Annual SHOT Report 2013 – Supplementary Information

Chapter 7: Near Miss Reporting (NM)

Sub categorisation of total near miss errors n=996

Table 7.3: Numbers of near misses originating in clinical or laboratory areas

Category of incidents	Number of cases	Percentage of cases
Clinical errors	742	74.5%
Laboratory errors	251	25.2%
Blood Establishment errors	3	0.3%
Total	**996**	**100%**

Near miss clinical errors n=742

Table 7.4: Clinical errors according to category

Category of clinical errors	Number of cases	Percentage of cases
Sample errors - Wrong blood in tube (WBIT)*	643	86.7%
Other sample labelling errors	15	2.0%
Request errors	22	3.0%
Component collection/administration errors	33	4.4%
Cold chain errors	18	2.4%
Otherwise uncategorised anti-D immunoglobulin errors	11	1.5%
Total	**742**	**100%**

**Includes 6 full blood count (FBC) wrong blood in tube errors where transfusions nearly took place based on the incorrect results*

Wrong blood in tube (WBIT) n=643

Definition of wrong blood in tube incidents:

- Blood is taken from the wrong patient and is labelled with the intended patient's details
- Blood is taken from the intended patient, but labelled with another patient's details

Table 7.5: Staff responsible for wrong blood in tube incidents

Staff responsible for taking sample	Number of cases	Percentage of cases
Doctor	251	39.0%
Nurse	129	20.1%
Midwife	112	17.4%
Phlebotomist	51	7.9%
Healthcare assistant	45	7.0%
Medical student	1	0.2%
Other/unknown	54	8.4%
Total	**643**	**100%**

Doctors remain the staff group most likely to be responsible for a wrong blood in tube error, although they are unlikely to take as many samples as other staff groups, such as phlebotomists.

Table 7.6: Practices leading to wrong blood in tube

Practices leading to wrong blood in tube	Number of cases	Percentage of cases
Sample not labelled at patient's (bed)side	248	38.5%
Patient not identified correctly	234	36.4%
Sample not labelled by person taking blood	34	5.3%
Pre-labelled sample used	10	1.6%
Maternal/baby or twin samples (n=3) transposed	40	6.2%
Other/unknown*	77	12.0%
Total	**643**	**100%**

**Includes two reports of deliberate identity fraud and one of an IT auto-merge*

The two worst practices that contribute to wrong blood in tube incidents are leaving the patient's (bed)side before labelling the sample tubes or not identifying the patient properly. This table shows the primary error made, but often there is a combination of errors, such as the sample being handed to a second person, who then also leaves the patient's side to label it.

Table 7.7: Circumstances leading to the detection of wrong blood in tube

How wrong blood in tube error was detected	Number of cases	Percentage of cases
At authorisation	242	37.6%
During testing	199	31.0%
Prior to testing	50	7.8%
Sample taker realised after testing started	38	5.9%
Sample taker realised before testing started	37	5.7%
Further sample differed	32	5.0%
Other clinical colleague realised sampling error	20	3.1%
Results from non-transfusion samples (e.g. FBC)	14	2.2%
Pre-administration checks	9	1.4%
Patient realised the error later in the process	2	0.3%
Total	**643**	**100%**

Most wrong blood in tube incidents are detected at some point in the testing process, when it may be discovered that the patient's group does not match historical results. However, 15.1% (97/643) were only identified because the sample taker (n=75); a colleague (n=20) or the patient (n=2) realised the error.

Request errors n=22

Table 7.8: Categories of request errors

Request errors	Number of cases	Percentage of cases
Specific requirements not requested*	16	72.7%
Inappropriate request	3	13.6%
Request based on erroneous test results	2	9.1%
Request for incorrect patient	1	4.6%
Total	**22**	**100%**

**Not requesting irradiated components accounted for 15/16 cases. There was only 1 failure to request CMV negative components where they were needed according to the revised requirements published by the Advisory Committee on the Safety of Blood, Tissues and Organs in March 2012 [81]*

Table 7.9: Mode of detection of request errors

Mode of detection	Number of cases	Percentage of cases
Bedside pre-administration check	17	77.3%
In laboratory	5	22.7%
Total	**22**	**100%**

Most requesting errors are not detected until just before the transfusion, which will be after all the preparation work has been done to provide the component.

Component collection/administration errors n=33

Table 7.10: Component collection/administration errors

Collection/administration errors	Number of cases	Percentage of cases
Incorrect units collected by ward staff/porters	20	60.6%
Wrong details on collection slip	7	21.2%
Attempted administration to incorrect patient	4	12.1%
Unit exceeded time expiry while on ward	2	6.1%
Total	**33**	**100%**

The largest group of component collection/administration errors is the collection of an incorrect unit. These incidents were near misses, hence not transfused, but it is known that collection of the wrong unit can be the first step in a chain of errors that results in an incorrect blood component being transfused.

