



## **Provincial Blood Coordinating Office**

# **CBS Buffy Coat Blood Bag Implementation**

## **Final Report**

**Last Updated:** August 22, 2007  
**Version:** Version 1.1

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# 1. Executive Summary

Canadian Blood Services (CBS) is in the process of implementing the buffy coat component production method in Canada. This implementation requires significant changes to CBS operations and will bring benefits to both CBS and the recipients of blood products. The change in production method requires new blood bags with significantly different ports than the previous Pall Medical bags. Two manufacturers, Baxter and MacoPharma, were contracted to supply the new buffy coat blood bags in Canada.

Due to reported difficulty inserting and removing infusion set spikes from new bag ports in the first pilot region, Edmonton, the subsequent provincial pilot in BC&Y was delayed in order to allow the BC Provincial Blood Coordinating Office (PBCO) to conduct a study to determine whether there was a product incompatibility issue and/or whether adequate training would mitigate any potential risks.

The purpose of this project was to facilitate the introduction of the buffy coat component production method in BC&Y as a provincial pilot while working to mitigate any potential risks to patient, staff, and product safety.

Communication is the most important component of a successful implementation as CBS moves across the country. It is recommended that they contact, or suggest that the region's Ministry of Health act as or create, a coordinating body with links to clinical, laboratory, and materials management staff throughout the region/province that can inform CBS of the areas' needs and assist with making appropriate contacts at the hospital level. This was vital to the relative success of implementation in BC&Y.

The three main pieces of implementation – change to serviceable infusion sets, general awareness, and technique training – all take different amounts of time. It is recommended that the materials management department be informed up to 6 months ahead of implementation to allow a smooth and waste-free change to serviceable infusion sets. The awareness phase should be initiated approximately 4 months before implementation. Finally, awareness should be ramped up and training should begin 2-3 months prior to implementation.

BC&Y experienced widespread hemolysis in the red blood cell (RBC) units produced in the Baxter buffy coat bags. After significant investigation, CBS changed bag manufacturers from Baxter to MacoPharma in BC&Y on July 15<sup>th</sup>, 2007. At the time this report was written, it appears as though the switch to MacoPharma has resolved the issue. However, due to the fact that the buffy coat method leaves less plasma volume in the unit, lower levels of free haemoglobin have a greater effect on the visual colour of the supernatant. As a result, a unique visual assessment guide specific to SAGM RBC units may be required in order to identify hemolysis levels above which the unit becomes unsuitable for transfusion.

## 2. Introduction

Canadian Blood Services (CBS) is in the process of implementing the buffy coat component production method in Canada. This implementation requires significant changes to CBS operations and will bring benefits to both CBS and the recipients of blood products. The change in production method requires new blood bags with significantly different ports than the previous Pall Medical bags. Two manufacturers have been contracted to supply the new buffy coat blood bags in Canada, Baxter and MacoPharma. The original plan was to supply Alberta, Saskatchewan, and Manitoba with MacoPharma bags and the remainder of the country, including British Columbia and Yukon (BC&Y) with Baxter bags.

The first pilot region, Capital Health in Edmonton, implemented the buffy coat production method with the MacoPharma bags on October 11<sup>th</sup>, 2005. Due to reported difficulty inserting and removing infusion set spikes from the new bag ports, the subsequent provincial pilot in BC&Y was delayed. During this time, the BC Provincial Blood Coordinating Office (PBCO) conducted a study to determine whether there was a product incompatibility issue and/or whether adequate training would mitigate any potential risks. The results of this study indicated significant increased serviceability when certain infusion sets were used with the new blood bags, and that province-wide training in a specific insertion and removal technique would be required to minimize risk. Please see the *CBS Buffy Coat Blood Bag Evaluation Technical Report* from October 23<sup>rd</sup>, 2006 (revised October 30<sup>th</sup>, 2006) for the complete technical report on the results of the serviceability study (also see appendix D). The BC health authorities (HAs), Transfusion Medicine Advisory Group (TMAG), PBCO, CBS, and product manufacturers worked collaboratively to promote the use of blood bag and infusion set combinations that were shown to be serviceable and ensure training was provided to clinical users in BC&Y.

