

PATIENT BLOOD MANAGEMENT COMMITTEE HANDBOOK

CONTENTS

Introduction

Section 1: The Patient Blood Management Committee

Committee responsibilities

Committee membership

Committee roles

Committee meetings

Section 2: Committee activities

Policies, procedures and guidelines

Blood product use and wastage

Audits

Adverse transfusion reactions

Transfusion-related errors and incidents

New blood products and equipment

Education

Patient blood management and quality improvement

Contingency planning for blood shortages

Further information, tools and resources

Acknowledgements

The Blood Service thanks the Ontario Regional Blood Coordinating Network for allowing use of material from their Transfusion Committee Handbook, and Ken Davis for his work on the PBMC handbook as a Blood Service Fellow.

INTRODUCTION

Patient blood management (PBM) is the timely application of evidence-based medical and surgical concepts designed to maintain haemoglobin concentration, optimise haemostasis and minimise blood loss in an effort to improve patient outcome. Transfusion practice refers to all processes and procedures around the prescription and administration of blood products.

The shift from 'one-size-fits all' transfusion to individual, patient-centred blood management has seen Hospital Transfusion Committees (HTCs) evolving into Patient Blood Management Committees (PBMCs).

This handbook is for the hospital committee responsible for the governance and oversight of PBM and blood transfusion.

It provides an overview of the committee's roles, responsibilities and key activities to implement PBM, navigate the blood transfusion environment and meet hospital accreditation requirements.

Whether the committee is called a Patient Blood Management Committee (PBMC) or remains the Hospital Transfusion Committee (HTC), expectations are the same; the committee plays a critical role in ensuring that blood products are used appropriately, safely, efficiently and effectively in accordance with national guidelines and standards. It is also a key driver of change as PBM principles and strategies are adopted.



National Blood Authority

> **PBM**

Australian Red Cross Blood Service

> **PBM**

**Australian Health Ministers'
Conference Statement**

**National Safety and Quality Health
Service Standards (NSQHSS):
Standard 7**

SECTION 1: THE PATIENT BLOOD MANAGEMENT COMMITTEE

> Committee responsibilities

> Committee membership

> Committee roles

> Committee meetings

Committee responsibilities

The Patient Blood Management Committee (PBMC) provides governance and oversight to ensure all PBM and transfusion practices meet national guidelines and standards.

The PBMC brings together a cross-functional group of health professionals who share an interest in PBM and the provision of safe and appropriate blood transfusion. Sometimes the PBMC function will be incorporated into other committees or roles, overseeing medicines or broader clinical practice.

The PBMC is an essential part of an organisation's quality and practice improvement activities and will need mechanisms to:

- Develop and regularly review policies, procedures and guidelines covering PBM and transfusion practice
- Ensure blood products are used appropriately and administered safely in accordance with national evidence-based PBM guidelines and standards and institutional policies
- Ensure transfusion alternatives or minimisation techniques (for example acute normovolaemic haemodilution [ANH] or intraoperative cell salvage) are used appropriately and in accordance with relevant guidelines
- Monitor and review blood product wastage and develop strategies for reduction and improvement
- Monitor and review adverse transfusion reactions, transfusion-related incidents and near misses and develop strategies for reduction and improvement
- Monitor local transfusion practices by use of audits and comparison with appropriate benchmarks
- Ensure appropriate education and safety and quality improvement programs are available in the areas of patient blood management, appropriate use and management of blood products.



Australian Red Cross Blood Service

> Clinical Governance

Ontario Regional Blood Coordinating Network (ORBCoN) Transfusion Committee Toolkit

Australian Health Ministers' Conference Statement

Resources for Transfusion Practitioners, Transfusion Laboratory Managers and Hospital Transfusion Committees

The Transfusion Committee: Putting Patient Safety First

Committee membership

The PBMC should have representatives from all major clinical areas and ancillary functions with responsibility for PBM and involved in the transfusion of blood products. It is also important that the PBMC receives support and endorsement from executive management.

Invited representatives from external organisations should also be considered. This may depend on local relationships and could be limited to specific agenda items.

