

Alberta

# Blood Contingency Plan

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Contingency Plan for the Management of Labile  
Blood Component Shortages in Alberta

Alberta Blood Contingency Plan

Published by - Government of Alberta - Health

July, 2020

ISBN 978-1-4601-4803-7

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Security Classification: PUBLIC

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# Table of Contents

<b>Acknowledgements</b> .....	<b>5</b>
<b>Abbreviations</b> .....	<b>6</b>
<b>Executive Summary</b> .....	<b>7</b>
.....	<b>7</b>
<b>1. Introduction</b> .....	<b>9</b>
1.1 Purpose .....	9
1.2 Scope .....	9
1.3 Plan Development .....	10
1.4 Key Participants and Stakeholder .....	10
<b>2. Overview of the Alberta Plan Structure</b> .....	<b>11</b>
2.1 Principles .....	11
2.2 Assumptions .....	11
<b>3. Emergency Blood Management Committees</b> .....	<b>12</b>
3.1 National Emergency Blood Management Committee .....	12
3.2 Provincial Emergency Blood Management Committee .....	12
3.3 Hospital/Zone Emergency Blood Management Committee .....	12
<b>4. Phases of Inventory Availability</b> .....	<b>14</b>
4.1 Actions According to Phase of Inventory .....	14
4.1.1 Green Phase .....	15
4.1.2 Amber Phase .....	17
4.1.3 Red Phase .....	19
4.1.4 Recovery Phase .....	21
<b>5. Communication</b> .....	<b>22</b>
5.1 Information Flow from the NEBMC to the PEBMC and the H/ZEBMC .....	22
.....	<b>23</b>

.....	23
.....	23
<b>Appendices</b> .....	<b>24</b>
<b>Appendix 1</b>	Provincial EBMC Terms of Reference and Membership
<b>Appendix 2</b>	Sample Templates
<b>Appendix 3</b>	Logistic Process Decision Trees
<b>Appendix 4</b>	Sample Communication Templates
<b>Appendix 5</b>	Hospital Sites Stocking Blood Components and Products

# Acknowledgements

The Ministry of Health and Alberta Health Services acknowledges the contributions of the Alberta Provincial Blood Coordinating Program, Alberta's Transfusion Medicine Discipline Council, the Alberta Blood Operational Collaborative (ABOC), the North and South Sector Transfusion Medicine User Groups, Canadian Blood Services and the Provincial and National Emergency Blood Management Committees in the development, maintenance and dissemination of the Alberta Blood Contingency Plan.

# Abbreviations

AHS	Alberta Health Services
APL	Alberta Precision Laboratories
CBS	Canadian Blood Services
CSA	Canadian Standards Association
EMS	Emergency Medical Services
EBMC	Emergency Blood Management Committee
HEBMC	Hospital Emergency Blood Management Committee
HTC	Hospital Transfusion Committee
LIS	Laboratory Information System
MBOS	Maximum Surgical Blood Ordering Schedule
NAC	National Advisory Committee on Blood and Blood Products
National Plan	National Plan for the Management of Shortages of Labile Blood Components
NEBMC	National Emergency Blood Management Committee
P/T	Provincial / Territorial
P/T BLC	Provincial / Territorial Blood Liaison Committee
PEBMC	Provincial Emergency Blood Management Committee
PLT	Platelets
RBC	Red Blood Cells
STARS	Shock Trauma Air Rescue Service
TM	Transfusion Medicine
TMDC	Provincial Transfusion Medicine Discipline Council
TMNET	Provincial Transfusion Medicine Network
ZEBMC	Zone Emergency Blood Management Committee

# Executive Summary

Blood components (whole blood, red blood cells, platelets and plasma) are a vital resource supporting health care in Canada. Since CBS collects and distributes the labile blood components for all of Canada excluding Quebec, the blood inventory is considered national, even though Alberta is a net exporter of blood. This national supply, and subsequently the supply for Albertans, could be compromised by a number of scenarios - labour disruptions, endemic disease outbreaks, extreme weather disturbances or disruptions in transportation systems (see table below). Any of the scenarios which result in shortages of blood components could present a significant challenge to the provision of health care in Alberta and the rest of Canada. To prepare for such a challenge, a National Plan for the Management of Shortages of Labile Blood Components (hereafter called the National Plan) has been developed and endorsed by all of the Provincial/Territorial (PT) Deputy Ministers of Health and CBS. To be successful the National Plan must align with Provincial, Zone and Hospital level contingency plans.

**Causes of Blood Contingencies\***

Event	Potential for Demand Surge	Potential for Decreased Supply
Natural disasters: e.g., hurricane (tropical cyclone), severe windstorm (tornado), winter storm, wildfire, earthquake, flood, tsunami	✓	✓
Man-made hazards: e.g., industrial accident (fire, building collapse, hazardous material spill), chemical event, biological event, radiological event, nuclear event, explosive event	✓	✓
Pandemic outbreak	Unlikely	✓
Wide-area power outage		✓
Workplace violence	✓	✓ (if at CBS or hospital)
Mass casualty/multiple trauma	✓	
Massive transfusion of one patient	✓	
Inventory stockpiling	✓ (artificial demand)	✓ (blood not where required)
Manufacturing or testing failures/delays		✓
Product contamination/recall		✓
Labour disruption		✓
Transportation disruption		✓
Seasonal influence: e.g. increase in trauma; decrease in donations	✓	✓
Changes in donor deferral criteria		✓

\*Adapted from Alberta Blood Contingency Project Final Report (Draft), November 2007

The National Plan addresses four phases of inventory availability – Green, Amber, Red and Recovery. These will need to be mimicked in the Alberta Blood Contingency Plan for Management of Shortages of Labile Blood Components (hereafter called the Alberta Plan).

