6 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.

During 2005, 1358 appropriate near miss incidents were reported to SHOT. This is an increase of 26% on the 1076 reported in 2004.

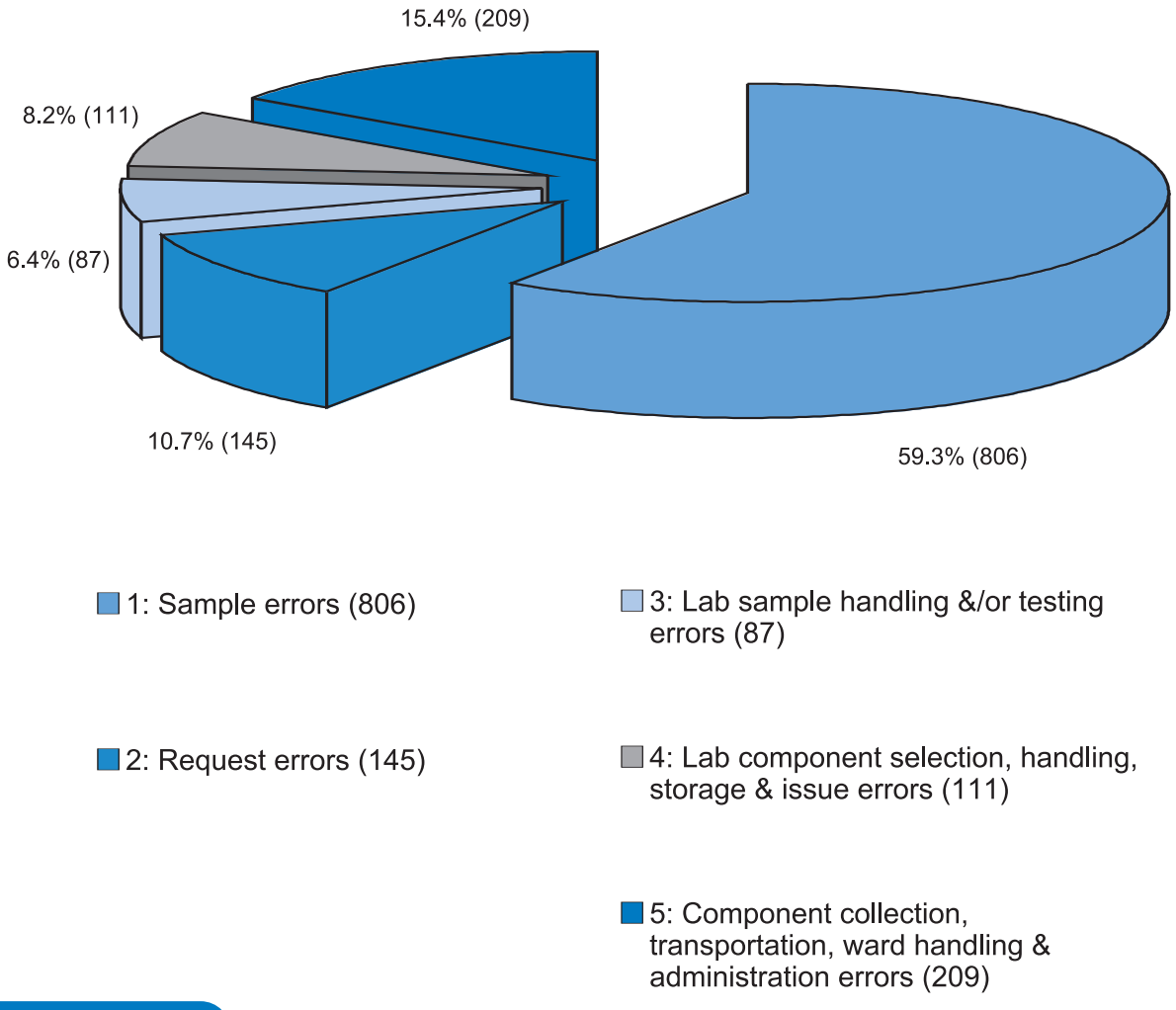
In addition to the incidents submitted on the near miss questionnaires, 3 hospitals sent 'bulk' reports. These figures were collected over a 3 (2 hospitals) and 5 (1 hospital) month period and totalled 204. Of these, 27 reports were not SHOT reportable as they involved unlabelled or no sample being received by the laboratory. As no specific details were provided for the 'bulk' reports, these incidents are not included in the totals.

