12 Near Miss (NM) Reporting n=1314

Author: Courtney Spinks

Definition:

A 'near miss' event refers to any error which if undetected, could result in the determination of a wrong blood group or transfusion of an incorrect component, but was recognised before the transfusion took place.

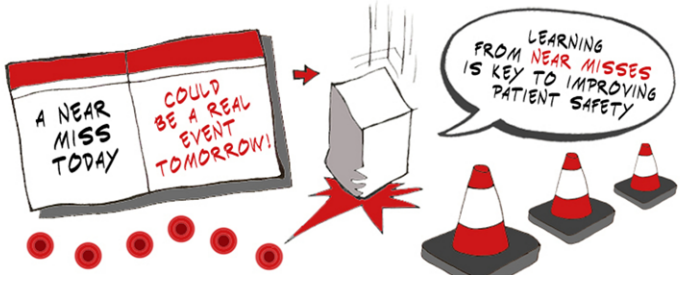
Abbreviations used in this chapter

ADU	Avoidable delayed or under/overtransfusion	**ID**	Identification
BMS	Biomedical scientist	**Ig**	Immunoglobulin
DOB	Date of birth	**LIMS**	Laboratory information management system
EPI	Electronic patient identification	**NHS**	National Health Service
EPR	Electronic patient record	**NM**	Near miss
Hb	Haemoglobin	**RBRP**	Right blood right patient
HCA	Healthcare assistant	**SRNM**	Specific requirements not met
HSE	Handling and storage errors	**WBIT**	Wrong blood in tube
HSIB	Healthcare Safety Investigation Branch	**WCT**	Wrong component transfused
IBCT	Incorrect blood component transfused		

Near miss events continue to account for a large proportion of the events/reactions reported to SHOT (1314/3397, 38.7%) however the number of reports included, and the proportion of total reports has decreased this year, n=1314 in 2019, compared to n=1451 in 2018.

Near miss events do not cause harm but if undetected have the potential to do so. Investigations into the cause of near misses will enable a more proactive approach to safety. Potential system failures and hazards can be identified and corrected before harm or injury occurs. Recognising and reporting near miss incidents can significantly improve transfusion safety and enhance the safety culture within healthcare.

The long-term aim of an incident reporting system, such as SHOT, is to help reduce incidents that result in harm while moving towards increased reporting of near miss events for future learning.



SHOT
Serious Hazards of Transfusion

Discussion of near miss errors in other categories

Near miss cases have been reviewed and discussed in each relevant chapter for this report, and Table 12.1 shows the chapters that include near miss events according to SHOT definitions.

Categorisation of all near misses according to SHOT definitions		Discussed in chapter	Number of cases	Percentage of cases
Incorrect blood component transfused (IBCT)	Wrong component transfused (WCT)	Chapter 9	849	64.6%
	Specific requirements not met (SRNM)	Chapter 9	94	7.2%
Handling and storage errors (HSE)		Chapter 10	164	12.5%
Right blood right patient (RBRP)		Chapter 13	162	12.3%
Adverse events related to anti-D immunoglobulin (Anti-D Ig)		Chapter 8	33	2.5%
Avoidable, delayed or under/overtransfusion (ADU)		Chapter 11	12	0.9%
Total			**1314**	**100%**

Table 12.1: Possible outcomes from near miss incidents if not detected

Wrong blood in tube (WBIT) incidents make up 728/849 (85.7%) of all WCT near miss events and have been analysed and reported separately in this chapter.

12a Near Miss – Wrong Blood in Tube (WBIT) n=728

Author: Pamela Diamond

Definition:

- **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**

Key SHOT messages

- Obtaining correct patient details on admission and on registration is paramount to avoid incorrect merging or generation of multiple patient records. There must be robust methods for ensuring that the correct wristband is generated and worn by the right patient. All subsequent treatments and analyses depend on this
- Minimum identification criteria must be sufficient to uniquely identify the patient
- Pre-transfusion sampling policies must be in place based on best practice. Staff should be trained to these policies and deemed competent before performing the stipulated tasks

Recommendations

- Involve the patient in their own care by allowing them to confirm their identity, where possible. This will prevent errors
- Ensure there are robust checking procedures in place on application of the wristband and appropriate, subsequent positive patient identification, whether manual or electronic

Action: Ward managers and clinical educators

- There should be policies in place to detail the procedures for amending patient records

Action: NHS Trusts/Health Boards

Introduction

Wrong blood in tube (WBIT) continues to represent the largest proportion of near miss events (728/1314, 55.4%). Although this is the lowest figure since 2014 (Figure 12a.1), it would be optimistic to hope that this may be the beginning of a downward trend in the number of WBIT incidents reported.