Hospital representatives

- Executive management
- Representatives of major users of blood products: Surgery, Medicine, Paediatrics, Haematology, Oncology, Orthopaedics, Obstetrics and Gynaecology, Anaesthesia, Emergency/Trauma, ICU
- Transfusion service provider or hospital Blood Bank (eg, Scientist-In-Charge)
- Nursing (eg, Director of Nursing)
- Transfusion Safety Officer
- Clinical risk management/Quality Assurance
- Other relevant departments (eg, Pharmacy).

External representatives

- Australian Red Cross Blood Service
- Invited or ad hoc members as required.

Committee roles

A fully-engaged and active committee ensures that patients are treated according to the principles of PBM and receive blood transfusions that are appropriate safe, and effective.

Being invited to participate is recognition of the expert knowledge, skills and experience each member is able to bring to the committee. As with all committees, there are a number of specific roles with formal responsibilities.

Chairperson

The chairperson's role is to:

- Ensure 'terms of reference' are developed, approved and provided to all members
- Schedule meetings at least quarterly
- Set agendas so the committee fulfils its mandate
- Encourage all members to participate equally
- See that members are provided with data and tools to develop recommendations
- Arrange for minutes to be distributed
- Confirm that action items are reviewed and completed
- Liaise and work collaboratively with other hospital governance committees
- Ensure committee members understand the ethical framework and accountability within which the PBMC operates.



Australian Red Cross Blood Service

> HTC

WA PBM Program

ORBCoN Transfusion Committee Toolkit

**Resources for Transfusion Practitioners,
Transfusion Laboratory Managers and
Hospital Transfusion Committees**

**The Transfusion Committee:
Putting Patient Safety First**

Secretary

The secretary's role is to:

- Record attendance at each meeting
- Record and distribute minutes of each meeting, ensuring action items and decisions and recommendations are documented within the minutes
- Distribute background documents for discussion to committee members as required
- Assist the chairperson in scheduling meetings as required.

Transfusion Safety Officer

The Transfusion Safety Officer (TSO) is a specialist role typically undertaken by someone with a nursing or laboratory background to support PBM initiatives and appropriate and safe blood transfusion practices. The role may exist either within individual hospitals or at a district, regional or statewide level.

The TSO plays a key role in:

- Developing transfusion policies and procedures
- Reviewing blood product use
- Performing audits
- Haemovigilance
- Facilitating PBM, transfusion education and competency assessment.

Other roles such as Specialist Practitioners of Transfusion (SPOT), Transfusion Nurse Specialists (TNS) or Transfusion Nurses (TN) may perform similar functions.

Committee meetings

The PBMC should meet regularly (at least quarterly) with meetings structured around a formal agenda. The agenda will include standing items (example below) which are discussed at every meeting and ad hoc items tabled for discussion when necessary:

- Policies, procedures and guidelines
- Blood product use and wastage
- Audits
- Adverse transfusion reactions
- Incidents, errors and near misses
- New or changes to existing blood products and equipment
- Education
- PBM initiatives and quality improvement projects
- Contingency/emergency planning.



WA PBM Program

**The Transfusion Committee:
Putting Patient Safety First**

ORBCoN Transfusion Committee Toolkit

**Resources for Transfusion Practitioners,
Transfusion Laboratory Managers and
Hospital Transfusion Committees**



Australian Red Cross Blood Service

> **How to start a HTC**

WA PBM Program

ORBCoN Transfusion Committee Toolkit

**The Transfusion Committee:
Putting Patient Safety First**

SECTION 2: COMMITTEE ACTIVITIES

- > Policies, procedures and guidelines
- > Blood product use and wastage
- > Audits
- > Adverse transfusion reactions
- > Transfusion-related errors and incidents
- > New blood products and equipment
- > Education
- > PBM and quality improvement
- > Contingency planning for blood shortages
- > Further information, tools and resources

Policies, procedures and guidelines

The PBMC's role in the development, review and approval of policies, procedures and guidelines is an important element of its governance and oversight of PBM and transfusion practice.