One incident was written off as the reporter failed to return the completed questionnaire within 6 months and 95 incidents were withdrawn from the analysis. Of the 95 incidents withdrawn, 22 were recategorised as incorrect blood component transfused (including 4 involving anti D administration) and 6 were right blood to right patient events. In 10 incidents the reporter did not have sufficient information available in order to complete the questionnaire and 13 incidents were reported twice. Forty-four incidents were withdrawn as they did not fulfil the criteria for near miss.

The categories and numbers of incidents reported during 2005 are shown in figure 7.

Figure 7

Categories and proportions of near miss events (n=1358)



Category 1: Sample errors (806 cases)

Sample errors were again the most frequently reported near miss events, comprising 59.3% of all incidents. There were 328/1358 cases (24.1% of errors) where the sample was taken from the intended patient but labelled with another patient's details and in 245/1358 (18.0% of errors) cases the sample was taken from the wrong patient but labelled with the intended patient's details.
Errors in the 'Other' category at the sampling stage accounted for 233/1358 (17.2% of errors). The majority of these cases involved samples which were not fully labelled or had one or more identifiers which belonged to another patient.

Category 2: Request errors (145 cases)

Approximately 10% (145/1358) of incidents reported were errors at the request stage. There were 48 (3.5% of errors) cases of components requested for the wrong patient and 45 (3.3% of errors) cases where special requirements were not specified or were specified incorrectly. The majority of request errors were prevented from going on to be full incidents by the vigilance of the laboratory staff.

Category 3: Laboratory sample handling and/or testing errors (87 cases)

This category comprised approximately 6% (87/1358) of errors reported. There were 24 (1.8% of errors) cases which involved mistakes in transcription and 21 cases where an erroneous result was obtained or a result was misinterpreted. More than 50% of laboratory sample handling and/or testing errors were detected by the laboratory staff either by comparison with the patient's historical record or another laboratory check which was performed before releasing the component.

Category 4: Laboratory component selection, handling, storage and issue errors (111 cases)

Approximately 8% of errors occurred in this category. There were 43 incidents involving an avoidable failure by the laboratory to provide for the patient's special requirements. These errors occurred due to laboratory staff failing to act on details in the patient's historical record or on the request form. Forty- seven percent of errors which fell into this category were detected by the ward staff whilst performing the bedside check.

Category 5: Component collection, transportation, ward handling and administration errors (209 cases)

These errors comprised approximately 15% of cases. The majority of the errors occurred at the component handling or storage stage, 130 of the 209 cases. In 54 of these cases the components were not kept in a temperature controlled environment and in 14 cases the components were stored inappropriately, for example platelets being refrigerated. Thirty-five cases involved components which were stored in ward refrigerators. In 2 of these cases, the components were later returned to stock in the transfusion laboratory and in 10 cases the components were available for transfusion after expiry. There were 39 cases where components were collected for the wrong patient, porters were involved in 19 of these.

Table 15 shows the originating errors and at what stage of the transfusion process the error occurred.

Table 15

Originating errors (n=1358)

Originating error	No. of errors	% of errors
Sample error - 806 (59.3%)		
Sample taken from wrong patient but labelled as per intended patient	245	18.0
Sample taken from intended patient but labelled as per another patient	328	24.1
Other	233	17.2
Request error - 145 (10.7%)		
Wrong component requested	19	1.4
Special requirements incorrectly specified which were not previously known to the lab	45	3.3
Product requested for wrong patient	48	3.5
Other	33	2.4
Lab sample handling &/or testing errors - 87 (6.4%)		
Incorrect patient details used	5	0.4
Erroneous result obtained	11	0.8
Result interpretation error	10	0.7
Transcription error	24	1.8
Other	37	2.7
Lab component selection, handling, storage & issue errors - 111 (8.2%)		
Avoidable failure by the laboratory to provide for the patient's special needs	43	3.2
Incorrect selection of component e.g. expired or wrong type of unit	25	1.8
Incorrect labelling of component	27	2.0
Incorrect storage of component	4	0.3
Component issued for wrong patient	4	0.3
Other	8	0.6
Component collection, transportation, ward handling & administration errors - 209 (15.4%)		
Incorrect transportation of component	15	1.1
Component collected for wrong patient	39	2.9
Incorrect handling/storage of component	130	9.6
Error in identification of correct patient at administration	3	0.2
Other	22	1.6

Staff involved in near miss incidents

One thousand two hundred and sixty reports gave information about who was involved in the error, 96 reporters were unable to identify staff involved and 2 reporters gave no response to this question.

