Appendix 1

GUIDELINE

Queensland Emergency Blood Supply
This guideline intends to provide information to support Hospital and Health Services (HHSs) to manage blood supply in clinical emergencies that may lead to LOCAL shortage. It aims to provide consistency and direction for all clinical and support staff when faced with urgent requirements for large volumes of screened fresh blood components and the subsequent shortage created by this demand.

1. Introduction

The effective planning, management and coordination of an emergency response is vital in ensuring optimum patient outcomes in critical situations. In Queensland, the provision of screened fresh blood components relies on the service capabilities of a complex, cross-sectoral network of public and private pathology laboratories and the Australian Red Cross Blood Service (the Blood Service).*

The collaboration between private and public health care facilities and pathology laboratories is integral to the provision of health care in Queensland. These entities are fundamental to the success of a comprehensive and integrated Emergency Blood Supply Guideline.

*In some regional areas, health care facilities may not utilise their nearest (local) pathology laboratory or nearest regional Blood Service as transport logistics may dictate more timely access to blood components from outside of the local area. This guideline aims to assist health care facilities to explore options in the event of needing to access an emergency blood supply above normal inventory limits. For ease of understanding in this guideline, ‘usual’ will refer to the provider, either Blood Service or pathology laboratory, as identified by the individual health care facility as normally providing the ‘day to day’ service.

2. Scope

This guideline excludes arrangements for the provision of medical retrieval services and for their provision of screened fresh blood components.

The Queensland Health Disaster Plan (2008) should be activated for ‘the management of any large emergency and disaster event that requires a co-ordinated approach across health services, or through the response of other agencies’.

The Queensland Emergency Blood Supply Guideline does not meet, nor relate to, the requirements of the National Blood Authority National Blood Supply Contingency Plan (NBSCP). The NBSCP outlines the national response in the event of a threat to the provision of a safe and adequate blood supply in Australia.

This guideline also does not relate to the requirements of the Queensland Blood Supply Contingency Plan. However, it is noted that a prolonged / significant volume increase may lead to a short term supply problem in which case the Queensland Blood Supply Contingency Plan may be activated as prompted by the NBSCP.

3. Standards

The initiation of a call for assistance in a clinical emergency resulting in blood component inventory shortage is the responsibility of the pathology provider for the health care facility where the patient is located. Escalation of the request for assistance for provision of screened fresh blood components will be based upon the needs of the patient/s and the limits of the service capabilities of the health care facility and its usual pathology provider.

The pathology provider in consultation with the health care facility should complete the flowchart at Attachment 1 and promote it as their process to follow in a clinical emergency for blood supply (see page 6). For example, a clinical setting will insert the telephone number of
their laboratory contact, and the laboratory setting will insert the telephone number of their
nearest Australian Red Cross Blood Service facility.

This Guideline has been developed to be consistent with the current Queensland Health
Disaster Plan. The health care facility Executive Director of Medical Services (or equivalent),
Executive Director of Nursing Services (or equivalent) and relevant clinical and senior
administrative staff should have an understanding of the capabilities and limitations of the
health care facility’s usual pathology service and regional Blood Service to supply screened
fresh blood components in the event of any major clinical emergency.

Compliance with the Queensland Emergency Blood Supply Guideline is at the discretion of
the senior medical officer in charge of the emergency in consultation with the usual pathology
provider. The ‘triggering’ of the activation will be based on patient clinical need and the
service capability of the health care facility and the pathology service. (Forewarning all
relevant health care providers is integral to effective coordination and management of a
clinical emergency).

The activation needs to implement a clear communication pathway:

1. The clinician needs to immediately advise the laboratory of the emergent situation.
2. The laboratory is then responsible for communicating local inventory and possible
   limitations with the usual Blood Service.
3. Once notified of the requirement for emergency blood stocks, the Blood Service is
   responsible for locating and mobilising the supplies to the health care facility.
   Depending on the situation, this may require support and advice from the pathology
   provider and clinicians involved in the emergency, if the use of emergency transport
   services is necessary.

