Provincial Bedside Audit Report

June 30th, 2011

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Executive Summary

The Ontario Regional Blood Coordinating Network (ORBCoN) is an initiative implemented by the Blood Programs Coordinating Office (BPCO), of the Ministry of Health and Long-Term Care (MOHLTC). ORBCoN's mandate is to communicate with hospitals about blood utilization and inventory management and to improve patient safety relating to blood transfusion through education and standardization of best practices.

There are risks associated with blood transfusion. It is important to monitor the process to identify any steps that may impact the safety of the recipient. Audits can identify instances of non-compliance to required practice which can lead to potential errors. Identifying potential sources of error can aid in developing and implementing corrective and preventative actions. Hospitals are encouraged to perform audits of their process for transfusion to meet accreditation.

An audit e-tool was developed to collect data in order to identify how Ontario hospitals are meeting current standards for the safe administration of blood components at the bedside.

A total of 80 of 158 (51%) hospitals participated in the provincial audit held between February 1, 2011 and March 31, 2011. 359 transfusion procedures were audited. No category of the audit achieved 100% compliance, although single facilities did record 100% compliance in each category. The highest compliance was in the category with questions associated with the correct identification of the patient. The lowest compliance was seen in the order confirmation check.

Utilizing the working group's expertise, educational resources will be developed and distributed to address the least compliant areas.

Use of the ready-made audit form and e-tool can facilitate the process of performing regular audits of the administration of blood, and promote this activity in a standardized manner. Regular audits help hospitals comply with accreditation and lead to improved patient safety.

This provincial audit provided an overview of how well Ontario hospitals are meeting the current standards to ensure patients are receiving the safest transfusions.

Hospitals now have a tool that is accessible at any time to audit blood administration at the bedside, collect and analyze the data, and address any non-conforming issues.

Acknowledgements

Special thanks to the members of the Bedside Audit working group for helping to develop and pilot the audit, and our stakeholders for taking the time and effort to participate in the provincial bedside audit. ORBCoN personnel appreciate the time taken by all staff that took part in this audit.

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Thank you to the Ministry of Health and Long-Term Care (MOHLTC) for funding support of this project.

Introduction

The Ontario Regional Blood Coordinating Network (ORBCoN) is an initiative implemented by the Blood Programs Coordinating Office (BPCO), of the Ministry of Health and Long-Term Care (MOHLTC). ORBCoN has been in operation since 2006. The network consists of three regions, using similar geographic divisions to Canadian Blood Services, which are located in Toronto (Central), Ottawa (Northern and Eastern), and Hamilton (Southwest).

ORBCoN's stakeholders include: Medical Directors working in hospital transfusion services, Laboratory and Quality Managers, Medical Laboratory Technologists (MLTs), Nurses, Transfusion Safety Officers, Physicians who order blood products and Patients.
ORBCoN's mandate is to communicate with hospitals about blood issues together with Canadian Blood Services, to improve patient safety through education and standardization of best practices, as well as to improve inventory management.

One of the highest risks associated with blood transfusion is the risk of receiving a blood component intended for another recipient. An estimate of the frequency of transfusion of blood of the wrong (incompatible) ABO blood group is approximately 1 in 40,000. [1, 2] The primary cause of these incidents is failure to follow clerical or technical procedures. Through audit, the root cause of these types of errors can be identified and corrective actions be put into place.[3]

The purpose of this project was to raise the awareness of the importance of performing such audits and how this activity contributes to increased patient safety through improved compliance with established procedures. A secondary goal of this project was to gather baseline data on the compliance rate of hospital practice in Ontario with current standards of practice, for the safe administration of blood components. The periodic audit of blood transfusions helps hospital personnel ensure procedures developed to maintain the safety of the process are being followed.

This report summarizes the methodology and results of an audit of blood administration practices at the bedside in Ontario hospitals.

[1] Callum J.L et al. Bloody Easy 3: Blood Transfusions, Blood Alternatives and Transfusion Reaction. A Guide to Transfusion Medicine. 3rd ed. 2011: 34-35
[2] Dzik WH, Corwin H, Goodnough LT et al. Patient Safety and Blood Transfusion: New Solutions. Transfusion Medicine Reviews 2003; Vol 17, No 3: 169-180
[3] Tinmouth A. Approaches to Blood Utilization Auditing in Technical Manual 16th edition, AABB Press, Bethesda MD 2008: 751 -763

Methodology

Audit Creation

ORBCoN, in collaboration with hospital transfusion safety officers, medical laboratory technologists, nurses and physicians from Ontario developed a standard audit form to facilitate the performance of audits on blood administration at the bedside. The audit criteria were selected to represent the required processes according to existing Canadian practice standards.[4,5] Existing audit tools were reviewed as examples. Once the standard audit form was created, ORBCoN worked with an information technology company to create a web based tool that would allow hospital participants to enter their data through a password protected data base residing on a secure server and accessed via the internet. Participants were linked to their hospital and allowed to access their own results at any time, but had no access to other participating hospital data. No patient identifying information was collected.