The distribution of the staff involved is shown in table 16.

Table 16

Breakdown of staff involved in incidents (n=1358)

Staff group	Sample error	Request error	Laboratory sample handling &/or testing error	Laboratory component selection, handling, storage & issue error	Component collection, transportation, ward handling & administration error
Medical student	1	0	0	0	0
Consultant	4	8	0	0	1
Training grade doctor*	376	74	0	0	6
Non consultant grade^	11	2	0	0	0
Anaesthetist	3	2	0	0	2
G.P.	1	0	0	0	0
Doctor - unkown grade	62	23	0	0	1
Registered nurse	146	15	0	2	71
Midwife	79	17	0	0	30
Phlebotomist	44	3	0	0	0
State registered BMS	0	0	73	94	2
Unregistered nurse	1	0	0	0	5
MLA	0	0	3	4	0
Trainee BMS	0	0	7	2	1
Porter	0	0	0	0	35
BTS staff	1	0	0	8	1
ODA	1	0	0	0	9
Other	13	0	4	0	12
Unknown	62	1	0	1	32
No response	1	0	0	0	1

* e.g. house officer, registrar
^ e.g. staff grade, associate specialists

Of the 806 sample errors reported, 57% (457/1358) involved medical staff compared to 49% in 2004. At the start of 2005 the near miss questionnaire was amended in order to collect information about who performed the phlebotomy in order to assess more accurately which group of staff were responsible for errors at the sampling stage. Medical staff still appear to be making the majority of these errors, however it is still not clear whether this figure is accurate.

Learning point

- All staff groups undertaking venepuncture for pre-transfusion testing should receive education and training and their competency should be tested.

How errors were detected

Approximately 40% (504/1358) of the errors were detected by comparison with computer records, which demonstrates that historical records are a useful tool in the prevention of incorrect blood transfusions. One hundred and fifty one (11%) errors were detected during the bedside check, in 111 cases the check was performed by 2 people, in 28 cases by 1 person and in the remaining 12 cases the reporter could not confirm if 1 or 2 people were involved.

The future of near miss

The number of near miss reports received increased again in 2005, and participation in the scheme has risen to 55% (223/403 eligible hospitals). In order to gain a clearer picture of the number and types of near miss events that are occurring, the collection of individual near miss events was suspended at the start of 2006. The reporting of near miss events to MHRA under the terms of the EU Directive remains unchanged. During 2006 a 6 month survey (June - December) will collect summary information relating to the number of events at each of the following stages of the transfusion process; sampling, request, laboratory testing and issue and collection and administration.

COMMENTARY

- Errors at the sampling stage continue to comprise over 50% of the near miss incidents reported. As in 2004, the data suggests that medical staff were involved in 57% of these errors and again highlights the need for inclusion of education in blood safety in the medical curriculum at undergraduate and postgraduate levels.

- Approximately 10% of errors reported occurred at the request stage. The majority of these were detected by the vigilance of the laboratory staff.

- Laboratory staff failed to provide for the patients special requirements in 39% of the cases in the laboratory component selection, handling, storage and issue errors category.

- There were 209 cases which fell in to the component collection, transportation, ward handling and administration errors category, of these 130 (62%) involved components which were inappropriately handled or stored.

- Since near miss reporting began 5 years ago, the number of reports submitted have increased by 200%. However, only 55% of hospitals are regularly participating in the scheme.

RECOMMENDATIONS

- Training and education in blood sampling, including positive patient ID, should be included in the curriculum for all staff involved in venepuncture.
  Action: Chief Medical Officers (CMOs) 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.

- Ward staff at all levels must be trained in appropriate storage of blood components once they have been collected from the transfusion laboratory.
  Action: Ward managers, HTTs.