INTRODUCTION

The National Blood Authority (NBA) is pleased to be able to assist jurisdictions and health providers to implement the requirements of the Australian Health Ministers’ Statement on National Stewardship Expectations on the Supply of Blood and Blood Products (the Stewardship Statement).

The Stewardship Statement outlines measures that all health providers should adopt within their organisation including the requirement to manage blood and blood products in ways that ensure:

- All blood products are used in a clinically appropriate manner in accord with relevant professional guidelines and standards;
- Processes, programs and facilities are in place to minimise the wastage of blood products;
- Facilities are accredited with the appropriate bodies to meet all quality and safety obligations;
- Health providers have an ordering and receipt verification process in place which provides adequate financial accountability as required by governments; and
- Inventory data is provided on a regular and timely basis to assist in supply and demand planning, especially in times of national shortages.

The resources and tools in this guide can support Australian Health Providers in aligning with the:

- Stewardship Statement;
- National Safety and Quality Health Service (NSQHS) Standard 7: Blood Management;
- National Blood Product Management Improvement Strategy 2017–21; and
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MANAGING BLOOD AND BLOOD PRODUCT INVENTORY: GUIDELINES FOR AUSTRALIAN HEALTH PROVIDERS
Good inventory management encompasses all the activities associated with ordering, storing, handling and issuing of blood and blood products to optimise efficiency.

>Overview

- Managing blood and blood product inventory is made up of two key factors:
  1. Product availability. Planning of inventory levels held, timing of deliveries and order volume; and
  2. Product integrity. Physical and process control of product in your facility, to ensure efficient and effective handling to maintain availability and minimise wastage.

- Includes practical information on understanding and managing your inventory.

10 TIPS TO HELP MANAGE YOUR BLOOD PRODUCT INVENTORY

Supporting Managing Blood Product Inventory: Guidelines for Australian Health Providers
10 tips to help manage your blood product inventory provides a quick summary of the inventory management information available in Managing Blood and Blood Product Inventory: Guidelines for Australian Health Providers.

>Overview

- 10 tips to help manage your blood product inventory can be downloaded and printed as an A3 poster to display in your laboratory as a ready reminder to staff.
- The NBA can also send these to you.
- 10 tips can assist in wastage reduction and inventory management.
- Includes tips such as setting appropriate inventory levels, optimising crossmatch processes, and using oldest product first.

MODULE 1: MANAGING BLOOD AND BLOOD PRODUCT TRANSFERS

Supporting Managing Blood Product Inventory: Guidelines for Australian Health Providers
Module 1: Managing Blood and Blood Product Transfers aims to assist health providers to develop a guideline or Memorandum of Understanding (MOU) to facilitate blood and blood product transfer arrangements between providers and reduce wastage.

>Overview

Module 1: Transfers contains eight downloadable and modifiable templates, including:

- Memorandum of Understanding
- Shipper Validation plan
- Transfer establishment and review checklist
- Transfer procedure checklist
- Blood fridge maintenance record
- Blood and blood product transfer form
- Shipper packing slip
- Shipper label

MODULE 2:
MANAGING INTRAVENOUS AND SUBCUTANEOUS IMMUNOGLOBULIN INVENTORY:

Supporting Managing Blood Product Inventory: Guidelines for Australian Health Providers
Module 2: the Managing intravenous and subcutaneous immunoglobulin inventory module aims to assist health providers to meet the requirements of the Ig Governance national policy. It describes how to establish and manage Ig stock levels, outlines the product ordering modules, identifies different methods to determine ordering requirements and stock triggers and provides recommendations for good practice.

>Overview

Module 2: Managing Ig and SC Ig inventory contains guidance on four key areas:

- Role of the dispenser
- Keeping appropriate inventory levels
- Ordering
- Dispensing

BETTER PRACTICE CASE STUDIES SERIES:

CASE STUDIES FROM HEALTH PROVIDERS AROUND AUSTRALIA

Learn about the latest techniques and tools from real world examples
The Better Practice Case Studies series identifies and documents areas of inventory management best practice in existence across the country.