CBS implemented the buffy coat production method on March 5<sup>th</sup>, 2007 anticipating product distribution in BC&Y starting March 7<sup>th</sup>, 2007. Due to widespread hemolysis, after over four months of extensive investigation and over 3000 discarded red blood cell (RBC) units, CBS made the decision to convert to MacoPharma bags in BC&Y effective July 15<sup>th</sup>, 2007. Between March 5<sup>th</sup>, 2007 and August 22<sup>nd</sup>, 2007, 5141 RBC units were returned or withdrawn from the system due to hemolysis. At the time this report was written, it appears as though the switch to MacoPharma has resolved the issue. However, due to the fact that the buffy coat production method leaves less plasma volume in the unit, lower levels of free haemoglobin have a greater effect on the visual colour of the supernatant. As a result, a unique visual assessment guide specific to SAGM red cell units may be required in order to identify hemolysis levels above which the unit becomes unsuitable for transfusion.

## 3. Objectives

The overarching objective of this project, from a PBCO perspective, was to facilitate the introduction of the buffy coat component production method in BC&Y as a provincial pilot while working to mitigate any potential risks to patient, staff, and product safety. Sub-objectives to achieve this include:

- Ensuring sufficient and effective communication with/among HAs to raise awareness of the coming change and the purpose thereof
- Encouraging the change to infusion sets that were shown to be serviceable in combination with the new buffy coat blood bags
- Liaising among blood bag vendors, CBS, and HAs
- Assisting in the coordination of training efforts and encouraging the broadest possible reach
- Assisting in the development of a process for feedback of information related to spiking issues
- Providing a resource for HAs in the event of product, training, or other unexpected difficulties

- Supporting the HAs through a provincial collaborative approach to standardize administration sets and mitigate any financial penalties as a result of the change to serviceable sets

## 4. Method

A sub-group of TMAG, including representation from CBS, the PBCO, and health authority nursing, transfusion medicine laboratory (TML), and materials management departments was formed to meet via teleconference on a regular (usually weekly) basis.

The first major task of this group was to raise awareness throughout the health authorities of the coming CBS component production method change and the resulting infusion set and training requirements. The Ministry of Health (MoH) and TMAG distributed letters to various levels within each health authority explaining the coming change and ramifications.

Following the awareness phase, this group acted as a liaison between product manufacturers and the health authorities to facilitate the movement to serviceable infusion sets, as defined by the Buffy Coat Blood Bag Evaluation undertaken by the PBCO. In addition to identifying serviceable infusion sets, the evaluation also concluded that training in a specific twisting insertion and removal technique was required. The TMAG sub-group worked with the HAs and the vendors to identify the most effective and feasible training strategy, given the vast geography of BC&Y. The bag vendor provided individualized training sessions in BC&Y hospitals. Clinical resources further disseminated this information within their hospitals and regions. Finally, the PBCO created a training video and some HAs held videoconferencing to further extend the accessibility of training to remote communities.

In order to ensure the group was aware of any problems with the new bags – opening the port protectors, inserting the spikes, or removing the spikes – the PBCO, in consultation with the HA champions, designed feedback tags to attach to the units as they left the blood banks. Each HA did this slightly differently; for example, one used an 8.5x11 form kept on the wards to be faxed to the TML in the event of difficulty, another distributed tags attached to the units to be completed and returned whether or not there was a problem, and still another distributed tags and asked them to be returned with the bag and spike in the event of difficulty. Instead of calling them feedback tags, which has an optional connotation, one health authority dubbed the process a required audit. This significantly increased the rate of response compared with other health authorities.

Three and a half months post-implementation, CBS held a meeting to solicit feedback on the training strategy, materials, and roll-out for the buffy coat pilot implementation in BC&Y with representation from across the health authorities. The goal of this meeting was to learn from the strengths and weaknesses of the training in the new insertion and removal technique as it was implemented in BC&Y.

