Transfusion Committee Handbook

Inspiring and facilitating best transfusion practices in Ontario.
Preface

Pages 4 through 7 of this handbook are intended as an orientation relating to joining a Transfusion Committee. This initial section provides valuable background information on the blood system in Canada and helps to define the purpose of Transfusion Committees, which may be new information for new members.

The remainder of this document is designed to be used as a reference guide for all Transfusion Committee members to use as a resource for items related to the mandate of the committee. Throughout this section, a list of resources and tools available to support Transfusion Committee members is provided.

Acknowledgements

Ontario Regional Blood Coordinating Network (ORBCoN) is funded by the Ontario Blood Programs Coordinating Office of the Ministry of Health and Long-Term Care to provide educational resources to Ontario hospitals to ensure blood is utilized appropriately and safely.

We would also like to acknowledge the hospitals and other groups who have generously shared examples of their hospital documents that contributed to the creation of this handbook for Transfusion Committees:

University Health Network  The Ottawa Hospital
Sunnybrook Health Sciences Centre  TTISS Education Working Group
Timmins Cluster of Hospitals  London Health Sciences Centre
Hamilton Health Sciences  Grey Bruce Health Services

Deborah Lauzon  Wendy Owens  Kate Gagliardi
Regional Blood Coordinator  Regional Blood Coordinator  Regional Blood Coordinator
deborah.lauzon@sunnybrook.ca  wowens@ottawahospital.on.ca  gaglikat@hhsc.ca
416 480-6100 ext. 89434  613 798-5555 ext. 19740  905 525-9140 ext. 22915
Table of Contents

Welcome to your Transfusion Committee ........................................4
Special Roles on the Transfusion Committee ................................. 6

Agenda Items for the Transfusion Committee ............................8
Blood Utilization and Wastage Review ........................................... 8
Development of Guidelines .......................................................... 12
Policies for Blood Transfusion ...................................................... 15
Audits ...................................................................................... 16
Review of Adverse Reactions to Blood Component/Products .......... 18
Review of Errors and Incidents Related to Blood Transfusion ........... 21
Review of New Blood Components and Products ....................... 23
Education about Blood Transfusion ............................................. 24
Disaster and Contingency Planning Related to Blood Transfusion ..... 27

Committee Member’s Code of Conduct ..................................29

Ethical Decision Making ....................................................... 30

References ............................................................................. 32

Appendices ............................................................................ 34
Appendix A: Standards Relating to Transfusion Committees in Canada ..... 34
Appendix B: Example of Terms of Reference of a Transfusion Committee .. 37
Appendix C: Examples of Agendas .............................................. 39
Appendix D: Job Description of a Transfusion Safety Officer .............. 41
Appendix E: Example of Conflict of Interest Guidelines .................... 43
Welcome to your Transfusion Committee

Why are you here?

The Transfusion Committee (TC) needs input from the physicians and nurses that order and administer blood for patients as well as from laboratory representatives who are responsible for the service that provides blood for transfusion. The responsibility for ensuring that blood transfusion occurs safely at a hospital lies, in part, with the TC. You have been asked to participate on this committee because you can provide valuable expert knowledge from your area of specialty on how well the transfusion service meets your needs as well as those of your patients.

What is the mandate of the Transfusion Committee?

- To ensure blood is ordered appropriately and administered safely
- To ensure wastage of blood components and products is minimized
- To review reports of adverse reactions, incidents and complaints and make recommendations for their prevention to improve patient safety
- To provide health care professionals in your facility with current information and education relating to blood transfusion

What do you need to know about the blood system?

Where does blood come from?

The majority of blood for transfusion is collected as whole blood from volunteer donors in Canada by Canadian Blood Services (CBS) and, in Quebec, by Héma-Québec (HQ). The whole blood is processed into blood components (red cells, platelets, plasma and cryoprecipitate) for distribution to hospitals for transfusion to patients. Some components are collected through a process called apheresis which results in the collection of specific components like platelets and plasma. CBS and HQ are tasked with screening these volunteer donors to ensure the blood collected will provide the most benefit to the recipients while minimizing the risks. This includes screening each donor using a questionnaire and interview and testing the collected blood for pathogens that could be transmitted to the recipient. Both CBS and HQ must adhere to strict regulatory requirements mandated by Health Canada to ensure the blood supply is as safe as possible for all Canadians.

In addition, CBS and HQ purchase other blood products that are manufactured by pharmaceutical companies. Examples include coagulation factor concentrates used primarily for hemophiliac patients, immunoglobulins (IG) such as Intravenous Immune Globulin (IVIG), RhIG and Hepatitis B IG and blood derivatives such as albumin. The majority of these products are produced from human blood that may be collected from paid donors and is sourced from companies based in the United States and Europe. These products require complex manufacturing processes and are often costly.
Who pays for blood in Canada?

CBS and HQ are funded by the Provincial and Territorial Ministries of Health to collect, process and distribute blood components to hospitals in Canada and to purchase the required quantity of manufactured blood products from the various pharmaceutical suppliers licensed to provide products in Canada.

The funding formulas from each province are currently based on the use of red blood cell (RBC) units and the amount of manufactured products issued to hospitals within each province.

Are there any ‘rules’ to follow relating to the handling and use of blood in Canada?

There are accepted standards for the collection, testing, processing, storage, transportation, issuing, administration and tracking/documentation of blood for transfusion. These standards were developed by subject matter experts in the field of transfusion medicine.

- Canadian Standards Association National Standard for Blood and Blood Components CSA Z902-10
- Canadian Society for Transfusion Medicine Standards for Hospital Transfusion Services ver 3 2011

Hospitals are monitored for compliance to these standards through Accreditation Canada and, in Ontario, through the Ontario Laboratory Accreditation (OLA) division of the Quality Management Program-Laboratory Services (QMP-LS). Consequences of non-compliance can include the loss of hospital accreditation and loss of laboratory license.

Since the blood suppliers and manufacturers do considerable manipulation of blood into the components and products mentioned earlier, those organizations have been heavily regulated by Health Canada for many years. In the next 2-3 years, hospital transfusion services begin the process of being covered by Health Canada (Health Products and Food Branch) "Blood Regulations". While hospital transfusion services likely meet the requirements of this new legislation because of accreditation, there will be some formalities required like authorizations, licensing and registration with Health Canada. The extent of the process will depend on the level of services provided by a given transfusion service.

Do these Standards cover Transfusion Committees?

Yes, there are specific standards that outline the requirements of TCs, including the need for Terms of Reference for the committee, membership of the committee and frequency of meetings.

A list of the standards relating to the TC appears in Appendix A of this handbook.
What will you need for your committee meetings?

You should be provided with your TC’s Terms of Reference. A generic version is provided in the appendices of this handbook (refer to Appendix B). More examples of these documents are available in the ORBCoN Transfusion Committee Toolkit that can be found at www.transfusionontario.org

What will be discussed at Transfusion Committee meetings?

Agendas may include discussions about:

- Blood utilization and wastage
- Development and approval of guidelines for ordering blood for transfusion
- Policies to improve the use and provision of blood for transfusion including informed consent
- Audits on blood utilization and administration
- Adverse reactions that are reported during or following a blood transfusion
- Incidents and errors or ‘near misses’ related to blood for transfusion
- New products offered through CBS or HQ
- Dissemination of transfusion information and education, staff training and competency
- Contingency/emergency planning

Within this handbook, you will find brief outlines of each section that may be discussed at a TC meeting and suggested tools that may support committee members in fulfilling their role. Example agendas are provided in Appendix C.

