

Annex A: Red Cell Response



National Blood Supply Contingency Plan (NBSCP)

Version 1

Annex A: Red blood cell response plan

As endorsed by AHMC in April 2008

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Acronyms and abbreviations

AHMAC	Australian Health Ministers' Advisory Council
AHMC	Australian Health Ministers' Conference
AHP	approved health provider
AHPC	Australian Health Protection Committee
ANZSBT	Australian and New Zealand Society of Blood Transfusion
ARCBS	Australian Red Cross Blood Service
CHO	chief health officer
CMO	chief medical officer
CTEPC	Clinical, Technical and Ethical Principal Committee
DoHA	Department of Health and Ageing
EBMT	emergency blood management team
IEBMP	Interim Emergency Blood Management Plan
JBC	Jurisdictional Blood Committee
MBOS	maximum blood order schedule
NBA	National Blood Authority
NBSCP	National Blood Supply Contingency Plan
NIR	National Incident Room
OHP	Office of Health Protection
TGA	Therapeutic Goods Administration
TMF	technical master file

1.1 Background

The National Blood Authority (NBA) developed a National Blood Supply Contingency Plan (NBSCP) to facilitate and coordinate a rapid national response in the event of a domestic threat or disaster that affects the provision of safe and adequate blood supply in Australia.

The NBSCP establishes the context in which the NBSCP and this annex have been developed and will operate. It also outlines the crisis planning, preparation and mitigation of a crisis, response framework and recovery arrangements for a crisis affecting the supply of blood and blood products. As part of the framework, the NBA has prepared two annexes to support the response to a range of risks identified as part of the NBSCP. New annexes will be developed through consultation from time to time.

1.2 Purpose

The purpose of this annex is to implement the NBSCP in response to a supply crisis for red blood cells.

1.3 Phases of fresh blood cell response

To prepare this annex, the approach for the management of red blood cells has been drawn from the work done by Australian Red Cross Blood Service (ARCBS) in developing their Interim Emergency Blood Management Plan (IEBMP). The ARCBS consulted with a range of key stakeholders, including jurisdictions, the Therapeutic Goods Administration (TGA), medical colleges and specialist societies (i.e. the Australian and New Zealand Society of Blood Transfusion) in the development of the IEBMP. The ARCBS worked closely and had significant consultation with health professionals to agree on a range of strategies that would support the management of red blood cells in a crisis. This work was critical to the approach presented in this annex.

The red blood cell response process comprises of four operational phases, in line with the framework established under the NBSCP. The four phases are:

- white alert
- yellow activate
- red activate
- green deactivate.

For each of these phases this annex details the:

- definition of each phase, including the triggers that may activate a move between phases
- desired outcome from any actions taken
- roles and responsibilities of the key stakeholders, including some of the types of actions that may be taken.

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Red blood cell phase — definitions and desired outcomes

To meet clinical demand of fresh blood components in the event of a crisis, there is an escalation and a de-escalation process to guide the blood sector’s response. Table 1 provides a definition and the desired outcome of each phase in this process, and Figure 1 shows a flowchart of the activation map.

Table 1 Escalation process for red blood cell products

Phases	Red Blood Cell Definition	Desired outcome
WHITE ALERT	Invoked when: <ul style="list-style-type: none"> an acute shortage has occurred in more than one jurisdiction a shortage in one jurisdiction will impact on more than one jurisdiction (i.e. initiating jurisdiction has had <5 days stock^a for 8 days). 	To increase the collection and production to build stock levels while meeting demand for emergency services and the majority of other clinical requirements.
YELLOW ACTIVATE	Invoked when: <ul style="list-style-type: none"> actions in white alert phase have not rectified the situation so that the plan can be deactivated the initiating jurisdiction has <3 days stocks national stock levels are between 3–5 days. 	Decrease non-urgent product use so that available products can be redirected to meet life threatening and/or other agreed priorities based on appropriate clinical assessment. Consider prioritising surgery to minimise blood use. If chronic shortage, consider triage of medical indications for transfusion.
RED ACTIVATE	Invoked when: <ul style="list-style-type: none"> actions from white alert and yellow activate have not rectified the situation national stock levels are <3 days. 	Blood use is triaged for life-threatening and other clinically assessed priorities. Blood use in elective surgery is not allowed and procedures are compliant with jurisdictional emergency arrangements. If chronic, implement national consistency in triage of medical and surgical blood use.
DE-ACTIVATE	Fresh blood stocks have returned to a pre-white alert level that is acceptable on a national level.	NBSCP is improved for possible future crises and, if possible, new measures are introduced to decrease the likelihood or impact of a similar situation.