## 5. Results

Objective	Performance Measure	Level of Success
Ensure sufficient and effective communication with/among HAs to raise awareness of the coming change and the purpose thereof	Broad awareness of coming change and purpose for change within all health authorities	While it is difficult to accurately determine awareness among front-line staff, there was a high level of awareness among clinical resources and HA administrators

Encourage the change to infusion sets that were shown to be serviceable in combination with the new buffy coat blood bags	Widespread awareness and use of recommended infusion sets among user and purchasing groups; minimal spiking problems	The vast majority of BC hospitals have converted to recommended infusion sets. Most converted before the introduction of buffy coat, while some chose to use up existing stock before converting
Liaise between blood bag vendor, CBS and HAs	Ability to dialogue through single liaison which reduced the challenges of communications at the HA level	The appointment of a key liaison provided clear and concise information back to the sub committee members
Assist in the coordination of training efforts and encourage the broadest possible reach	Broad reach of comprehensive training; minimal spiking problems	The ability of HAs to individualize training sessions based on geography and levels of transfusion were considered successful based on the level of response each HA received through the feedback mechanism. Definitely more opportunity and time for education would have been beneficial. Also, it is important to recognize that in some HAs, the new product will not arrive for 2-3 weeks, which provides additional time for dissemination of information
Assist in the development of a process for feedback of information related to spiking issues	Individualized feedback tags/forms were produced for each HA to track/audit issues	The PBCO received relatively few reports of spiking problems. 387 problems were indicated on 293 reports. BC&Y was supplied with 36,145 <sup>1</sup> RBC units between March 5 <sup>th</sup> and June 5 <sup>th</sup> . Therefore roughly 0.8% of units supplied resulted in difficulty. Although data collection was in place for 3 months it was self limiting in that there was a failure to see new product in the system until 2-3 weeks post implementation
Provide a resource for HAs in the event of product, training, or other unexpected difficulties	Ability to facilitate solutions to unexpected difficulties as they arise	The TMAG buffy coat sub-group teleconferences were extremely valuable venues for contact, information, and discussion. This was most helpful in preparing for training, introduction new infusion sets, and dealing with the hemolysis issue. In order to address any unexpected difficulties a 24/7 on-call Clinical Resource was initiated and remained in place for six weeks post implementation date. In addition, the PBCO established through its web site an on-line discussion board for the TMAG sub- group to post communications and regional updates. Contributions to this discussion group would automatically generate notice to key liaison and action was immediate

<sup>1</sup> Data emailed from Janet Unrau, the CBS BC&Y Hospital Liaison Specialist, on Thursday, June 21<sup>st</sup>, 2007

Support the HAs through a provincial collaborative approach to standardize administration sets and mitigate any financial penalties as a result of the change to serviceable sets.	General awareness of how the vendors were approaching the change to serviceable administration sets in all of the HAs	This process provided most HAs an opportunity to not only review but reduce inventories to a minimal number of serviceable sets as well as support standards applicable to transfusion administration
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## 6. Discussion

### 6.1. Communication

In any implementation, communication is arguably the single most important component and often seals success or failure. A little less than three months prior to implementation, the TMAG buffy coat sub-group and CBS distributed two letters to TML directors, TML charge techs/designates, HA clinical product specialists, VPs of Medicine, VPs of Quality, Chief Nursing Officers, Directors of Professional Practice, and Directors of Clinical Products and Supply Chain. The purpose of these letters was to raise awareness among decision makers of the coming change and implications thereof, including infusion set and training requirements, and to ask that HA champions be nominated to assist with implementation. It was suggested that each HA identify 3 champions, one from each of nursing, transfusion medicine, and materials management. These champions were an invaluable link between the provincial coordinating bodies and front-line staff. It should be noted that communication to senior executive staff tends to escalate the issue and cause reaction, thus if work is underway, it is important to clearly indicate who is on the project and what they are doing.

Overall, this strategy was effective in raising awareness and soliciting involvement from HA champions. However, it has been suggested and generally agreed that 4 months notice would be more conducive to well planned awareness campaigns and training session scheduling. Further, the largest stress was the change to infusion sets because many of the recommended products were not yet available or in production. It is recommended that materials management departments be contacted up to 6 months ahead of implementation (see Materials Management section below).

Traditionally, CBS only communicates with the hospital blood banks because they are the primary customer. Due to the broad implications of this project, it is extremely important that communication reach clinical as well as laboratory personnel at the same time. Furthermore, as not all areas have formal Transfusion Committees, involvement from Quality & Safety and Materials Management departments adds value to the local implementation teams and should be engaged in early communication.