<p><b>Green Phase (optimal to minimal decrease):</b> implies that normal blood inventory levels exist and supply generally meets demand. This phase includes a broad range of inventory levels ranging from an ideal inventory to temporary shortages that occur periodically and can be managed within the scope of existing Canadian Blood Services and hospital/ zone actions.</p> <p><b>Green Phase Advisory:</b> implies that CBS inventory levels are low with respect to a particular blood component and that all hospitals need to determine their inventories and the likelihood of crossing into Amber or Red Phase.</p>
<p><b>Amber Phase (serious):</b> implies that blood inventory levels are insufficient to continue with routine transfusion practice and hospitals/ zone will be required to implement specific measures to reduce blood usage.</p>
<p><b>Red Phase (critical):</b> implies that blood inventory levels are insufficient to ensure that patients with non-elective indications or need for transfusion will receive the required transfusion(s).</p>
<p><b>Recovery Phase:</b> implies that blood 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.</p>

The purpose of the Alberta Plan is to provide the framework for the province of Alberta to deal with a blood component shortage, while maintaining congruency with the National Plan. Similar to the National Plan, the Alberta Plan will maximize the effectiveness of response to any crisis which impacts the adequacy of the provincial blood component supply. The optimal management of a severe blood component shortage will depend upon the commitment of all stakeholders in the blood system, not just those restricted to Alberta, to work collaboratively to assure that scarce resources are used in a fair and equitable manner. It is nevertheless recognized that lessons will be learned in each shortage situation and it is anticipated that both the National Plan and the Alberta Plan will undergo modification following each situation in which it is activated.

The roles and responsibilities are outlined in the following framework for Ministry of Health, AHS, Alberta's Provincial Emergency Blood Management Committee, and the various zones/hospital facilities within AHS.



# 1. Introduction

## 1.1 Purpose

The Alberta Plan provides a framework for a rapid and effective response to a local or widespread shortage of blood components. It is an advisory document intended to guide organizations, committees and individuals responsible for or associated with the management, supply and utilization of blood components for Alberta. As well, the organizations or individuals who need to include blood components in their emergency plans. The objectives of this plan are to:

- Improve awareness for appropriate preparation in the event of blood component shortages within the health care system in Alberta.
- Ensure that the Alberta response is consistent and integrated with the National Plan prepared by the NAC and Canadian Blood Services (CBS).
- Ensure a consistent and coordinated approach across the province during blood component shortages.
- Provide strategies for medical and technical deviations that may need to be initiated when extreme blood component shortages occur.
- Ensure that access to safe and adequate transfusion is maintained for as many patients as possible during a blood component shortage.
- Provide a means to enable the equitable allocation of blood components during a blood shortage.
- Integrate The Alberta Plan into existing provincial emergency preparedness plans to ensure that related activities are part of a coordinated response in the event of an emergency.
- Formalize guidelines for activation of hospital redistribution, and identify transportation partners that may be used for non-routine shortages.
- Provide guidance to zones and/or hospitals within AHS for elements that should be included during the development of their own contingency plans and provide reference materials that may be used as appendices or job aides.

## 1.2 Scope

The Alberta Plan primarily addresses labile blood components – red blood cells, platelets, plasma and cryoprecipitate - however, may be extrapolated to fractionated or recombinant plasma proteins. It is intended to deal with non-routine shortages, and does not address the activities that will be undertaken by CBS to increase the adequacy of supply, as these are addressed by the National Plan and CBS-specific documents. It will reinforce the need to be consistent with the National Plan and focus on the elements of the National Plan that impact the province and activities that can be taken within the province to reduce demand and optimize allocation of the limited blood component supply.

## 1.3 Plan Development

The Alberta Plan was built upon Appendix A of the *Alberta Blood Contingency Plan (Final Draft 2007)* commissioned by Ministry of Health, introducing elements of the National Plan ([www.nacblood.ca](http://www.nacblood.ca)) and existing blood contingency plans from British Columbia ([www.pbco.ca](http://www.pbco.ca)), Ontario ([www.transfusionontario.org](http://www.transfusionontario.org)) and Nova Scotia ([www.gov.ns.ca/health/nspbc](http://www.gov.ns.ca/health/nspbc)), as well as details from the contingency/disaster plans in existence within the former Calgary and Capital Health Regions.

## 1.4 Key Participants and Stakeholder

It is intended that the Alberta Plan will be used by key blood system participants including Ministry of Health, AHS and CBS. The Alberta Provincial Blood Coordinating Program, the Transfusion Medicine Discipline Council, the Transfusion Safety Coordinators and the members of clinical transfusion medicine committees across the province will play a key role in the implementation, maintenance, and revisions of the Alberta Plan.

Stakeholders are considered to be the participants, as well as others potentially affected (or representing those potentially affected) by the Alberta Plan such as patient/blood recipient societies, health care professional societies, and the National Advisory Committee as well as out of province facilities serviced by either Edmonton or Calgary CBS Centres.

## 2. Overview of the Alberta Plan Structure

### 2.1 Principles

During a blood component shortage, difficult decisions must be made about the appropriate allocation and rationing of blood components. The Alberta Plan is based on the following ethical principles:

- All patients in Alberta will have equal access to the available blood components on the basis of need. No zone or hospital will stockpile blood components for their patients when there is a greater need elsewhere.
- When available resources are exceeded, the focus must shift to the public health goal of doing the greatest good for the greatest number while balancing obligations to the individual needs.
- Transparency in managing blood component inventory is critical. The Alberta PEBMC and decision makers provincially and nationally need to know what inventory is available in each jurisdiction, regardless of whether it is stocked at the blood supplier or hospital based.
- All affected hospitals are accountable for taking a consistent and transparent approach to blood component utilization management during a shortage. Decision makers must be able to trust that others in similar positions are adhering to the same ground rules.

The rationale behind these principles and the ethical framework used to create them are provided in more detail in the National Plan ([www.nacblood.ca](http://www.nacblood.ca)).

### 2.2 Assumptions

The assumptions used in the development of the Alberta Plan are the same as those listed in the National Plan.

## 3. Emergency Blood Management Committees

This section describes the blood emergency management committees at the national, provincial, zone and hospital levels that are necessary to facilitate information flow and decision making.

### 3.1 National Emergency Blood Management Committee

NEBMC is necessary to implement the National Plan when required. It is this committee that declares the phase of the shortage and determines how the national inventory will be allocated between the various jurisdictions. Further information on the membership, mandate and terms of reference for this committee can be found in the National Plan.