NBSCP = National Blood Supply Contingency Plan

^a All references to stock for red blood cells denotes the combined available product of both ARCBS and approved health providers (i.e. hospitals).

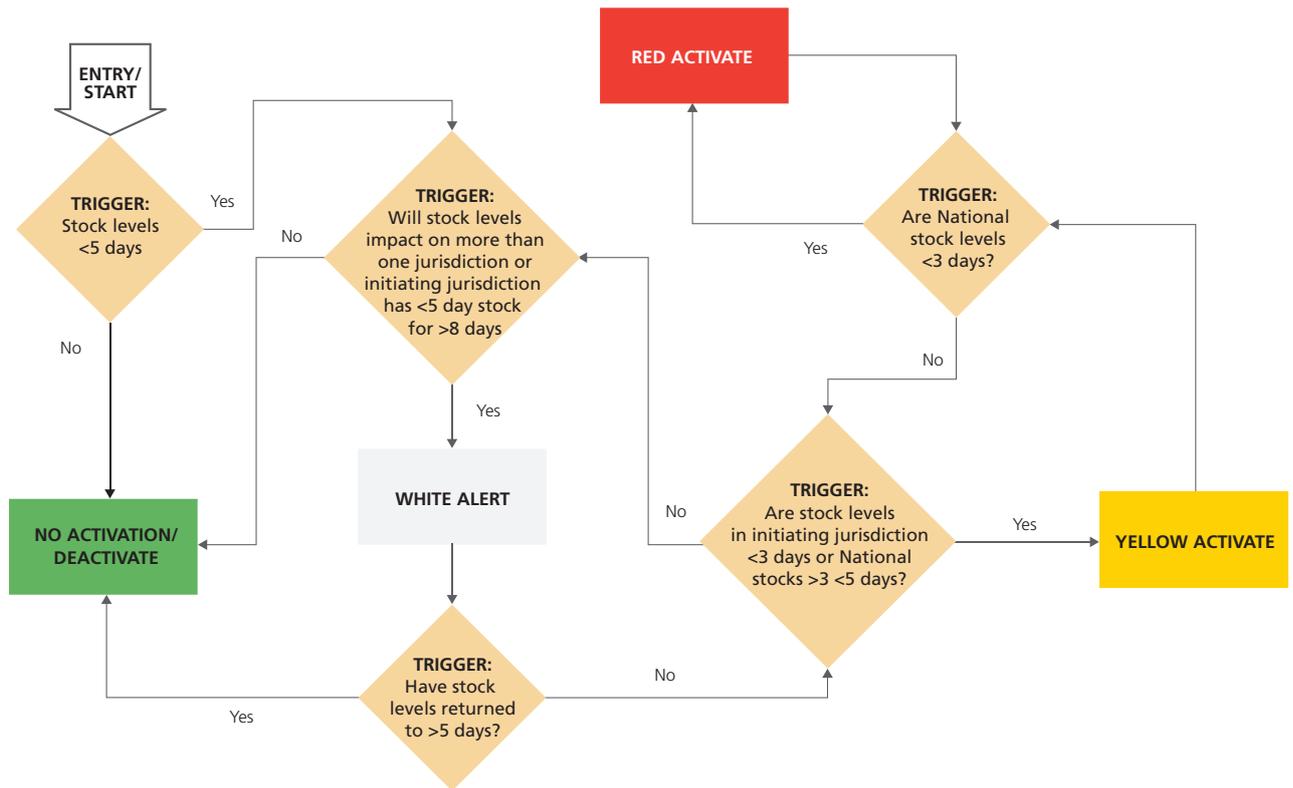


Figure 1 Red cell activation map

Actions to be taken — roles and responsibilities

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Outlined in this chapter are the roles and responsibilities of the key stakeholders involved in the management of red blood cells during each operational phase. These are high-level descriptions of their responsibilities and other roles may be required depending on the nature of the incident.