Patient blood management and transfusion medicine are rapidly evolving fields and the PBMC is responsible for ensuring that policies, procedures and guidelines reflect best evidence based practice. Timelines should be developed for a regular review of all documents.

Up-to-date and relevant policies, procedures and guidelines enable staff to clearly understand their roles and responsibilities in providing safe, appropriate, efficient and effective PBM and transfusion practices.

The PBMC is typically involved in producing and/or reviewing the following policies, procedures and guidelines:

- PBM policies (eg, the overarching policy, preoperative anaemia, intraoperative cell salvage, single unit transfusion, restrictive transfusion, etc.)
- Informed consent for transfusion and protocol for patients refusing transfusion
- Pre-transfusion requests including options for 'group and hold' versus cross-match, electronic cross-matching, blood product ordering
- Maximum surgical blood order schedule
- Clinical use of blood products (based on the national PBM Guidelines)
- Patient identification (for both pre-transfusion specimen collection and administration of blood products)
- Blood product administration including specific documents for adult, paediatric and neonatal patients where appropriate
- Critical bleeding/massive transfusion protocol
- Adverse transfusion reactions including identification, management and reporting
- Non-conformance reporting including incidents, errors, near misses and complaints
- Audits
- Lookback following reports of transfusion-transmitted infections
- Introduction of new blood products, devices or equipment associated with transfusion and/or PBM
- Blood shortage contingency and emergency planning
- Staff training and ongoing competency for handling blood products and equipment.



Australian Red Cross Blood Service

- > Clinical governance
- > My transfusion
- > Transfusion Online Learning

National Blood Authority

- > PBM Guidelines
- > Massive transfusion protocol template

WA PBM Program

NSQHSS Standard 7

Australian and New Zealand Society of Blood Transfusion Guidelines

ORBCoN Transfusion Committee Toolkit

The Transfusion Committee: Putting Patient Safety First

Blood product use and wastage

The PBMC ensures that blood products are used appropriately, effectively and safely. Eliminating inappropriate use and wastage of blood products not only contributes to better patient outcomes but also reduces costs to the healthcare system.

The PBMC will typically review:

- Inventory management which includes supply issues, stock levels and wastage
- Ordering practices of clinicians by monitoring the 'cross-match to transfusion ratio' (C:T ratio) to see if more blood products are being ordered by a clinician (or for a specific procedure) than are being transfused; or assessing adherence to single unit transfusion guidelines; and compliance with other clinical guidelines
- Administration practices to monitor compliance with hospital policies and procedures such as audits of informed consent practices
- Standardised practices such as the hospital's massive transfusion protocol.

The availability of timely and good quality data is key for the PBMC to understand blood product use and wastage rates. The transfusion service or pathology service provider (for example the hospital blood bank) should be able to provide summaries of blood product use and wastage from their laboratory information system and/or the NBA's BloodNet system.

Audits

Audits are a useful quality improvement tool. The PBMC can use audit data to review specific aspects of patient blood management or transfusion practice to assess current practice against the relevant criteria, standards or guidelines.

The information obtained from audits may alert the PBMC to inappropriate transfusion practices that require further investigation. Audits can be used to benchmark current practice between clinicians, similar clinical units or across multiple hospital sites.

The PBMC will identify areas for audit; review the results and make recommendations for changes in practice; promote these changes; and finally follow-up to ensure the changes are implemented. All steps and outcomes of the audit process should be fully documented. The format of the audit needs to be established prior to undertaking the audit.

Typical areas for audit include:

- Appropriateness of transfusion especially compliance with guidelines for using specific blood products (eg, FFP, cryoprecipitate)
- Prescription and ordering of blood products
- Collection and labelling of patient blood samples
- Storage, transportation and handling of blood products
- Administration of blood products.

Electronic or online audit tools can assist in standardising the audit process. These tools can generally be accessed at any time with results being entered into secure, web-based systems. Once the audit is completed a variety of reports can be generated for review by the PBMC.