### 6.2. Materials Management

As mentioned above, the product change was the source of most stress during this pilot and thus should be initiated up to 6 months ahead of implementation, depending on the size of the region and level of existing standardization. Now that the infusion sets deemed serviceable by the PBCO study are in production, this should be more straightforward. However, much lead-time is required for adequate product selection processes and waste-free, seamless product changeovers. Product changes have broad materials management, clinical practice, and financial ramifications for each HA; facility and clinical settings should be considered, such as requirements for pump compatibility, injection sites on the tubing, and restrictions stipulated in existing contracts.

## 6.3. Clinical Training

### 6.3.1. Training Tools

Training tools that were developed include a lesson plan, a CBS PowerPoint presentation, pocket cards from both vendors, a spiking poster, a “benefits of buffy coat” (aka syllabus) poster, bag and infusion set samples, Capital Health and PBCO videos, the PBCO spiking study, and the CBS website for electronic tools and more information.

The HA champions had some input into the tools used in their region because they are aware of the unique needs of their area. This was valuable and should be encouraged to maximize the effectiveness of training efforts.

The largest complaint was a lack of sufficient supply of hands-on material for users to practice with. These are not only useful for initial training efforts, but also for one-on-one training in clinical areas or with individuals who require it, post-implementation.

According to the champions, the most valuable tools were the spiking poster, the PBCO video, and the “syllabus” poster. The spiking poster clearly shows how the two bag types are opened, how to insert the spike, and how to remove it. The syllabus poster describes the benefits of the buffy coat component production method and is an important piece in garnering support and understanding from end-users. As a society, we are more willing to accept a change if we understand the reasons behind it. Certain HAs modified the syllabus poster as some benefits cannot be actualized in some areas. For example, while a pre-pooled platelet product requires less work for transfusion medicine technologists dealing with adult patients, that same product may have to be divided into aliquots for paediatric patients. In addition, the PBCO video was well received, particularly due to the turn around time for distribution and the multiple formats in which it was available. Many sites do not have access to DVD players or computers with speakers so it is vital that videos be available in all possible formats including VHS, CD-ROM, and DVD.

As for the other tools, the pocket cards were not used in the majority of the HAs and the PowerPoint presentation was only useful at the vendor training sessions. The lesson plan was moderately distributed, particularly in one location, and was modified in others to suit local needs. An important suggestion for all tools is that there should be added emphasis on troubleshooting tips that users can follow in the event of difficulty. Furthermore, the original training material emphasized clockwise and counter-clockwise directions for spiking and removing. In fact, the direction is irrelevant as long as the user is twisting the spike to break the friction with the inner port walls.

Distribution of these tools needs to occur in consultation with the health authorities or regional bodies that understand the unique needs of the particular region. Some HAs in BC&Y broke down the number of tools to distribute in accordance with the percentage of red blood cell (RBC) units transfused per hospital. This was very time consuming for the champions. It is also important for CBS to know exact numbers and locations for delivery with sufficient lead time to prepare the packages.

### 6.3.2. Clinical Training Sessions

In general, the training sessions were moderately successful. Most health authorities reached relatively broad audiences, but the gold-standard of 75-80% of end users was not achieved. In BC&Y, the vendors contributed little to the organization of, or provision of materials for, the training sessions.

While it is important to have enough lead time to plan and prepare for the training sessions, if the training occurs several weeks before implementation, effectiveness declines because users forget. In an ideal

world, transfusion activity would stop, all users would be fully trained, implementation would occur immediately, and transfusion activity would continue. As this is surely impossible, it is better to receive training too early than not at all.

Some champions were able to watch a training session in another HA before it was delivered in theirs. This was very beneficial as it provided excellent information on the material to be disseminated and the organizational requirements for future sessions. Other champions were able to attend all of the sessions in their region and found this to be a very valuable exercise because it gave them extensive experience with the techniques, thus allowing them to be strong regional resources for front-line staff pre- and post-implementation.

It was recognized that in some rural locations with low transfusion rates, hospitals may not see the new product for 2-3 weeks post-implementation. This may allow some additional time for training. However, small, rural sites are potentially at a higher risk of difficulty due to infrequent use of the products.

