Simulation Exercise of the Newfoundland and Labrador Emergency Blood Management Plan Summary Report

Table of Contents

Abbreviations

CBS P/T BLC	CBS Provincial / Territorial Blood Liaison Committee Representative
CBS	Canadian Blood Services
EBMP	Emergency Blood Management Plan
HLS	Hospital Liaison Specialist
NAC	National Advisory Committee on Blood and Blood Components
NEBMC	National Emergency Blood Management Committee
NL	Newfoundland Labrador
PBCP	Provincial Blood Coordinating Program
PEBMC	Provincial Emergency Blood Management Committee
PEBMP	Provincial Emergency Blood Management Plan
R/H	Regional / Hospital
R/HEBMC	Regional/Hospital Emergency Blood Management Committee
RHAs	Regional Health Authorities
TMAG	Transfusion Medicine Advisory Group
TSOs	Transfusion Safety Officers

Executive Summary

Background:

The Newfoundland and Labrador (NL) Provincial Blood Coordinating Program (PBCP) developed a Provincial Emergency Blood Management Plan (PEBMP) in 2009 that aligned with the National Advisory Committee (NAC) on Blood and Blood Products National Plan for the Management of Shortages of Labile Blood Components (hereinafter referred to as the National Plan). The PEBMP was modeled after the Ontario Contingency Plan for Management of Blood Product Shortages.

The NL PEBMP was presented to the Regional Health Authorities (RHAs) to provide guidance and assistance in the development of Regional/Hospital (R/H) Emergency Blood Management Plan (EBMP). A period of time was provided for each RHA to develop their draft plans with the intent to carry out a simulated table top exercise to identify the effectiveness of the R/H EBMP plans as well as identify gaps in those plans prior to completion of the final approved version. The final version would then be incorporated into the Regional Disaster Recovery processes.

The simulation exercise was scheduled for October 19, 2010. Of the twenty three hospitals that perform transfusions and carry red blood cells in inventory, 7 were selected from amongst the 4 RHAs representing 30.4% of the provinces hospitals. These included primary regional sites, a tertiary care centre and several smaller facilities.

The exercise was carried out in collaboration with Canadian Blood Services (CBS) Hospital Liaison Specialist (HLS) and CBS NL Production Manager in St. John's and the Provincial Emergency Blood Management Committee (PEBMC). It was agreed that an Amber phase alert would be initiated with NAC being notified of the exercise but without the engagement of the National Emergency Blood Management Committee (NEBMC) at this time.

Results: Of the seven sites involved, one site was unable to participate due to a lack of human resources. The remaining 6 sites followed through with varying degrees of completion of the required activities. The required simulated activities included:

- Notify R/H Emergency Blood Management Committee (R/HEBMC)
- Review current inventory and determine if redistribution was necessary
- Review transfusion requests
- Review surgical schedules for possible deferrals
- Report status to CBS and NL PBCP

Lessons Learned: The simulation was effective in identifying several keys issues that would require clarification and refinement:

- CBS fax notification process
- Internal hospital communications
- Staff were not fully aware of roles and responsibilities
- Educational in-service sessions

Recommendations and Conclusions: This report includes recommendations to address the gaps identified in the Provincial, Regional / Hospital plans as well as refinements to the notification processes CBS employs as well as the internal hospital communications processes. In conclusion, feedback was favorable overall and a further simulation will be held within the year when the PBCP, CBS and the RHAs have had time to finalize their plans to address a blood shortage.

Background

In 2007 Canadian Blood Services requested the Canadian Blood Services Provincial / Territorial Blood Liaison Committee (CBS P/T BLC) to develop a coordinated plan to address the allocation of labile blood components in the event of a shortage. The request was endorsed and the National Advisory Committee (NAC) was asked to lead the development of National Plan for the Management of Shortages of Labile Blood Components (hereinafter referred to as the National Plan) which was completed in September 2009.

In the event of a blood shortage, the plan would be activated by members of the National Emergency Blood Management Committee (NEBMC). The NEBMC membership includes the National Advisory Committee on Blood and Blood Components (NAC), Canadian Blood Services (CBS) representatives and representatives of the Provincial / Territorial Blood Liaison Committee (PT BLC).

In 2009 the Newfoundland and Labrador (NL) Provincial Blood Coordinating Program (PBCP) developed and released the Provincial Emergency Blood Management Plan for Blood Component Shortages (PEBMP) based on the National Plan. A Provincial Emergency Blood Management Committee (PEBMC) was established to ensure that Regional Health Authorities (RHAs) were engaged in the development of their Regional / Hospital (R/H) Emergency Blood Management Plan (EBMP).

The Blood Shortage Simulation Exercise

Event Planning

The intent of the simulation was to parallel a real blood shortage on a regional level in accordance with the National Plan. The Chair of NAC (also the Chair of the NEBMC) would be notified of the simulated shortage; however the NEBMC would not convene at this time.

The Regional / Hospital (R/H) EBMP was still in draft in the four RHAs when the simulation exercise was planned. This was intentional so that the RHAs could incorporate identified gaps prior to finalizing their plans.