Errors related to management of the cold chain n=18

Table 7.11: Errors related to management of the cold chain

Cold chain errors	Number of cases	Percentage of cases
Components stored inappropriately	11	61.1%
Incorrect transport/packing of units	4	22.2%
Returned to issue refrigerator after out of temperature controlled environment >30 minutes	2	11.1%
Part used unit returned to satellite blood refrigerator*	1	5.6%
Total	**18**	**100%**

***Case 2: Part-used unit returned to satellite refrigerator and appeared unused**

A baby was born requiring resuscitation. A small amount of the adult emergency O RhD Negative unit was transfused as part of the procedure. The baby was transferred to the neonatal intensive care unit (NICU) and the lead midwife thought more blood may be required, so took the pack to NICU. The staff on NICU were not advised that part of the unit had been used. The registrar advised the blood needed to be close to hand, so the unit was put into the satellite fridge on the birthing unit . On discovery of the incident, the pack was examined. Such a small amount had been taken out, with no visible leakage, therefore it was not apparent that the unit had been used.

Near miss laboratory errors n=251

The near miss laboratory errors reflect those discussed in Chapter 9, Summary of Events Originating in the Hospital Transfusion Laboratory. Some of these tables are repeated in Chapter 9 and/or in the Chapter 9 section of the 2013 Annual SHOT Report Supplement located on the SHOT website, www.shotuk.org under SHOT Annual Reports and Summaries, Report, Summary and Supplement 2013.

Table 7.12: Categories of laboratory errors made

Near miss laboratory categories	Total	Percentage	Chapter					
			IBCT	SRNM	HSE	RBRP	ANTI-D	ADU
Sample receipt and registration	26	10.4%	6	7	0	10	3	0
Testing	32	12.7%	16	9	0	0	4	3
Component selection	61	24.3%	6	39	3	0	13	0
Component labelling, availability, handling and storage	131	52.2%	17	0	38	72	4	0
Other = LIMS bug, failed to detect group mismatch	1	0.4%	1	0	0	0	0	0
Total	**251**	**100%**	**46**	**55**	**41**	**82**	**24**	**3**

Sample registration and receipt n=26

Table 7.13: Sample receipt and registration errors

Sample receipt and registration errors	Number of cases	Percentage of cases
Incorrect identifiers entered onto LIMS	8	30.8%
Specific requirements not met (failure to notice information on the request form or the patient's historical record)	8	30.8%
Sample booked under incorrect record*	7	26.9%
Anti-D requests on known RhD positive patients	3	11.5%
Total	**26**	**100%**

** includes an incident where historical LIMS group was added to wrong patient in a replacement LIMS*

Testing n=32

Table 7.14: Testing errors

Testing errors	Number of cases	Percentage of cases
Incomplete testing	13	40.7%
Interpretation	9	28.1%
Transcription errors	5	15.6%
Manual grouping errors	4	12.5%
Repeatable incorrect sample group (not WBIT)	1	3.1%
Total	**32**	**100%**

Component selection n=61

Table 7.15: Component selection errors

Component requirement or specification missed	Number of cases	Percentage of cases
Irradiated	20	32.8%
Anti-D immunoglobulin errors	13	21.3%
Red cell phenotype	11	18.0%
Incorrect ABO or RhD type selected	5	8.2%
Cytomegalovirus (CMV) negative	4	6.6%
HLA matching	3	4.9%
Time expired component selected	3	4.9%
Incorrect component type selected	2	3.3%
Total	**61**	**100%**

Component labelling, availability, and handling and storage errors (HSE) n=131

Table 7.16: Component labelling, availability, and handling and storage errors (HSE)

Component errors	Number of cases	Percentage of cases
Component labels transposed	45	34.4%
Incorrect patient information on label	41	31.3%
Time expired component available	31	23.7%
Incorrect component sent to ward	7	5.3%
Exceeded BCSH (REF 1) sample timing guidelines	5	3.8%
Cold chain errors	2	1.5%
Total	**131**	**100%**

WBIT vignettes for the website

Case 3: Group check sample doesn't detect that the patient was incorrectly identified

Two samples were received taken at 10:30 and 10:45 by two different staff members. They were analysed as a full and a check group, because the patient had no historical record. Both grouped as O Pos and two units of red cells were electronically issued. It was later discovered that blood in both tubes was actually from a different person. The wrong patient's notes had been retrieved from Medical Records resulting in an incorrect wristband and transfusion request form being completed. The bedside checks at venepuncture had not been performed properly. Both staff members involved said they checked the wristband, but did not ask the patient to give any details to check.

Case 4: Repeat sample after rejected sample indicates first sample was WBIT

Group and save (G&S) and full blood count (fbc) samples were received marked as urgent. The G&S sample was labelled with a thick marker pen making the date of birth illegible. The fbc was written clearly enough, but the G&S sample was rejected. The doctor was insistent that the G&S sample should be tested as he had already bled the patient twice. A phlebotomist was asked to take the repeat G&S sample, as the doctor refused to take another sample. When the patient was asked to confirm identifying details, it became clear the wrong patient had been bled previously for both G&S and Fbc.