Not all health authorities were advocates of the “train the trainer” model, but preferred the roving in-service training model so staff members are not pulled from their work areas. Training plans will have to be customized to each unique region. Furthermore, some sites do not have nurse educators or had other sessions already booked when the vendor wanted to come in. This again reinforces the requirement for early and complete communication. Although rural sites requested one-on-one training sessions, due to time and geography constraints, several HAs initiated videoconferencing sessions to provide access to information. These were, for the most part, a success, but are not as effective as one-on-one training and it can often be difficult for staff to leave their stations to attend.

Training of transfusion medicine laboratory staff was overlooked. While they will be required to spike bags for creating pools or aliquots, for example, they also may encounter other issues. For example, in BC&Y, it was discovered that the new, larger platelet bags do not fit in the basket and cage type agitators. Furthermore, the platelet bags would often slip off some of the flatbed type agitators. These issues should be investigated and resolved prior to implementation to avoid creative, and often risky, last-minute solutions.

Physician education should also not be forgotten. This change affects many clinical practice areas such as anaesthesiology. It takes much time to plan sessions and train physicians, but it is important that they know about various changes to platelet products, for example, and how to manage them in paediatric settings. Although this may be a peripheral aspect, it does need to be considered.

## **6.4. General Support**

A support network was created through the TMAG buffy coat sub-group regular teleconferences where HA champions, CBS representatives, MoH representatives, and TMAG members could collaboratively discuss and solve issues as they arose. The original intent of the group was to plan the awareness, training, and materials management pieces. The group discussed training requirements and tools, infusion set supply issues, communication strategy options, anecdotal reports of spiking problems, and completed feedback tags. At the request of this group, the PBCO established a real time discussion group accessible to the appointed champions to communicate any issues or concerns in real time, which would immediately alert key people of any on-line activity. This process reassured the HAs that concerns or issues would be communicated and addressed in a reasonable time period. In addition, the HAs requested 24/7 coverage to respond to off-hour issues. This was instituted for six weeks post buffy coat implementation.

In addition to this, the infrastructure proved very valuable as the hemolysis issue became apparent. The group was able to update the PBCO, TMAG, and CBS on the levels of hemolysis found in each health authority. Further, CBS was able to update the group throughout their investigation into the possible causes of hemolysis. Open, honest, and frank discussions allowed everyone to fully understand the problem, the implications thereof, the efforts that CBS was making to resolve the issue, and the expected timeline for resolution.

Finally, the vendors had toll-free numbers for users to call in the event of a product complaint. It appears as though these numbers created more confusion and concern than helpfulness as they provided little opportunity to influence the vendor to support or make changes. When contacted, they were not receptive to suggestions, particularly to the infusion sets.

## **7. Implications and Recommendations**

### **7.1. Communications and Training**

The most important recommendation is that, as CBS continues implementation of the buffy coat component production method across Canada, they contact, or suggest that the region's Ministry of Health act as or create, some kind of coordinating body with links to clinical, laboratory, and materials management staff throughout the region/province that can inform CBS of the areas' unique needs and assist with making appropriate contacts at the hospital level. This was vital to the relative success of implementation in BC&Y.

In addition, it is recommended that contact be made with materials management personnel up to 6 months ahead of implementation so any required infusion set changes can be fully completed prior to implementation. In addition to converting to serviceable infusion sets, the region must examine platelet agitators in use to replace cage and basket types with flatbed types and ensure the platelets will not slip off them. The awareness phase should be initiated 4 months before implementation followed by widespread awareness and training 2-3 months before implementation. Common holiday times should also be taken into consideration. The winter holidays in BC&Y effectively cut 2 weeks out of the implementation preparation time.

The feedback tags that were developed by the HA champions and the PBCO were useful in identifying problem areas and determining whether there were any major spiking problems occurring within BC&Y. Without this tool, it would have been more difficult to know whether users were having difficulty administering product, thus putting patients at risk. It is recommended that this process be communicated to staff as an absolute requirement in order to obtain high rates of response.