Canadian Blood Services Hospital Liaison Specialist (HLS) and the CBS NL Production Manager were engaged to facilitate notification to the selected sites. Of the twenty-three hospital sites that transfuse blood components in NL, seven sites representing 30% of the total were selected to participate. The site selection included the one tertiary care site and the remaining sites included larger and smaller sites within the four RHAs. The selected sites were not notified prior to the simulation that they would be actively involved in the exercise.

Communication / Notification templates from the Ontario Contingency Plan for Management of Blood Product Shortages were modified for use during the simulation exercise. Notifications were sent by the CBS NL Production site following current protocols for dissemination of customer letters.

In March 2010, the NL EBMC was informed that a simulation exercise would occur in the fall, the date to be agreed upon by the committee.

Execution

On October 6, 2010 a fax notification message (Communication 1a) was faxed to all NL hospitals informing that a simulation exercise would be taking place. The number of sites to be included was stated in the communication, however the names of the sites and the date and time were not provided.

On October 13, 2010 a second reminder fax notification (Communication 1b) was sent to all NL hospitals. A conference call of the PEBMC was scheduled for that same afternoon to review the status of R/H plan development and to discuss concerns related to the upcoming simulation.

On October 18, 2010 a conference call was scheduled with the CBS HLS and the CBS NL Production Site Manager in St. John's and the PBCP to inform CBS of the 7 sites within the four RHAs. The seven sites included:

Regional Health Authority	Hospital
Central RHA	Baie Verte Community Health Centre, Baie Verte James Paton Memorial Hospital, Gander
Eastern RHA	Burin Peninsula Health Care Centre, Burin St. Clare's Mercy Hospital
Labrador Grenfell RHA	Dr. Charles Curtis Memorial Hospital, St. Anthony
Western RHA	Dr. Charles Legrow Hospital, Port aux Basques Western Memorial Hospital, Corner Brook

On October 19, 2010 the simulation exercise was activated by the PBCP and CBS at 0930 hours as an Amber Phase alert. The NAC Chair (also Chair of the NEBMC) was informed by phone that the simulation had begun. The NEBMC was not convened. The Director of Board Services and the Chief Medical Officer of Health representative of the Department of Health and Community Services were informed of the simulation.

CBS NL Production site simultaneously activated the simulation by sending a fax communication (Communication #2) with instructions to acknowledge receipt (sign and return) of the communication and return to CBS. Acknowledgements that were not received were followed-up with a phone call to confirm the fax had been received.

Instructions contained in Communication #2 requested:

a) Confirmation of participation in the simulation by signing and returning the communication notice
b) Simulate the initiation of the R/HEBMP.
c) Completion of the Documentation Log for Cancelled Surgeries to document surgeries to be considered for deferral or cancellation in a real Amber phase blood shortage.
d) Completion of a Transfusion Log to document how transfusion orders would be screened and/or considered for deferral in a real Amber phase blood shortage.

Communication #2 also included the agenda for the CBS Teleconference scheduled for 11:00 am NL time.

A scheduled conference call at 11:00am NL time included representatives from CBS, participating hospitals, PBCP. The intent of this call was to discuss inventory status, consider inventory redistribution, and any critical situations or requirement for blood components.

At 1:30 pm a fax (Communication #3) was sent by CBS Production Centre to participating hospitals informing them that the simulation was now in the Recovery Phase. An evaluation form was included in this communication. Notification of a debriefing conference call was also conveyed in this communication.

At 2:30 pm Communication #4 was sent via fax to the seven participating hospitals indicating that the simulation was complete.

On October 21, 2010 (2 days later) a debriefing conference call was held with representation from CBS HLS, CBS production site Manager, PEBMC and the participating hospitals to seek feedback and recommendations related to the simulation.

Results

Of the seven sites selected, one site informed the parent site that no transfusions were scheduled for that day, surgical procedures were not performed at that site and that they were short staffed and would be unable to participate in any further activities that day.

The following identifies the level of compliance with the instruction provided in the communications hospitals received by the six participating sites.

1. Communications
    a. All sites provided fax acknowledgement of Communications 2 and 3.
    b. There were fax receipt problems at one site that delayed acknowledgement response.
    c. Some sites felt the time frame for reporting inventory, completing logs and returning communications was too short.
    d. In one RHA, most of the management team was on retreat and this presented some challenges enacting the communication tree, however the notifications were eventually sent and received by all parties.
    e. One site in one RHA sent all logs to primary site for evaluation prior to reporting to CBS/PBCP.
    f. It also recognized the need to identify a particular staff member to be the contact person for CBS communications to ensure communications were channelled appropriately.

2. Documentation on Forms
    a. Documentation Log for Cancelled Surgeries and the Transfusion Log were completed by all of the 6 participating sites.
    b. The Current Inventory Log was completed and provided to the PBCP by 5 of the 6 sites.
    c. The Evaluation form was completed by 5 of the six sites.
    d. It was noted that the template used for the Documentation Log for Cancelled Surgeries and the Transfusion Log Forms did not have a space allocated for the site name.
    e. Four of the six sites provided current inventory reports to the PBCP.
    f. One RHA had developed their own internal form for actions taken and this log was completed by both sites within the RHA and provided to the PBCP.

