Emergency Blood Management Plan
For
Blood Component Shortages
Toolkit
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Terms of Reference

Provincial Emergency Blood Management Committee (PEMBC)

1. Mandate:
   - To review and respond to urgent and emerging threats to the blood supply in Newfoundland and Labrador.
   - To develop a response plan in order to minimize the impact of a blood shortage to the health care system.

2. Objectives:
   - Review current inventory information and determine if further information is required
   - Analyze information received
   - Initiate control measures based on findings
   - Work in accordance with the guidelines of the National Plan
   - Assure that the decisions and recommendations of the National Emergency Blood Management Committee are appropriately communicated and adhered to in times of blood shortages.
   - Liaise with the relevant working groups on key messages related to the blood supply

3. Membership:
   The PEMBC functions as a committee of the Provincial Blood Coordinating Program under the direction of the Minister of Health and Community Services. The committee will consist of a core team that will convene at the discretion of the Chair in the event of an emergent situation. An expanded team will be available pending escalation of the shortage to Red Phase.

   The Core Team members must consist of:
   - P/T Member
   - Provincial NAC Member
   - Director of Acute Health Services and Emergency Response Division
   - Chief Medical Officer of Health
   - Medical Advisor, Provincial Blood Coordinating Program
   - Program Manager, Utilization Coordinator and Transfusion Practice Coordinator, Provincial Blood Coordinating Program
   - Medical Director (VP Medical) of the RHAs
   - Clinical Chief Children’s Health
   - Manager from each RHA Blood Transfusion Service (Blood Bank)
• Transfusion Safety Officer
• Ethics Representative
• Canadian Blood Services
  o Medical Director
  o Director of Product and Hospital Services
  o Hospital Liaison Specialist

The Expanded Team consists of:
• Minister of Health or designate, Department of Health and Community Services
• CEO or designate, Regional Health Authorities (RHA)
• Executive Director of Product and Hospital Services, Canadian Blood Services
• Executive Medical Director CEO or designate, Canadian Blood Services
• Other individuals as designated

4. Chair:
The Chair will be the Medical Advisor of the Provincial Blood Coordinating Program.

5. Secretariat:
The Provincial Blood Coordinating Program will serve as the Secretariat and provide the following:
  ♦ Maintain the Emergency Blood Management Plan by revisions of the Provincial Plan; distribute on the PBCP website
  ♦ Distribute communications on behalf of the team to the Minister of Health and Community Services and RHAs
  ♦ Maintain contact lists of members, arrange meetings / teleconferences, circulate agendas and relevant information
  ♦ Record and distribute minutes of meetings

6. Quorum:
Decisions will be made by those present.

7. Meetings:
Meetings will be held, at a minimum, on an annual basis while in the Green Phase. During an inventory shortage, potential threats or disruptions to the blood supply, meetings will be held at the call of the Chair.

8. Responsibility:
The P/T Member will advise the Minister of Health and Community Services on issues related to blood component and blood product inventory and supply.
## Roles and Responsibilities During The Phases of a Blood Shortage