Special Roles on the Transfusion Committee

Chairperson

The chairperson’s role on the TC is to:

- Ensure Terms of Reference are developed and approved and provided to all members
- Schedule meetings to ensure the committee meets at least quarterly
- Set agendas to ensure the committee can fulfill its mandate
- Encourage all members to participate equally in discussions and provide their opinion
- Ensure committee members are provided with the data and tools required to enable them to develop recommendations
- Arrange for minutes to be distributed, action items are reviewed and completed
- Liaise between the Medical Advisory Committee (MAC) and the TC including bringing recommendations forward to MAC
- Assist the members in understanding the accountability associated with the TC
- Maintain awareness of members about the ethical aspects of their decision making
- Provide an opportunity for all members to declare a conflict of interest at any time
**Secretary**

The secretary’s role on the TC 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 and the Transfusion Committee**

Some hospitals have created a role for a healthcare professional, with either Nursing or Laboratory background, whose focus is to improve patient safety relating to blood transfusion. This person is often tasked with developing policies and procedures for patient identification and blood administration, reviewing blood utilization, following up and reporting adverse reactions and incidents related to blood transfusion and developing and delivering educational programs. If the hospital does have a Transfusion Safety Officer, they should be a member of the TC.

Transfusion Safety Officers will often perform audits and present data to the TC for review and discussion in order to develop recommendations to improve performance and prevent errors and incidents. These activities can also be performed by either nursing or laboratory personnel, but having someone dedicated to this role is often more effective. A generic job description for a Transfusion Safety Officer appears in Appendix D of this handbook.

**Remember you are vital to your Transfusion Committee**

Your input can ensure that patients at your hospital receive safe and effective blood transfusion therapy only when it is truly needed. You will become more familiar with your hospital’s guidelines for ordering and administering blood, the benefits and risks associated with it, as well as contributing to recommendations to prevent errors and improve patient safety. As a participating member on the TC you will also become more knowledgeable on blood and any new practices related to the use of blood or its alternatives. Blood is a precious resource that requires effective management to ensure an adequate and safe supply for all Canadians. Your active participation on your TC plays an important role in meeting this mandate.

We are confident that you will find your participation on the TC rewarding and we thank you. For more information please visit [www.transfusionontario.org/index.php/en/toolkits/transfusion-committee](http://www.transfusionontario.org/index.php/en/toolkits/transfusion-committee)
Agenda Items for the Transfusion Committee

Blood Utilization and Wastage Review

Blood utilization review includes review of: blood inventory management; blood ordering practices; blood administration practices; and review of standardized protocols such as massive transfusion.

Blood inventory management can include supply issues from the blood supplier, blood wastage rates and inventory levels.

Review of blood ordering practice can be achieved by examining the appropriateness of orders, for example using a crossmatch to transfusion ratio to determine if many more units are ordered for certain procedures or by certain physicians than are actually transfused.

Review of blood administration practice can involve monitoring for informed consent for transfusion, review of blood issuing and blood infusion to monitor compliance with hospital policies and procedures.

Why should a Transfusion Committee monitor blood product utilization and wastage?

- To improve patient care and safety
- To ensure efficient and effective use of the blood products in your facility
- To reduce the cost to the healthcare system due to unnecessary transfusion
- It is a requirement by Canadian Standards Association (CSA Z902-10)\(^1\)
- It is a requirement by Ontario Laboratory Accreditation (OLA)\(^2\)

Some reasons why utilization reviews are necessary at your facility:

- Identify cases of over-transfusion or under-transfusion
- Reduce unnecessary patient exposure to blood products and prevent associated adverse events

Examples of tools available to help review blood product utilization:

- 3-year utilization graphs (Figure 1)
- Crossmatch to Transfusion Ratio (C:T) graphs (Figure 2)
  (template available on www.transfusionontario.org)
Figure 1: 3 Year Utilization Graph (RBC)

Review of 3 year utilization data on products such as Red Cells, Platelets, Plasma and Cryoprecipitate will help the TC monitor usage and trends. Identifying trends in outdating, other discards and amount transferred to other facilities all aid in utilization review.

The red trendline identifies product transfused.

The yellow trendline identifies product outdated.

3 year Utilization Graphs can be obtained through your ORBCoN Regional office at any time. During the annual site visit with CBS and ORBCoN these graphs are provided and discussed. Issues can be identified through review of these graphs and brought forward to the TC if needed.
For organizations that do not use a just-in-time (JIT) electronic crossmatch system, monitoring the number of units crossmatched to the number of units transfused, may be a helpful quality indicator.

1. Determine the group for analysis. Some examples are:
   - Patient group
   - Department
   - Physicians

2. Establish the timeframe for analysis: e.g. a month, 3-months or a year.

3. Tally the number of crossmatched units and determine how many of those units were actually transfused. These ratios will assist organizations in identifying possible inefficiencies to the crossmatching process with regard to resources and personnel required. The review of C:T ratios also identifies differences in utilization practices by peer and department.

The literature demonstrates that a good C:T ratio is between 1.5 (3:2) and 2.5 (5:2).³⁴

See www.transfusionontario.org for downloadable templates.
Additional Report Tools/Resources:

   http://tru.mcmaster.ca/benchmarking/  
   Benchmarking is a useful tool to identify best practices and to compare an organization’s performance with that of similar peers, allowing for continuous quality improvement. Includes the definition of benchmarks in Ontario. This website shows peer comparison as well as benchmarks for Ontario hospitals on outdating of red cells and platelets.

2. ORBCoN (2009) Inventory Calculators for red cells and platelets.  
   The inventory calculator tool is based on distribution of blood groups in the population and the amount transfused in a year to give a rough estimate of how much of each blood group should be stocked on site. An explanation of how to use the inventory calculator to determine inventory levels appears in the Inventory Management Toolkit. www.transfusionontario.org/index.php/en/toolkits/inventory-management

3. Canadian Blood Services Quarterly Reports.  
   Data collected and submitted to CBS by hospitals every month is collated in a data warehouse, and then made available to hospitals every 3 months to monitor utilization. Information on the number of units outdated by blood group, amount transfused and amount received all help to provide utilization data for reporting.

   The FP:RBC ratio is internationally recognized as an indicator of plasma utilization as a ratio of red cell use. The ratio is can be used for peer comparison as an indicator for audit of frozen plasma use. www.transfusionontario.org/index.php/en/blood-utilization/blood-utilization-graphs
Development of Guidelines

Why Transfusion Guidelines?

Transfusion practice can vary widely by facility and by physician.

Guidelines can help support clinical decisions about appropriate transfusion practices and the use of blood components and products.6,7

Establishing facility guidelines for transfusion will help to reduce inappropriate transfusions and increase patient safety.8

Development of guidelines

Ensure that they are:

- Evidence based
- Appropriate for your facility
- Easy to comprehend
- Easy for clinicians to access
- Developed with both clinical and laboratory input

Why review and monitor?

Medical research is being done every day to help improve therapies for patients and increase patient safety. Transfusion Medicine is always evolving and practices are continually improving. The committee should be monitoring and reviewing their current practices based on:

- New evidence (i.e. Restrictive Transfusion Strategies)
- Increased use of alternatives to transfusion in the management of anemia, i.e. Erythrocyte Stimulating Agents (ESAs)

Examples of guidelines:

An example of ordering guidelines for blood components has been provided by Sunnybrook Health Sciences Centre (Figure 3 – 4). It provides information for ordering physicians on approved ordering practices at their facility.