The web-based tool also enabled users to select and print pre-programmed reports of their facility specific data. The provincial administrator had access to print summary data reports to prepare this provincial report.

The audit form and tool were piloted at seven hospital sites. Each site completed two to three audits to test the function of the form as well as to test access and data entry on the web-based tool. Following the pilot, the form was revised slightly and the final version was created.

Some of the hospitals in the province indicated that in order to participate in this provincial audit, they would need to submit an application to their ethics board for review. An ethics application template was provided to hospitals to facilitate development of their own application. A supporting letter from the Ministry of Health and Long-Term Care was provided to accompany the application to ethics boards. Two of the working group members submitted an application to their facility ethics review board. The response received was that this audit was considered to be a quality assurance activity and as such, ethics board review was not required.

[4] Standards for Hospital Transfusion Services ver 2 CSTM, Ottawa ON; 2007
[5] Blood and Blood Components. CAN/CSA-Z902-10 A National Standard of Canada. Standards Council of Canada. CSA Mississauga ON; February 2010

Audit Distribution

For the provincial audit, all hospitals with a licensed transfusion service in Ontario were invited to participate in a voluntary audit of blood administration at the bedside between February 1, 2011 and March 31, 2011. The ultimate goal of this project was to raise the awareness of the importance of performing such audits and how this activity contributes to increased patient safety through improved compliance with established procedures. A secondary goal of this project was to introduce this audit tool and enable hospital personnel to become familiar and comfortable with its use.

Participating hospitals were asked to perform a number of audits during the audit period based on the size of their facility. Small hospitals (<100 beds) were asked to perform two audits, Community hospitals (>100 beds) were asked to perform five audits and Large / University affiliated hospitals were asked to perform ten audits. The goal was to have at least 50% of the hospitals in Ontario participate.

Results

A total of 80 of 158 (51%) hospitals participated in the audit and performed 359 audits. The overall compliance by major category is shown in table 1 below. No category achieved 100% compliance, although single facilities did record 100% compliance in each category. The highest compliance occurred in the category that contained questions associated with the correct identification of the patient.

Section	Compliance (%)
Order confirmation check	79.5
Identification of patient check	92.8
Verification of component	87.3
Procedure check	89.5

***Table 1**: Overall compliance for each section of the bedside audit*

Hospitals were asked some general questions at the start of the audit. All hospitals reported that they have a policy in place that is specific for blood administration. Less than half (44%) of the hospitals participating in the audit responded that they have a training orientation package for personnel who transport blood to clinical areas.

Participants were also asked how they provide information on blood transfusion to patients. More than one option could be selected. Information was provided verbally by 48.5% of respondents, written 37.0%, electronic 6.6%. Some hospitals reported that they do not provide information on blood transfusion to their patients (7.9%).

265 of the 359 audits were performed on routine transfusions (74%), 64 on urgent transfusions (18%) and 28 on stat transfusions (8%).

Many areas of the hospitals were audited. The breakdown of these is shown in table 2. Overall compliance varied amongst the wards. The lowest compliance was seen in the chronic care/rehabilitation ward (79.7%) while the highest compliance was seen in the operating room/recovery room (93.1%).

Ward	Number of audits	Per cent of audits (%)
Emergency room	57	16
Intensive Care Unit	53	15
Operating / Recovery room	7	2
Outpatient clinic	95	26
Medical / Surgical	118	33
Obstetrical unit	3	1
Chronic care / Rehabilitation	10	3
Neonatal / Paediatric	16	4

Table 2: *Wards audited during Ontario Provincial Bedside Audit*

All blood component types were audited. See figure 1 below. Note – only 1 audit was performed on a transfusion of cryoprecipitate and 1 audit was performed on Rh immune globulin (RhIg).

