The ORBCoN Report
Ontario Regional Blood Coordinating Network
Vol. 2 Issue 1
February 2008

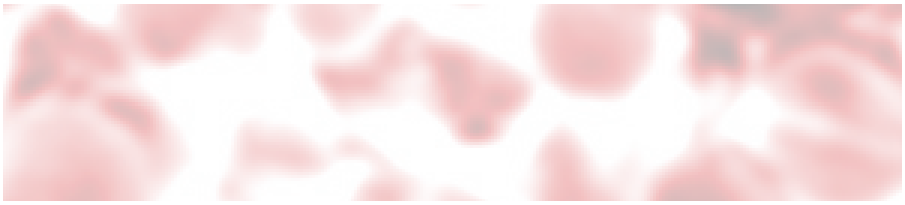
Prevention Of Bedside Errors: Is It Possible?

By: Nancy Heddle, Associate Professor, Department of Medicine, McMaster University, Hamilton ON

Transfusion of the wrong blood to a patient remains as one of the most serious complications associated with blood therapy. The BEST Collaborative which is an international group of researchers performed a study evaluating a simple intervention to determine if it would improve the process of the bedside clerical check. The intervention consisted of placing an adhesive warning label over the ports on the unit of blood stating "STOP: Check the Patient's Wrist band". The study design included a baseline audit period before the intervention was introduced, after which the clinical area was randomly allocated to receive blood for transfusion that had the warning label applied or blood without the label. A prospective audit was then conducted in each area to determine if the bedside check was correctly performed when blood was transfused. There were 12 hospitals in six countries that participated, and a total of 724 direct observational audits performed. What did they find? The bedside check was correctly performed in only 37% of transfusions during the baseline audit indicating significant room for improvement. However, there was no evidence of improvement in the bedside checking procedure when the warning label was initially introduced (Odds Ratio 1.09; 95% CI 0.54 to 2.17), and also no detectable benefit even when the label had been in place for 8 weeks. It is somewhat surprising that a simple and visible warning label that reminded staff to check the patient's armband failed to improve transfusion practices at the bedside. So what interventions could be effective in preventing the wrong blood from being transfused? It has been suggested that electronically controlled processes with bar code patient identification or radio frequency chips is the only solution to this problem; however, these techniques are expensive and challenging to implement. There is no easy solution to this problem. The BEST Collaborative feels that some of the answers may come from a better understanding of the entire process from the nurse's perspective and plans to implement a qualitative study to survey and speak with nurses to get their opinions on addressing this problem.

For those who are interested in reading the published report of this study it can be found in **Transfusion 2007, Volume 17, pages 771-780**.

in this ISSUE



What's New at ORBCoN

By: Kate Gagliardi B.A., ART, Regional Blood Coordinator, ORBCoN Southwest Region
Sheena Mamone, MLT, Regional Field Officer, ORBCoN Southwestern Region

Welcome to the second edition of our bi-annual newsletter. We would like to thank those who provided feedback on the first edition of the newsletter. The current and future newsletters provide brief updates on projects currently underway to keep stakeholders up to date and informed.

IVIG Utilization Project Update:

Hospitals throughout Ontario participated in the three month IVIG Utilization Project which included small, community and teaching centres. Data collection started September 4th, 2007 and ended November 30th, 2007. A total of 26 hospitals collected data which represents 70% of the IVIG use in the province. This data will reveal patterns of use in settings where clinical practice guidelines are in place and where they are not, and also provide a baseline to measure against in the future. The target date for data analysis completion is March 2008. One of the goals from this project is to design a user-friendly educational tool, with suggested clinical guidelines for hospitals that do not have a system in place.