### 3.2 Provincial Emergency Blood Management Committee

The National Plan states that it is the responsibility of the Ministries of Health of each province or territory to establish a PEBMC and its terms of reference, which should include the responsibilities. The key responsibility for the PEBMC is to communicate and implement the NEBMC recommendations.

If the blood component shortage plans are activated within the scope of a pandemic or another situation outside of blood component supply alone, there may be alteration in the membership at the direction of the provincial or zonal emergency coordinating centres. In those situations, the core members of the PEBMC (PT and NAC representatives) are required to communicate NEBMC recommendations and plans to those emergency coordinating centres for further dissemination and implementation.

Refer to Appendix 1 for the PEBMC membership and terms of reference.

### 3.3 Hospital/Zone Emergency Blood Management Committee

AHS has a responsibility to establish ZEBMC's, with the mandate to develop a process to implement the guidelines outlined in the National Plan and the Alberta Plan, and to ensure that these plans are appropriately communicated and adhered to in times of blood component shortages. This committee function may be served by the Zone Transfusion Medicine Committee or by another means, such as a local TM committees that already exist. These transfusion

medicine/emergency blood management committees will serve as the communication conduit to the PEBMC. Dependant on the structure of the Zone's Transfusion Service, there may also be a need to establish and maintain a HEBMC with the same mandate but communication conduits through the ZEBMC to the PEBMC. If the blood shortage plans are activated within the scope of a pandemic or another situation outside of blood supply alone, there may be alteration in the membership at the direction of the provincial or zonal emergency coordinating centres.

The Z/HEBMC membership may vary in the different zones of AHS and may also vary from facility to facility within a zone. The following outlines potential membership representation:

- Hospital/zone senior or executive management
- Chair of the Blood Transfusion Committee
- Section Chief, Transfusion Medicine Service
- Representative, Department of / Hematology/ Oncology – Adult & Pediatric or if not applicable, Internal medicine and general pediatrics
- Representative, Division of Critical Care Medicine
- Representative, Department of Surgery
- Representative, Department of Anesthesiology
- Representative, Department of Emergency Medicine
- Representative, Obstetrics/Gynecology Department
- Nursing Practice Lead
- Patient/ Public lay representative
- Transfusion Service Laboratory Manager or Lab Site Manager
- Transfusion Safety Officer
- Representative, Communications/Public Affairs
- Other members as deemed appropriate by the Zone / Hospital Blood Transfusion Committee.

## 4. Phases of Inventory Availability

Consistent with other published blood contingency plans, both the National Plan and Alberta Plan have four phases of inventory availability, identified as green, amber, red and recovery. An inventory availability phase may apply to a single blood component (e.g., platelets), to a particular blood group of a component (e.g., O negative red blood cells), or involve multiple blood components. Different components may be in different phases (e.g., at a given time red blood cells inventory availability is at Amber Phase while that of platelets is at Red Phase). The phase of the shortage will typically be assigned by the NEBMC and communicated to Alberta's PEBMC to initiate the required activities.

CBS inventory levels represent only a part of the total inventory within the blood system. The majority of the inventory at any one time is already stored in hospital transfusion services. Optimal management of blood component shortages requires information on total inventories within the province.

The inventory information is obtained by:

1. A CBS Customer Letter for inventory advisory and request for hospital inventory reporting will be sent to hospital transfusion services.
2. Transfusion Services will be required to report inventory levels (of the affected component) daily through the CBS Blood Component and Product Disposition system.
3. The information will be summarized and shared with members of the Alberta PEBMC. This will greatly assist CBS and the NEBMC in deciding on inventory challenge phase declaration and duration.

\*Please refer to the National Blood Contingency Plan for CBS inventory levels corresponding to various phases\*

### 4.1 Actions According to Phase of Inventory

This section of the Alberta Plan provides action recommendations for blood system participants during the four phases of inventory.

Each of the participants should have developed general emergency response/ business continuity plans; these plans will be activated as required in addition to the plan specific to blood component shortages.

## 4.1.1 Green Phase

**Green Phase** implies that normal blood component inventory levels exist and supply generally meets demand. This phase includes a broad range of inventory levels ranging from an ideal inventory to temporary shortages that occur periodically and can be managed with existing CBS/hospital actions.

During the Green Phase, actions will focus on ensuring that plans to address potential shortages are developed and that blood components are used safely and appropriately, as described below.

Phase	Provincial (Ministry of Health + AHS) Activities	Hospital / Zone Activities
<b>Green</b>	<p>Verify support for the Alberta Plan including the policy, legal and ethical implications.</p> <p>Ensure standardized equipment, policies and protocols across the zones for the transportation of blood components to enable redistribution of components.</p> <p>Identify and empower a program or committee to maintain the Alberta Plan.</p> <p>Develop and maintain the PBEMC Terms of Reference and ensure that current representation and contact information is correct.</p>	<p>Inventory requests will be filled as per routine practice by CBS / zonal inventory supplier</p> <p>Hospitals should report their available inventory back to blood supplier as required by CBS hospital customer liaison agreements.</p> <p>Establish/ maintain a Hospital/Zone EBMC with a mandate to implement and operationalize the blood contingency plan that encompass all four phases of the Alberta Plan.</p> <p>Other activities should proceed to:</p> <ul style="list-style-type: none"> <li>• Develop processes for inventory management including guidelines for efficient inventory utilization and acceptable levels of outdating blood components.</li> </ul>
<b>Green</b>	<p>Develop and maintain the communication strategies and</p>	<ul style="list-style-type: none"> <li>• In collaboration with CBS, determine the hospital/zone inventory index and Average daily red cell demand levels for</li> </ul>

templates that will be used during activation of the Alberta Plan.

Actively encourage all hospitals and zones to follow the Alberta Plan's guidelines and monitor their compliance in doing so, particularly with respect to the following activities:

- Develop transfusion committees as per the CSA standard Z902
- Implement transfusion guidelines – national, provincial and local
- Participate in blood component disposition and inventory reporting to CBS
- Establish systems for transparent sharing of hospital blood component inventories and utilization with hospitals/ zones and CBS
- Further develop redistribution programs and other methods/programs to minimize outdated in rural and urban settings
- Assist in developing and maintaining zone and/or hospital EBMC.