4. **Principles underpinning the guideline**

Clear, accurate and timely communication between the relevant participants in the emergency
is crucial to the effective implementation of the guideline which:

- aims to ensure a safe and efficient blood supply in the event of an emergency and
  prevent blood stocks in other health care facilities being depleted
- outlines the roles and responsibilities of involved clinical and non-clinical staff in
  sourcing screened fresh blood components for transfusion in the event of a major
  emergency
- includes the capability to deal with individual and multi-trauma emergencies
- streamlines the communication process by ensuring only specified staff are involved in
  the mobilisation of blood stocks to the emergency site.

5. **Process to activate the emergency blood supply response**

During an emergency requiring transfusion of screened fresh blood components, the health
care facility and pathology service staff are responsible for carrying out their duty of care. All
staff should be familiar with their roles and responsibilities outlined in this guideline.

Small or remote laboratories should assess where the product can be accessed if an
emergency occurs resulting in subsequent inventory shortage and the product cannot be
provided by the Blood Service in a suitable timeframe e.g. other laboratories/pathology
providers.
Phase 1 - Alert/White Alert (Standby)

Following notification or identification of an emergency which may require the transfusion of a large volume of screened fresh blood components, the pathology provider will contact the senior treating medical/nursing officer and communicate the expected inventory shortage and activation of local Emergency Blood Supply response. The pathology provider would notify the usual Blood Service in this case.

Until the patient has been stabilised and/or separated from the health care facility:

- one (medical/nursing) clinician will remain as the key contact between the clinical emergency team and the pathology laboratory
- one pathology laboratory contact (preferably a second laboratory scientist) will be allocated as key contact with the clinical contact and the usual Blood Service, if required.

In the case of increased demand due to multiple patients, a health incident controller/Senior Clinician should be assigned to manage the incident, and this person should remain the key clinical contact between the clinical emergency team and the usual pathology laboratories/Blood Service.

Phase 2 – Lean Forward/Yellow Activate (Response)

The senior medical/nursing contact has key responsibility to liaise between the clinical and laboratory teams. This will involve communicating the blood component needs of the patient to the laboratory contact. The pathology laboratory in response will provide the available inventory of blood components and the time frames involved for their provision.

Once the pathology contact has informed the usual Blood Service of the emergent situation, the Blood Service (or alternate laboratory/pathology provider) sources the blood stocks and organises the logistics of transporting these supplies to the clinical emergency site.

Depending on the situation, the Blood Service may need support and advice from the pathology provider and clinicians involved in the emergency, if the use of emergency transport services is required.

Ideally two people should be available within the laboratory, one to do the contact liaison work and the other to do the critical grouping, cross-matching, labelling, packaging/storage and documentation undisturbed.

All communications between the clinical contact, pathology laboratory contact and the Blood Service should clearly indicate the following:

<table>
<thead>
<tr>
<th>Clinical Contact</th>
<th>Pathology /Blood Service Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact details – name of clinical contact/pathology contact</td>
<td>Contact details – name of clinical contact/pathology contact</td>
</tr>
<tr>
<td>Nature of the clinical emergency requiring an emergency blood supply (include number of patients)</td>
<td>Acknowledgement of the clinical emergency</td>
</tr>
<tr>
<td>Type and number of blood components required</td>
<td>Type and number of blood components available</td>
</tr>
</tbody>
</table>
The laboratory contact will advise the clinical contact of the immediate availability of blood components and assess, in consultation with the clinician contact, whether further blood supplies will be required, including time frames for patient requirements and delivery of blood components.

The initial verbal request for blood components should be confirmed with the issuing pathology laboratory by a written request.

It is important a correctly labelled pre-transfusion sample and completed request form is supplied to the laboratory as soon as possible.

If blood is required before a pre-transfusion sample can be tested, two or four O Rh D Negative red cells can be provided by the laboratory.

Group specific blood must be provided as soon as possible.

**Phase 3 – Stand Up/Red Activate (Escalation of the Blood and/or Blood Products Supply Request)**

If the need of the patient is beyond the capability of the pathology service, the laboratory contact will phone the usual Blood Service to source additional screened fresh blood components.

If the usual Blood Service distribution centre is able to supply the required blood components within the requested time frame, the laboratory contact will advise the clinical contact of the estimated time and mode of delivery.

Transport arrangements for the products will be arranged by the Blood Service distribution centre, which will inform the pathology laboratory contact, who then informs the clinical contact. Specificity of the exact delivery location is critical and this should be included in any discussions throughout this communication.

