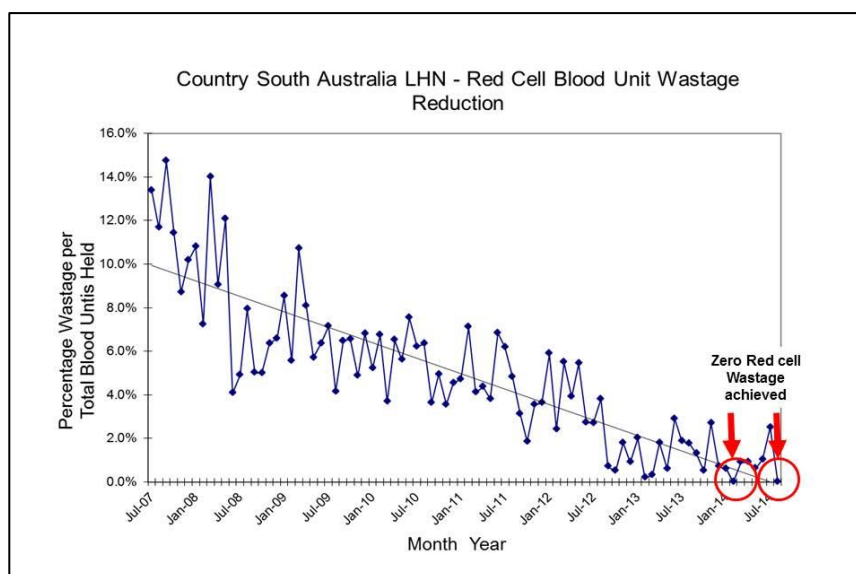
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- > Sophia Hague – Transfusion Medicine - SA Pathology - Royal Adelaide Hospital
- > Adam Dichiera – Transfusion Medicine - SA Pathology - Royal Adelaide Hospital
- > Andrew Levak – Regional Services - SA Pathology - Berri Hospital

BloodMove Achievements since the 2013 Case Study

- achieving ZERO red cell wastage in a network of 65 regional hospitals and health services
- BloodMove adopted by all public and private hospital and laboratories in SA

Since the initial NBA BloodMove Case Study of 2013, the BloodMove Program has been acknowledged nationally and locally with award recognition and conference presentations.

The greatest reward for the BloodMove Team was, however, achieving zero per cent (0%) red cell wastage in regional SA in February and August 2014 (see Graph). This is a significant achievement considering regional SA represents a health network consisting of 65 hospitals and health services which may perform transfusions. Forty five of these have a blood refrigerator, 35 of which routinely hold blood and 11 have on-site transfusion service laboratories.



Importantly, BloodMove has developed and implemented a common *Blood and Blood Products Inventory Manual* for the regional SA health network and an accompanying set of forms, BloodSafe registers, audit tools, templates and 'how to guides'. These documents have enabled all sites in regional SA to manage blood using a standard set of procedures including all processes and steps in the receipt, storage and return of blood and blood products.

Every regional and remote hospital in SA that has a blood refrigerator has been formally 'partnered' with one transfusion service laboratory which oversees that blood refrigerator on a weekly and monthly basis (see National Blood Symposium 2015 Blood Fridge poster). These arrangements were previously limited to only sites holding emergency stock. In October 2014, this partnering arrangement was extended to all sites. Paper-based blood fridge quality monitoring documentation will be transferred to the recently available BloodNet Blood Fridges Module.

BloodMove has now been implemented throughout all metropolitan Adelaide private hospitals. Each private hospital with a blood refrigerator is partnered with one private pathology transfusion service laboratory. Every transfusion service laboratory in SA now knows that every blood refrigerator in SA is managed under a partnering arrangement with one other NATA accredited transfusion service laboratory.

BloodMove practices combined with regional SA and metropolitan Adelaide across public and private sectors has contributed to South Australia consistently achieving the lowest red cell wastage rate in Australia of 1.5 - 2% for the 2014/15 financial year to date (July 2014 to February 2015).

Awards

The BloodMove Project has been recognised for its innovation and excellence receiving the following awards:

- > 2015 National Blood Symposium – Award for excellence in a public/private health care sector collaboration
 - > 2014 The Australian Council Healthcare Standards (ACHS) for Quality Improvement Award: Non-Clinical Service Delivery
 - > 2013 SA Health Award for Excellence in Non Clinical Service
 - > 2013 Australian College of Health Service Management (SA Branch) Award for Innovation and Excellence
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The Next BloodMove Innovation - Platelets

BloodMove, in collaboration with SA Pathology, has been extended to platelets and has already seen a reduction in the SA public hospital platelet wastage rate from 17% to approximately 7%, a reduction sustained for 10 months.