Develop and implement simulation exercises to test and improve the Alberta Plan

Develop policies and procedures for transportation of blood components with patients to other facilities in consultation with AHS provincial trauma and AHS emergency medical services (air and ground).

green, amber and red levels, by both blood group and component. (I.e. Blood Utilization Management Program)

- Develop and implement transfusion guidelines which address both appropriate indications and dosing of blood components. As well as guidelines for situations when particular components are not available, (e.g., product switching, washing, irradiation, CMV seronegative)

Monitor adherence to transfusion guidelines, including the performance of transfusion audits.

Ensure application of available blood conservation methodologies.

Develop and implement a strategy for perioperative blood inventory management, either a maximal surgical blood ordering schedule (MSBOS) or an alternate strategy.

Maintain, or develop, mechanisms for the redistribution of component between hospitals/zone

Develop and implement a documentation process with templates for release or non-release of blood components in Amber or Red Phase (Examples in Appendix 2).

Notify CBS of situations that could result in increased demand or reduced availability of blood components.



## 4.1.2 Amber Phase

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

During the Amber Phase, the following actions will be taken.

Phase	Provincial (Ministry of Health + AHS) Activities	Hospital / Zone Activities
<b>Amber</b>	<p>Reiterate support for the Alberta Plan including the policy, legal and ethical implications.</p> <p>The P/T or NAC provincial representatives shall convene the PEBMC within 48 hours of a NEBMC call and at regular intervals during the shortage situation.</p> <p>Implement the communications plan in collaboration with CBS.</p>	<p>Convene the Hospital/Zone EBMC to monitor and control utilization of the affected blood components.</p> <p>Implement pre-established communications plans.</p> <p>Adjust inventory levels of affected components to levels consistent with those previously determined appropriate for Amber Phase and activate blood utilization management program.</p> <p>Recall emergency stocks in non-laboratory satellite refrigerators to transfusion service.</p> <p>Evaluate inventory to determine excess that could be shared with other affected sites within the province</p> <p>Request inventory from CBS based on Amber Phase requirements.</p>
<b>Amber</b>	<p>Notify senior management of hospitals/zones of the requirement to defer elective medical and surgical</p>	<p>Defer/cancel elective surgical procedures requiring the affected blood components.</p>

	<p>procedures which are likely to require the affected blood components.</p> <ul style="list-style-type: none"> <li>• Elective surgical procedures are considered to be all surgical procedures which are not urgent or emergency procedures.</li> </ul> <p>Urgent surgical procedures are those for which a patient is likely to have major morbidity if surgery is not performed within the next one to 28 days.</p> <p>Emergency surgical procedures are those that need to be performed within 24 hours in order to prevent the patient's death (or major morbidity such as paralysis).</p> <p>Monitor hospital compliance with and implementation of the actions required in Amber Phase.</p> <p>Review logistical process changes that may alleviate impact of shortage while in amber phase (Appendix 3)</p>	<p>For RBC transfusions, follow guidelines for Amber Phase as outlined in the National Plan or as outlined by the NEBMC.</p> <p>For platelet transfusions, follow guidelines for Amber Phase as outlined in the National Plan or as outlined by the NEBMC.</p> <p>For frozen plasma and cryoprecipitate transfusions, ensure strict adherence to guidelines established in Green Phase and the recommendations coming from the NEBMC.</p> <p>Refer all requests for the affected blood components that do not fulfill pre-determined acceptance criteria to the Transfusion Medicine Section Chief or designate prior to issuing component.</p> <p>Implement the documentation process for release or non-release of blood components – see toolbox for sample forms.</p> <p>Review logistical process changes that may alleviate impact of shortage. (Appendix 3)</p>
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### 4.1.3 Red Phase

**Red Phase** implies that blood inventory levels are insufficient to ensure that patients with non-elective indications for transfusion will receive the required transfusion(s).

During the Red Phase all actions begun in Amber Phase (assuming that the Red Phase is preceded by an Amber Phase) will be continued. In particular, ongoing communications as described in the communication plan remain vitally important. In addition, the following actions will be taken.

Phase	Provincial (Ministry of Health + AHS) Activities	Hospital / Zone Activities
<b>Red</b>	<p>Reiterate support for the Alberta Plan including the policy, legal and ethical implications.</p> <p>The P/T or NAC provincial representatives shall convene the PEBMC within 48 hours of a NEBMC call and at regular intervals during the shortage situation.</p> <p>Implement the communications plan in collaboration with CBS.</p> <p>Notify senior management of hospitals/zones of the requirement to defer all medical and surgical procedures likely to require the affected blood components with the exception of emergency procedures.</p> <ul style="list-style-type: none"> <li>Emergency surgical procedures are those that need to be performed within 24 hours in order to prevent the patient's death (or major morbidity such as paralysis).</li> </ul>	<p>Convene the Hospital/Zone Emergency Blood Management Committee to monitor and control utilization of the affected blood components.</p> <p>Implement pre-established communications plans.</p> <p>Adjust inventory levels of affected components to levels consistent with those previously determined appropriate for Red Phase.</p> <p>Recall all emergency stocks not held in laboratory.</p> <p>Evaluate inventory that can be redistributed to sites of higher need.</p> <p>Request inventory from CBS based on Red Phase requirements.</p> <p>Defer/cancel all surgical procedures requiring the affected components with the exception of emergency surgical procedures.</p>

	<p>Monitor hospital compliance with and implementation of the actions required in Red Phase.</p> <p>Ensure that Provincial Trauma, Critical Care, Transplant and Emergency services are aware of the National Plan appendix: The Allocation of Blood for Massive Transfusion during Critical Blood Shortages.</p>	<p>To the extent possible, defer haematopoietic stem cell transplantation and chemotherapy treatments and any other medical treatments requiring ongoing need for the affected blood components.</p>
		<p>For RBC transfusions, follow guidelines for Red Phase as outlined in the National Plan and the recommendations of the NEBMC.</p> <p>For platelet transfusions, follow guidelines for Red Phase as outlined in the National Plan and the recommendations of the NEBMC.</p> <p>For frozen plasma and cryoprecipitate transfusions, ensure strict adherence to guidelines established in Green Phase and any recommendations issued by the NEBMC.</p> <p>Refer all requests for the affected blood components that do not fulfill pre-determined acceptance criteria to the Transfusion Medicine Section Chief or designate prior to issuing component.</p> <p>Implement the documentation process for release or non-release of blood components</p>

#### 4.1.4 Recovery Phase

Recovery of hospitals' blood inventory and return to normal activities (transfusions) should be slow and gradual to ensure the overall blood inventory does not return to shortage levels. Prioritization of need will continue until inventory levels are maintained such that there is a return to normal activities and usage can be approved.