Please visit www.transfusionontario.org for more examples of guidelines.
Figure 3: Sunnybrook Guidelines for Transfusion of Red Blood Cells (Adult)

**TRANSFUSION GUIDELINES Adult Patient**

**Risks of transfusion**

1 in 20  | Febrile Non Hemolytic reaction to platelets (per pt pool)
1 in 100 | Minor Allergic reaction
1 in 300 | Febrile Non Hemolytic reaction to red cells
1 in 700 | Transfusion Associated Circulatory Overload (TACO)
1 in 7,000 | Delayed Hemolytic reaction
1 in 10,000 | Bacterial Sepsis to platelets (per pt pool)
1 in 10,000 | Transfusion Related Acute Lung Injury (TRALI)
1 in 40,000 | Acute Hemolytic reaction due to ABO-incompatibility error
1 in 40,000 | Severe Allergic reaction
1 in 60,000 | Death from Bacterial Sepsis (per pt pool)
1 in 153,000 | Hepatitis B Virus (HBV) transmission
1 in 250,000 | Bacterial Sepsis to red cells
1 in 500,000 | Death from Bacterial Sepsis (from red cells)
<1 in 1,000,000 | West Nile Virus
1 in 2,300,000 | Hepatitis C Virus (HCV) transmission
1 in 4,000,000 | Chagas Disease (Trypanosoma cruzi)
1 in 4,300,000 | Human T-lymphotropic virus (HTLV) transmission
1 in 7,800,000 | HIV transmission

**FOR ALL COMPONENTS TRANSFUSE SLOWLY (50mL/hr) FOR 1ST 15 MINUTES WHERE POSSIBLE**

**RED BLOOD CELLS NON-BLEEDING PATIENT**

**ADULT DOSE = 1 unit**
- RBC Typical Infusion time 2 hrs (3-4 hrs if at risk of circulatory overload or elderly) (max 4 hrs)
- TRANSFUSE 1 UNIT THEN RE-ASSESS PATIENT AND HEMOGLOBIN LEVEL PRIOR TO NEXT UNIT
- Assess patient’s symptoms (fatigue, shortness of breath, tachycardia, dizziness) in addition to patient’s hemoglobin level prior to ordering a transfusion and consider expected duration of anemia
- DO NOT transfuse based solely on hemoglobin level
- Expected increase in hemoglobin level per unit is 10g/L in average size non-bleeding adult
- Same criteria for transfusion of predonated autologous units

<table>
<thead>
<tr>
<th>HEMOGLOBIN</th>
<th>UNITS</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
</table>
| < 60 g/L   | 1-2 units RBC | Transfusion highly recommended  
> Young patients with low risk of ischemic cardiovascular disease may tolerate greater degrees of anemia |
| < 70 g/L   | 1 unit RBC | Likely appropriate |
| < 80 g/L   | 1 unit RBC | For 2 wks following traumatic brain injury (TBI) |
| 70-100 g/L | 1 unit RBC | Likely to be appropriate if there are signs or symptoms of impaired tissue oxygen delivery |
| >100 g/L   | none | Likely inappropriate. Document indication in patient’s chart and consult blood bank |

**RED BLOOD CELLS BLEEDING PATIENT**

<table>
<thead>
<tr>
<th>Clinical Setting</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk patient</td>
<td>Maintain hemoglobin &gt;70 g/L and &lt;100g/L during active bleeding</td>
</tr>
<tr>
<td>Impaired pulmonary function</td>
<td>Maintain hemoglobin 80-100 g/L during active bleeding</td>
</tr>
<tr>
<td>Increased oxygen consumption</td>
<td>Maintain hemoglobin 80-100 g/L during active bleeding</td>
</tr>
<tr>
<td>Anesthesia</td>
<td></td>
</tr>
<tr>
<td>Atherosclerosis</td>
<td></td>
</tr>
<tr>
<td>Acute MI</td>
<td>Maintain hemoglobin 90-100 g/L during active bleeding</td>
</tr>
<tr>
<td>Unstable angina</td>
<td></td>
</tr>
</tbody>
</table>
**TRANSFUSION GUIDELINES** Adult Patient

**PLATELETS** Typical infusion time: 1 - 2 hrs (max 4 hrs)

<table>
<thead>
<tr>
<th>Clinical Setting</th>
<th>Platelet Count</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITP - Immune thrombocytopenia</td>
<td>&lt;10</td>
<td>Transfuse platelets only with serious bleeding</td>
</tr>
<tr>
<td>Non-immune Thrombocytopenia</td>
<td>&lt;10</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Thrombocytopenia and fever &gt;38.5°C or coagulopathy</td>
<td>&lt;20</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Vaginal delivery</td>
<td>&lt;20</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Procedures not associated with significant blood loss</td>
<td>&lt;50</td>
<td>Transfuse platelets only with serious bleeding or significant blood loss</td>
</tr>
<tr>
<td>Significant Bleeding</td>
<td>&lt;50</td>
<td>1 platelet pool (immediately before procedure)</td>
</tr>
<tr>
<td>Major surgery</td>
<td>&lt;50</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Pre invasive procedure associated with blood loss</td>
<td>&lt;50</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Peri-neurosurgery</td>
<td>&lt;100</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Head trauma</td>
<td>&lt;100</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Post-op CV Surgery with significant bleeding</td>
<td>&lt;100</td>
<td>1 platelet pool</td>
</tr>
<tr>
<td>Platelet dysfunction (e.g. ASA, postcardiopulmonary bypass, antithrombotic agents, and marked bleeding)</td>
<td>Any</td>
<td>1 platelet pool</td>
</tr>
</tbody>
</table>

**PLASMA** Typical infusion time: 30 min - 2 hrs per unit (max 4 hrs)

<table>
<thead>
<tr>
<th>Clinical Setting</th>
<th>Lab Value</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warfarin reversal</td>
<td>INR&gt;1.5</td>
<td>DO NOT use Plasma See PCC (prothrombin complex concentrates) Guideline on Intranet/Physician Portal Vitamin K 10 mg IV</td>
</tr>
<tr>
<td>Pre emergency surgery</td>
<td>INR&gt;1.5</td>
<td>Vitamin K 1-2 mg po (iv formulation can be given po; sc and im not recommended)</td>
</tr>
<tr>
<td>Life threatening bleeding</td>
<td>INR&gt;1.5</td>
<td>Plasma 3-4 units (Note: plasma not required for many minor procedures (e.g. paracentesis, arterial line), irrespective of the INR result)</td>
</tr>
<tr>
<td>Without active bleeding</td>
<td>INR&gt;5</td>
<td>Plasma 3-4 units</td>
</tr>
<tr>
<td>Significant bleeding</td>
<td>INR&gt;1.5</td>
<td>Plasma 3-4 units</td>
</tr>
<tr>
<td>Liver disease coagulopathy and pre invasive procedure</td>
<td>INR&gt;1.5</td>
<td>Plasma 3-4 units</td>
</tr>
<tr>
<td>Microwascular bleeding</td>
<td>Unable to wait for results</td>
<td>Plasma 3-4 units</td>
</tr>
<tr>
<td>Massive transfusion</td>
<td>Unable to wait for results</td>
<td>Plasma 3-4 units</td>
</tr>
</tbody>
</table>

**CRYOPRECIPITATE** Typical infusion time: <30 min (max 4 hours)

<table>
<thead>
<tr>
<th>Clinical Setting</th>
<th>Lab Value</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microwascular bleeding</td>
<td>Fibrinogen &lt;0.8-1.0 g/L</td>
<td>CRYO 10 units</td>
</tr>
</tbody>
</table>

Transfusion Medicine Committee PR 15170 (2011/07/12)
Policies for Blood Transfusion

Why should Transfusion Committees determine Transfusion Policies?