>Overview

- The Better Practice Case Studies capture relevant techniques, tools and approaches undertaken by various providers across Australia.
- Centres can adopt and modify practices to suit their own workplace and conditions.
- Case Studies include topics such as:
  - Stock rotation between laboratories
  - Extended life plasma
  - Steps to reduce wastage
  - Point of Care Coagulation Testing
  - Radio Frequency Identification (RFID)
  - Public and private provider perspectives
- Implementation can assist providers to meet Standard 7 of the National Safety and Quality Health Service Standards.

BETTER PRACTICE:
NATIONAL SAFETY AND QUALITY HEALTH SERVICE (NSQHS) STANDARDS - BLOOD MANAGEMENT STANDARD
The primary aim of the NSQHS Standards is to protect the public from harm and improve the quality of health care. They describe the level of care that should be provided by health service organisations and the systems that are needed to deliver such care.

>Overview

- The Australian Commission on Safety and Quality in Healthcare (ACSQHC) has reviewed the NSQHS Standards.
- The National Blood Authority (NBA) in collaboration with the ACSQHC reviewed Standard 7.
- The second edition of the NSQHS Standards was endorsed by Health Ministers in June 2017, and released in November 2017.
- The second edition of the NSQHS Standards addresses gaps identified in the first edition. It also updates the evidence for actions, consolidates and streamlines standards and actions to make them clearer and easier to implement.
- Assessment to the second edition will commence from **1 January 2019**.

HAEMOVIGILANCE

STRATEGIC FRAMEWORK FOR NATIONAL HAEMOVIGILANCE
The Strategic Framework for National Haemovigilance (Strategic Framework) defines the scope of national haemovigilance arrangements to emphasise activities that contribute to national standardisation.

**Definition**

‘Haemovigilance is a set of surveillance procedures covering the entire blood transfusion chain, from the donation and processing of blood and its components, to their provision and transfusion to patients, to their follow-up. It includes monitoring, reporting, investigating and analysing diverse events related to the donation, processing and transfusion of blood, as well as development and implementation of recommendations to prevent the occurrence or recurrence of adverse events’.

(NSQHS 2017)

>Overview

- The (2017) National Safety and Quality Health Service Standards - Blood Management Standard requires health service organisations to report adverse events as follows:
  - Action 7.7 The health service organisation uses processes for reporting transfusion-related adverse events, in accordance with national guidelines and criteria
  - Action 7.8 The health service organisation participates in haemovigilance activities, in accordance with the national framework.
- The National Blood Authority (NBA) has developed reporting and governance frameworks for the national reporting of Haemovigilance data in Australia.
- The NBA collects, analyse and reports haemovigilance data received from state and territories at the level defined in the Australian Haemovigilance Minimum Data Set (AHMDS). The AHMDS enables consistent data collection and analysis of transfusion related adverse events to improve the quality of national haemovigilance reporting.
- Annual Australian Haemovigilance Reports are published on the NBA website.

ENSURING SUPPLY

NATIONAL BLOOD SUPPLY CONTINGENCY PLAN
Under the National Blood Authority Act 2003, the National Blood Authority (NBA) is responsible for ensuring that patients in Australia have an adequate, safe, secure and affordable blood supply. This includes having contingency and risk mitigation measures in place to ensure continuity of the supply of blood and blood-related products and services.

> Overview

- The (2017) National Safety and Quality Health Service Standards - Blood Management Standard requires health service organisations to manage the availability and safety of blood and blood products, as follows:
  - Action 7.10 The health service organisation has processes to:
    - Manage the availability of blood and blood products to meet clinical need
    - Eliminate avoidable wastage
    - Respond in times of shortage

- The NBA has contingency and risk mitigation measures in place to ensure continuity of the supply of blood and blood-related products and services, including the National Blood Supply Contingency Plan.

- The response by the clinical community is a vital element of the plan. Health Service organisations must ensure that arrangements are in place to support the clinical management of blood and blood products in a crisis, and to help clinicians effectively respond to patient requirements.

- Health service organisation should test their contingency plans and participate in state, territory or national simulations.