Phase	Provincial (Ministry of Health + AHS) Activities	Hospital / Zone Activities
<b>Recovery</b>	<p>The P/T or NAC provincial representatives shall convene the PEBMC within 48 hours of a NEBMC call and at regular intervals during the recovery process.</p> <p>Continuation of the communications plan with CBS.</p> <p>Notify senior management of hospitals/zones of the requirement to gradually increase medical and surgical procedures that were deferred during the shortage situation.</p> <p>Ongoing monitoring of hospital compliance with and implementation of the actions recommended by the NEBMC and PEBMC to prevent lapse back to red or amber phase.</p> <p>Debrief, review and revise the Alberta Blood Contingency Plan</p>	<p>Convene the Hospital/Zone EBMC to monitor and control utilization of the affected blood components to protect vulnerable inventory.</p> <p>Implement pre-established communications plans.</p> <p>Adjust inventory levels of affected components to levels consistent with those previously determined appropriate for effective recovery.</p> <p>Slowly redistribute emergency stocks not held in laboratory.</p> <p>Request inventory from CBS based on criteria set forth by the PEBMC.</p> <p>Slowly reinstitute surgical / medical procedures that were deferred or cancelled due to the blood component shortage.</p> <p>Refer all requests for the affected blood components that do not fulfill pre-determined acceptance criteria to the Transfusion Medicine Section Chief or designate prior to issuing component.</p>

Implement the documentation process for release or non-release of blood components

Debrief, review and revise the hospital/zone plans, policies and procedures necessary to implement the National and Alberta blood contingency plans

## 5. Communication

Strong communication coordination will be necessary to achieve optimal management of a severe blood shortage. Two distinct types of communications need to be considered:

- a) Operational communications between and among various bodies or organizations and groups of health care professionals that need to occur for the necessary actions to be taken; and
- b) Informational communications with internal (staff) and external (public/media) audiences.

In times of severe blood component shortages these two types of communications will be occurring nearly simultaneously, thus need to be well-coordinated and consistent between the National documents, those from Alberta Health and from Alberta Health Services. Advance planning on developing this coordination strategy is essential. This section provides a basic overview of the communications approach on both fronts. For more detailed information, refer to the relevant appendix in the National Plan.

### 5.1 Information Flow from the NEBMC to the PEBMC and the H/ZEBMC

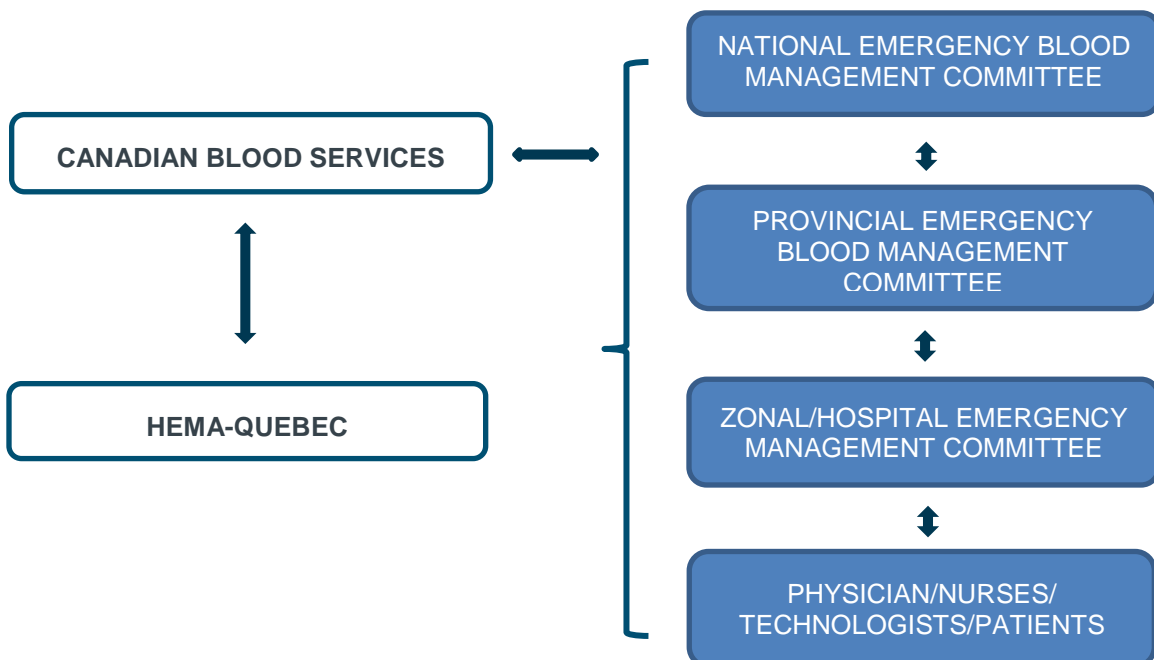
As stated previously, all P/T Blood Representatives and all NAC member(s) (or their respective designates) would be members of both the NEBMC and their respective PEBMC and in that way would provide the communication links between the national and their provincial committee. Following a meeting of the NEBMC, each P/T Blood Representative or provincial NAC members (aka core PEBMC members) would then immediately (or in an appropriately timely manner) convene a meeting of their PEBMC if appropriate in order to ensure that timely and accurate communications and actions occur in each province or territory. If a national decision is made to move to an Amber or Red Phase (or recovery from such a phase) this would be communicated to the PEBMC and decisions made as to how best to communicate this information to hospitals in their jurisdictions as well as implementation of the national recommendations would ensue, preferably according to a predetermined plan. Each H/ZEBMC would be convened according to the pre-established plan.