3.1 National Blood Authority (NBA)

WHITE ALERT	<ul style="list-style-type: none"> ▪ assesses stock forecasts and activates NBSCP ▪ notifies stakeholders the ARCBS, JBC, OHP, TGA, DoHA, private hospitals' associations and colleges of supply risk ▪ works with ARCBS to rectify situation ▪ implements teleconference with ARCBS, initiating jurisdiction, TGA and JBC, as required.
YELLOW ACTIVATE	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ confirms escalation of NBSCP ▪ coordinates information and maintains regular communications with all stakeholders on supply findings ▪ undertakes media activities, such as the provision of information and data to relevant bodies (DoHA and the ARCBS) in accordance with agreed media protocol ▪ considers possible impact on domestic plasma-derived products and whether need to activate plasma-derived product plan.
RED ACTIVATE	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ informs minister of expected duration of impact on blood stocks ▪ prepares advice for AHPC, AHMAC and health ministers ▪ responds to AHPC recommendations and communicates with stakeholders ▪ works with TGA and ARCBS on possible importation options and TMF changes ▪ re-evaluates the impact on plasma-derived products and whether to activate plasma-derived product plan.
DE-ACTIVATE	<ul style="list-style-type: none"> ▪ informs stakeholders of deactivation ▪ manages and conducts debriefing session ▪ collects information to support improvements ▪ revises plan, if necessary ▪ provides advice to JBC on new mitigation strategies that could be implemented, if appropriate.

3.2 Australian Red Cross Blood Service (ARCBS)

WHITE ALERT	<ul style="list-style-type: none"> ▪ informs NBA of stock levels ▪ coordinates and provides daily advice on inventory levels to NBA ▪ works with AHPs to ensure the most effective distribution of available product ▪ if arrangements have been agreed with an individual state or territory, ARCBS should coordinate the communication with AHPs (including institutions, clinicians and pathology providers) ▪ increases donor recruitment activities.
YELLOW ACTIVATE	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ informs NBA of stock levels at the start of yellow activation ▪ launches national donor appeal, extends hours of operation and collection sites ▪ implements and advises NBA of status of management response required to address supply failure ▪ prioritises donors for whole blood versus apheresis donations based on product requirements ▪ undertakes media activities in accordance with agreed media protocol ▪ implements regular communication with AHPs on stock levels, where agreed with jurisdictions.
RED ACTIVATE	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ informs NBA of stock levels at the start of red activation ▪ works with NBA and TGA on possible options for importation of red cells ▪ considers other options under TMF with NBA and TGA ▪ considers activation of additional donor surge capacity, in jurisdictions where systems are in place.
DE-ACTIVATE	<ul style="list-style-type: none"> ▪ participates in the briefing to improve plan or decrease the likelihood of future activation of the plan (or both).

3.3 Jurisdictional Blood Committee (JBC) and health departments

WHITE ALERT	<ul style="list-style-type: none"> ▪ provides any critical information about their jurisdiction to NBA ▪ states and territories coordinate the communication with AHPs (including institutions, clinicians and pathology providers), if arrangements are not already in place and agreed with ARCBS ▪ the initiating jurisdiction supports NBA in analysis of initial information ▪ alerts CMO, CHO and jurisdictional emergency management arrangements of possible issue.
YELLOW ACTIVATION	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ supports and works with institutions and clinicians as per jurisdictional emergency management arrangements ▪ implements regular communication with AHPs on stock levels, if not agreed with ARCBS ▪ responds to media activities in accordance with agreed media protocol ▪ participates in regular communication to determine timing and nature of decisions to be taken to ensure understanding of impact on supply or demand.
RED ACTIVATION	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ advises jurisdictional health ministers of blood stock status ▪ supports NBA in developing recommendations to CTEPC, AHPC, AHMAC and AHMC ▪ communicates mandatory changes in clinical practice, such as cancellation of elective surgery requiring blood, to AHPs (including institutions, clinicians and pathology providers).
DE-ACTIVATION	<ul style="list-style-type: none"> ▪ considers policy and funding options for additional mitigation strategies, if appropriate ▪ informs AHPs (including institutions, clinicians and pathology providers).

3.4 Institutions and clinicians

WHITE ALERT	<ul style="list-style-type: none"> ▪ reviews emergency blood management arrangements to ensure currency ▪ places institutions on alert ▪ provides inventory levels to ARCBS or pathology provider, and specific batch details as required ▪ increases interhospital transfers to ensure equity of access nationally.
YELLOW ACTIVATION	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ activates emergency blood management arrangements ▪ increases blood minimisation strategies (e.g. cell salvage) and blood alternatives (e.g. erythropoietin) ▪ considers prioritising surgery to minimise blood use ▪ begins centralised vetting process for all requests for red blood cells.
RED ACTIVATION	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ implements national strategies agreed by AHPC and AHMC such as cancellation of elective surgery requiring blood ▪ transfers product as directed by ARCBS.
DE-ACTIVATION	<ul style="list-style-type: none"> ▪ participates in briefing if appropriate ▪ hospitals, institutions, HTC or EBMTs to undertake internal debrief and evaluation of their processes and amend as necessary.