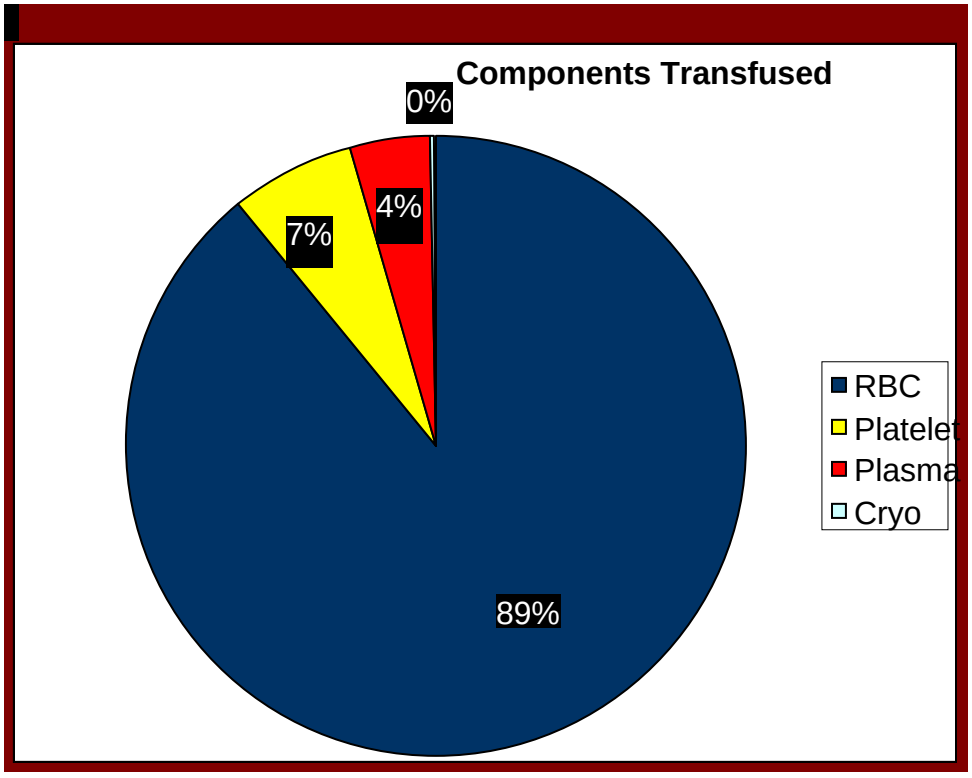

Figure 1*: Types of blood components audited during Ontario bedside audit*

Hospitals were asked to document the time the blood component left the Blood Transfusion Laboratory (BTL) and also document the time the blood transfusion was actually started. The average time between blood component issue and the start of transfusion for 351 of the transfusions audited was 15.8 minutes (range 1min – >3 hours). For 8 of the audited transfusions, the time noted could not be interpreted (same issue and infusion time recorded, issue time recorded as after infusion started).

Order Confirmation Check

Within the order confirmation check, questions were asked related to the physician's order for blood components and how it is checked at the time of the transfusion. The provincial compliance for each question is shown in table 3.

Required check	Compliance (%)
Is the physician's order documented?	99.7
Is the component type specified?	97.0
Is the infusion rate specified?	44.3
Is there evidence that informed consent was obtained?	86.6
Was the component verified against the physician order upon receipt on patient ward?	69.9

Table 3: *Compliance with the order confirmation check questions*

One facility commented that the infusion rate documented was 'slowly'. Another commented that a standard rate of 'within two hours' was understood by the staff in a particular patient care unit.

Two hospitals commented that verification of the physician order occurs at the time of issue against the physician computer order entry and therefore it is not repeated at the bedside at the time of the transfusion.

Identification of Patient Check

This section was designed to confirm that the identification on the patient matches the patient identification on the BTL tag/label attached to the blood component. This ensures the unit issued from the BTL will be transfused to the intended recipient. This section of the audit demonstrated the highest rate of compliance. The results for the patient identification section of the audit are shown in table 4.

Required Check	Compliance (%)
Was the recipient information on the BTL label / tag compared to the recipient information on the laboratory request form?	93.3
Were the recipient's name and one additional unique identifier on the BTL label / tag compared with the identification attached to the patient?	92.5
Did the confirmation of the patient's identification and the BTL label / tag take place in the presence of the patient? (at the bedside)	92.5

Table 4: *Compliance with patient identification check questions*

Verification of Component

This section of the audit was intended to monitor compliance with the standards that require the blood component be checked at the bedside prior to infusion. A check that the ABO / Rh group is compatible with the intended recipient was to be confirmed. The unit tag/label should be checked to ensure all information matches the Canadian Blood Services (CBS) blood supplier label on the blood component. The expiry date of the blood component is checked to ensure it has not expired. Provincial results are shown below in table 5.

