

# NATIONAL BLOOD AND BLOOD PRODUCT WASTAGE REDUCTION STRATEGY 2013-2017

*Working smarter to minimise Blood and Blood Product wastage*





# Foreword

Blood and blood products are used in hospitals across Australia every day to save lives. The availability of blood and blood products is facilitated by the generosity of voluntary blood donors and funded by Australian governments who invest over \$1.1 billion per annum in collection, processing, procuring and distributing these products through the Australian Red Cross Blood Service (Blood Service) and other suppliers to health providers.

As such, all parts of the supply chain for blood and blood products have a responsibility to ensure that all aspects of the supply chain including transport, storage and inventory management minimise unnecessary wastage.

A certain level of discards of blood and blood products, particularly fresh products with short expiry dates is both inevitable and appropriate to ensure that products are available where and when they are clinically necessary. However, there is a proportion of discards of blood and blood products that is neither inevitable nor appropriate. This Strategy is focused on eliminating this proportion of avoidable discards, known as wastage.

In November 2010, Australian Health Ministers endorsed the Statement of National Stewardship Expectations for the Supply of Blood and Blood Products. As outlined in the Statement, Health Ministers expect health providers to contribute to the sustainability of the blood supply, including the minimisation of cost and wastage. This is consistent with the National Safety and Quality Health Service (NSQHS) Standard 7, “Blood and Blood Products” which requires health service organisations to minimise wastage of blood and blood products.

The Strategy seeks to reduce unnecessary wastage of blood and blood products through two streams of work:

1. **Supply Chain Efficiencies** from the point of collection to the point of issue of blood and blood products to health providers from suppliers and distributors; and
2. **Improving Health Provider Inventory management** from the point of receipt of blood and blood products to the transfusion of these units to patients.

This work will complement other work currently underway by Australian governments, the National Blood Authority and health providers in relation to improving the appropriate use of blood and blood products.

Regular updates on progress against items identified in this Strategy will be available online at [www.blood.gov.au/wastage](http://www.blood.gov.au/wastage) . We will review this Strategy on a regular basis to ensure its ongoing effectiveness in the campaign to eliminate unnecessary wastage.

# Current position

Historically, the voluntary provision of data on discards of blood and blood products has been highly variable, with limited take-up of the existing reporting mechanisms and reporting usually limited to fresh blood products (Red Blood Cells, Platelets and Clinical Fresh Frozen Plasma). These factors have inhibited the baseline data that can be provided and make it difficult in some cases, to identify the proportion of discards which could reasonably have been avoided.

Governments are addressing this deficiency with the development and implementation of the Fate module in BloodNet (the national online ordering and inventory management system operated by the National Blood Authority). The Fate module enables laboratory staff to easily report discards for all blood and blood products. Implementation of the Fate module in BloodNet as at mid-February 2013 currently covers approximately 80% of national issues, with further improvement occurring each week.

Data from 2011-12 is more complete for fresh blood products (such as Red Blood Cells, Platelets and Clinical Fresh Frozen Plasma) with more than 80% coverage in most products. During this period health providers were issued 1.1 million units, valued at over \$386 million. Of these 1.1 million units, 63,413 units were reported as discarded by health providers, valued at \$23,040,286 as outlined in the table below.

Product	Issued to Health Providers		Discarded by Health Providers	
	Volume (units)	Cost	Volume (units)	Cost
Red Blood Cells	809,588	\$281,285,614	27,362	\$9,506,733
Platelets	136,786	\$58,392,076	22,618	\$9,655,315
Clinical Fresh Frozen Plasma	160,547	\$46,351,478	13,433	\$3,878,238
<b>TOTAL</b>	<b>1,106,921</b>	<b>\$386,029,168</b>	<b>63,413</b>	<b>\$23,040,286</b>

*\* Please note that the volume reported for discards is only from those facilities reporting discards in 2011-2012.*

Due to the limitations of data collections to date, it is not possible to identify the proportion of total discards that could have been reasonably avoided (wastage).

# Supply chain efficiencies

The National Blood Authority will continue to work collaboratively with all Australian governments and suppliers to improve the efficiency of the supply chain. Two recent examples of innovation in this area that have reduced unnecessary wastage include:

1. The Blood Component Efficiency project undertaken by the Blood Service which identified the points in their supply chain processes where collections or products were discarded. Methods were implemented to reduce these occurrences. As a direct result, the Blood Service achieved an increase in the red blood cell yield of 7%, which equates to approximately 70,000 donations per annum.
2. Recent changes in the procurement arrangements for some manufactured batch products (such as NovoSeven RT) mean they can be stored at room temperature, largely eliminating the need to discard these products due to failures in cold-chain equipment in the distribution and health provider spheres.

## KEY ACTIVITIES

### REDUCE RED BLOOD CELL INVENTORY LEVELS

Work with the Blood Service and Australian governments to implement a one-off reduction of national red blood cell inventory held by the Blood Service nationally by two days, thus reducing wastage in the system and increasing the proportion of fresher blood in the national inventory.