Red Cell Redistribution Project:

The purpose of this project is to reduce unnecessary wastage of red cells, while maintaining a sufficient hospital inventory in small rural sites. Laboratory and field validations have been completed and the pilot phase is underway in the Northern and Eastern Region. ORBCoN is working with other Provincial Blood Offices to collaborate efforts where possible on this project; one initiative is the validation of a transport box that could be used across the country. When a successful model for redistribution is developed, plans include communicating this as a standardized process in the province – avoiding duplication of efforts in each region.

Tool Kits in Development:

Transfusion Committee:
Creating a package that will contain tools for hospital and laboratory administration to create and sustain a viable transfusion committee.

Inventory Management:
Constructing a toolkit for hospital staff to help support the use of best practices in inventory management. The plan is to have an improved, standardized approach to blood inventory management in the Province and reduce blood product wastage/ outdating.

Contingency Planning:
Developed to help define actions/ provide guidance for hospitals in Ontario when responding to a critical shortage of blood and/or blood products.

For more information on these and other projects that are underway visit www.transfusionontario.org.

contact us

Central ORBCoN Office
416.480.6100 ext. 89433

Northern and Eastern ORBCoN Office
613.798.5555 ext. 19741

Southwest ORBCoN Office
905.525.9140 ext. 22915

www.transfusionontario.org

Creating a Culture of Safety in Transfusion Medicine

By: Debbie Lauzon ART, BHA, Regional Blood Coordinator, ORBCoN Central Region

December 2007 marked the 8th anniversary of the landmark report released by the Institute of Health Improvement entitled "To Err is Human", which led to a revolution in health care related to the management of errors. The Canadian Adverse Events study released in 2004 reported the overall incidence rate of adverse events in Canadian hospital admissions to be 7.5% and estimated that in the year 2000, between 9,250 – 23,750 deaths from adverse events could have been prevented.

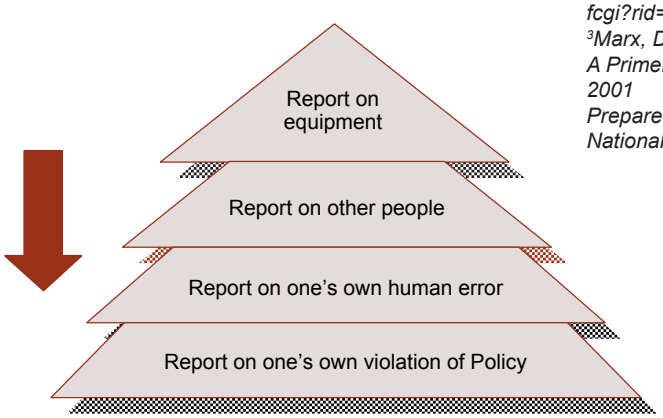
To prevent errors from recurring, we first need to know they are occurring. Historically, open and transparent reporting of health care error has not been widely accepted. Instead, there has been an unwritten code of silence attributable to many challenges and/or barriers, not least of which is the demand for perfection

Creating a Culture of Safety in Transfusion Medicine *continued*

among health care professionals and the accompanying shame and damage to a reputation when error occurs.
The most important requirement to facilitate the paradigm shift for the changes needed to manage health care error is to establish a safety culture, also referred to as a "just culture", where errors are reported and discussed in an open, transparent forum without fear of recrimination to the responsible individual(s).
A culture of safety requires leaders to:

- Acknowledge that the work environment is high risk and prone to error
- Demonstrate a willingness to invest resources to support safety initiatives and activities
- Apply a collaborative systems based approach to error management
- Foster a "just culture" or "blame free" environment

In his primer for health care executives David Marx encourages readers to evaluate their own system by considering the evolution of reporting that naturally occurs in most systems :



What we are striving to create is a "reporting culture", said to exist when employees know that reporting their own violation of policy will be used for learning and to prevent recurrence.

[1]Baker,GR Norton, PG The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada JAMC 25 May 2004;170(11)
[2]Pizzi L, Glodfarb N, Nash D. Promoting a culture of safety, URL http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat1.section.61719
[3]Marx, D Patient Safety and the "Just Culture": A Primer for Healthcare Executives. April 17, 2001
Prepared under a grant provided by the National Heart, Lung and Blood Institute.