Required check	Compliance (%)
Was the donor unit ABO / Rh on the CBS label verified to match that on the BTL label?	96.4
Was the donor unit number on the CBS label verified as identical to that on the BTL label?	95.5
Was the expiry date on the blood component verified to be acceptable?	69.9

Table 5*: Compliance with verification of component check questions*

Procedure Check

This section of the audit was intended to check the procedure of administering the blood to the patient. This included ensuring the intravenous (IV) line was inserted and the vein was open prior to requesting the unit from the BTL, and the patient was informed of the possible symptoms of adverse reactions they should be aware of. Vital signs should be taken on the patient prior to starting the transfusion to serve as a baseline.[5] Ideally these should be taken within 30 minutes of starting the infusion.[6] Vital signs should be repeated after the blood component has been hanging for at least 15 minutes and compared with pre-transfusion vitals. A change in the vital

[5] Blood and Blood Components. CAN/CSA-Z902-10 A National Standard of Canada. Standards Council of Canada. CSA Mississauga ON; February 2010

[6] Ana L. Bloody Easy Blood Administration. A Handbook for Health Professionals. ORBCoN; 2010: 17-18

signs can be an indicator of an adverse reaction occurring. Acute transfusion reactions can occur within the first few minutes of starting the infusion.[6] The provincial results of the procedure check are shown in table 6 below.

Required check	Compliance (%)
Was the IV established and patent when the blood component unit arrived at the bedside?	93.9
Was patient advised of symptoms to watch for and report during or following transfusion?	73.5
Were pre-transfusion vital signs checked prior to transfusion?	99.7
Were vital signs checked 15 minutes after start of transfusion?	90.8

Table 6: *Compliance with the procedure check questions*

The pre-transfusion vital signs were checked 89% of the time within 30 minutes of the transfusion. In four per cent (4%) of transfusions the pre-transfusion vital signs were taken between 30 minutes and 1 hour, 4% between 1 and 2 hours and 2% more than 2 hours pre-transfusion.

Vital signs that were taken and documented during the transfusion are shown in figure 2. Vital signs listed as other were: O_2 sats; lung sounds; arterial pressure; CVP and cerebral sats. O_2 saturation was listed as 'other' in 115 of the 118 audits that recorded other vital signs taken, 7 of 118 (5.9%) listed lung sounds. The other vital signs listed were less than 1%. One unit was not transfused as the patient's pre transfusion temperature was high.