For more information visit
Immunoglobulin Products in Australia
National Policy: Access to Government-Funded
The National Policy and Arrangements for Access to Government-Funded Immunoglobulin Products in Australia

>Overview

The National Policy and Arrangements for Access to Government-Funded Immunoglobulin in Australia:

- sets out the process that must be followed and the rules and requirements that must be complied with to access government-funded Ig products
- applies to intravenous Ig (IVIg), subcutaneous Ig (SClG) and normal human Ig (NHIg)
- ensures the use and management of government-funded Ig reflects appropriate clinical practice, and represents efficient, effective and ethical expenditure of government funds, in accordance with safety and quality standards for health care

THE CRITERIA FOR IMMUNOGLOBULIN USE IN AUSTRALIA

Criteria for the clinical use of Immunoglobulin in Australia

Version 3
The Criteria for Immunoglobulin Use in Australia (the Criteria) - describes the conditions and indications for which Ig use is funded under the National Blood Agreement.

>Overview

The Criteria for the Clinical Use of Intravenous Immunoglobulin (IVIg) in Australia (the Criteria) was first published 2007. The Criteria

- describes the conditions and circumstances for which the use of intravenous immunoglobulin (IVIg) is appropriate and funded under the National Blood Agreement
- is based on best available evidence and expert clinical advice
- is active in BloodSTAR and published online as Version 3 at https://www.criteria.blood.gov.au/

For more information visit www.blood.gov.au/ivig-criteria
Your doctor has recommended that, as a part of your treatment, you will be receiving medication called immunoglobulin.

**What are immunoglobulins?**

Immunoglobulins are antibodies made by the body’s immune system in response to an infection or disease. They are normally produced by a type of white blood cell called B lymphocytes. All immunoglobulins products are prepared from pooled healthy donated blood plasma. All immunoglobulin products used in Australia have been approved by the Therapeutic Goods Administration.

**How are immunoglobulin products made available in Australia?**

To ensure sustainability of these precious and high cost products, governments have established the Criteria for the Clinical Use of Intravenous Immunoglobulin in Australia. BloodStar (pooled plasma as the basis for access in government funded treatment) is the only type of product that is made in Australia and imported from abroad. Immunoglobulin products are available in Australia for up to 2 years, renewable, for the treatment of:

- A clinical decision;
- A national supply contract arrangement.

**Why do I need this product?**

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- A clinical decision;
- A national supply contract arrangement.
There are a number of resources available for patients requiring immunoglobulin treatment;

- Information for patients about intravenous and subcutaneous immunoglobulin
- Information about BloodSTAR privacy controls

BloodNet is a web-based system that allows staff in health providers across Australia to order blood and blood products in a standardised way, quickly, easily and securely from the Australian Red Cross Blood Service (Blood Service).

>Overview

- BloodNet enables staff in pathology laboratories to place orders online for blood and blood products, record inventory levels and to record the final fate of each unit (e.g. discarded, transferred, transfused).
- The stock movement module allows pathology staff to monitor and moderate their wastage levels.
- The authorisation module integrates with BloodSTAR to support dispensing of immunoglobulin products to authorised patients.

LIS INTERFACE:
LABORATORY INFORMATION SYSTEM - BLOODNET INTERFACE
A LIS/BloodNet interface enables automatic real-time exchange of hospital inventory levels of blood stocks and the status of each unit. It frees up hospital pathology laboratory staff from laborious double and triple keying of data. You can receipt units received from the Blood Service directly into BloodNet, with the full details such as the component code, expiry date, group, modifiers and phenotypes populated into your LIS ready for group-checking. Have your LIS automatically update your full inventory levels into BloodNet every fifteen minutes. Record the transfer, discard or transfusion of units into your LIS and have these details automatically uploaded to BloodNet. For LIS BloodNet-BloodSTAR enabled sites, details of Ig dispenses are sent directly to BloodSTAR once updated in your LIS.

For more information visit www.blood.gov.au/bloodnet/lis-interfaces
The tiles on the homepage provide links to the four BloodNet Module Health Provider dashboards and they display a quick summary of each module.

>Overview

The dashboards display information on order progress, stock movement and immunoglobulin authorisation.