Policies, processes and procedures describe the purpose and objectives of the organization, how processes are anticipated to function, how they work together, how to perform the processes, areas of risk or control, what their requirements are, how to implement them and how to measure or evaluate them.9

Many of the standards mandating the existence of a TC with defined Terms of Reference and minimum meeting intervals also charge the TC with defining or approving transfusion policies.1

The clinical perspective in addition to the laboratory perspective is critical in obtaining the safest and most practical policies for transfusion activities. The members of the TC can help provide this input on behalf of, and preferably in collaboration with, members of their own departments. Review, revision and approval of these policies should be documented in the TC minutes, creating a record of the transfusion policy identification, development and approval process. It is also ensures a transparent process to clinical areas, departments, administration and auditors.

What types of policies should Transfusion Committees consider?

Some of the key policies related to transfusion at your hospital (or group of hospitals if you have a regional TC model) that should be developed or reviewed by the TC are:

- Informed consent for transfusion and protocol for refusals
- Pre-transfusion testing orders: group and screen versus crossmatch, computer/electronic crossmatch, maximum surgical blood order schedules
- Medical indications for blood products and ordering practices
- Patient identification for specimen collection and blood product administration
- Administration practices and guidelines/monographs for adults and neonates and pediatric patients where appropriate
- Massive hemorrhage protocol
- Transfusion adverse event identification, intervention, reporting and monitoring
- Non-conformance/error reporting, complaints, corrective and preventative measures, monitoring and evaluation from the laboratory, clinical areas and other pertinent departments
- Management and performance of audits
- Lookback/Traceback for reported transfusion transmitted infections
- Introduction of new blood products
- Blood shortage management
- Staff training and on-going competency for handling blood components/products
ORBCoN has developed some tools to assist hospitals with development of transfusion related policies:

1. The Informed Consent Card
2. 5 Rights of Transfusion Bedside Audit Toolkit
3. Patient information pamphlet and on-line tool
4. e-Tools that can be used as a competency tool for technologists, nurses and physicians
5. IVIG Toolkit
6. Bloody Easy 3 and Bloody Easy Blood Administration (online and hardcopy versions)
7. Inventory Management Toolkit

The regular review of policies and procedures for accuracy, currency and relevance is an important aspect of policy and procedure development.

"Policies, processes and procedures are the cornerstones to safe transfusion practice."

Audits

What are audits?

The general definition of an audit is the inspection and examination of a process or quality system to ensure compliance with requirements for an organization, function, process, product or step. A function of the hospital TC is to assess and review the results of audits of transfusion practices at the hospital. Auditing can improve an organization’s effectiveness and efficiency by leading to recommendations that promote continuous quality improvement of transfusion practice. As part of the audit process, it is essential that the findings of audits, including any corrective action implemented, be documented.

Why should audits be done?

- The Canadian Standards Association Standards for Blood and Blood Components (CSA Z902-10) requires that each facility perform periodic reviews and audits. These internal audits should be performed annually at a minimum, to verify the continuing effectiveness of the quality system.
- The Ontario Laboratory Accreditation requirements state that internal audits must be conducted at intervals defined in the quality management system (suggest once per year) to verify that operations continue to comply with the quality management system, both managerial and technical.
- The Canadian Society for Transfusion Medicine Standards for Hospital Transfusion Services states that the transfusion service must establish an internal audit program to ensure quality of processes and procedures.
What kinds of audits should the Transfusion Committee get involved with?

- Blood utilization review is an example of an audit that is used to identify the appropriate use of blood components and products at your facility.
- Regular evaluations of blood ordering and transfusion practices should be conducted. Specific areas that are important to address are: ordering, distribution, handling, dispensing, and administration of blood components and blood products.
- Additional auditing categories may include: policies and procedures, facilities management, training/personnel qualifications and competency, quality assurance, complaints/deviations, error/accident trends, adverse events, testing and lookback/traceback.14

The format of any audit/review process must be established by each institution. A blood utilization review must include the criteria for appropriate blood utilization. Each review can be conducted either prospectively or retrospectively and data collection can be performed manually or by accessing hospital or laboratory information systems.

What audit tools are available?

**Bloody Easy Audits** is an electronic tool that has been developed to aid Transfusion Services and TCs in the audit process. This tool enables the user(s) to access the tool at any time and enter specified audit results into a web-based system. Upon completion of the audit period, reports can be automatically generated and used to report to the specific committees in your facility. Currently, there are three audits available for use, the Frozen Plasma audit, the IVIG audit and the Bedside audit. To obtain program and login information please contact your regional ORBCoN office.

**Note:** Your transfusion service may already have been granted access to these audit tools.
**Review of Adverse Reactions to Blood Component/Products**

**What types of reactions/events should be discussed at your Transfusion Committee meetings?**

A transfusion is an important component of numerous patient therapies. This process, however, has potential serious risks. The Ontario user group for the Transfusion Transmitted Injuries Surveillance System (TTISS) has developed a list of signs & symptoms to watch for along with a description of what to expect and how to treat an adverse transfusion event (Figure 5).

**Figure 5: TTISS (Transfusion Transmitted Injuries Surveillance System) Transfusion Reaction Chart**

Tracking the types of reactions and monitoring incidence rates helps the organization to identify:

- Appropriate treatment of reactions
- Investigation of cause of reaction
- Patient safety risks (e.g. hemolytic reaction due to patient identification error)
- Interventions to mitigate risk
- Prevention of reactions

Figure 6: Example of the types of Adverse Events recorded over a set period of time. Headings adapted from the Serious Hazards of Transfusion (SHOT) Summary Report 2011\textsuperscript{15}

<table>
<thead>
<tr>
<th>Month / Adverse Event Type</th>
<th>Adverse Events Caused by Error</th>
<th>Possibly / Probably Preventable</th>
<th>May not be Preventable</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Year&gt;</td>
<td>IBCT</td>
<td>HSE</td>
<td>I&amp;U</td>
</tr>
<tr>
<td>Jan</td>
<td>1 plt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td></td>
<td></td>
<td>2 fp</td>
</tr>
<tr>
<td>Apr</td>
<td></td>
<td></td>
<td>2 plt</td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td></td>
<td></td>
<td>3 fp</td>
</tr>
<tr>
<td>Jul</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Key: IBCT Incorrect blood component transfused; HSE Handling and storage errors; I&U Inappropriate/unnecessary; Anti-D Errors related to RHIG; BRATR Bacterial related adverse transfusion reaction; HTR Hemolytic transfusion reaction; TA/GvHD Transfusion associated graft versus host disease; TACO Transfusion associated circulatory overload; TRALI Transfusion related acute lung injury; TAD Transfusion associated dyspnea; PTP Post transfusion purpura; TTI Transfusion transmitted infection

**Oversight of transfusion practices and adverse events requires active participation of physicians, nursing, laboratory, administrators and other healthcare providers to ensure prevention of adverse events and to identify appropriate corrective actions. Review of adverse reactions can aid in identifying sentinel events, near miss errors and potential product related issues. Implementation and subsequent monitoring of corrective actions can improve patient safety related to transfusion.\textsuperscript{8}**
Figure 7: Type of Reaction by Category

![Chart showing types of reactions by category for Year xxxx, n=12.]

Figure 8: Reactions by Component/Product

![Chart showing reported reactions per product type for Year xxxx, n=6.]

Figure 7 and 8 demonstrate other examples of Adverse Reaction Summary Reports.
Review of Errors and Incidents Related to Blood Transfusion

Why does the Transfusion Committee need to review errors and incidents?

