5 Near Miss Events

Definition

Any error which, if undetected, could result in the determination of a wrong blood group, or issue, collection or administration of an incorrect, inappropriate or unsuitable component, but which was recognised before transfusion took place.

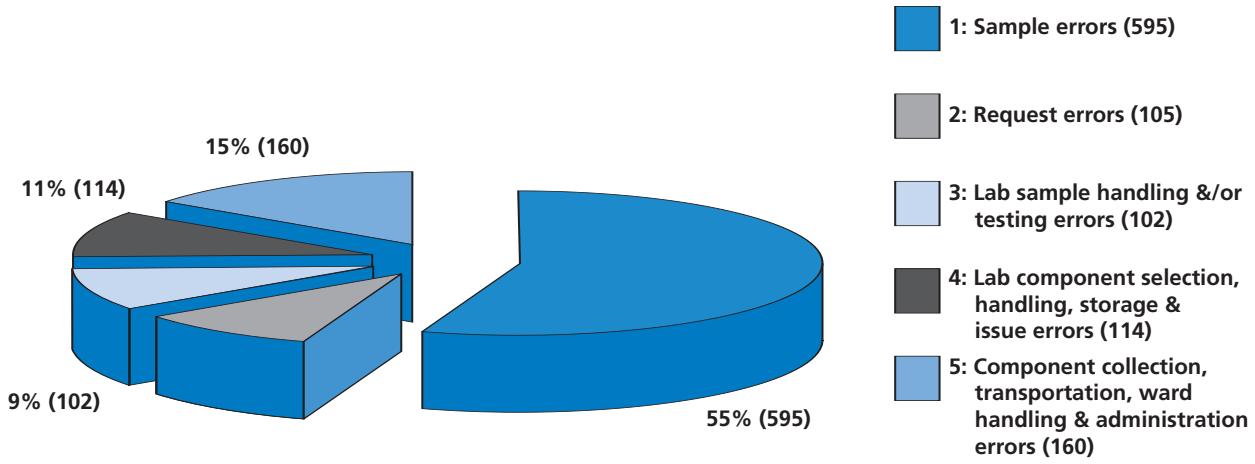
Once again the number of "near miss" incidents reported to SHOT increased from 906 in 2003 to 1076 in 2004. In addition to the 1076 incidents reported on the "near miss" questionnaires, SHOT also received 387 "bulk" reports from two hospitals (244 and 143 reports each). These incidents were submitted by reporters who kept an error log of the numbers of events in each of the 5 categories over a period of time. As no specific details were provided, they are not included in the totals.

Fourteen incidents were withdrawn from the analysis as no originating error could be determined, making it impossible to identify learning points. The majority of these incidents involved a discrepancy between the group of the current sample and the historical record. The historical record was proven to be incorrect by taking a second sample from the patient. The incorrect group recorded in the historical record could have occurred for a number of reasons, for example transcription error, wrong patient being bled or interpretation error.

The categories and numbers of events reported this year are shown in figure 5

Figure 5

Categories and proportions of "near miss" events (n = 1076)



Category 1: Sample errors (595 cases)

Again the most frequently reported "near miss" events were sample errors, comprising 55% of all incidents. There were 230/1076 cases (21.4% of errors) where the sample was taken from the wrong patient but was labelled with the intended patient's details. In 261/1076 cases (24.3% of errors), the sample was taken from the intended patient but was labelled with another patient's details and in 104/1076 cases (9.7% of errors) another error had occurred at the sampling stage. These 3 originating errors arose under a variety of circumstances and a selection of these are given below.

Table 6

Typical sample errors

Error	Number of occurrences
Prelabelled tubes	2
Maternal and cord samples transposed	17
Samples transposed	11
Samples labelled away from bedside	4
Incomplete / inaccurate details on sample	75
Sample taken from drip arm / poor venepuncture	12

In 3 cases the inaccurate details on the sample meant that the patient's historical record was not accessed. The first case involved a sample taken from the intended patient which was labelled with the wrong date of birth and forename. This meant that the antibody record could not be accessed. The second case involved a sample labelled with the wrong date of birth and the third case resulted in a patient having 2 incomplete historical records.