It should be noted that CBS is the blood product vendor. As such, it is seen as their responsibility to in-service the end-users on the use of new products. However, if CBS does not have the expertise or resources to do so, then it is their responsibility to contract a third party (such as the container vendor) to perform this training. Further, there should be greater requirements placed on the vendors by CBS to include training plans where necessary in future request for proposals (RFPs).

It was clear that one particular vendor did not meet the needs of the clinical, laboratory, or materials management hospital staff during this implementation in a number of areas including available supplies to facilitate hands on training, support for unique differences in HA regions (geography, size, availability of educational resources, etc.), and smooth transition to new infusion sets.

## 7.2. Hemolysis Resolution

Assuming that the hemolysis issue will be completely resolved by the change from Baxter to MacoPharma bags, CBS and Baxter will need to seriously investigate the underlying reasons for hemolysis in the Baxter bags before implementing in other regions to avoid a similar situation.

At the time this report was written, it appears as though the change to MacoPharma bags has resolved the issue. However, due to the fact that the buffy coat method leaves less plasma volume (10-15mL as compared to 60-80mL in the AS-3, or Pall Medical, units), lower levels of free haemoglobin have a more pronounced effect on the visual colour of the supernatant. As a result, the supernatant in a buffy coat (SAGM) unit with low levels of hemolysis will appear similar in colour to the supernatant in an AS-3 unit with higher levels of hemolysis.

CBS is in the process of developing a unique visual assessment guide specific to SAGM red cell units that can be used to identify the threshold of plasma free haemoglobin above which the unit is unsafe to transfuse. Identifying unsafe units is a difficult task, especially for technologists and rotating staff in rural hospitals that transfuse relatively few units. It has been recommended that this tool show simply one photograph of a unit on the upper threshold of acceptable free haemoglobin. If the unit in question appears redder than the photograph, it would be pulled from inventory.

## Appendix A: Team, Sponsors and Stakeholders

Involved Individuals (alphabetical)	Affiliation(s) and Title(s)
Bahrami, Haleh	CBS BC&Y, Site Manager Production
Berry, Dr. Brian	VIHA, TML Medical Director; TMAG
Bigham, Dr. Mark	CBS BC&Y, Medical Consultant; TMAG
Bleackley, Pat	YK, Quality Improvement/Risk Management Manager
Chambers, Kathy	MoH, consultant to PBCO
Chipperfield, Dr. Kate	VCHA, Regional Transfusion Medicine Leader; TMAG
Chuly, Phyllis	MoH, Executive Director, Medical Services Branch
Crickmore, Jane	MoH, Director, Supplementary Benefits, Blood and Lab Services
Devine, Dr. Dana	CBS National, Vice-President, Medical, Scientific, and Research Affairs
Dezorzi, Pia	PHSA, Clinical Practice Support Leader
Dougherty, Kim	FHA, Interim Chief Nursing Officer
Doyle, Dr. Jason	IHA, Pathologist, TML Medical Director; TMAG
Duchnych, Michael	VCHA, Director, Clinical Products and Standardization
Duncan, Don	YK, Materials Management Manager
Feenstra, Shelley	VCHA, Regional Transfusion Medicine Clinician; TMAG
Galenza, Jan	VIHA, Transfusion Medicine Laboratory Operations Coordinator
Grove, Dr. Gershon	CBS BC&Y, Medical Director
Hannach, Dr. Barbara	CBS Toronto Centre Associate Medical Director
Hill, Jocelyn	VCHA, Nurse Educator, IV Therapy, PHC
Howe, David	CBS National, Executive Director, Clinical Operations & Production
Hrytzak, Judy	CBS BC&Y, Regional Manager, Production
Hume, Dr. Heather	CBS National, National Executive Medical Director Transfusion Medicine
James, Dr. Gerry	IHA, Pathologist, TML Medical Director
John, Norma	NHA, Regional Nursing Coordinator
Johnson, Karen	FHA, Interim Director of Nursing
Knaack, Elvira	YK, Director of Patient Services
Lee, Cathy	VIHA, Technical Specialist
Logan, Della	VIHA, Quality Control Technologist
MacDonald, Eileen	IHA, Clinical Practice
MacNeil, Christina	PHSA, Procurement Manager, Supply Contracts
McRae, Cora	FHA, Clinical Practice
Mendel, Donna	IHA, Professional Practice
Milford, Chad	YK, Laboratory Technologist II
Miller, Donna	VIHA, Transfusion Medicine Nursing Coordinator; TMAG
Morrison, Dr. Doug	FHA, TML Medical Director; TMAG
Mueller, Darlene	FHA, Lab Scientist, Transfusion Medicine
Mumford, Ian	CBS National, Chief Operating Officer
Nakonechny, Dr. Quentin	NHA, TML Medical Director
Patterson, Sean	FHA, Clinical Product Coordinator
Pi, Dr. David	MoH, PBCO, Clinical Director; TMAG
Quibell, Pam	NHA, Charge Technologist; TMAG