It will be extremely important that communications to the hospitals/zones from various sources be coordinated and consistent. Communications to hospitals/zones will occur via two communication chains: direct communication from CBS to hospitals/ zones and communications via the PEBMC. Therefore, it is essential that the persons responsible for communications to hospitals in CBS, the Ministry of Health, and the PEBMC be in constant and close contact.

It should be noted that in situations of anticipated shortage, it is likely that CBS would already, while still in Green or Green Advisory Phase, have communicated with the hospitals and the provincial/territorial Ministry of Health about the impending shortages prior to actually activating this communication network.

When an Amber or Red Phase is declared, attempts should be made to have the initial communication to this effect come from the PEBMC and/or the Ministry of Health; however, if this is not possible, in agreement with the Ministry of Health an initial communication may come directly from CBS. Following the declaration of an Amber or Red Phase and communication of this to hospitals, CBS would communicate on a regular (likely daily) basis with hospitals/zones concerning blood inventories and blood issues to hospitals; the PEBMC would communicate with hospitals/zones according through the representative members on the PEBMC and using standard template communications.

All members of the NEBMC would be copied on all communications sent from CBS. All PEBMC communications to hospitals/zone in their jurisdictions should be sent to the NEBMC secretariat at CBS who would, in turn, ensure that all NEBMC members received copies of these communications. Where time permits, the NEBMC should receive such communications prior to it being sent to the hospitals/zones. However, this may not always be possible.



# Appendices

**Appendix 1** Provincial EBMC terms of reference and membership

**Appendix 2** Sample data requests during a blood shortage

- data required for blood products during a shortage
- example of a blood component screening log for use during a shortage
- data required for red blood cell shortages
- data required for platelet shortages

**Appendix 3** Logistic process decision trees

**Appendix 4** Sample communication templates

**Appendix 5** Hospital sites stocking blood components and products

## Appendix 1. Provincial EBMC terms of reference and membership

### Purpose

Alberta's Provincial Emergency Blood Management Committee (PEBMC) will lead and coordinate the response to potential and actual blood contingencies in, or affecting, Alberta. The key responsibility for the PEBMC is to communicate and implement the NEBMC recommendations.

In addition, the PEBMC will provide advice, direction, and implementation guidance to transfusion services as outlined in the Alberta Contingency Plan for Management of Shortages of Liable Blood Components (The Alberta Plan).

If the blood shortage plans are activated within the scope of a pandemic or another situation outside of blood supply alone, there may be alteration in the membership at the direction of the provincial or zonal emergency coordinating centres. In those situations, the core members of the PEBMC (PT and NAC representatives) are required to communicate NEBMC recommendations and plans to those emergency coordinating centres for further dissemination and implementation.

### Principal Responsibilities

1. Develop a response plan to minimize the provincial impact of blood shortages;
2. Work in accordance with the guidelines outlined in the National Plan;
3. Ensure that the PEBMC recommendations, and those of the NEBMC are appropriately communicated to all key provincial stakeholders to allow activation of The Alberta Plan;
4. Provide the conduit for communications/feedback between the NEBMC, the PEBMCs, hospitals, and provincial emergency management groups;
5. Ensure The Alberta Plan is integrated with provincial emergency plans and that provincial emergency response teams understand the response phases;



6. Establish a process to monitor adherence to the National and Provincial plans in times of blood shortages;
7. Establish recommendations to manage non-adherence to the National and Provincial plans in times of blood shortages;
8. Conduct reviews of blood contingency events (real or mock) on an annual basis and report findings to Alberta Health, AHS, APL, NAC and CBS;
9. Ensure that the zone and hospital blood contingency plans are congruent with the National and Provincial plans;
10. Identify risks which hinder transfusion service emergency blood management, and work to develop mitigation strategies;
11. Identify and share learning opportunities to promote blood shortage preparedness and encourage collaboration with other emergency/contingency planning groups;
12. Advise on the transfusion service component of public communications during Red, Amber and Recovery phases;
13. Prepare resources/templates which can be used across zones for different stakeholders including the public;
14. Review and update where required, at least every two (2) years, The Alberta Plan.

### **Membership**

To provide the link with the NEBMC the following individuals must be included as Core team members for the PEBMC:

- P/T Blood Representative
- Provincial NAC member(s)

These individuals in combination with the Chair of the TM discipline council and the APL Transfusion Medicine Quality lead will form the Core PEBMC and will select the chair from amongst their membership.

Other mandatory members of the PEBMC include:

- All remaining members of the APL TM Discipline Council
- All APL Transfusion Safety Officers
- ABO Collaborative Steering Committee members
- CBS Hospital Customer Liaison Specialist(s)
- Chairs of Zone/Hospital Transfusion Medicine Committees

Depending on the reason for the activation of the plan and whether or not other Emergency Operations committees already have been stood up, additional members of PEBMC may include:

- Stakeholders of relevant clinical services\*
- Chief Medical Officer of Health
- Representative, AHS Executive Leadership Team
- Representative, APL Executive Leadership Team
- Representative AHS Professional Practice, Nursing and Health Professions
- Representative, AHS/ APL Legal/ Risk Management

- Representative, AHS / APL Corporate Business continuity
- Representative, AHS/ APL Communications representative
- Representative, Medical Ethics
- Patient/ Layperson representative

\*Stakeholder representation from impacted clinical services should be sought from transfusion medicine committees, strategic clinical networks or other established provincial groups with an aim to ensure consideration of broad applicability across all facilities and zones.

The “action arm” of the PEBMC will be the APL Combined North/South Sector Transfusion User Group .

### **Meetings**

The PEBMC will meet as often as deemed necessary by the core PEBMC members. Meetings may be by tele/video-conference and/or face to face.

Members assume the responsibility to attend all meetings (in person or by tele/video-conference).

The Core PEBMC members will determine agenda items.

A Record of Decision/Actions of meetings and teleconferences will be prepared and distributed to the membership by a secretariat assigned by the Core PEBMC.