The Canadian Standards Association Standards for Blood and Blood Components (CSA Z902-10) require that any incidents, such as errors, accidents and deviations from normal operating procedures be identified, investigated, evaluated and corrective action taken when required. TCs are involved with the development and maintenance of policies and procedures involving the transfusion of blood components and products, and should be closely involved with the all the steps involved with the error management process.

Ontario Laboratory Accreditation requirements state that the process for formulating corrective action must include an investigation to determine the underlying root causes of the problem. Corrective action shall be appropriate to the magnitude of the problem and risks encountered.

In his primer for healthcare executives written for the Medical Event Reporting System for Transfusion Medicine (MERS-TM), Marx explains that it is through the lessons of our everyday errors that we can design our work environment to be less error prone and more error tolerant. Reporting of actual errors as well as “near miss” incidents should be encouraged in a blame free non-punitive environment. The subsequent investigation and analysis should take a systems based approach, focusing on all relevant contributing factors. Serious errors usually occur as a result of multiple contributing factors. Near miss events provide an opportunity for learning and formulation of preventative measures in the absence of serious harm.

The investigation of serious errors will usually be performed by trained individuals belonging to the Safety/Quality and Risk Management departments (valuable members of any TC). The following provides a brief summary of the type of the information a TC may be asked to review.

Root Cause Analyses (RCA)

- Is a quality-improvement tool that helps individuals and organizations determine the contributing factors that led to an incident.
- Is based on the belief that problems are best solved by attempting to address, correct or eliminate the root causes, as opposed to addressing the obvious symptoms. By directing corrective measures at the root cause(s), it is more probable that problem reoccurrence will be prevented.

Root Cause Analysis (RCA) Procedure

This brainstorming exercise will provide the group with a better understanding of the process itself and will also help to determine what the root causes of any problem are.

1. Define or describe the problem/issue
2. Gather data and evidence
3. Brainstorm the major categories of causes of the problem and write the categories of causes as branches from the main arrow
4. Brainstorm all the possible causes of the problem and write each idea as a branch from the appropriate category – causes can be written in several places if they relate to several categories
5. Identify the most effective solutions
6. Determine corrective action and preventative measures
7. Implement and verify the corrective and preventative actions and measures
8. Monitor the process for compliance (did the preventative measures work?)

**Fishbone Diagram, (Cause-and-Effect Diagram), Ishikawa Diagram**

The fishbone diagram is a tool that helps to identify many possible causes for an incident or problem and can be used to structure a brainstorming session with the TC in addition to staff performing the procedure. It immediately sorts ideas into useful categories. See figure 9 using the problem ‘wrong blood in tube’ as an example.

**Figure 9: Fishbone Diagram (Cause-and-Effect Diagram).**

Root cause analysis does not need to be complex or difficult. Charles Vincent proposes six categories of contributing factors to be considered following any error: work environment factors, environmental factors, team factors, task factors, knowledge, organizational factors and individual factors. Categorizing the events that contributed to an error enables a systematic approach to determining root cause.

Additional tools that may be useful to the transfusion committee include:

**Pareto diagram** – a type of graph that is useful in ranking data by the number of occurrences for each problem.
**Flow chart** – a schematic diagram used to trace a process from start to finish and is very useful in determining the root cause of a problem.

**Scatterplot** – a graph that is used to show the relationship between two measured variables and is useful in determining a cause and effect correlation.

Quality Committees: See ontario.ca/excellentcare for more information on the role of the quality committee, and its relationship with the Medical Advisory Committee. Each year, hospitals must develop and implement a quality improvement plan (QIP).

Hospitals are now legislated to have Quality Committees (QC) that review and monitor errors and critical incidents and improve quality for patients. These QC need to report back to their own health care organizations about the progress of their annual QIP. The TC and the QC should work closely in the management and improvement of incidents and errors related to blood transfusion.

**Review of New Blood Components and Products**

New blood components or blood products are introduced in Canada on the advice of the National Advisory Committee (NAC) on blood and blood products. The NAC is a medical advisory body that has representation from all provinces and territories and provides advice on blood and blood products to the provincial and territorial ministries of health (MOH) that provide funding for the blood system in Canada. NAC also develops and publishes guidelines and recommendations on the use of blood products (see www.nacblood.ca).

The MOH consider the recommendations made by NAC when determining whether a new blood product will receive funding to be supplied to hospitals in Canada.

*What role does the Transfusion Committee play in approving new blood components or products?*

The TC at each hospital should:

- Determine if the new blood component or product will be used at their facility
- Develop and approve evidence based clinical guidelines for use of the product
- Develop and approve in-house administration policies and procedures
- Determine the quantity to keep in stock and availability of the new product
- Educate staff (medical and nursing) about the new product and appropriate use

Another role for the TC is to review audits on the use of the product once it has been implemented to ensure it is being ordered and used appropriately.
Are there any resources to help the Transfusion Committee implement a New Blood Product?

ORBCoN has, with input from hospital participants, developed a toolkit to aid in the implementation of a new blood product. The toolkit can be found at www.transfusionontario.org/index.php/en/toolkits/new-product

Education about Blood Transfusion

Blood transfusion involves personnel from diverse backgrounds with different levels of knowledge and understanding. In order to properly and safely accomplish their role in transfusion each individual needs to be trained to the appropriate level. Any person(s) involved in any step in the transfusion process must meet the competency requirements set out in the standards.

The Canadian Standards Association Standards for Blood and Blood Components (CSA Z902-10) states that each facility shall create, maintain, and document a formal competency assessment program. Competency shall be assessed following training and at regular and routine intervals thereafter.\(^{25}\)

Ontario Laboratory Accreditation requirements state that the hospital and blood transfusion service shall ensure that there is ongoing training for staff involved in blood component/product administration. A formal program to assess skills in transfusion-related activities shall be developed and maintained in conjunction with all healthcare professionals and staff involved in any transfusion medicine related activities.\(^ {26}\)

Various tools have been created to help facilities meet the requirements for ongoing competency related to Transfusion Medicine. These resources are available free of charge to Ontario hospitals.
**e-Learning Tools**

Bloody Easy for Health Care Professionals

Bloody Easy is an electronic learning tool providing in depth practical information on Transfusion Medicine. It is designed to enhance the knowledge of physicians, nurses and technologists regarding blood transfusions and the alternatives. [orbcon.transfusionontario.org/bloodyeasy](http://orbcon.transfusionontario.org/bloodyeasy)

Bloody Easy for Nurses

Bloody-Easy for Nurses is an electronic learning tool developed by a Transfusion Safety Nurse with input from RNs, Transfusion Safety Officers and Transfusion Personnel across Ontario. The content reflects current best practices and covers the risks of transfusion, the significance of the ABO and Rh blood group systems, and what these systems mean in terms of blood compatibility for patients. [orbcon.transfusionontario.org/nurses](http://orbcon.transfusionontario.org/nurses)

Bloody Easy Tech Assessments

Bloody Easy Tech Assessments includes a series of tests intended to provide Medical Laboratory Technologists in Ontario with a mechanism to assess and build on their technical and theoretical knowledge in Transfusion Medicine. Registration through an assigned site administrator is required. Tests are updated each year. A certificate is available for printing once each module has been completed and passed. Please contact your regional ORBCoN office for registration information and instructions. [orbcon.transfusionontario.org/etools](http://orbcon.transfusionontario.org/etools)

**Handbooks**


This educational tool provides practical information on Transfusion Medicine in a concise booklet format. It is designed to enhance knowledge of physicians, nurses, and technologists on the clinical use of blood transfusions and blood alternatives. It is available in both English and French.
Bloody Easy Blood Administration. A Handbook for Health Professionals

This booklet is ideal for nurses or health care professionals administering blood. It provides an overview of blood and blood products, the risks associated with them, and how they should be administered. In addition, it describes the types of transfusion reactions that may occur. This booklet is available in both English and French and is the companion to the online course "Bloody Easy for Nurses".