The Blood Service (usual or Brisbane) is responsible for locating and mobilising available blood supplies. If required, the Blood Service will liaise with the pathology provider who, in turn liaises with the clinical contact as needed for the transportation of blood supplies to a health care facility or pathology laboratory.

If the situation escalates beyond the capabilities of the Blood Service (both usual and Brisbane), the Hospital and Health Service Chief Executive or delegate may notify the Chief Health Officer, who may consider activating the State Health Emergency Coordination Centre (SHECC). In this case, the State Health Coordinator, SHECC, will then liaise with the health care facility clinical contact for the delivery of the requested components.

**Phase 4 – Stood down**

Stand down of the clinical emergency response will be at the direction of the senior medical officer in charge of the clinical emergency.

The clinical contact should advise the pathology laboratory contact of the stabilisation or separation (death or transfer) of the patient, as appropriate.
The pathology contact should advise the Blood Service Brisbane if urgent supplies are no longer required and request replenishment of stock as per usual practice.

Following pathology laboratory notification of stabilisation or separation of the patient and stand down of the response, a medical or nursing officer should contact the pathology laboratory if further blood components are required for ongoing patient management. Excess blood stocks may, in consultation with the forwarding pathology laboratories, be distributed back to the pathology laboratory/ies.

A retrospective entry into BloodNet is made to record receipt of blood components provided from the Blood Service in response to the clinical emergency.

6. Implementation Plan

Relevant health care facilities with or without supporting laboratories should complete the flowchart at Attachment 1 and promote it as their process to enact an Emergency Blood Supply response.

For example, a health care facility will insert the telephone number of their pathology contact, and the pathology provider will insert the telephone number of their nearest Australian Red Cross Blood Service. Examples of clinical areas where an Emergency Blood Supply response may require activation include:

- rural health care facilities without onsite screened fresh blood component supply
- rural health care facilities with attached pathology providers
- pathology providers with limited screened fresh blood component inventories.

7. Evaluation and review

Health care facilities are to review an Emergency Blood Supply response following:

- activation of a response
- internal or external organisational restructure
- identification of issues which may impact upon the implementation of the guideline, including any review of blood and/or blood product stock levels
- any emergency blood supply issues identified during the analysis of a sentinel event
- the introduction of new technology or services.

The review would ideally be coordinated by the Executive Director of Medical Services (or equivalent), Executive Director of Nursing Services (or equivalent) and relevant pathology laboratory Area Manager (private sector) or Supervising Scientist (public sector).

Health care facilities are to provide feedback on any changes required to this guideline to the Blood, Tissue and Organ Team, Chief Health Officer Branch, Health Services and Clinical Innovation Division, Queensland Department of Health.

The Blood Tissue and Organ Team will review this guideline every two years, in view of feedback received.
8. Summary of key roles and responsibilities

Chief Executive, Hospital and Health Service (or equivalent)
- Be fully aware of the presence and nature of this guideline and provide adequate resources (financial and clerical) to the clinical and laboratory staff for its safe operation.
- Have the hospital safety and quality/risk management team promote and review the guideline.
- Liaise with the Chief Health Officer, Department of Health in the event of a blood supply emergency, as the situation requires.

Executive Director of Medical Services (EDMS)/Medical Superintendent (or equivalent)
- Promote the guideline to all medical officers to ensure awareness of the recommended process to access supply of screened fresh blood components in the event of a clinical emergency.
- Liaise with Executive Director of Nursing Services (or equivalent) and relevant pathology laboratory Area Manager or Supervising Scientist and the Chief Executive Officer (CEO) of the facility in the promotion and review of the guideline.
- Inform the pathology laboratory Area Manager or Supervising Scientist of any health care facility changes which may impact upon the implementation of this guideline.
- Communicate and liaise with pathology laboratories and the Blood Service in relation to the provision and transportation of blood in the event of a blood supply emergency, maintaining compliance with validated shipping and packing requirements for the transport of blood components.
- Liaise with the Chief Executive, HHS in relation to the blood supply emergency, as the situation requires.