### INCREASE RED BLOOD CELL YIELD

Include a requirement in the 2013-14 to 2015-16 Statement of Expectations from the Standing Council on Health to the Blood Service to maintain or improve red blood cell yield from the current level of 86%.

Key Activities	2013	2014	2015	2016	2017
Reduction of national red blood cell inventory levels					
Increase red blood cell yield					

# Improving health provider inventory management

Reducing unnecessary wastage of blood and blood products by health providers will be achieved through a multi-faceted approach, including:

- improving the collection, analysis and distribution of data relating to blood and blood product discards to health providers and Australian Governments;
- undertaking analysis of key contributory factors to wastage and developing proposals to address these issues, noting that the factors may be different across health providers and product types;
- developing and implementing targets for blood and blood product wastage;
- developing and promoting better practice inventory management, including better practice tools, building on existing practices in a range of health providers;
- developing an education and training framework to embed better inventory management principles and practices into core competencies for relevant health provider staff;
- enhancing awareness of unit prices;
- establishing a range of mechanisms to enhance collaboration across the sector;
- supporting the use of evidence based practices in the establishment of product movement and storage policies; and
- conducting targeted promotional campaigns.

The National Blood Authority's role in assisting jurisdictions and health providers to address unnecessary wastage will be one of coordination and enablement. The National Blood Authority's approach will be to develop a range of data, tools and collaboration mechanisms to enable health providers to examine their own practice and choose from the suite of tools for local customisation, branding and adoption where appropriate.

Recognising the existing strong relationships between public health providers and the State and Territory governments, State and Territory governments will take the lead in coordination and communication with public health providers with the National Blood Authority acting in a supporting capacity. The National Blood Authority will assume a greater role with public health providers in specific instances where requested by the relevant State or Territory government.

Governments recognise the different relationships and largely national approach of the majority of private health providers. The National Blood Authority will take the lead in coordination and communication with private health providers at a national and local level.

# KEY ACTIVITIES

## **COLLECTION, ANALYSIS AND DISTRIBUTION OF DATA**

Expanding the current voluntary collection of discard data to cover all blood and blood product discards by all health providers. This will be achieved through completing the national implementation of the BloodNet Fate module. This will provide a complete data set to analyse and identify trends and the causes of discards. In addition, it will inform the development of targets for discards of blood and blood products by health providers. Analysis of data relating to discards of non-fresh blood products will occur in 2015 following the collection of data relating to these products commencing in 2013.

Reporting from BloodNet will be enhanced to provide a suite of reports relating to inventory levels, unit discards and associated costs, at the levels of health provider and organisational unit (e.g. a Local Health District or Pathology Service). Comparative peer level data will be made available to better inform governments and health providers about the level and causes of unnecessary wastage. These reports will be made available on demand to health providers and their use within existing governance frameworks in health providers and States and Territories will be strongly encouraged.

Public release through the NBA website of high level summary discard data by health provider will enhance transparency and public accountability. It will also enhance the awareness of this issue by all health sector workers and should assist health providers to further promote strategies to reduce unnecessary wastage. The data released will differentiate between units issued to a health provider and discarded by the same health provider and units issued to a health provider, but discarded by a different health provider so as not to discourage the movement of units between health providers that does lead to wastage reductions.

The performance data will help target waste reduction initiatives and is consistent with the National Safety and Quality Health Service (NSQHS) Standard 7, “Blood and Blood Products” which requires health service organisations to have systems to monitor wastage of blood and blood products.

## **ESTABLISH TARGETS FOR DISCARD RATES**

Work with all jurisdictions to establish targets for discard rates for red blood cells, platelets and clinical fresh frozen plasma for the public and private sectors. Shadow targets will be utilised in 2013-14 to facilitate the implementation of agreed targets from 2014-15 onwards.

Once established, nationally consistent regular reports against the targets will be able to be provided at health provider, organisational unit (e.g. a Local Health District or Pathology Service), State/Territory and national levels.

## **BETTER PRACTICE INVENTORY MANAGEMENT**

Existing inventory management projects, including the National Inventory Management Framework (NIMF) collaborative project with the Blood Service and the National Blood Authority will enable better practice inventory management across the sector.

Documenting and promoting existing better practice in inventory management through the development and dissemination of case studies from a range of health providers will enable health providers to identify how they could improve their own practices utilising techniques and tools used and developed by their peers.

The development of the evidence-based *Managing Blood Product Inventory: Guidelines for Australian Health Providers*, supported by a toolkit of better practice tools that can be modified, branded and adopted by health providers will further support health providers and will provide a suitable benchmark for those accrediting health providers and pathology laboratories.

The development of a set of tools to support the *Managing Blood Product Inventory: Guidelines for Australian Health Providers* will assist health providers to establish the most appropriate minimum and maximum bands for their inventory holdings based on a safety stock calculation and historical trend data on demand and issues.

### **EDUCATION AND TRAINING**

Develop core training and assessment requirements for staff managing blood and blood product inventories along with training resources to enable staff to meet those requirements.