**PowerPoint Presentations**

**Emergency Blood Management**

This slide presentation outlines the background, definitions and phases of the Ontario Blood Shortage Plan and key elements of a Hospital Emergency Blood Shortage Plan.


**Transporting Blood Products Internally**

This template can be used to provide initial or refresher training to staff responsible for transporting blood from the laboratory to the patient care area and can be customized to site specific processes.


**Blood Administration made Bloody Easy: Module 1 – Transfusing the Patient, Module 2 – Indications and Compatibility and Module 3 – Transfusion Reactions**

These 3 presentations were developed for nurses to support education and training related to the handling and administration of blood.


For more information on the above listed tools or other tools and resources that are available please visit [www.transfusionontario.org](http://www.transfusionontario.org)
Disaster and Contingency Planning Related to Blood Transfusion

Blood and blood components play a vital role in the provision of healthcare to patients. Unexpected events can occur that may result in a reduction in service by the transfusion service. Hospitals need to have contingency plans in place to mitigate the impact and risk to patients should this occur. Examples of the type of situation that could result in a reduction of service by the transfusion service include:

- Facility catastrophic event such as fire, flood or earthquake causing building or building system failure
- Local disaster resulting in overwhelming request for provision of blood and/or blood products such as multi-vehicle accident, airplane or train accident
- National event resulting in a severe shortage of blood and/or blood products

Local or Regional Disaster Plans

Most hospital laboratories will have plans in place to address events that would require displacement of laboratory services and large local disaster scenarios affecting a large number of patients. The TC should be familiar with these plans and review them periodically to ensure patient care will be addressed adequately in relation to the provision of blood components and products.

National Blood Shortage Events

A National plan for the management of Blood Shortages was developed by a working group of the NAC. It was released in 2010 and recently revised and re-released in January 2012.27 The Ontario Ministry of Health and Long-Term Care, through a working group developed and released a Contingency Plan for Management of Blood Product Shortages in January 2008.28 The second version of this plan is currently under review for approval and distribution in 2012.

What does this mean for the Transfusion Committee?

Each hospital should have a plan developed to guide healthcare professionals through the response that will be required should a national blood shortage ever occur. Hospitals will need to take steps to reduce the demand for the affected blood component, inform staff and patients that may be impacted as a result of delayed or deferred treatment, maintain communication with CBS as well as the Ministry of Health and Long-Term Care. This type of event would greatly impact the transfusion service and its ability to provide service within the hospital therefore, it is in the best interest of the TC to be familiar with and review the Hospital Emergency Blood Management Plan.

What role would Transfusion Committee members have to play during a blood shortage?

Each hospital should develop their own plan, addressing their own needs should a blood shortage ever occur. The Ontario Emergency Blood Management Committee developed a toolkit to guide hospitals in developing their own hospital specific blood shortage plan to ensure hospitals take a consistent approach and that patients across the province will be
treated equitably. Some hospitals have elected to create a committee (Hospital Emergency Blood Management Committee) to specifically manage communication and triage orders for blood during a blood shortage. Other hospitals may use an existing committee (such as the TC or facility disaster management committee) to serve this purpose. Regardless of which committee is tasked with managing a blood shortage situation, TC members should be familiar with the hospital plans that relate to the management of blood resources in a disaster or critical shortage situation.
Committee Member’s Code of Conduct

In addition to the Terms of Reference of a committee, committee members should abide by a code of conduct that will ensure ethical and timely decision making and professional conduct. The following was extracted from the ORBCoN Transfusion Committee Toolkit released in 2008.

Confidentiality:
Members will consider issues non-confidential unless otherwise advised. Members will observe confidentiality when asked to do so.

Professional Responsibilities:
- Members will familiarize themselves with the issues before them
- Members will actively participate on the committee
- In accordance with conflict of interest guidelines, members will not use their position as members of the committee for private gain (see Appendix E for an example of conflict of interest guidelines)

Behavior:
- Members will be honest and trustworthy
- Members will respect others right to privacy
- Members will avoid harm to others
- Members will focus on the issues and respectfully express both assenting and dissenting views with the understanding that all views are valued
- Members will speak freely, but not monopolize the dialogue
- Members will engage in productive inquiry that values each other’s experiences
Ethical Decision Making

Situations may arise where “doing the right thing” is not clear. These situations may be referred to as ethical dilemmas, which are not always easily identified. If you or your committee encounters any of the warning signs listed below, there is a significant possibility that there is an ethical dilemma to be resolved:

- A sense of discomfort when the situation is viewed through the lens of being published in a newspaper or viewed on television
- Wanting to proceed in the right direction, but confronting barriers
- Receiving information you wish you didn’t have
- An uneasiness caused by competing values (loyalty versus disclosure; safety versus financial prudence)
- Conflict in the group or committee from different perspectives, values, culture and professions
- A unique situation that has not been faced before. Policies and standards of practice do not apply
- An intuitive, gut feeling that something isn’t right

The most prepared organizations have ethics policies and an established decision framework to guide them with these difficult decisions. The goal of having a framework to guide decision making is to develop a common approach that can be applied to situations where existing policies and processes do not provide sufficient guidance. Some organizations also have ethics specialists that assist teams in reaching the best, most transparent decisions.

What is ethical decision making?

Ethical decision making is a disciplined reflection on how to make decisions about what should be done in a particular situation. Ethical decision-making usually involves four related questions:

- What should we do? (What options are good or right in this context?)
- Why should we do it? (Exploring the values and reasons that support each option.)
- How should we do it? (What plan of action best aligns with these values and reasons?)
- Who should do it? (Who is responsible for making the final decision and enacting and communicating it?)

Hospital care is a public service, thus the benefits of hospital care should be accessible to all members of the community. In order to meet the needs of the community, hospital resources must be prioritized and allocated wisely, on the basis of fair and publicly-defensible reasons and procedures. While a health care professional’s first duty is to the patient, both managers and clinicians also have a responsibility to promote fair access to health care resources and to use health care resources prudently.

The following statement from Hamilton Health Sciences pertains to the use of an ethical decision making framework: “Often there will not be an answer that pleases everyone and so it is our responsibility to ensure that our processes for decision-making are fair and
legitimate. This tool is designed to help you think through difficult decisions and develop justifiable reasons for your choices in a rigorous, transparent and fair manner.\textsuperscript{29}

Open, collaborative and transparent discussion with committee members, each providing their experience and knowledge is often a most efficient method to address situations that may present as an ethical dilemma.\textsuperscript{29}

Additionally, committee members should not hesitate to ask for outside assistance and input from non-committee members like staff, volunteers, patients and their families in order to make the best decision in a difficult situation.
References


2. Ontario Laboratory Accreditation QMP-LS; Toronto, Ontario (v 5.1 December 2011, II.D.1 TM182).


12. Ontario Laboratory Accreditation QMP-LS; Toronto, Ontario (Ver 5.1: December 2011, II.D.7).

13. Canadian Society for Transfusion Medicine Standards for Hospital Transfusion Services; Ottawa, Ontario. (Ver 3 February 2011, 8.1).