In isolated blood shortages, PEBMC communications will be distributed to the following:

- APL Combined North/South Sector Transfusion User Group
- AHS Zonal Medical Directors
- AH Executive Director and Assistant Deputy Minister
- APL Executive Leadership team
- Zonal / Hospital Transfusion Medicine Committee members

When blood contingency plans are activated through other disaster or pandemic plan activations, the communication fan-outs will be decided by the appropriate Emergency Operation Committee(s).

## **Appendix 2. Sample data requests during a blood shortage**

1. Data required for blood components during a shortage (data to be pulled from the Laboratory Information System-LIS)
2. Example of a blood component screening log for use during a shortage (information may be pulled from LIS)
3. Data required for red blood cell shortages (data to be pulled from the LIS)
4. Data required for platelet shortages (data to be pulled from the LIS)



**ALBERTA PRECISION  
LABORATORIES**

Leaders in Laboratory Medicine

**Data required for blood components during a shortage**

<b>Phase:</b>	<input type="checkbox"/> Amber	<input type="checkbox"/> Red
<b>Facility:</b>		

*Component(s) Requested:*

RED CELLS # \_\_\_\_\_ PLATELETS # \_\_\_\_\_ PLASMA # \_\_\_\_\_

Date/Time required: \_\_\_\_\_

Requested by: \_\_\_\_\_

Reason for request: \_\_\_\_\_

\_\_\_\_\_

Laboratory Data: Hgb: \_\_\_\_\_ Plt: \_\_\_\_\_ INR: \_\_\_\_\_

Comments:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**Blood Component Screening Log for Use During a Blood Shortage**

Phase: Amber  Red

Facility: \_\_\_\_\_

Date: 20 / / at 0800 hr to 20 / / at 0800 hr

Time	ULI#	Last Name	Product Requested	Physician Requesting	Clinical Indication	Products Available	Decision	Pathologist reviewing
			Red Cells, # _____ Platelets, # _____ Plasma, # _____			Red Cells, # _____ Platelets, # _____ Plasma, # _____		
			Red Cells, # _____ Platelets, # _____ Plasma, # _____			Red Cells, # _____ Platelets, # _____ Plasma, # _____		
			Red Cells, # _____ Platelets, # _____ Plasma, # _____			Red Cells, # _____ Platelets, # _____ Plasma, # _____		
			Red Cells, # _____ Platelets, # _____ Plasma, # _____			Red Cells, # _____ Platelets, # _____ Plasma, # _____		
			Red Cells, # _____ Platelets, # _____ Plasma, # _____			Red Cells, # _____ Platelets, # _____ Plasma, # _____		
			Red Cells, # _____ Platelets, # _____ Plasma, # _____			Red Cells, # _____ Platelets, # _____ Plasma, # _____		

Page \_\_\_ of \_\_\_



**ALBERTA PRECISION  
LABORATORIES**

Leaders in Laboratory Medicine

**Data required for red blood cell shortage**

**Date of Report:**

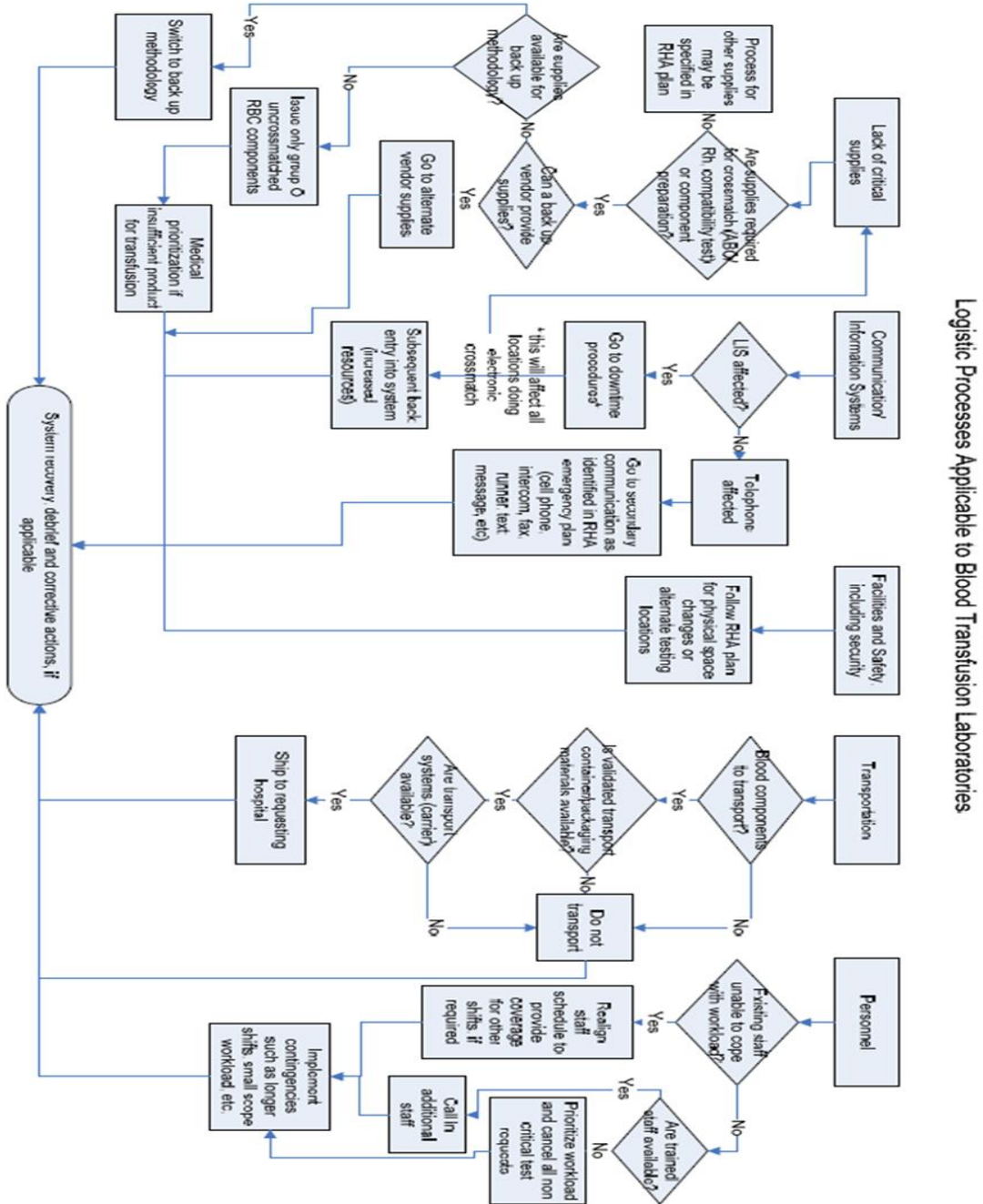
Blood Group	O Positive	O Negative	A Positive	A Negative	B Positive
Status					
# of units available					
% of reduction from normal levels					
Status Level Supported					