Ontario Transfusion Coordinators (ONTraC)

Katherine M Luke, RN, BScN, MHS, Program Manager ONTraC*

The blood scandal of the early 1980's highlighted the critical need for change and an emphasis on safety within the blood system. As a result of the Krever Inquiry, the blood supply system in Canada today is the safest it has ever been; however, zero-risk is not possible. Not only did the blood supply system infrastructure change, but some of the recommendations in Krever's Final Report (1997) had an impact on professional practice and patient safety for hospitals:

- Physicians to obtain and document a patient's informed consent for blood and blood product use;
- Patients to be offered alternatives to transfusions where possible;
- Programs to be created to allow the pre-donation of the patient's blood;
- Institutions to track and monitor blood utilization to enable benchmarking and continuous process improvement.

By 2001, there were only a handful of programs across Canada that addressed the Krever Inquiry recommendations. In Ontario, the Ontario Transfusion Coordinators (ONTraC) program was a unique initiative formed in 2002 under the direction of Dr. John Freedman at St. Michael's Hospital, Toronto, and supported by the Ministry of Health and Long-Term Care. The program objectives are (a) to implement a blood conservation program, (b) to avoid allogeneic transfusions where possible, and when necessary to transfuse, to transfuse as little as possible, (c) to identify patients at risk of transfusion and facilitate correction of preoperative anemia, and (d) to collect accurate data to allow benchmarking and evaluation.

Ontario Transfusion Coordinators (ONTraC) *continued*

Currently there are 27 coordinators in 25 sites throughout the province whose intent is to (a) enhance transfusion practice, and (b) interact with physicians, nurses and patients to promote blood conservation and alternatives to transfusion. The coordinators have also implemented informed consent, Transfusion Review and / or Blood Conservation Committees, facilitated communication with healthcare providers, conducted educational sessions with patients and staff, created educational resources including pamphlets on the risks and benefits of transfusions for patients and healthcare providers, and implemented algorithms for the treatment of anemia.

Through the ONTraC program, the coordinators provide optimal evidence-based care meeting the needs of the perioperative patient through awareness, education, and increased participation of the patient in the pre-operative decision-making process and in their own surgical care.

Ontario Blood Advisory Committee (OBAC)

By: Stephanie Cope, Junior Field Officer, ORBCoN Central Region

OBAC has been established to serve as a broad based external advisory group to the Ministry of Health and Long-Term Care (MOHLTC) on blood system issues in the province of Ontario. OBAC assists in prioritizing significant blood system issues, current or likely to arise in the near future, recommend effective strategies to address these issues and support the MOHLTC with the implementation of these strategies. OBAC also provides a mechanism for ongoing dialogue and coordination among blood system stakeholders, Canadian Blood Services and the Ontario Blood Programs Coordinating Office (BPCO). The membership of this committee is multi-disciplinary and reflects the geography of the province.