- Orders information about the status of orders sent to the supplier (sent, dispatched, finalised or cancelled).
- Information about the issue notes sent out with orders by the supplier and the issue note receipting status (unreceipted, partially receipted, finalized or cancelled).
- Inventory information about stock on hand levels.
- Stock movement information about how product is utilised by health providers (dispensed, transfused, discarded or transferred to another facility).

For more information visit www.blood.gov.au/bloodnet/lis-interfaces
### Red Cells

**Summary:**

- **Blood Groups:** O+, O-, A+, A-, B+, B-, AB+, AB-
- **Time Period:** 01 Jul 2015 To 30 Jun 2016

#### Average Age at Issue (Days)

- O+: 8
- O-: 6
- A+: 7
- A-: 7
- B+: 10
- B-: 7
- AB+: 15
- AB-: 10

#### Average Age at Transfusion

- N/A

#### Order Qty

- O+: 2,392
- O-: 1,032
- A+: 2,313
- A-: 477
- B+: 556
- B-: 150
- AB+: 185
- AB-: 24

#### Order Qty % of Total Order Qty

- O+: 34%
- O-: 14%
- A+: 32%
- A-: 7%
- B+: 8%
- B-: 2%
- AB+: 3%
- AB-: 0%

#### Issued Qty

- O+: 2,383
- O-: 1,346
- A+: 2,076
- A-: 526
- B+: 474
- B-: 147
- AB+: 77
- AB-: 20

#### Issued Qty % of Total Issue Qty

- O+: 34%
- O-: 19%
- A+: 29%
- A-: 7%
- B+: 7%
- B-: 2%
- AB+: 1%
- AB-: 0%

#### Receipted Qty

- O+: 2,378
- O-: 1,346
- A+: 2,075
- A-: 526
- B+: 474
- B-: 147
- AB+: 77
- AB-: 20

#### Transfers In

- 56

#### Transfers Out

- 0

#### Net Issues

- 2,439

#### Discards

- 51

#### DAPI

- O+: 3.1%
- O-: 1.5%
- A+: 0.4%
- A-: 5.0%
- B+: 2.7%
- B-: 2.6%
- AB+: 0.0%
- AB-: 2.2%

#### % Issued (of Ordered)

- O+: 99.6%
- O-: 130.4%
- A+: 89.8%
- A-: 110.3%
- B+: 85.3%
- B-: 98.0%
- AB+: 41.6%
- AB-: 83.3%

#### % Receipted (of Issued)

- O+: 99.8%
- O-: 100.0%
- A+: 100.0%
- A-: 100.0%
- B+: 100.0%
- B-: 100.0%
- AB+: 100.0%
- AB-: 99.9%

#### DAPI - Discards as a Percentage of Net Issued

- Life Threatening: 4%
- Urgent: 34%
- Standard: 261

#### Order Types

- Special Order Qty: 571
- Stock Order Qty: 1,821
- Total: 2,392

#### Special Order Qty

- Life Threatening: 4
- Urgent: 33
- Standard: 261

#### Stock Order Qty

- Life Threatening: 2
- Urgent: 83
- Standard: 212

#### Total

- Life Threatening: 6
- Urgent: 143
- Standard: 673

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*BloodNet* Issues only

*Excludes Supplier faults

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BloodNet provides a number of reports that staff can produce allowing them to monitor their inventory, transfers and wastage of fresh products in their facility right down to the group. These reports can be printed for circulation to your Hospital Transfusion Committee.

>Overview

Reports available:
- Fresh Blood Management Report (MGT001) – high level overview and includes data such as: units issued, transferred and discarded, inventory levels, age at issue, and order fulfilment.
- Fresh Component Health Provider Discards (FATE 007) – use to monitor benchmarked fresh product discards.
- Transfer Blood Components (FATE 003) – use to monitor fresh product transfers.
- Discard Blood Components (FATE001) – use to monitor detailed fresh product discards.
- Discard Manufactured Products (FATE002) – use to monitor manufactured product transfers.
- Fresh Blood Orders and Issues (Ful010e) - use to monitor orders and issues of fresh blood products.

For more information visit www.blood.gov.au/bloodnet
AUSTRALIAN BLEEDING DISORDERS REGISTRY:

Australia’s registry for patients with bleeding disorders.
The Australian Bleeding Disorders Registry (ABDR) is used on a daily basis by clinicians in all Australian Haemophilia Treatment Centres (HTC) to assist in managing the treatment of people with bleeding disorders.