Case 5: Incorrect wristband not changed when challenged by the patient

A patient had a common surname and the wrong record was chosen during registration. The patient was not asked to confirm details when the wristband was applied and was ignored when he told several staff that the details on the wristband were not his. Samples were taken for group and save (G&S) and full blood count (fbc). The error was detected when the fbc result was phoned to A&E.

Case 6: Two Doctors involved in a WBIT incident

Junior Doctor 1 was being shadowed by a new FY1, Doctor 2. There were several pre-op patients who needed to be clerked on one ward, including patient B and a single pre-op patient (A) on another ward. Doctor 2 prepared the files and request forms, but inadvertently stuck patient A's addressograph on a pre-transfusion request form that was put with patient B's paperwork. Doctor 2, then ran out of time to clerk Patients A and B, so Doctor 1 took over. Before clerking, she positively identified patient B and checked his identity with wristband and notes. After clerking she took her blood samples, but did not positively identify again, so failed to notice that the wrong addressograph was on the form. She then took the sample to the desk to label and so used the details from the addressograph for the sample, so patient B's sample was labelled as if it were patient A's. The sample grouped as O RhD positive. Doctor 1 then clerked and bled Patient A on the other ward. This sample grouped as A RhD positive. The transfusion laboratory requested a repeat sample for the patient, because of the group discrepancy, but this sample had to be discarded as it was not labelled properly. A further sample from patient A confirmed the group as A RhD positive, and showed the first sample was a wrong blood in tube.

Case 7: Zero tolerance policies are recommended for the identification of all pathology samples

Haematology/Chemistry blood samples received at 17.25 gave significantly different results to those for the same patient received in the morning. The transfusion laboratory was alerted to discard the group and save (G&S) sample, which actually would have been rejected anyway due to the absence of a hospital number. Blood groups on both blood samples showed that the sample taken in the morning came from a group A RhD positive patient, but the subsequent sample, taken at 17.25, was O RhD negative. The A&E department was contacted about the disparity and informed transfusion laboratory staff that the patient had died in the morning. Therefore, the haematology, chemistry and incorrectly labelled G&S samples taken in the afternoon must all have come from a different patient.

Case 8: An initially unlabelled sample later labelled with the wrong patient identification

A group and save (G&S) sample was taken by the nursing assistant (NA), but was not labelled and discarded. The patient then required a transfusion of red cells. The unlabelled sample was retrieved by the registered nurse from the sharps bin, then labelled with patient details by NA who originally took the sample. It was discovered to be a wrong blood in tube incident when the group did not match the patient's historical group.

IT near miss vignette

Case 9: PAS link to LIMS causes erroneous record merging due to programming error

A programming error in the PAS system allowed auto-merging of records in the absence of an NHS number. The PAS update was allowing matching to proceed on three further key identifiers and if the match was successful, it updated the LIMS record. The error allowed a record of the identifiers such as 'Baby' 'Surname' with the same date of birth to be updated with a PAS record of the same identifiers even though the hospital numbers were different. The error was discovered when a subsequent sample for apparently the same patient had different blood group.

Near Miss - Previous Recommendations

Year first made	Action	Recommendation
2012	**Hospital Transfusion Teams**	**Near miss reporting**: Hospital staff should report 'near miss' as well as actual incidents in keeping with good medical practice as defined by the General Medical Council (GMC) . Reporting is mandatory, not voluntary, to ensure that the focus is improved patient safety
2012	**Hospital Transfusion Committees (HTC)**	Laboratory and clinical areas should continue to report 'near miss' errors, as these are a useful indication of potential failings, allowing corrective and preventative actions to be taken before any harm is done
2012	**Chief Executive Officers of Hospitals, Trusts/Health Boards, Pathology Laboratory Managers**	There should be zero tolerance of sample labelling errors across all pathology disciplines and local audits of sample labelling should continue to be undertaken to identify the ongoing risks of patient misidentification
2012	**Hospital Transfusion Committees (HTC)**	There should be strict adherence to the requirement for a group check sample on patients without a historical blood group as detailed in the British Committee for Standards in Haematology (BCSH) guidelines for pre-transfusion compatibility testing
2010	**Deaneries, clinical risk managers, HTTs**	All Trusts must ensure that medical staff are trained and competency assessed for taking blood samples in accordance with the requirements of NPSA SPN 14
2010	**HTTs**	Education for staff involved in the transfusion process should include knowledge of the correct storage conditions for all blood components.

2010	**HTCs**	Each Trust should possess a policy and procedure for the transfer of blood components with a patient which reflects the guidance given by the National Blood Transfusion Committee (NBTC) and the NHSBT Appropriate Use of Blood Group. There is also guidance on transfer of stocks between hospitals that Medicines and Healthcare products Regulatory Agency (MHRA) have provided with clarification and guidance regarding Blood Safety and Quality Regulations (BSQR) requirements and compliance which is available as follows: http://www.transfusionguidelines.org.uk/index.aspx?pageid=7722&section=23&publication=REGS&Highlight=transfer