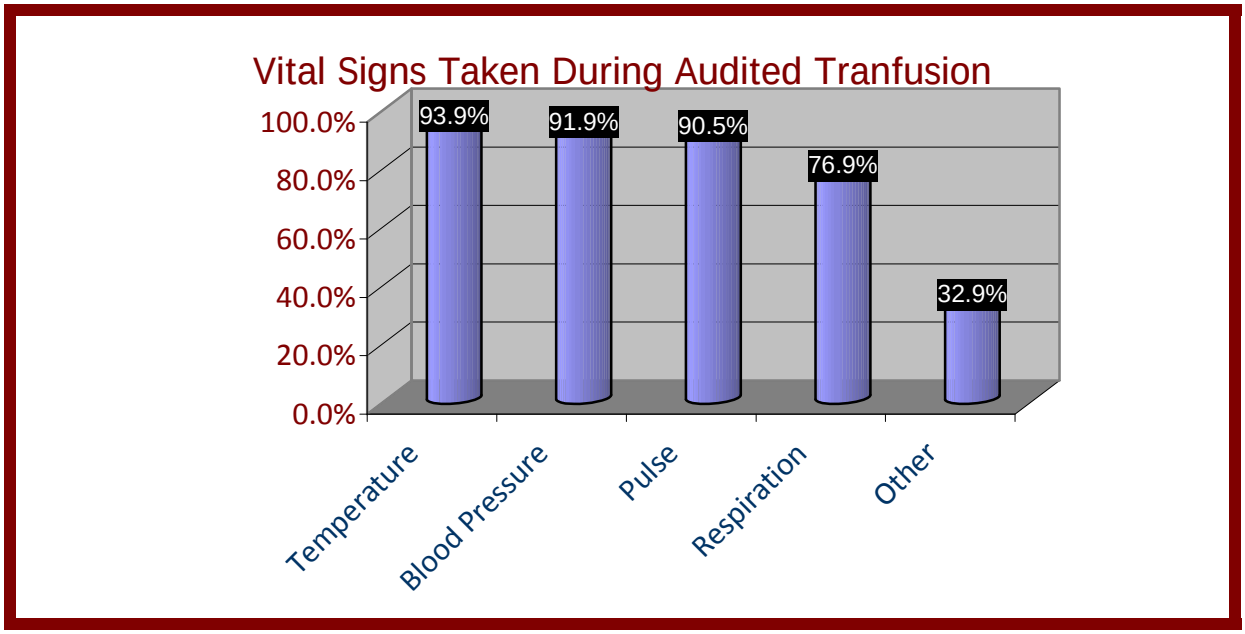

Figure 2: *Vital signs taken during audited transfusion*

Patients were advised of symptoms to watch for and report during or following their transfusion only in 73.5% of audited transfusions. The breakdown of this by ward appears in figure 3 below:

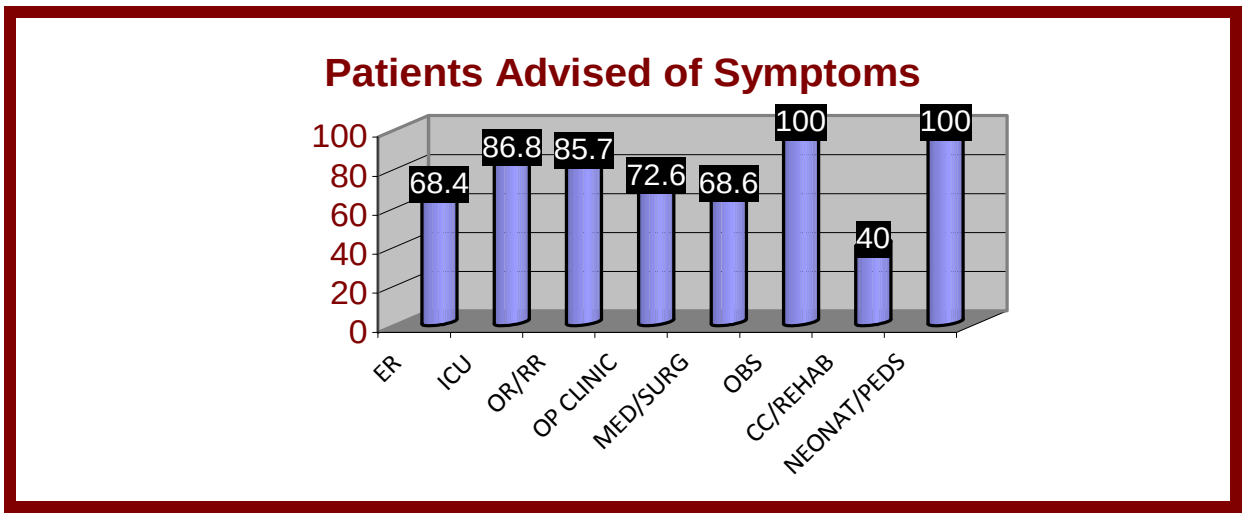

Figure 3: *Patients advised of symptoms by ward*

One facility commented that the patient was not conscious at the time of transfusion and therefore was not informed of symptoms to watch for during or following the transfusion.

Discussion

While overall compliance for each of the sections of the audit of blood administration was high, it was not 100%. This indicates that there are areas that need improvement. The highest rate of compliance was demonstrated in the section of the audit that dealt with the procedures to correctly identify the recipient of the blood transfusion at 92.8%. Although highest compliance was seen in this section, identifying the correct patient is paramount in patient safety, and it should be expected to be 100% full compliance, however there were still 26 out of 375 transfusions that did not meet this basic patient check.

Audits were performed in most wards of a hospital. There were lower rates of compliance seen in Chronic care / Rehabilitation units while the highest compliance was seen in the Operating room / Recovery room unit. The highest number of audits was performed in Medical / Surgical units, Outpatient units, Emergency room and Intensive care units. This may reflect the transfusion activity level of these units and perhaps be influential in where to focus efforts in the implementation of any educational resources developed. However, no matter where the transfusion occurs, when steps are missed there is a higher chance that errors will occur.

Red blood cell transfusions were the most frequently audited during the provincial audit (89%). This is consistent with current provincial utilization data in that red blood cells are the blood component most frequently transfused.
The time it took for the blood component to reach the bedside varied across facilities. The average time was 15.8 minutes from lab to bedside, however, in a few cases it was significantly longer delay of greater than 60 minutes. Blood components should be transfused upon receipt in the clinical area. Prompt verification and transfusion of the blood will reduce the risk of the unit being transfused to the incorrect patient inadvertently. In addition, blood components require specific storage temperatures to maintain their quality. The longer the blood component sits in an uncontrolled temperature, the greater the risk it may adversely affect the potency or quality of the product.