>Overview

- ABDR assists clinicians across Australia to manage the treatment requirements of people with bleeding disorders.
- It allows advances in the understanding of the incidence and prevalence of bleeding disorders.
- Information is also used to understand demand for, and to facilitate ordering of, clotting factor product.

MyABDR is an internet-based online system that gives people with bleeding disorders or parents/caregivers a quick, easy and reliable way to:

- Record treatments and bleeds
- Manage treatment product stock
- Share the information with their Haemophilia Treatment Centre (HTC)
- Update contact and personal details

For more information visit www.blood.gov.au/myabdr
AUSTRALIA’S IMMUNOGLOBULIN MANAGEMENT SYSTEM

Changing Product or Dose in an Existing Authorisation

If you need to change the Product Type or Dose Size in an Existing Authorisation:

1. From either your home page My Authorised Patients or from My Requests, locate the patient that requires the change. Under the Authorisation column, click on the Authorisation number.

2. Scroll down to view the details under Current Authorisation. Under Regimen, locate the dose you want to change. Under the Action column, click +Request change.

3. On the Dose Change Request Form, select the urgency of the change request. Please remember that if the review request is at Emergency status, it must be accompanied by a phone call to the Blood Service on the supplied relevant phone number.

4. Enter all relevant details in the free text Reason for Dose Change under the Dose Change Request Details. Then go to the Dose section and enter the patient’s weight.

5. To change the strength of the dose, enter a different value under Dose/Kg.
BloodSTAR was first implemented in 2016 and is now in use nationally.

Through BloodSTAR, prescribers of immunoglobulin are able to determine whether patients are eligible to receive government-funded Ig and seek authorisation for access.

Nurses and dispensers of Ig products utilise BloodSTAR and interfaced systems to manage infusions and dispensing practices to approved patients.

A range of materials are available to support users.

Immunoglobulin Usage by Specific Conditions

- Chronic inflammatory demyelinating polyneuropathy: 129687.5
- Myasthenia gravis: 84471.5
- Common variable immunodeficiency disease (CVID): 56891.8
- Non-Hodgkin lymphoma: 53054.1
- Chronic lymphocytic leukaemia: 43985.2
- Multiple myeloma: 42187.5
- Multifocal motor neuropathy with or without par...: 41933.5
- Secondary hypogammaglobulinaemia (excluding was...): 22941.4
- Polymyositis: 22275
- Kidney transplantation post-transplant: 19039.5
- Guillain-Barré syndrome: 122587.5
- Limbic encephalitis, nonparaneoplastic: 120082.5

Ig in Grams
BloodSTAR provides a number of reports that staff can produce allowing them to monitor their Ig usage, user registrations and request activity. These reports can be printed for circulation to your hospital transfusion committee.

Reports available:

- **FM01 - Facility User Report** - this report allows the facility administrator to monitor and audit users with BloodSTAR access at their facility.

- **FM02 - Ig by Activity** - the purpose of this report is to allow the facility or jurisdiction to monitor Ig.

- **FM03 - Ig by Condition** - this report allows treating facilities to monitor the Ig count by condition / specific condition.

- **FM06 - IG Usage by Specific Condition** - the purpose of this report is to allow the facility or jurisdiction to monitor Ig usage by specific conditions.

- **FA01 - Audit Facility Preference** - the report shows history of changes to preferred dispensers and product preferences.
PROMOTIONAL PRODUCTS
The NBA makes promotional items available at key conferences for those within the blood sector to promote the NBA’s core business.

>Overview

- Promotional material is available at key conferences attended by the NBA.
- The promotional items change from time to time and are available free of charge. Current promotional items available include:
  - Coffee Mug
  - Pens

FURTHER INFORMATION:

For more information on the resources included in this brochure or other blood related items visit the NBA website: www.blood.gov.au
We’re always happy to hear from you, please contact us with your ideas, feedback and suggestions.

**Telephone:** 13 000 BLOOD (13 000 25663)
**Email:** support@blood.gov.au
**Website:** www.blood.gov.au