<table>
<thead>
<tr>
<th>Phase</th>
<th>Hospital</th>
<th>Provincial Blood Program / Ministry of Health</th>
<th>Canadian Blood Services</th>
</tr>
</thead>
</table>
| **Green**  
Optimal inventory  
greater than 3 days average daily use |  
- Normal utilization activities  
- Report hospital inventory to Canadian Blood Services on product request form.  
- Develop Hospital Emergency Blood Management Plan (HEBMP) for use during shortages  
- Utilization activities may be monitored or reduced within the hospital |  
- Maintain, review and disseminate provincial blood contingency plan  
- Support development of HEBMP  
- No involvement by NL PBCB and MOH at this time |  
- Inventory requests filled as routine practice  
- Effective management of national blood product inventories  
- Maintain plans to be used during shortages  
- Inventory requests may require downward adjustment by mutual agreement  
- Provincial blood inventory activities and issues will be communicated through business as-usual channels. |
| **Amber**  
Less than optimal inventory or 2-3 days average daily use |  
- Hospital Action to be communicated by the PEBMC (8 hours to cascade information)  
- Notify Transfusion Service Medical Director / Consultant on call  
- Hospital will activate EBM Red Phase  
- Report hospital inventory to Canadian Blood Services on product request form  
- Report inventory to PBCP, CBS and hospitals within the RHA  
- Reduce site inventory  
- Triage urgent blood order requests. Reduce or delay activities if necessary  
- HEBMP may set criteria for transfusion and require Medical Director authorization for utilization of blood component/blood product  
- Perform Inter Hospital Transfer where necessary |  
- Monitor and review customer letters and correspondence from Canadian Blood Services  
- Provide assistance to Canadian Blood Services (i.e. appeal for donations, instruction to hospitals to reduce utilization)  
- Liaise with other ministry branches as required (i.e. Chief Medical Officer of Health, Regional Health Authorities CEO’s) |  
- Notify Hospital Transfusion Services by fax of Amber Phase status (fill rate may be less than 100% of request)  
- Communicate regularly with PBCP and hospital transfusion service via teleconferences and written communications to indicate phase, anticipated recovery time (if known), or increasing severity of shortage towards more critical levels  
- Coordinate and oversee all media announcements regarding the blood supply and or call for donors. |
| **Red**  
Less than 2 days average daily use |  
- Hospital Action to be communicated by the PEBMC (8 hours to cascade information)  
- Notify Transfusion Service Medical Director / Consultant on call  
- Hospital will activate EBM Red Phase  
- Hospitals must have a defined internal plan to reduce blood utilization  
- Critical that ALL hospitals report blood product inventory levels to the Canadian Blood Services  
- Report inventory to PBCP, CBS and Hospitals within the RHA  
- Triage all urgent blood order requests (invoke prioritization of need) in reference to the Emergency Framework for Rationing of Blood for Massively Bleeding Patients  
- Perform Inter Hospital Transfer where necessary  
- Defer and/or cancel all medical procedures requiring the affected component |  
- Monitor and review customer letters and correspondence from Canadian Blood Services  
- Provide assistance to Canadian Blood Services (i.e. appeal for donations, instruction to hospitals to reduce utilization)  
- Consult with other ministry branches as required (i.e. Chief Medical Officer of Health, Regional Health Authorities CEO’s to discuss next steps)  
- Consult with other Health and Community Services Divisions and the RHAs as required. |  
- Notify Hospital Transfusion Services by fax of Red Phase status  
- Reduce fill rates by defined percentage depending on severity and anticipated length of time of the shortage  
- Communicate regularly with PBCP and hospital transfusion service via teleconferences and written communications to indicate phase, anticipated recovery time (if known), or increasing severity of shortage towards more critical levels and take action as per HEBMP  
- Coordinate and oversee all media announcements regarding the blood supply and or call for donors as appropriate. |
Recovery

- Maintain standard communications with consistent key messages at all stages of recovery
- Hospitals will increase blood usage activity slowly and gradually increase inventories
- Scheduling of elective procedures should be gradual as blood inventory levels may be vulnerable during the recovery period
- Participate in debriefing activities, to review and revise hospital policies and procedures as a process of continued improvement

- Maintain standard communications with consistent key messages at all stages of recovery
- Monitor and review customer letters and correspondence from Canadian Blood Services
- Provide assistance to the Canadian Blood Services as needed
- Review event and report to MOH
- Participate in debriefing activities, to review and revise provincial policies and procedures as a process of continued improvement

- Maintain standard communications with consistent key messages at all stages of recovery
- Notify hospital Transfusion Services via fax when inventories have returned to optimal levels
- Slowly increase order fill rate to allow hospital inventories to return to optimal levels
- Participate in debriefing activities, to review and revise CBS policies as a process of continued improvement

It is possible that shortages are so sudden and severe that a Red Phase is called, or after a period of Amber Phase that a Red Phase is called. The communication pathway will be the same in an Amber or Red Phase.
Newfoundland and Labrador Emergency Blood Management Plan Flowchart

<table>
<thead>
<tr>
<th>Identification and Communication of Blood Supply Issue</th>
<th>Assessment of Inventory and Response Planning</th>
<th>Communication of Response Plan</th>
<th>Implementation of Response Plan</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC recommends stock inventory levels forlood and PBL</td>
<td>RHAs monitor inventory daily.</td>
<td>RHAs communicate CBCP normally</td>
<td>RHAs implement action response plan</td>
<td>Continue with normal operations.</td>
</tr>
<tr>
<td>RHAs assess inventory. Prepare to implement inventory management response plan.</td>
<td>NO</td>
<td>RHAs implement action response plan</td>
<td>If blood is available:</td>
<td>RHAs remain in communication and return to Recovery Phase when shortage is controlled.</td>
</tr>
<tr>
<td>YES: CBC does not receive information from RHAs.</td>
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</tr>
<tr>
<td>RHAs communicate stock inventory to PBL and other hospitals.</td>
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</tr>
</tbody>
</table>

Note: The flowchart is a visual representation of the emergency blood management plan. It outlines the steps and decision points involved in managing blood shortages in Newfoundland and Labrador.
Contingency Plan Checklists for Hospitals

Green Phase: Step 1
Inventory levels can be maintained at optimal levels.