Executive Director of Nursing Services (or equivalent)
- Liaise with EDMS (or equivalent) and pathology laboratory Area Manager or Supervising Scientist, as applicable, in the promotion and review of the guideline to and by nursing staff.
- Inform the EDMS (or equivalent) pathology laboratory Area Manager or Supervising Scientist of any health care facility changes which may impact upon the deployment of the guideline.

Pathology Laboratory Area Manager (Private Sector)/Supervising Scientist (Public Sector)
- Liaise with EDMS (or equivalent) and EDNS (or equivalent) in the promotion and review of the Queensland Emergency Blood Supply Guideline and any local policy developed from it, to enable the supply of blood components in the event of a clinical emergency or about any impacting barriers.
- Liaise with usual Blood Service distribution centres to ensure awareness of this guideline and assessment of the availability of blood stocks.
- Liaise with nearby public and private pathology laboratories, in the assessment of blood availability in the event of a clinical emergency requiring blood and/or blood products.

Blood Service Brisbane
- Liaise with regional Blood Service distribution centres and pathology laboratories to enable the appropriate supply of blood components in a clinical emergency.
- Communicate and liaise with pathology laboratory in the provision and transportation of blood components to a health care facility/pathology laboratory or regional Blood Service in the event of a clinical emergency request.
• Liaise with the pathology provider and clinicians involved in the emergency if the use of emergency transport services is required to transport blood components.

Chief Health Officer, Department of Health
• Consider activation of SHECC in the event of a blood emergency, as the situation requires.

State Health Coordinator, SHECC (when activated)
• Coordinate the transportation and delivery of emergency blood components to a health care facility or pathology laboratory.
• Transport blood components so as to maintain compliance with validated shipping and packing requirements.
• Liaise with Blood Service Brisbane and the relevant pathology service or the health care facility to ensure the alignment of the facility requirements and the Blood Service. These requirements may include confirmation of delivery address and other logistical considerations.
• Notify requesting authority on completion of the delivery of the blood and/or blood products.

9. References
Queensland Health Disaster Plan (And Emergency Management Arrangements) 2008 revised edition
National Blood Authority April 2008 National Blood Supply Contingency Plan Version 1
EMERGENCY BLOOD SUPPLY FLOWCHART

Clinical contact notifies Pathology Laboratory of clinical emergency and requests blood and/or blood products. Provide:
- Request form/s
- Pre transfusion sample/s as soon as possible

Pathology Laboratory supplies available blood

Is there sufficient supply in the Pathology Laboratory?
- Yes
- No

Pathology Laboratory contacts usual Blood Service

Has usual Blood Service sufficient to supply?
- Yes
- No


Can Blood Service Brisbane supply within time frame?
- Yes
- No

Does Blood Service require transport assistance?
- Yes
- No

Pathology laboratory makes 2nd contact to Blood Service Brisbane as only source of blood

Can blood be sourced from nearby Pathology Laboratories?
- Yes
- No

Blood Service and Health Service negotiate transport arrangements. (SHECC may provide assistance as necessary if activated.)