Category 2: Request errors (105 cases)

Request errors comprised approximately 10% of cases. One of the most frequently reported problems in this category was failure to notify the transfusion laboratory of the need for irradiated and/or cytomegalovirus (CMV) negative components. These were, in the majority of cases, prevented from going on to be full incidents by the vigilance of the laboratory staff. There were 11 cases where the request was found to be inappropriate. Five of these cases involved ward staff misreading laboratory results in the patients' notes.

Category 3: Laboratory sample handling and/or testing errors (102 cases)

Approximately 9% of errors fell in to this category. There were 8 cases of failure to investigate fully a positive antibody screen. The majority of these laboratory errors were recognised by the staff involved before the components left the laboratory.

Category 4: Laboratory component selection, handling, storage and issue errors (114 cases)

This category of errors comprised approximately 11% of cases. Forty-four of the 114 cases (4.1% of errors) involved failure by the laboratory staff to heed the request for special requirements. There were 5 cases where the laboratory staff issued Anti-D to D positive women and 1 case of Anti-D being issued to a woman previously sensitised. The inappropriate use of Anti-D is highlighted in the Incorrect Blood Component Transfused section (section 4, page 19) and continues to be an important training issue.

Category 5: Component collection, transportation, ward handling and administration errors (160 cases)

The majority of these cases (55%; 88/160), involved inappropriate storage of the components, with this error comprising 8.2% of errors in all categories. The bulk of these storage errors involved units being stored in inappropriate refrigerators or the storage of expired units due to failure to clear refrigerators. In 1 case a partially used unit was returned to the ward refrigerator and another case involved tape being removed from the door of an out of order refrigerator so that components could be stored in it. There were 42 cases (4% of errors) of the component being collected for the wrong patient. Twenty four of these cases involved porters, one of whom forgot to take his glasses with him to the refrigerator resulting in a failure to check the paperwork properly.

Table 7 below shows the distribution of originating errors and at what stage of the transfusion process the errors occurred.

Table 7

Originating Errors (n = 1076)

Originating error	No. of errors	% of errors
Sample errors		
Sample taken from wrong patient but labelled as per intended patient	230	21.4
Sample taken from intended patient but labelled as per another patient	261	24.3
Other - sample	104	9.7
	595	**55.4**
Request errors		
Wrong component requested	17	1.6
Special requirements incorrectly specified which were not previously known to the laboratory	30	2.8
Component requested for wrong patient	27	2.5
Other - request	31	2.9
	105	**9.8**
Laboratory sample handling &/or testing errors		
Incorrect patient details used	8	0.7
Erroneous result obtained	22	2
Result interpretation error	16	1.5
Transcription error	28	2.6
Other - lab sample handling, testing	28	2.6
	102	**9.4**
Laboratory component selection, handling, storage & issue errors		
Avoidable failure by the laboratory to provide for the patients' special needs	44	4.1
Incorrect selection of component e.g. expired or wrong type of unit	19	1.8
Incorrect labelling of component	20	1.9
Incorrect storage of component	14	1.3
Component issued for wrong patient	5	0.5
Other - lab selection, storage, issue	12	1.1
	114	**10.7**
Component collection, transportation, ward handling & administration errors		
Incorrect transportation of component	12	1.1
Component collected for wrong patient	42	3.9
Incorrect handling / storage of component	88	8.2
Error in identification of correct patient at time of administration of component	8	0.7
Other - collection, transport, ward handling	10	0.9
	160	**14.8**

Staff involved in "near miss" incidents

One thousand and twenty seven reports gave information about who was involved in the error, 42 reports were unable to identify staff involved and 7 reports gave no response to this question. The distribution of the staff involved is shown in table 8.