Forty-four per cent (44%) of hospitals reported that they have educational information provided to staff that handle and transport blood. A standardized orientation package for any staff delivering or transfusing blood would help increase the awareness around proper handling of blood components and products.

The first section of the audit dealt with the checks that confirm the blood component ordered by the physician is in fact what was transfused to the patient. Compliance with this step is important to ensure the patient receives the appropriate blood component therapy. Requirements such as irradiated or cytomegalovirus (CMV) antibody negative blood components should be confirmed against the physician order prior to infusion. The physician order is

documented the majority of the time (99.7%); which indicates that this confirmation check should not be difficult to perform at all hospitals.

Documentation of informed consent is still a challenge as it is evident by only 86.6% of audits indicating evidence of such documentation. This could potentially be due to variation in the method of documentation across facilities. Some may document informed consent using a dedicated form, while others may document it in the patient's chart, which may make it more difficult to locate. If it was not confirmed in the check, it does not necessarily indicate informed consent was not obtained.

One facility commented that the informed consent form was not available in the current chart. The patient is chronically transfused and consent is obtained once per year. The same facility noted that requirement for renewal of informed consent was detected through this audit.

The lowest compliance was seen in the documentation of a specified rate of transfusion. Less than half of the transfusions (44.3%) had the rate of transfusion specified with the blood component order. This may indicate that most blood components are transfused at a standard rate of transfusion. A consideration regarding the rate of transfusion is the patient's tolerance to the infusion of the component at a standard rate. A safe infusion may vary depending on the size of the patient, or if there are any cardiac function challenges. If the infusion rate is too fast, it could result in Transfusion Associated Circulatory Overload (TACO).

The ABO and Rh-D blood type of the blood component should be verified against the recipient's blood type to ensure no errors have been made during labelling or issuing of the blood component, or transporting of the component to the bedside. The check at the bedside is the last chance to prevent an error in the transfusion and should never be missed.

Overall 95% of the audits confirmed the product was properly labelled and verified with the recipient information prior to infusion. It should be noted that this is a higher compliance rate then for the patient identification check. More focused attention to correct patient identification cannot be emphasized enough.

One aspect of the component verification check that was lower in compliance was the requirement to verify the expiry date of the component prior to infusion. Once again, checking this information at the bedside provides the final opportunity to catch a unit that may have been issued incorrectly. This may be more of a risk in facilities that do not have an electronic issuing system.

Most facilities (73.5%) indicated that their patients were advised of symptoms to watch for and report during or following a transfusion. As more emphasis is being placed on patient driven healthcare, it is important to inform the patient of signs or symptoms to watch for that may

indicate a potential reaction in the recipient.[7] This is important especially for outpatients who are returning home immediately following their transfusion. In the audit, it appeared as if patients receiving transfusion in outpatient units were informed of possible symptoms to watch for less frequently than those in other patient areas.

Limitations

While all participating sites stated they have a policy in place specific for blood administration, the policies may differ. Some policies, for instance, may not require the transfusionist to check the expiry date on the blood component at the bedside, or to advise the patient of any transfusion reaction symptoms to watch for. If the hospital policy does not require these steps be performed, then the audit would reflect this. The fact that some steps were not completed may not reflect non-compliance with policy.

One way to address this would be to develop a standard provincial policy for the administration of blood. This would help to ensure all standards based requirements are met and that blood administration is performed in a more standardized manner across the province.

Conclusions

Currently in healthcare, more focus is being placed on all facets of patient safety, and transfusion medicine is no exception. Errors taking place during the blood administration process can lead to a potential serious adverse event. In order to measure the compliance to established standards and regulations, one needs to audit, analyze, investigate and develop corrective actions to any non-conformances. Hospitals now have the use of the ready made audit form and e-tool provided by ORBCoN on www.transfusionontario.org as an option to help measure and report their compliance with patient safety measures related to the administration of blood. Regular performance of audits will lead to improved patient safety and help hospitals comply with accreditation requirements.

The goal of achieving participation of at least 50% of Ontario hospitals in completing this provincial audit was obtained, and provided an overview of how well hospitals are meeting the current standards to ensure the patient is receiving the safest transfusion.

The bedside audit working group will review the results of this provincial audit and determine what, if any, educational resources or tools could be used or developed to help improve compliance with accepted best practice standards in the blood administration process. The goal of this is to help ensure safer blood administration occurs in Ontario hospitals.