Title	Member	Position	Organization	Region
Dr.	John Freedman (Chair)	Director, Transfusion Medicine	St. Michael's Hospital	Toronto
Dr.	Davy Cheng	Chair/Chief, Anesthesia & Perioperative Medicine	London Health Sciences Centre University Hospital	London
Dr.	Sanjiv Mathur	Physician, Department of Anaesthesia and Critical Care	Hôpital Régional de Sudbury Regional Hospital	Sudbury
Mr.	Rob Romans	Director, Product and Hospital Services, Ontario	Canadian Blood Services	Toronto
Mr.	James Kreppner	Consumer of Blood and Blood Products		Toronto
Ms.	Julia Sek	Consultant, Patient Safety & Clinical Best Practice	Breast Centre/ Hemophilia/ HIV/ Occupational & Environmental Health & Specialty Clinics	Toronto
Ms.	Durhane Wong-Rieger	President/CEO	Anemia Institute of Research and Education	Toronto
Dr.	Kumanan Wilson	Physician, Department of Medicine	University Health Network Toronto General Hospital	Toronto
Ms.	Doris Neurath	Manager, Transfusion Medicine, Tissue Typing/ DNA & Flow Cytometry	The Ottawa Hospital	Ottawa
Ms.	Sandra Hett	Vice President, Patient Services	St. Mary's General Hospital	Kitchener
Ms.	Karen Sequeira	Consultant, Patient Safety & Clinical Best Practice	Ontario Hospital Association	Toronto
Dr.	Jeannie Callum	Director, Transfusion Medicine	Sunnybrook Health Sciences Centre	Toronto
Ms.	Kathy Luke	Program Manager	Ontario Transfusion Coordinators (ONTraC)	Toronto
Dr.	Alison Collins	Pathologist	Peterborough Regional Health Centre	Peterborough
Dr.	Lois Shepherd	Hematopathologist	Kingston General Hospital	Kingston

Please note this information is a representation as of January 1, 2008

Case Report

Presented by: Tracy Cameron, MLT, Regional Field Officer, ORBCoN Northern and Eastern Ontario Region

Setting: XYZ Community Hospital

Background information:
1300 hours: Blood transfusion lab (BTL) receives two urgent requests for red blood cells from the intensive care unit (ICU). The BTL staff were asked to call for portering and send blood to ICU as soon as it was ready.
Order 1
Mr. XXX – 4 units of blood: diagnosis - actively bleeding returning to OR
Previous history – O Positive, antibody screen negative
Order 2
Mrs. XYZ – 4 units of blood: low hemoglobin (58 g/L), unstable angina
Previous history – A positive, antibody screen negative

Description of event:
- When the porter arrived at the lab to pick up the units of red blood cells for the patients in the intensive care unit, the staff in the transfusion medicine laboratory received an urgent phone call from the OR indicating that Mr. XXX was transferred to the main OR and to send the units of red cells there ASAP, and to send an additional 10 units of un-crossmatched group O Rh negative blood.
- The transfusion staff told the porter that there was an emergency and to run the crossmatched units to the OR for Mr. XXX and come back quickly for the un-crossmatched units.
- All **8** units that were originally ordered were delivered to the OR clerk. The OR clerk gave the units to the team leader who dispensed them to the OR suite of Mr. XXX.
- Without checking the blood labels, the OR staff rapidly transfused all 8 units.
- Within minutes the patient's hemodynamic status deteriorated, bleeding increased and the patient became febrile.
- In the mean time, ICU called the transfusion medicine department inquiring about the status of the 4 units of red cells for Mrs. XYZ.

Questions to Ponder:
1. What factors may have contributed to this event?
2. What do you suspect is the weakest link related to the transfusion of incompatible blood products?
3. What corrective actions may prevent this particular event from reoccurring again?
4. What committee(s) would review this investigation and monitor the corrective actions identified?

Please refer to our website www.transfusionontario.org after March 17th for a posting of a discussion paper on this case study. Compare your answers to the questions posed.

Upcoming Education Events Calendar

Event	Where	When
AABB Spring Conference	Orlando, Florida	March 28-29, 2008
Joint ORBCoN and CBS Educational Symposium	Northern and Eastern Ontario *Available by videoconference*	April 9, 2008
Joint ORBCoN and CBS Province Wide Educational Symposium	Toronto, Ontario	April 18-19, 2008
CSMLS/BCSLS Joint Congress of Medical Laboratory Science	Kelowna, British Columbia	June 1-4, 2008
SABM 2008 Annual Meeting	Baltimore, Maryland	September 12-14, 2008

For a complete list of upcoming events please visit the member's section at www.transfusionontario.org

Quote

One of the tests of leadership is the ability to recognize a problem before it becomes an emergency.
~ Arnold H. Glasow, author and humorist