Prepare Emergency Blood Management Plan:

☐ Establish Emergency Blood Management Committee (EBMC).
☐ Develop Hospital Contingency Plan for managing blood shortages:
  ☐ Define blood conservation methods
  ☐ Identify surgeries associated with high blood loss
  ☐ Define stepwise reduction of blood use to occur upon activation of plan
  ☐ Identify stakeholders to be notified upon activation of plan
  ☐ Develop communication templates to be used for notification
☐ Ensure Emergency Blood Management Plan is integrated into Facility Disaster Plan.
☐ Provide training on the contents of the plan and the communication strategy related to blood shortages.
☐ Schedule a mock disaster to trial the plan

Practice good blood utilization / management

☐ Ensure that ‘best practices’ in inventory management of blood components and blood products are in place.
☐ “On hand” inventory levels should be determined and made available indicating the number of days on hand based on historical data and represented by the following levels: optimal; > 3 days average daily use or minimal; < 2 days average daily use.
☐ Practice routine strategies to ensure blood component/product outdating is minimized.
☐ Establish relationships with other nearby facilities and develop a plan to share inventory in the event of a shortage.
☐ Adopt guidelines for the use of blood products to ensure effective utilization (through Transfusion Committee or Medical Advisory Committee), e.g. Maximum Surgical Blood Order Schedule (MSBOS) and/or protocol for review of blood ordering practice by physicians using ‘Best Practice’ parameters.
**Amber Phase: Step 2**

Shortage may be short term and not severe. Shortage may not affect all facilities.

**Amber phase of facility plan should:**

- Ensure that Canadian Blood Services will be notified by calling the 24 hour call line, of a local situation that could affect blood supply (e.g. equipment failure or multiple traumas).
- Define response to notification of a blood shortage if received from CBS.
- Define notification process (to PBCP and CBS) if inventory shortage identified by RHA/Hospital.
- Include notification to internal personnel including Transfusion Manager, Medical Director, Chair of Transfusion Medicine Committee, Chair of EBMC and other staff.
- Include notification of the Medical Director of Transfusion Service and Chairperson of Transfusion committee and/or Emergency Blood Management Committee to determine if additional communication and/or actions are required to further conserve use of existing blood inventory:
  - Pre-approved contact list and communication template should be available
  - Prioritization list of areas where reduction of blood will occur
- Develop communication template and list of contact names/numbers of those to be notified in Amber phase (include pager numbers, fax numbers, email addresses).
- NOTE: It is also important to prepare a communication to notify patients and their families to explain the need for possible deferral of their treatment should it become necessary.
- Include contact information for other nearby sites if a need is identified for inter-hospital transfer of blood components/products (list of available transport options with contact numbers should be available).
- Give direction to reduce red cell stock (if shortage applies to this component) to keep on hand by 25% (3 day versus 4 day levels) and reinforce NOT to stockpile inventory.
- Identify one person to act as a main contact with CBS to communicate any inventory needs, status of inventory at Canadian Blood Services and to attend regular conference calls held by CBS providing updates on the inventory status. This person/position should be determined beforehand and documented to ensure everyone understands who is responsible for this role.
- If necessary, institute pre-approval of requests for blood components prior to releasing. The person/position assigned to perform pre-approvals and what criteria will be used, should be determined beforehand.
- If a situation appears to be worsening, notify the Medical Director of Transfusion Service and Chairperson of Transfusion Committee to determine if additional communication and/or actions are required to further conserve use of existing blood inventory:
  - Pre-approved contact list and communication template should be available
  - Prioritization list of areas where reduction of blood use will occur
Red Phase: Step 3
Inventory shortage predicted to be long term and/or severe

Red phase of plan should include:

- Define a response to notification of this level of shortage if received from CBS.
- Define notification process (to PBCP and CBS) if inventory shortage identified by RHA/Hospital.
- Ensure that internal hospital notification is issued (in writing) to Division Chiefs of Surgery, Anesthesia, Critical Care, Trauma/Emergency, Hematology and Medicine, Directors of Laboratory Services, Diagnostic Services and Nursing, Chair of the Transfusion Medicine Committee (or its equivalent) and Emergency Blood Management Committee members.
  - Pre-approved contact list and communication template should be available
  - EBMC members should be identified, contact list should be available

- Communication should include pre-determined modification (developed in Green phase) to ordering practices to be used in order to conserve blood component inventory to ensure availability of product to treat urgent life threatening situations. The Medical Director of the Transfusion Service or delegate shall review all orders that fall outside these parameters.