3. Simulated deferrals
    a. As a result of proposed actions to defer surgical procedures 8 procedures would have been cancelled or deferred for that day. It was indicated by one RHA that surgeries scheduled for that day would not be cancelled but OR schedules for the following day(s) would be reviewed.
    b. Review of the Transfusion Log identified that 16 transfusions would have been deferred, thus releasing a total of 37 units of red blood cells for urgent use if required. One site did not have any transfusion scheduled for that day.
    c. One site in one RHA encountered a clinical scenario where a transfusion would be required at another hospital. The potential issue was resolved while the patient was enroute to the primary regional site and the transfusion was deferred.

4. Education
    a. It was identified that education would be required in the various medical clinics and patient care units where transfusion practice is frequent.

Lessons Learned

The post simulation debriefing conference call identified several areas where improvements could be achieved within the RHAs, CBS and the PBCP.

1. **Fax Notifications** – CBS noted the limitations of using the fax for notification when several pages must be sent. There can be a wide gap between the time the first customer and the last customer receives the notification. This would be further increased if all customers were notified. It was noted that by sending the fax to the general laboratory fax may not elicit the required response in a timely manner. The CBS HLS will investigate alternate communications mechanisms such as email blast or desktop faxing to several members of the REBMC. It would be the responsibility of each RHA to update the contact list.

2. **Communications** – It was identified that receipt of the communications prior to the simulation provided ample opportunity to inform staff. Internal communications response could be enhanced if the notifications were directed to specific individuals. This would enable a better communications fan out to members of the REBMC. Each RHA will review its internal communications options to determine the best method for their region.

3. **Time frame for simulation** – There was concern that the amount of time required to respond to the required actions was too short. It was noted that in a real life situation the time frames would be much longer and would occur over a period of days.

4. **Triage transfusion requests** – Physicians requested provincial guidelines to assist in triaging transfusion requests.

5. **Documentation** – Several sites completed site specific forms as well as the forms sent by CBS. Regional specific forms should contain the same information requirements as noted in the PEBMP, but may contain additional regional specific information.

Recommendations

The recommendations following are broken into areas of responsibility.

Regional Health Authorities

1. Finalize R/HEBMP to include site specific forms
2. Checklists to ensure all steps of the plan are completed in a timely manner.
3. Provide training to all staff.
4. Revise and maintain a current contact list that identifies who should be informed of a shortage. Consider other methods to enhance fan out communications.
5. Hospitals should review their inventory daily as well as the CBS inventory that is provided daily to become familiar with optimal inventory levels.
6. Avail of Inter-Hospital Transfer Program if required.
7. Transfusion Safety Officers need to be aware of their responsibility and share/delegate responsibilities when necessary.

Canadian Blood Services

1. Revise communications methods to include email blasts, phone calls or desk top faxing.
2. Clarify information CBS requires from hospitals.
3. Provide notifications as early as possible with hospitals being aware that a shortage could occur at any time.

Provincial Blood Coordinating Program – Department of Health and Community Services

1. Engage the Transfusion Medicine Advisory Group (TMAG) to develop provincial guidelines to triage transfusion requests and surgical deferrals.
2. Include stakeholders such as Emergency Health Services staff in the notification process.
3. Develop an educational component for hospital staff.
4. Incorporate into PEBMP the requirement for hospitals to report current inventory to CBS and the PEBMC.
5. Revise templates to include hospital site name.

Conclusions

This simulation exercise provided an opportunity to identify gaps in the current processes and to assist in the completion of the REBMP. The level of participation was encouraging and all participants were engaged and motivated to develop effective plans. There was also a recognized collaboration with CBS to make the exercise effective.

Noting the level of compliance with such a short turn around time was very positive as the majority of required actions were completed in a timely manner.

The Provincial Blood Coordinating Program will continue to develop its plan and provide support to the Regional Health Authorities in the finalization of their plans. A further exercise will be held in 2011 to assess progress and identify efficiencies that may be gained if a shortage spans a longer period of time.

Continued collaboration to achieve the recommendations noted will ensure the Province of Newfoundland and Labrador is ready to meet a blood shortage should one occur.

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The NL Emergency Blood Management Committee would like to thank the many hospital staff within the province who participated in the development of the provincial and regional plan and their participation in the simulation exercise. Appreciation is also expressed to CBS for their participation in the planning and execution of this simulation.

References

1. Newfoundland and Labrador Provincial Emergency Blood Management Plan for Blood Component Shortages, Department of Health and Community Services; 2009-11-01.

2. Ontario Contingency Plan for Management of Blood Product Shortages. Ministry of Health and Long Term Care; 2008-01-29

3. National Plan for the Management of Shortages of Labile Blood Components. National Advisory Committee for Blood and Blood Components / Canadian Blood Services; 2009-09-28.