17. Ontario Laboratory Accreditation QMP-LS; Toronto, Ontario (Ver 5.1 December 2011, II.D.5.2).
26. Ontario Laboratory Accreditation QMP-LS; Toronto, Ontario (Ver 5.1 December 2011, TM 111).
30. CMA Code of Ethics sections 43 and 44 www.cma.ca/index.cfm/ci_id/2419/la_id/1.htm
32. Canadian Society for Transfusion Medicine, Standards for Hospital Transfusion Services; Ottawa, Ontario. (v3 February 2011).
Appendices

Appendix A: Standards Relating to Transfusion Committees in Canada

Accreditation Canada

Accreditation Canada is a not-for-profit, independent organization accredited by the International Society for Quality in Health Care (ISQua). They provide national and international health care organizations with an external peer review process to assess and improve the services they provide to their patients and clients based on standards of excellence.31

Accreditation Canada requirements (Draft, June 2012) that apply to Transfusion Committees include:

19.1 The organization has a transfusion committee that provides consultation and support on transfusion practices and activities. Guidelines: The committee helps to define blood transfusion policies to the local clinical activities; ensures that regular evaluations of blood transfusion practices are conducted; sets criteria for the evaluation of ordering practices, usage, administration policies and the ability of services to meet recipient needs; recommends corrective measures if necessary; disseminates transfusion medicine information and education; evaluates reports of adverse transfusion events and transfusion errors within the facility as well as relevant federal and provincial or territorial reports on adverse transfusion events; and reviews available alternatives to allogeneic blood transfusion and makes appropriate recommendations on their use.

Canadian Society for Transfusion Medicine (CSTM) Standards for Hospital Transfusion Services

The Canadian Society for Transfusion Medicine is a multidisciplinary society which promotes and supports the best practice in Transfusion Medicine in Canada through education, communication and partnerships. It is through this mandate that the Standards for Hospital Transfusion Services were developed. These standards are intended to be incorporated into Canadian hospitals’ policies, processes and procedures.32

CSTM Standards (v3 Feb 2011) that apply to Transfusion Committees include:

1.8: A transfusion committee shall be established to:

a) identify transfusion policies as appropriate to local clinical activities
b) identify criteria for blood component and blood product utilization
c) ensure regular audits of transfusion practices are performed, reviewed and appropriate corrective action taken
d) identify inappropriate use of blood components and blood products and facilitate corrective action
e) identify available alternatives to allogeneic blood transfusion and development of recommendations on their use
f) ensure the dissemination of transfusion medicine information and education

g) review reports of adverse reactions and errors in the facility, as well as relevant governmental reports on adverse transfusion events

1.9: The transfusion committee shall:

a) involve key members of the transfusion community, including physicians, nurses, transfusion service staff, and executive management

b) meet at least quarterly

c) The transfusion committee may operate regionally

2.2: The TS medical director shall attend all transfusion committee meetings or send a designate who is a physician

Canadian Standards Association (CAN/CSA) Z902 National Standard for Blood and Blood Components

The Canadian Standards Association (CSA) is a not-for-profit, nonstatutory, voluntary association engaged in standards development and certification activities. These standards were developed through a consensus of volunteer experts involved in the Canadian Blood System with varied viewpoints.¹

CAN/CSA Z902-10 (Feb 2010) Standards that apply to Transfusion Committees include:

4.4: The transfusion service shall have a transfusion committee with documented terms of reference (defining, for example, its membership, scope of activity, and meeting frequency). The role of the committee shall be to provide consultative and support services with relation to transfusion practices and activities. The committee membership shall include key stakeholders, including physicians, nurses, transfusion staff, hospital administration, and other personnel as needed. It shall meet at least quarterly. The purpose of the transfusion committee shall be to:

a) help define blood transfusion policies as appropriate to the local clinical activities

b) ensure that regular evaluations of blood transfusion practices are conducted

c) set criteria for the evaluation of ordering practices, usage (including the discarding of blood and blood components), administration policies, and the ability of services to meet recipient needs

d) recommend corrective measures, if necessary

e) disseminate transfusion medicine information and education

f) evaluate reports of adverse transfusion events and all transfusion errors within the facility, as well as relevant federal and provincial or territorial reports on adverse transfusion events

g) review available alternatives to allogeneic blood transfusion and make appropriate recommendations on their use
Quality Management Program – Lab Services (QMP-LS), Ontario Laboratory Accreditation (OLA) Requirements

Ontario Laboratory Accreditation (OLA) is a division of the Quality Management Program (QMP–LS). OLA has been in operation since September 15, 2000. Its first accreditation certificates were issued in 2003.

OLA is mandated to perform regular external peer assessments of all licensed laboratories in Ontario. OLA is linked to the Standards Council of Canada, so organizations may request an ISO 15189 accreditation certificate to be issued by the Council.33

QMPLS OLA requirements (v5.1 Dec 2011) that apply to Transfusion Committees include:

Requirement II.D.1: Laboratory management shall ensure that the laboratory participates in quality improvement activities. Some of these activities shall include clients and they shall deal with outcomes of patient care when possible.

TM182: There shall be a transfusion medicine committee with documented terms of reference. It shall meet at least quarterly and document its activities.
Appendix B: Example of Terms of Reference of a Transfusion Committee

<Hospital Name> Transfusion Committee

Terms of Reference

1.0 OVERVIEW

Each hospital in Ontario is required to have a transfusion committee\(^1,2\) with documented terms of reference. The committee shall review policies and activities to ensure that blood utilized in that facility occurs safely and effectively. The transfusion committee functions can be accomplished through another existing committee (such as pharmacy and therapeutics committee). The transfusion committee can function as a regional committee.

2.0 MANDATE

The mandate of the committee is to provide consultative and support services with relation to transfusion practices and activities. The purpose of the committee is to:

- Help define blood transfusion policies as appropriate to local clinical activities
- Ensure that regular evaluations of blood transfusion practices are conducted
- Set criteria for the evaluation of ordering practices, usage (including wastage/discards) and administration policies
- Ensure the transfusion service and clinical team is able to meet the needs of recipients
- Recommend corrective action/measures as required
- Disseminate information and education related to blood transfusion
- Evaluate reports of adverse transfusion events and errors within the facility, as well as relevant reports from other jurisdictions (provincial, national)
- Review available alternatives to allogeneic blood transfusion and make recommendations on their use

3.0 ACCOUNTABILITY

The transfusion committee should report to the Medical Advisory Committee <or similar committee>

4.0 MEMBERSHIP

The transfusion committee is required to involve key physician and nurses involved in the use of blood for transfusion, transfusion service staff and executive management.

The medical director responsible for the transfusion service must attend transfusion committee meetings. If unable to attend, a designate can be sent in their place but this designate must be a physician.
The transfusion committee must have a chairperson named and this person should ideally not be the medical director responsible for the transfusion service.

5.0 TERMS OF MEMBERSHIP
Each member of the committee shall have a term of <insert length of term> years with an option to renew at the end of each term. Rotation of terms should occur to ensure new members can gain experience from those that have participated on the committee for at least two years.