Blood supplied
### Activation Phases

<table>
<thead>
<tr>
<th>Alert level</th>
<th>Red blood cell</th>
<th>Blood products</th>
<th>Platelets</th>
</tr>
</thead>
<tbody>
<tr>
<td>White alert/Alert</td>
<td>- An acute shortage has occurred in more than one jurisdiction</td>
<td>- A product has been assessed as being at ‘high’ risk of supply failure</td>
<td>- A shortage is recorded indicating &lt;5 days stock nationally for 2 consecutive days</td>
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<tr>
<td></td>
<td>- A shortage in one jurisdiction will impact on more than one jurisdiction, i.e.</td>
<td>- Future demand for products cannot be met with current supply practices</td>
<td>- There is insufficient supply to deliver non-urgent or elective healthcare requiring platelet support (Priority access 3 services in the NBSCP platelet annex)</td>
</tr>
<tr>
<td></td>
<td>initiating jurisdiction has had &lt;5 days stock for 8 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow activate/Lean Forward</td>
<td>- Actions of white alert insufficient</td>
<td>- NBA mitigation measures insufficient</td>
<td>- Actions of white alert insufficient</td>
</tr>
<tr>
<td></td>
<td>- Initiating jurisdiction has &lt;3 days stock</td>
<td>- Requires decision by the Jurisdictional Blood Committee (JBC)</td>
<td>- Levels indicate continued stock levels at &lt;5 days nationally</td>
</tr>
<tr>
<td></td>
<td>- National stock levels over 3 days but less than 5 days</td>
<td></td>
<td>- There is insufficient supply to deliver urgent healthcare requiring platelet support (Priority access 2 services in the NBSCP platelet annex)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red activate/Stand Up</td>
<td>- Actions of yellow activate insufficient</td>
<td>- Voluntary changes to clinical practices and use of Australian Register of Therapeutics Goods products insufficient</td>
<td>- Actions of yellow activation insufficient</td>
</tr>
<tr>
<td></td>
<td>- National stocks are &lt;3 days</td>
<td>- Requires decision by COAG Health Council (CHC)</td>
<td>- Levels indicate continued stock levels at &lt;0.5 days nationally</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>- There is insufficient supply to deliver critical or emergency healthcare requiring platelet support (Priority access 1 services in the NBSCP platelet annex)</td>
</tr>
<tr>
<td>Green de-activate/Stand Down</td>
<td>- Return to a pre-white level that is acceptable on a national level</td>
<td>- Return to a pre-white level that is acceptable on a national level</td>
<td></td>
</tr>
</tbody>
</table>

### Roles

**National**

The NBA will be responsible for the activation and deactivation of the NBSCP, as well as escalating or de-escalating the plan between the phases. This process will be based on the information and data supplied by suppliers, jurisdictional representatives and advice from relevant advisory bodies.

If the situation becomes extremely critical, then responsibility for the emergency process may escalate to the AHPPC, with the NBA transferring to a key stakeholder role in the process.

If the situation is related to a public health issue, then responsibility for the emergency process may escalate to the OHP, with the NBA transferring to a key stakeholder role in the process.

**Statewide**

The Queensland Department of Health is responsible for the management of the Queensland Blood Supply Contingency Plan. The Department is also responsible for working with the NBA to facilitate implementation of national responses, in situations where the NBSCP has been activated. Statewide responses will be managed through the Chief Health Officer Branch.

The State Health Emergency Coordination Centre’s (SHECC) involvement in blood supply emergencies is decided on a case by case basis, depending on the issue, and the decision to activate SHECC is taken by the Chief Health Officer.

**Local**

HHSs and licensed private health facilities are responsible for managing blood supply emergencies within their facilities, using their local emergency management plans. They are also responsible for implementing statewide and national instructions in situations where a statewide or national emergency plan has been activated.

**Emergency Donor Panels**

The Department of Health does not recommend the use of Emergency Donor Panels (EDPs) to meet a shortfall in blood supply or an urgent demand for blood, as they are considered high risk. However, HHSs that have decided to establish EDPs, may choose to activate and use these as a part of their local emergency and contingency blood supply plans.

### Communication

**National**

Following activation of the NBSCP, the NBA will supplement existing routine communication channels and structures as follows:

- **Situation Report (SitRep)** – The NBA will issue a daily SitRep (more frequently if required) that provides an update of the situation. This includes a summary of required actions by stakeholders, associated roles and responsibilities and agreed media talking points. This SitRep will be circulated to key stakeholders and those identified during the specific activation.

- **BloodNet messaging** – The NBA will post an abbreviated Sit Rep and required health provider action messages on BloodNet. BloodNet is a web-based system that allows staff in hospital pathology laboratories to order blood and blood products and provide health provider inventory levels in a standardised way. Blood Service inventory levels are provided to the NBA via the National Inventory Template (NIT). Messages are used in BloodNet to provide and receive information on status, developments and action items for those involved.

- **Direct targeted communications** – The NBA will use a combination of fax, email and group text messaging (SMS) to provide high level information and advice on key changes in the situation or required actions by recipients. This includes advice on meeting schedules, changes in activation level or to flag the distribution of important information by email. This service is provided for NBSCP purposes and has been populated with pre-defined templates for SMS messages for a variety of circumstances in addition to SMS distribution groups for the NBSCP.

**Statewide**

Queensland’s communication process under the Queensland Blood Supply Contingency Plan supplements the NBA’s process, with information being disseminated to stakeholders as per the flowchart on page 1.