7 Int. J. Environ. Res. Public Health 2009, 6, 492-525; doi:10.3390/ijerph6020492

APPENDIX A – Bedside Audit Form

Bedside Audit Form

Bedside Audit Order

Order number: _____ * Transfusion date: _____ * Priority: ❍ Routine ❍ Urgent ❍ Stat

* Ward/Area: ❍ ER ❍ ICU ❍ OR/RR ❍ Outpatient Clinic ❍ Medical/Surgery Ward ❍ Obstetrical Unit ❍ Chronic Care/Rehab ❍ Neonatal/Pediatric

* Blood Component: ❍ RBC ❍ Platelets ❍ Plasma ❍ Cryoprecipitate

* Blood Component Unit #: _____ * Time unit left laboratory: _____

Order Confirmation Check: [See References 1-2]

* Is the physician's order documented? ❍ Yes ❍ No

If yes, * Is component type specified? ❍ Yes ❍ No

* Is the infusion rate specified? ❍ Yes ❍ No

* Is there evidence that Informed Consent was obtained? ❍ Yes ❍ No

* Was the component verified against the physician order upon receipt on patient ward? ❍ Yes ❍ No

Identification of Patient Check: [See Reference 3]

* Was the recipient information on the BTL label/tag compared to the recipient information on the Laboratory Request form? ❍ Yes ❍ No

* Were the recipient's name and one additional unique identifier on the BTL label/tag compared with the identification attached to the patient? ❍ Yes ❍ No

* Did the confirmation of the patient's identification and the BTL label/tag take place in the presence of the patient? (at the bedside) ❍ Yes ❍ No

Verification of Component: [See Reference 4]

* Was the donor unit ABO/Rh on the CBS label verified to match that on the BTL label? ❍ Yes ❍ No

* Was the donor unit number on the CBS label verified as identical to that on the BTL label? ❍ Yes ❍ No

* Was the recipient's ABO/Rh on the BTL confirmed to be compatible with the donor unit? ❍ Yes ❍ No

If no indicate reason: _____

* Was the expiry date on the blood component verified to be acceptable? ❍ Yes ❍ No

Procedure Check: [See References 5-8]

* Time infusion started: _____

* Was the IV established and patent when the blood component unit arrived at the bedside? ❍ Yes ❍ No

* Was patient advised of symptoms to watch for and report during or following transfusion? ❍ Yes ❍ No ❍ N/A

* Were pre-transfusion vital signs checked within 30 min prior to transfusion? ❍ Yes ❍ No

If not within 30 minutes, specify: ❍ 30 min – 1 hour ❍ 1 – 2 hours ❍ > 2 hours

* Were vital signs checked 15 min after start of transfusion? ❍ Yes ❍ No

* What vital signs were documented during transfusion? ❑ Temperature ❑ Blood Pressure ❑ Pulse ❑ Respiration

❑ Other (please specify): _____

Name of Auditor: _____ Initials: _____

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Bedside Audit Order Form References

SECTION: Transfusion Order Confirmation:

1. Physician's orders written:
   CSA Z902-10 (11.4.3) CSTM ver2 2007 (5.8.1.2)
   Transfusions shall be prescribed by a physician and administered according to operating procedures.
   CSA Z902-10 (11.4.4) CSTM ver2 2007 (5.8.1.2)
   The rate of infusion should be specified by a physician.

2. Evidence of Informed Consent:
   CSA Z902-10 (11.2.1) CSTM ver2 2007 (1.9)
   There shall be an operating procedure for obtaining informed consent of the recipient prior to the transfusion of whole blood and blood components. Information given to the recipient shall include
   (a) A description of the whole blood or blood component;
   (b) The associated risks and benefits, including life-threatening risks; and
   (c) Alternatives, if appropriate to clinical circumstances, including benefits and risks.
   Note: *Policies and procedures for informed consent are usually developed and maintained by the health care facility as a whole. This Clause is intended to ensure that essential information about transfusion is included when whole blood and blood components are involved.*

SECTION: Identification of Patient Check:

3. Identification of Recipient:
   CSA Z902-10 (11.3.1) CSTM ver2 2007 (5.8.2.1)
   There shall be unequivocal identification of the recipient against the information in the written request for blood and blood components, as detailed in Items (a) to (e) in Clause 10.2.1.
   CSA Z902-10 (11.3.3) CSTM ver2 2007 (5.8.2.2)
   Immediately prior to transfusion, the transfusionist shall confirm and document that all information associating the whole blood or blood component with the proposed recipient has been matched and verified in the physical presence of the recipient, as defined in the operating procedures.
   Note: *Information matching and verification take place in the physical presence of the recipient so that a direct comparison can be made between the request record and the available visual information (e.g., on the recipient's identification band) or verbal information (from a conscious recipient).*

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SECTION: Verification of Component:

4. Identification of Blood Component:
   CSA Z902-10 (11.3.2)
   There shall be unequivocal identification of the blood component.