Involved Individuals (alphabetical)	Affiliation(s) and Title(s)
Roland, Dr. Kristine	CBS BC&Y, Transfusion Medicine Resident
Rose, Gabriel	MoH, PBCO, Project Coordinator
Savage, Rachele	IHA, Clinical Products
Scott, Deborah	PHSA, Practice Leader, Nursing Projects
Sealey, Beverlee	MoH, Manager, Supplementary Benefits, Blood and Lab Services
Sher, Dr. Graham	CBS National, Chief Executive Officer
Shimla, Susan	CBS National, Project Director Buffy Coat
Smart, Pat	PHSA, Leader, Product Standardization & Evaluation
Thomas, Winn	FHA, Manager, Transfusion Medicine
Thorne, Patti	MoH, PBCO, Administrator; TMAG
Turner, Maureen	YK, Education Coordinator
Unrau, Janet	CBS BC&Y, Hospital Liason Specialist; TMAG
Unrau, Lyle	PHSA, Assistant Head Technologist - Hematopathology
Vesala, Betty-Ann	VIHA, Unit Coordinator Transfusion Medicine
Vowles, Wendy	MoH, Senior Policy Analyst, Supplementary Benefits, Blood and Lab Services
Wadsworth, Dr. Louis	PHSA, Hematopathologist; Chair, TMAG
Watt, Janice	IHA, Clinical Practice
Winnig, Ken	NHA, Regional Director, Diagnostic Services
Wyatt, Maureen	IHA, Acting Charge Technologist; TMAG

## Appendix B: Budget

FY2006/07 Expenses	Cost	FY2007/08 Expenses	Cost
Consultant (PBCO spiking study)	\$30,300	Clinical (staff resources)	\$1,360
Clinical (staff resources)	\$14,800	Meetings	\$200
Health Authority miscellaneous	\$700		
Supplies	\$850		
Blood sets	\$12,500		
Meetings	\$900		
Feedback forms and tags	\$4,360		
Instructional spiking video	\$8,700		
Courier	\$1,580		
<b>2006/07 subtotal</b>	<b>\$74,690</b>	<b>2007/08 subtotal</b>	<b>\$1,560</b>
<b>Total Budget (not including PBCO staff)</b>			<b>\$76,250</b>

## Appendix C: Timeline

Activity	Start Date	Target End Date	Actual End Date	Deliverable
Awareness Phase	Dec 11, 06	Jan 08, 07	Jan 08, 07	Two awareness letters
Training Phase	Jan 23, 07	Feb 23, 07	Mar 02, 07	In-service sessions
Video Development	Jan 3, 07	Mid Feb, 07	Feb 12, 07	New video in multiple formats
Feedback Tag Development	Dec 21, 06	Mid Feb, 07	Mar 2, 07	Feedback tags distributed
Infusion Set Conversion	Dec 11, 06	Feb 01, 07	Feb 28, 07	Complete conversion to new sets
Implementation	Mar 05, 07	Mar 05, 07	Mar 05, 07	Start new production method
Hemolysis Resolution	Mar 15, 07	Jul 15, 07	Jul 15, 07	Conversion to MacoPharma

## Appendix D: References

For further information or to obtain a copy of the *CBS Buffy Coat Blood Bag Evaluation Technical Report* from October 23<sup>rd</sup>, 2006 (revised October 30<sup>th</sup>, 2006), please contact Ursula Maeser at the Provincial Blood Coordinating Office via telephone at 604-806-8840 or email at [umaeser@pbco.ca](mailto:umaeser@pbco.ca).