Table 8

Staff involved in incidents (n=1076)

Staff group	Number of incidents involving each staff group	
Medical student	1	(<0.1%)
Doctor	389	(36.2%)
Registered nurse	190	(17.7%)
Midwife	102	(9.5%)
Phlebotomist	56	(5.2%)
State registered BMS	193	(17.9%)
GP	1	(<0.1%)
Unregistered nurse	9	(0.8%)
MLA	10	(0.9%)
Trainee BMS	6	(0.6%)
Porter	33	(3.1%)
BTS staff	5	(0.5%)
Other*	32	(3%)
Unknown	42	(3.9%)
No response	7	(0.7%)

* A breakdown of staff in the "other" category can be found on the website

Sample error is still the most commonly reported event, 595/1076 cases. The majority of these errors involved medical staff (49%), nursing and midwifery staff (33%) and phlebotomists (9%). The number of doctors making mistakes in blood sampling appears disturbing. However the questionnaire from which these data are derived did not provide sufficient detail to confirm these findings. A new version is now in use which should enable us to make a more accurate statement in the future.

It is imperative that all staff groups undertaking venepuncture for pre-transfusion testing should receive training and education and have their competency tested. This is an important clinical governance issue, which should be addressed by senior managers within hospitals and trusts.

Other areas where training and education should be reviewed include; biomedical scientists involved in sample handling, pre-transfusion testing and component selection, staff involved in handling and issue of blood components (20% of errors) and registered nurses and porters involved in collection, transportation and administration practices (15% of errors).

The future of "near miss" reporting

Whilst the number of "near miss" reports have increased by 138% in 4 years, SHOT is aware that only 47% (190/404) of hospitals are regularly participating in the "near miss" scheme. "Near miss" reporting is an important means of gauging practice and providing essential evidence, which can be used to identify deficiencies in the transfusion process. Internal error logging and evaluation can be a valuable audit and educational tool.

Work is ongoing to simplify the current "near miss" questionnaires and provide hospitals with classifications for "near miss" events, in order to improve reporting in this category. If hospitals have any queries about reporting "near miss" events they should contact the SHOT office.

COMMENTARY

- Sample errors continue to comprise over half of all "near miss" incidents reported. The majority of sample errors appeared to involve medical staff (49%) and highlights the need for inclusion of education in blood safety in the medical curriculum at undergraduate and postgraduate levels.
- Failure to notify the transfusion laboratory of the need for irradiated and/or CMV negative components was one of the most frequently reported problems at the request stage.
- Over half the errors at the component collection, transportation, ward handling and administration stages involved inappropriate storage of components.
- Over the last 4 years, the numbers of "near miss" reports submitted to SHOT have increased by 138%. However, SHOT is aware that only 47% of hospitals are regularly participating in the "near miss" scheme.

RECOMMENDATIONS

- All hospitals are encouraged to report "near miss" events as required by HSC 2002/009 (BBT2)[6] in order to further identify local weaknesses in the transfusion process. All instances of 'wrong blood in tube' must be fully investigated.

  Action: HTTs
- Training and education in blood sampling, including the practical aspects of venepuncture and positive patient ID, should be included in the curriculum for medical and nursing students.

  Action: CMO's NBTC and counterparts, Undergraduate Deans of Schools of Nursing and Medicine
- All staff involved in the pre-transfusion sampling, testing and issue of blood must be deemed competent having undergone appropriate training, which must be documented.

  Action: Trust CEOs through risk management structures
- Robust systems for noting patients' special requirements should be developed together with a policy of empowering patients to be more aware of their own special needs.

  Action: Clinicians, HTCs, HTTs
- Hospital transfusion laboratories should develop and adhere to policies for the timely clearing of satellite refrigerators, required by the Blood Safety and Quality Regulations 2005[2].

  Action: Hospital transfusion laboratories
- Ward staff at all levels must be trained in appropriate storage of blood components once they have been collected from the blood bank.

  Action: Ward managers, HTTs