SECTION: Procedure Check:

5. Was the IV established and patent prior to receiving the blood?
   CSTM ver2 2007 (5.8.4.2)
   Venous access shall be established as per established hospital policy and procedures. Needle gauge shall be a diameter large enough to allow appropriate flow rates and avoid cell damage.

6. Was patient advised of symptoms to watch for and report during or following transfusion?
   CSA Z902-10 (11.4.14) CSTM ver2 2007 (5.8.3.11)
   The recipient shall be observed during the transfusion and for an appropriate time thereafter for suspected adverse events. Instructions concerning possible adverse events shall be provided to the recipient, or to a responsible caregiver, when direct medical observation or monitoring of the recipient will not be available after transfusion.

7. Pre-transfusion vital signs checked within 30 min prior to transfusion?
   CSA Z902-10 (11.4.13) CSTM ver2 2007 (5.8.3.11)
   Recipient vital signs shall be recorded before, during, and after transfusion.
   Bloody Easy Blood Administration (page 18)
   Monitor the patient closely and document vital signs: prior to the transfusion – within previous 30 minutes.

8. Were vital signs checked 15 minutes after the start of the transfusion?
   Bloody Easy 2 (page 18, 23, 27, 54)
   Monitor patient for first 15 minutes and vital signs at 15 minutes. Stop transfusion if adverse reaction is suspected.

1. CSTM Standards for Hospital Transfusion Services. Ver 2, CSTM, Ottawa, Canada; 2007.
2. CAN/CSA-Z902-10 A National Standard of Canada Blood and Blood Components. Standards Council of Canada, CSA Mississauga, Canada; 2010.
3. Callum JL, Pinkerton PH, Bloody Easy 2 Blood Transfusions, Blood Alternatives and Transfusion Reactions – A Guide to Transfusion Medicine, Sunnybrook Health Sciences Centre, Toronto, Canada; ver 2: 2005.
4. Lima A, Bloody Easy Blood Administration – A Handbook for Health Professionals, Ontario Regional Blood Coordinating Network; 2010.

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APPENDIX C – Bedside Audit Cover Page – Initial Order Entry (General Questions)

Bedside Audit Cover Page – Initial Order Entry

Introduction:

Hospital policies and procedures relating to transfusion of blood components and products are created to help ensure patients receive the correct blood component as prescribed by their physician in the safest manner possible. Performing regular audits of the transfusion process can provide a useful indicator for patient safety by monitoring if policies and procedures are being followed consistently.

Blood components are an important part of patient care but are not without risk. The highest risk of severe adverse reaction relating to blood transfusion (including death) is the transfusion of an incorrect unit to the wrong patient. The patient bedside is the last point at which such an error can be prevented. Therefore, the verification checks performed on the patient's identification and the blood component labels just prior to transfusion are critical steps in the transfusion process.

5 checks of safe blood verification are:

1. Confirm the correct identity of the recipient at the bedside
2. Confirm the correct blood component / product type
3. Confirm the correct blood component / product identification number
4. Check the compatibility of the ABO/Rh group of the blood component and the recipient
5. Check the expiry date on the blood component / product to ensure it is in date

Glossary of Terms *(to be considered on a separate tab accessible throughout all audit tools)*

Word/Phrase	Explanation
CBS Label	label applied to the blood component by the blood supplier
BTL label/Tag	label applied / attached to the blood component by the blood transfusion laboratory
Laboratory request form/electronic request	form or LIS request sent by the ward to document the component requested for a particular patient
Patent	indicates that fluid can flow through IV tubing into patient's blood vessel
Acceptable Expiry Date	Product will not be transfused after date listed on BTL label/Tag or CBS label

General Questions: *(Please complete and submit)*

1. Does your facility have a policy specific for blood component administration? ❍ Yes ❍ No
2. Does your facility have transfusion information to be provided to patients? ❍ Verbal ❍ Written ❍ Electronic ❍ Not Provided
3. Does your facility have a training orientation package for those that transport blood to clinical areas? ❍ Yes ❍ No

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