Australian Red Cross Blood Service

> Inventory

National Blood Authority

> Wastage

> Inventory management

Australian Health Ministers' Conference Statement

NSQHSS Standard 7

Inventory Management (CAN)



National Blood Authority

> Audit tools (under development)

Audit tools for National Safety and Quality Health Service Standards (QLD)

Blood Matters

An Introduction to Clinical Audit, Peer Review and Other Clinical Practice Improvement Activities (NZ)

Auditing in the Transfusion Service

Auditmaker®

Adverse transfusion reactions

There is a small risk that patients will experience an adverse reaction or other ill effects from a blood transfusion.

One of the first steps in reducing or eliminating adverse transfusion reactions is an awareness that they are occurring. A key activity for the PBMC is to monitor the incidence of adverse transfusion reaction and develop procedures to identify the types of reaction to be reported and the process for doing so.

There may be differing reporting requirements depending on the nature and/or severity of the specific adverse transfusion reaction. For example, serious reactions resulting in death or serious harm to the patient such as an ABO-incompatible transfusion are sentinel events and must be notified to the area health service and state health department.

The PBMC should participate in the investigation and reporting of sentinel events and corrective actions.

Adverse transfusion reactions due to product quality and/or donor-related factors, (eg, transfusion-related acute lung injury [TRALI] and transfusion-transmitted bacterial or viral infections) must be reported to the Australian Red Cross Blood Service.

Tools and resources are available to assist in the recognition and management of adverse transfusion reactions and making this material available in clinical areas is strongly recommended.

Transfusion-related errors and incidents

Transfusion-related errors and incidents are a preventable cause of patient harm. Haemovigilance data tells us that human error is a significant factor in more than 60% of serious transfusion-related errors or incidents.

The National Safety and Quality Health Service (NSQHSS) standards require incidents, errors, accidents or deviations from normal operating procedures be identified, investigated, evaluated and corrective action taken.

It is important that 'near misses' are also reported as they can identify learning opportunities and assist in identifying preventative measures.

Error and incident reporting should be actively supported by the hospital's executive management. Endorsing a culture of improvement rather than blame or punitive action will encourage reporting.

The PBMC's responsibility for governance and oversight of patient blood management and blood transfusion activities means it should be closely involved with the hospital's incident management processes. The investigation of serious errors will usually be performed by the hospital's Quality and/or Risk Management teams who should be represented on the PBMC.

The investigation, subsequent analysis and review of errors and incidents should use a systems-based approach which focusses on all aspects of the PBM or transfusion process. Serious errors or incidents are usually the result of multiple contributory factors and often reveal systemic issues or failures. The use of root cause analysis (RCA) or similar tools may assist with the investigation process.

If corrective action is required it must be appropriate to the magnitude of the problem and likely risks.



Australian Red Cross Blood Service

- > Adverse events
- > Flippin' Blood

National Blood Authority

- > Adverse events
- > Haemovigilance reporting

Serious Transfusion Incidents Reporting System (STIR)

Transfusion reaction chart (QLD)

Adverse reaction reporting and management (NZ)

ORBCoN Transfusion Committee Toolkit

Bloody Easy 3: Blood Transfusions, Blood Alternatives and Transfusion Reactions

Serious Hazards of Transfusion (SHOT)

British Committee for Standards in Haematology Guidelines

Handbook of Transfusion Medicine (UK)

NSQHSS Standard 7

Anatomy of an error (US)

Healthcare Research and Quality Patient Safety Network

New blood products and equipment

The PBMC should be responsible for managing the introduction of new (or changed) blood products or equipment associated with PBM or blood transfusion.

On introduction of new blood products or equipment, the PBMC should:

- Develop and/or approve evidence-based clinical guidelines for use
- Develop and/or approve administration policies, procedures or guidelines
- Determine the required stock levels, availability and ordering criteria
- Ensure the necessary education and/or training is available to all relevant staff
- Ensure that a post-implementation audit is conducted to check the new blood product or equipment is being used appropriately.

Education

All staff involved in the provision of PBM and transfusion-related activities must be appropriately trained and competent to do so.