6.0 MEETING FREQUENCY
Meetings of the transfusion committee must occur at least quarterly.

6.1 Meetings

6.1.1 The Chair will be selected by the Medical Advisory Committee

6.1.2 The Vice Chair will be selected by the transfusion committee members (by vote) and be approved by the Medical Advisory Committee

6.1.3 The Vice Chair will take the role of the Chair when the Chair is not present

6.1.4 A secretary will be appointed to record and distribute minutes of meetings, decisions and recommendations

6.2 Review of Terms of Reference

6.2.1 The committee shall review the terms of reference at least every 2 years.

7.0 CONFIDENTIALITY AND CONFLICT OF INTEREST
In the participation on the transfusion committee, members may have access to information of a confidential nature. Members must not disclose confidential information obtained during the course of their role in the transfusion committee and must take all reasonable steps to avoid and declare, if necessary, any conflict of interest.
## Agenda (Example 1)

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Desired Outcomes</th>
<th>Person Responsible</th>
<th>Time Alotted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acceptance of Agenda</td>
<td>Approval</td>
<td>All</td>
<td>2 min.</td>
</tr>
<tr>
<td>2. Minutes of Previous Meeting</td>
<td>Approval</td>
<td>All</td>
<td>5 min.</td>
</tr>
<tr>
<td>3. Product Presentation</td>
<td>Presentation</td>
<td>All</td>
<td>30 min.</td>
</tr>
<tr>
<td>4. Review of Policies:</td>
<td>Review</td>
<td>All</td>
<td>35 min.</td>
</tr>
<tr>
<td>5. Business arising from minutes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Terms of Reference</td>
<td>Update</td>
<td></td>
<td>5 min.</td>
</tr>
<tr>
<td>b) SAP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Contingency planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. New Business</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Blood Sampling</td>
<td>Discussion</td>
<td></td>
<td>10 min.</td>
</tr>
<tr>
<td>b) Octaplasma (new product)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Round Table Discussion</td>
<td>Additional items</td>
<td>All</td>
<td>10 min.</td>
</tr>
<tr>
<td>8. Reports:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Blood Adverse Reaction report</td>
<td>Review</td>
<td>All</td>
<td>10 min.</td>
</tr>
<tr>
<td>b) CBS Hospital Disposition Quarterly Reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Date of Next Meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Adjournment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agenda Item</td>
<td>Participants and Discussion Topics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1. Welcome, review of prev minutes and current agenda</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **2. Review outstanding action items**    | - Terms of Reference/relationship between regional HTC and individual site MACs  
- Consent to transfusion policy and associated MD memo  
- Pre-printed order sheet for blood transfusion  
- Testing of cord samples  
- Meditech/IT support for laboratories  
- Pediatric transfusion policies  
- Issuing of Blood Products by RNs after hours |
| **3. New business**                       | - Procedure for therapeutic phlebotomy  
- Guidelines for Appropriate Use of Blood Products  
- Ontario IVIG Utilization Management Strategy  
- Issuing of Blood Products from Non-OLA accredited sites: update from Ontario Blood Advisory Committee working group  
- Report from OLA assessments within region |
| **4. Incident reports and acute transfusion reactions** | Presentation of reported adverse reactions since last meeting  
Discussion of trends/action required |
| **5. Report from CBS and ORBCON**         | Update on new processes or resources                                                                                                                                 |
| **6. Report from Hospital Sites**         | Site specific issues - discussion                                                                                                                                 |
| **7. Adjournment**                       |                                                                                                                                                                   |
Appendix D: Job Description of a Transfusion Safety Officer

Division or Department: Transfusion Medicine
Position Title: Transfusion Safety Officer

EXAMPLE JOB DESCRIPTION

Technical / Clinical
- Collaborates with medical, technical, paramedical and nursing personnel to identify, implement and evaluate strategies for blood conservation
- Reviews, recommends and/or introduces blood transfusion equipment devices to the appropriate hospital personnel
- Reviews published guidelines, standards, and literature on blood product use, blood transfusion techniques, alternatives to transfusion and effects of transfusion and makes applicable recommendations
- Liaises with Canadian Blood Services, commercial companies and Transfusion Medicine regulatory bodies on transfusion related matters
- Liaises with Transfusion personnel from other health care institutions
- Reviews and investigates blood and blood product occurrence reports and transfusion reaction, and where appropriate recommends changes to current practices
- Oversees the completion of lookback/tracebacks and patient inquiries regarding blood transfusions
- Consults with clinical services regarding program changes that will affect blood product use, blood transfusion equipment needs, etc.
- Identifies and investigates any trends related to transfusion practices, i.e. an increased occurrence of reactions
- Acts as a resource for blood transfusion related technical problems

Utilization Management
- Conducts prospective and retrospective audits on the utilization of blood, blood products and their alternatives
- Monitors Transfusion Medicine product utilization and brings utilization issues to the attention of the Medical Director and the Transfusion Committee
- Maintains blood usage statistics
- Develops and maintains a resource library of alternatives to blood transfusion, and educational material

Quality and Risk Activities
- Participates in the investigation of errors and accidents and reports to Manager, Medical Director and Transfusion Committee
- Develops and monitors a blood product utilization program to ensure that appropriate products are requested and used and that wastage is minimal
- Promotes benchmarking and evidence-based practice in the transfusion of the appropriate blood, blood products and their alternatives
- Works collaboratively with the Manager, Technical Specialist, and Blood Transfusion staff to ensure updating of policy and procedure manuals to reflect changes in transfusion practice
- Participates as a member of committees requiring Transfusion Medicine input such as new product evaluation and nursing procedures
Professional and Educational Activities

- Provides education to physicians, residents, technologists, paramedical, nursing personnel and patients on appropriate use of blood, blood products and their alternatives, and blood transfusion devices and other related information
- Assists in planning educational symposiums on transfusion related topics
- Develops and maintains a personal education program that supports continuing improvement in the role of Transfusion Safety Officer
- Maintains a proactive involvement in professional organizations
- Fosters a regional focus through planning and education on transfusion related issues
- Acts as a resource to nurses, clinicians and staff related to Blood Transfusion issues
- Liaises with other paramedical organizations to ensure implementation of best practices in transfusion therapy (i.e. OPANA, IV Nurses Association, etc.)

Research

- Participates in transfusion related research
- Participates and assists in the preparation of scientific papers for publication and/or presentation at scientific meetings on transfusion related matters
- Liaise with clinicians, researchers and company representatives to identify research priorities

Qualifications

Required:

- MLT or RN licensed to practice in Ontario
- 5 years experience working in field of blood transfusion/transfusion medicine
- Able to travel between sites (if regional position)
- Self directed individual
- Proficient in computer programs such as: word processing, Excel, PowerPoint, email
- Working knowledge of blood standards (current)
- Excellent communication and interpersonal skills

Asset:

- Experience performing audits
- Experience working on committees
- Experience in teaching / presenting
- Experience working within a quality management system

Acknowledgements

This generic job description was developed using the Hamilton Health Sciences, London Health Sciences, and University Health Network TSO job descriptions. We acknowledge and thank these institutions for sharing their information with us.
Appendix E: Example of Conflict of Interest Guidelines

A conflict of interest is any situation where your decision or opinion could be influenced by:

a. your personal interest, or
b. those of a close friend, family members, business associate, corporation or partnership in which you hold a significant interest, or a person to whom you owe an obligation

Conflict of interest arises when a reasonably well informed person could perceive that a decision was made or advice was given that would promote your personal interests or those you have some relationship with as listed above.

If you feel you have a conflict of interest at any time, you must disclose this to the chairperson of the committee and ask to be excused from the discussion/decision. If you are not aware of any conflict until after the discussion or decision has been made, you are still required to disclose your conflict immediately. Some committees require a conflict of interest form be signed. Alternatively, the disclosure of conflict of interest can be added as a standing agenda item and recorded in the committee meeting minutes.

Examples of policies and forms appear in the ORBCoN Transfusion Committee Toolkit version 1, March 25, 2008 which is available on www.transfusionontario.org in the Toolkit section.