3.5 Pathology provider

WHITE ALERT	<ul style="list-style-type: none"> ▪ implements optimal inventory management practices such as reducing cross-matching hold time ▪ complies with MBOS — refer to ANZSBT Guidelines ▪ notifies customer base of status ▪ provides inventory levels and details of specific batches held to ARCBS, as required ▪ increases interhospital transfers to ensure equity of access nationally.
YELLOW ACTIVATION	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ participates with institutions in emergency blood management arrangements ▪ begins centralised coordination of request to all affiliated institutions.
RED ACTIVATION	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ implements strategies to assist in the implementation of approach agreed by AHPC and AHMC ▪ transfers product as directed by ARCBS.
DE-ACTIVATION	<ul style="list-style-type: none"> ▪ participates in briefing, if appropriate ▪ participates in affiliated hospital or institutions' debriefing arrangements, as necessary.

3.6 Department of Health and Ageing (DoHA)

WHITE ALERT	<ul style="list-style-type: none"> ▪ advises departmental executive and communications area of situation ▪ provides briefing to the Minister ▪ coordinates national media advice on supply level ▪ coordinates jurisdictional analysis of public health impact.
YELLOW ACTIVATION	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ OHP advises AHPC for information ▪ blood policy area briefs departmental executive and Minister ▪ manages media requirements in accordance with agreed media protocol ▪ considers budgetary matters, if required.
RED ACTIVATION	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ considers activating NIR ▪ considers activating AHPC to explore clinical options for reducing blood use ▪ communicates AHPC, AHMAC and AHMC decisions to NBA.
DE-ACTIVATION	<ul style="list-style-type: none"> ▪ participates in briefing ▪ advises departmental executive and Minister of outcomes.

3.7 Therapeutic Goods Administration (TGA)

WHITE ALERT	<ul style="list-style-type: none"> ▪ monitors situation and works with NBA and ARCBS as necessary ▪ supports NBA in analysis of initial information.
YELLOW ACTIVATION	<p>Continues activities from white alert plus:</p> <ul style="list-style-type: none"> ▪ provides critical information on and makes regulatory decisions relating to use of product ▪ undertakes media activities in accordance with agreed media protocol.
RED ACTIVATION	<p>Continues activities from white alert and yellow activate, plus:</p> <ul style="list-style-type: none"> ▪ works with NBA and ARCBS on options for importation of red blood cells ▪ works with ARCBS on resolving regulatory matters as they arise.
DE-ACTIVATION	<ul style="list-style-type: none"> ▪ participates in briefing if appropriate.

3.8 Clinical, Technical and Ethical Principal Committee (CTEPC)

WHITE ALERT	Nil
YELLOW ACTIVATE	Nil
RED ACTIVATE	<ul style="list-style-type: none"> ▪ if required, recommends to AHMAC that elective surgery be cancelled nationally.
DE-ACTIVATE	<ul style="list-style-type: none"> ▪ provides advice on mitigation strategies and improvements to the plan that will improve future responses.

3.9 Australian Health Protection Committee (AHPC) and Australian Health Ministers' Advisory Council (AHMAC)

WHITE ALERT	Nil
YELLOW ACTIVATE	Nil
RED ACTIVATE	<ul style="list-style-type: none"> ▪ recommends to AHMC cancellation of elective surgery requiring blood nationally ▪ advises jurisdictions and NBA of recommendations.
DE-ACTIVATE	<ul style="list-style-type: none"> ▪ provides advice on mitigation strategies and improvements to the plan that will improve future responses.

3.10 Australian Health Ministers' Conference (AHMC)

WHITE ALERT	Nil
YELLOW ACTIVATE	Nil
RED ACTIVATE	<ul style="list-style-type: none"> ▪ considers and endorses CTEPC, AHPC and AHMAC decisions ▪ outcomes communicated by secretariat to stakeholders ▪ coordinates and undertakes all media activities.
DE-ACTIVATE	