- Reduce blood component stock kept on hand to minimum levels (1-2 days equivalent based on historical use).
- Reinforce - Do not issue blood to ‘stock’ fridges such as operating room or trauma room.
- Reinforce - DO NOT stockpile product to safeguard local needs as this will result in increasing the overall risk to patients at other institutions.
- Include direction to work with CBS Medical Director to determine priority inventory needs in region should be included in the plan; CBS will communicate internally to ensure discussions with hospitals are not in isolation of each other.
Recovery Phase:

Following notification from Canadian Blood Services (CBS), that inventory levels are on the rise, it is vital that hospital blood usage remains restricted to critical needs or increases at a controlled pace in order to ensure levels do not result in a shortage in the Recovery Phase.

Recovery phase of plan should include:

- Notification of recovery of blood inventory stocks should include a template, approved distribution list and contact information.
- Notification should be sent, in writing, to Division Chiefs of Surgery, Anesthesia, Critical care, Trauma/Emergency, Hematology and Medicine, Directors of Laboratory Services, Diagnostic Services and Nursing, Chair of the Transfusion Medicine Committee (or its equivalent) and Emergency Blood Management Committee members.
- Requests for blood components/products shall continue to be monitored and reviewed until CBS has notified the hospital of a return to the Green Phase.
- Participation in debriefing activities to review and revise hospital plans as a means of continued improvement.
**IMMEDIATE ACTION REQUIRED**

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**FAX NOTIFICATION**
(Please note - this notification will not be mailed)

<table>
<thead>
<tr>
<th>TO:</th>
<th>Director, Hospital Blood Bank, All XXX Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>FROM:</td>
<td></td>
</tr>
<tr>
<td>DATE:</td>
<td>YYYY-MM-DD</td>
</tr>
<tr>
<td>SUBJECT:</td>
<td>Inventory Alert- (product)</td>
</tr>
</tbody>
</table>

[ ] Green Phase  [ √ ] **Amber Phase**  [ ] Red Phase   [ ] Recovery Phase

As per the **National Plan for Management of Shortages of Labile Blood Products**

**Amber Phase** implies that blood inventory levels are insufficient to continue with routine practice and hospitals will be required to implement specific measures to reduce blood usage.

Please include your **Hospital Inventory Levels** by blood group for ALL requests; this will greatly assist our Blood Product Management Staff in processing and triaging all requests to our hospitals.

**A teleconference for Transfusion Medicine Supervisors is scheduled for today at XXHRS call in number ##  passcode ##**

If you have any concerns please feel free to contact me.

__________________________________

cc
Sample

IMMEDIATE ACTION REQUIRED

FAX NOTIFICATION
(Please note - this notification will not be mailed)

TO: Laboratory Director, Transfusion Medicine Supervisor, All XX Hospitals
FROM: Manager, Production
DATE: YYYY-MM-DD
SUBJECT: Inventory Alert- (blood component)

[ ] Green Phase   [ ] Amber Phase   [✓] Red Phase   [ ] Recovery

As per the National Plan for Management of Shortages of Labile Blood Products
RED PHASE implies that blood inventory levels are insufficient to ensure that patients with non-elective indications for transfusion will receive the required transfusions.

A teleconference for Transfusion Medicine Supervisors is scheduled for today at XXHRS call in number ## passcode ##

If you have any concerns please feel free to contact me.

_____________________________

cc
Sample

IMMEDIATE ACTION REQUIRED

FAX NOTIFICATION
(Please note - this notification will not be mailed)

TO: Laboratory Director, Transfusion Medicine Supervisor, All XX Hospitals
FROM: Manager, Production
DATE: YYYY-MM-DD
SUBJECT: Inventory Alert- (blood component)

[ ] Green Phase  [ ] Amber Phase  [ ] Red Phase  [√] Recovery

Phase

Further to our inventory alert sent on (date), XX Site, Product and Hospital Services (product) inventory is now in recovery phase.

As per the National Plan for Management of Shortages of Labile Blood Products

Recovery Phase implies that blood component inventories have begun to increase and are expected to be maintained at a level that would enable hospitals to move from Red to Amber and subsequently to the Green Phase, or from Amber to Green Phase.

If you have any concerns please feel free to contact me.

__________________________________

cc.