The National Safety and Quality Health Service (NSQHSS) standards require a hospital to have a formal program to regularly assess and document the knowledge and competency of all healthcare professionals and staff involved in PBM and transfusion-related activities.

The PBMC has a key role in supporting training and education in these areas by promoting use of appropriate tools and resources. Also useful are targeted educational campaigns, for example to raise awareness of new initiatives, requirements or gaps and deficiencies identified through audits.

Various tools have been created to help hospitals meet the requirements for education and ongoing competency related to transfusion medicine.

Patient blood management and quality improvement

Patient blood management may be a new concept in some hospitals or clinical areas and creating an environment or culture where it can flourish may be a challenge.

The PBMC can assist with this by identifying and supporting patient blood management 'champions' who will raise awareness, educate staff and drive new initiatives or changes in practice.

Successful implementation of PBM initiatives or changes in transfusion practice is best achieved using clinical practice improvement (CPI) methodology incorporating local processes, available resources and expertise.



National Blood Authority

- > National product price list
 - > Single unit policy
 - > Intraoperative Cell Salvage Guidance
- ORBCoN Transfusion Committee Toolkit



Australian Red Cross Blood Service

- > Transfusion Online Learning
- BloodSafe eLearning
NSQHSS Standard 7



PATIENT BLOOD MANAGEMENT

National Blood Authority

- > Patient Blood Management

WA PBM Program

AABB PBM

Patient Blood Management: Best Practice and Research Clinical Anaesthesiology

Society for Advancement of Blood Management

Network for Advancement of Transfusion Alternatives (NATA)

CLINICAL PRACTICE IMPROVEMENT

Clinical Excellence Commission

- > Easy guide to clinical practice improvement. A guide for health professionals
- > Enhancing project spread and sustainability. A companion to the easy guide to clinical practice improvement
- > Data Collection Tools

NSW Health

NSQHSS Standard 7

An Introduction to Clinical Audit, Peer Review and Other Clinical Practice Improvement Activities (NZ)

Contingency planning for blood shortages

Local or regional disaster planning

Most hospitals will have plans to address serious local or regional emergencies which are expected to displace services or affect a large number of patients. The PBMC should be involved in the hospital's emergency planning process and ensure that plans provide for appropriate patient care are periodically reviewed.

National blood product shortages

The NBA is responsible for national contingency planning to manage the supply of blood products during a crisis causing a significant threat to the supply and/or demand for blood products in Australia, or an event that threatens the safety of patients.

Within this framework, hospitals should have their own local emergency blood management plan which governs the clinical management of blood products during a national shortage and assists clinicians in responding to patient transfusion requirements in the most effective manner.

The plan will include strategies for reducing demand (or providing alternatives) for affected blood products, for informing staff and patients who may be impacted by decisions to delay or defer treatment, and for communication with key stakeholders such as the Australian Red Cross Blood Service or state health department. It is important that emergency or contingency arrangements are tested or exercised on a regular basis.

Some hospitals will choose to create a specific emergency blood management committee which will respond to any activation of the national plan and consequently manage the performance of the local plan including communication and the triage of blood product orders during the shortage period. Other hospitals may use an existing committee such as the PBMC.

Regardless, the PBMC should be familiar with both the national and local hospital contingency plans.

Further information, tools and resources

Further information, tools and other resources which supplement the material in this handbook are available on the following websites:

- > **Australian and New Zealand Society of Blood Transfusion (ANZSBT)**
- > **Australian Commission on Safety and Quality in Health Care (ACSQHC)**
- > **Australian Council on Healthcare Standards (ACHS)**
- > **Australian Red Cross Blood Service**
- > **BloodSafe eLearning Australia**
- > **National Blood Authority**
- > **National Safety and Quality Health Service Standards (NSQHS)**
- > **Ontario Regional Blood Coordinating Network (ORBCoN)**



National Blood Authority

- > **National blood supply contingency plan**
- > **Ensuring supply**
- > **Waste reduction strategy**
- > **Inventory management**

ORBCoN emergency blood management

Contingency planning (UK)

NHS Blood Stocks Management Scheme (UK)