**Data required for platelet shortages**

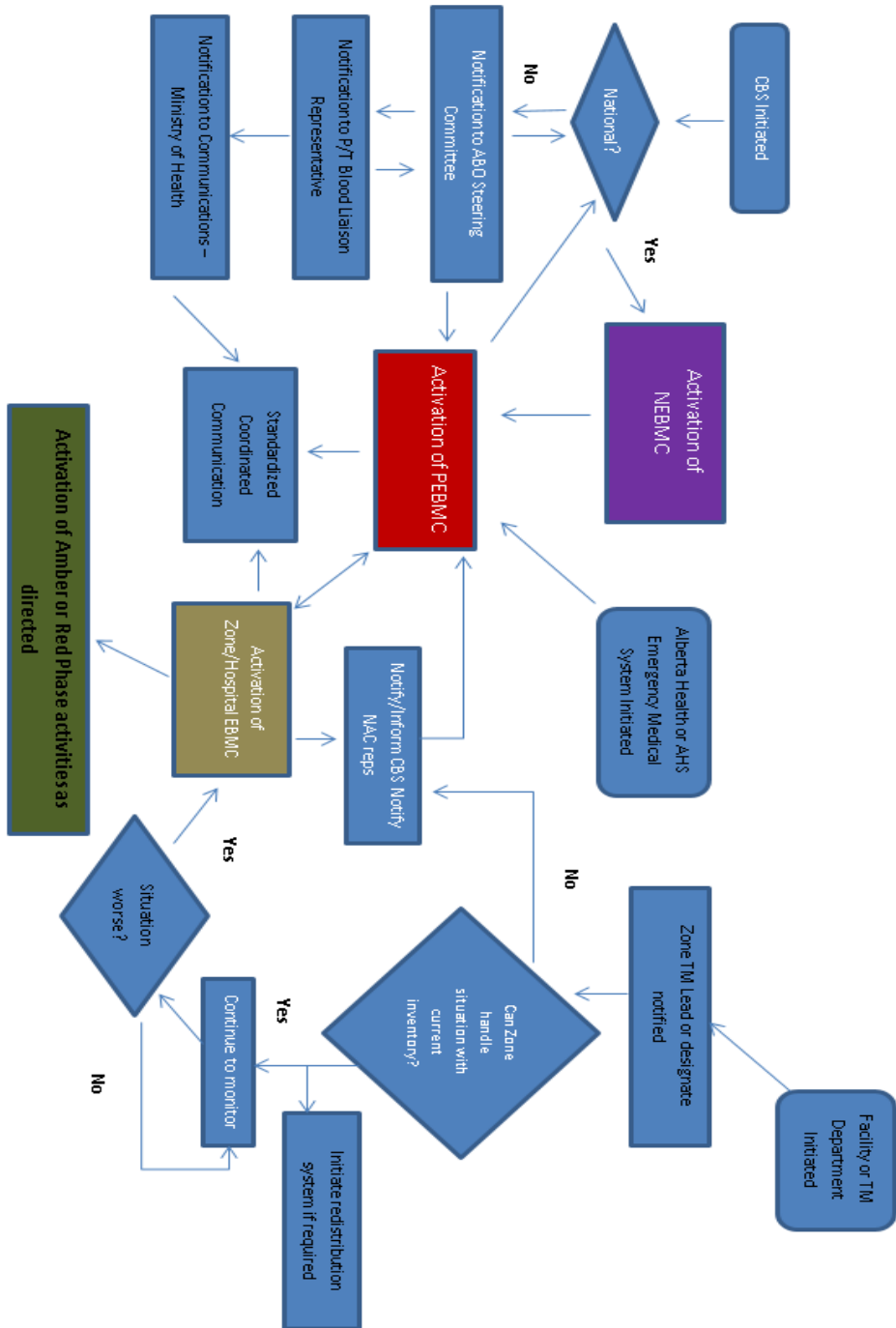
**Date of Report:**

Blood Group	O Pools	O Apheresis	A	A Apheresis	AB
Status					
# of doses available					
% stock reduction from Normal					
Status Level supported					

# Appendix 3. Logistic process decision trees



# Alberta Blood Contingency Plan Activation Process



## Alberta Blood Contingency Plan Activation Process

## Appendix 4. Sample communication templates

<b>Date and time of issue</b>	2020-Feb-15 09:00 MST
<b>Inventory Availability Phase</b>	AMBER
<b>Product (s)</b>	Apheresis platelets (all groups)
<b>Description</b>	<p>Following an ice storm, the availability of platelets has been seriously compromised in the Province of Alberta.</p> <p>The Provincial Emergency Blood Management Committee has called an Amber Phase of the Alberta Plan.</p> <p>Canadian Blood Services is attempting to import platelets but due to weather may not be able to do so until early next week.</p>
<b>Impact on hospitals</b>	<ul style="list-style-type: none"> <li>• Follow directives in Amber section of the Provincial and Hospital/Zone blood shortage plan.</li> <li>• Activation of Hospital/Zone Emergency Blood Management Committees should commence.</li> </ul>
<b>For more information</b>	Key messages enclosed with this Shortage Alert. For additional info, contact your local representative of the Provincial TM Integration Network

## Appendix 5. Hospital sites stocking blood components and products

A complete list of hospital sites stocking blood components and blood products can be found under the “Blood Inventory in Hospitals” tab at:

<http://www.albertahealthservices.ca/lab/Page3319.aspx>