Improving inventory management will be listed as a key priority in the *Blood Sector Education and Training Strategy* that is currently under development. The National Blood Authority will work with key stakeholders in this area to feature training in inventory management in existing training programs and courses.

### **ENHANCED AWARENESS OF UNIT PRICES**

Increase health provider staff and patient awareness of the costs of blood and blood products through:

- incorporation of individual unit prices in all BloodNet reports;
- addition of a price label on all fresh blood products (noting that consultation on this is already underway with the Blood Service and Therapeutic Goods Administration); and
- publication on the National Blood Authority's website of a national product catalogue.

It is anticipated that this increased awareness will lead to an appreciation that whilst donations are voluntary, the collection, processing, testing and distribution functions for blood and blood products incur significant costs. This in turn may lead to a reduction in usage when an appropriate alternate product is available.

### **ENHANCED COLLABORATION**

Further developing existing collaborative networks across the blood sector will be key to ensuring the widespread adoption and successful implementation of wastage reduction measures. The National Blood Authority will utilise existing consultative arrangements and networks including the new BloodChat (online discussion forum), system user groups (such as the BloodNet User Reference Group)



to engage with health provider staff in both formal and informal means to further discuss and advance wastage reduction.

Targeted engagement with the private sector (both health providers and pathology organisations) will be implemented as a priority, given that 28% of fresh blood product issues nationally are currently issued by suppliers to the private sector. This engagement will include:

- one-on-one meetings with senior staff;
- participation in private hospitals and pathology organisation association meetings; and
- an annual forum for senior private sector stakeholders to engage nationally with the National Blood Authority in relation to the national blood arrangements.

Establish champion networks of key clinical and scientific officers within health providers, with the National Blood Authority providing online resources and information for these champions to implement wastage reduction strategies in their hospitals.

Develop a biannual national awards program that will acknowledge excellence in the management of blood and blood products in the area of inventory management and wastage reduction. The first awards ceremony will be scheduled for late 2013 and will enable the sector to share better practice in inventory management and encourage health providers to strive for greater wastage reduction. The awards program will be structured to ensure that it encompasses the range of variables (such as procedures performed, remoteness etc) that health providers may encounter.

Consider conducting an Australasian conference to promote better practice in both inventory management and appropriate use.

### **ADDRESSING SYSTEMIC ISSUES**

Identifying key contributory factors to unnecessary wastage will be a high priority, with specific proposals to be developed to address (where possible), systemic issues.

Key issues identified for early consideration include product transfer arrangements between health providers (with a view to maximising the potential for product transfer thus minimising wastage) of all types, the use of thawed clinical fresh frozen plasma and issues relating to clinical fresh frozen plasma bags being damaged during handling and splitting upon thawing for use.

### **PROMOTIONAL CAMPAIGNS**

Develop specific promotional campaigns, targeted at specific groups of health providers where necessary to implement the above strategies. A key campaign that will be undertaken in early 2013 will be the promotion within the private sector of this strategy and the establishment of a private sector blood wastage forum.

Such campaigns will be performed in a highly targeted and limited manner, and will at most, usually involve electronic or paper communication with key stakeholders, the submission of articles to

relevant journals and provision of information online through the National Blood Authority's website or systems. These campaigns will be undertaken in conjunction with jurisdictions where relevant, noting that the States and Territories will normally lead communication campaigns that target public health providers in their jurisdiction.

Activity	2013	2014	2015	2016	2017
<b>Collection, Analysis and Distribution of Data</b>					
BloodNet Fate module national implementation					
Further detailed discard analysis					
Enhanced BloodNet reporting					
Publication of high level discard data					
<b>Establish Targets for Discard Rates</b>					
Shadow targets for red blood cells, platelets and CFFP					
Targets for red blood cells, platelets and CFFP					
Shadow targets for non-fresh products					
Targets for non-fresh products					
<b>Better Practice Inventory Management</b>					
National Inventory Management Framework (NIMF) Project					
Development and dissemination of case studies					
<i>Managing Blood Product Inventory: Guidelines for Australian Health Providers</i>					
Tools to set minimum and maximum bands for AHP inventory					
<b>Education and Training</b>					
Core training and assessment requirements for inventory management staff defined					
Incorporate core training in existing training programs					
<b>Enhanced Awareness of Unit Prices</b>					
Enhance BloodNet reporting to always list unit prices					
Price labels on fresh blood products					
National Product Catalogue with pricing published					
<b>Enhanced Collaboration</b>					
Private sector engagement, including annual forums					
Development of champion networks					
Biannual national awards program					
Australasian conference					

Activity	2013	2014	2015	2016	2017
<b>Addressing Systemic Issues</b>					
Identification of systemic issues					
Review and improve product transfer arrangements					
Use of thawed clinical fresh frozen plasma					
Examination of alternatives to current packaging arrangements for clinical fresh frozen plasma					
Review supply chain matters affecting the length of expiry of Platelets on issue of units to health providers					
<b>Promotional Campaigns</b>					
Private sector wastage campaign					