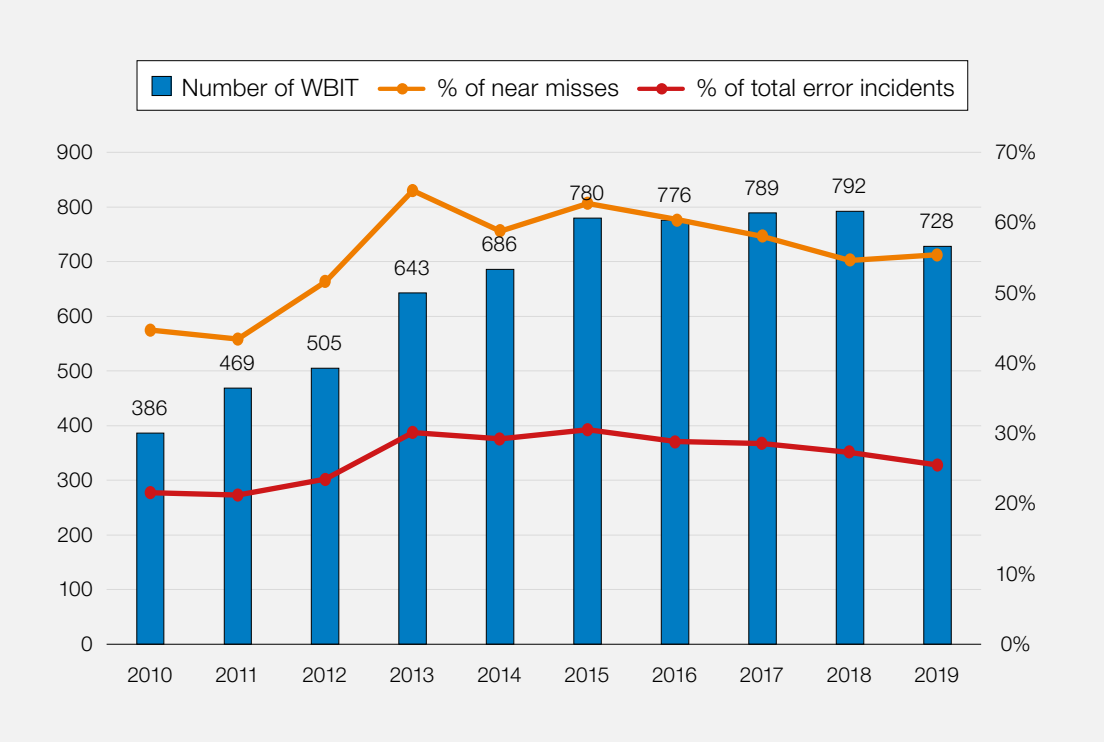


Figure 12a.1: Reports of WBIT 2010 to 2019

ABO-incompatibility

The known group of the patient and the incorrectly attributed group as a result of a WBIT were included in 569/728 (78.2%) of reports. The breakdown of these groups may be seen in Table 12a.1.

Patient group	Group attributed to patient if not detected as a WBIT					
	Group A	Group B	Group AB	Group O	Compatible	Incompatible
Group A	34	31	12	113	147	43
Group B	39	5	5	34	39	44
Group AB	11	5	1	8	25	0
Group O	160	45	16	50	50	221
Totals	**244**	**86**	**34**	**205**	**261**	**308**

Table 12a.1: Incorrectly attributed group as a result of a WBIT

In 88/728 (12.1%) cases the reports did not state the group and, for 71/728 (9.8%) of reports, no groups were determined due to non-testing of samples, prior warning being given by the ward or the hospital transfusion laboratory was informed of discrepancies in other laboratory investigations or clinical details.

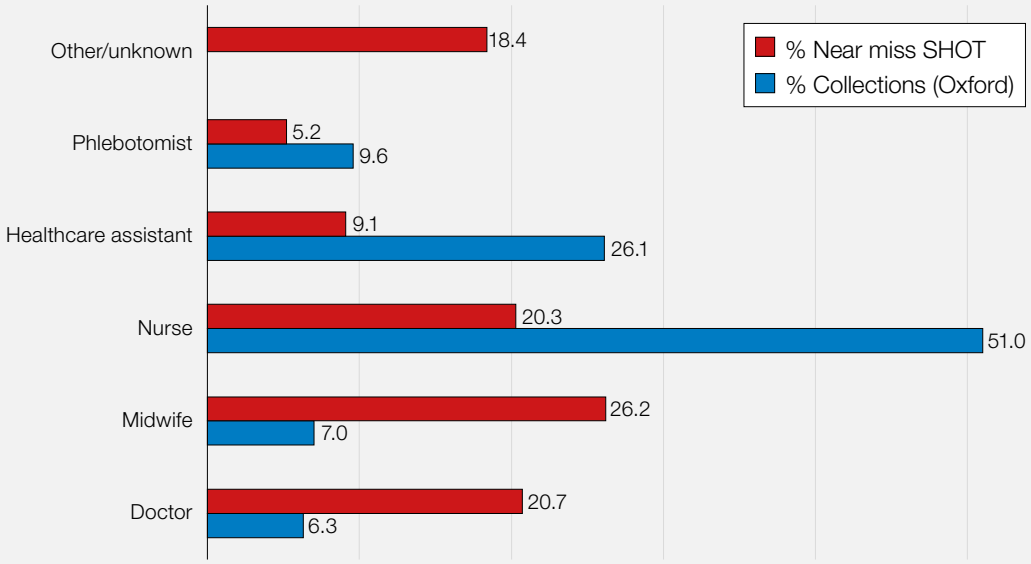
If blood had been required and the error gone undetected, in 261/569 (45.9%) cases the red cell transfusions would have been compatible, however, 308/569 (54.1%) could have resulted in an ABO-incompatible red cell transfusion with potentially life-threatening complications.

Inadequate or inappropriate anti-D immunoglobulin (Ig) prophylaxis

There were 253/728 (34.8%) of WBIT samples taken from pregnant women. Of these, 188/253 (74.3%) were WBIT where groups were identified, 113/253 (44.7%) there was no difference in D status. In 30/253 (11.8%) the patient would have been incorrectly identified as D-negative. The remaining 45/253 (17.8%) would have been wrongly grouped as D-positive.

Who takes the samples?

Figure 12a.2: Staff groups responsible for taking the WBIT samples reported to SHOT (n=728) compared with staff groups who take transfusion samples in Oxford Hospitals November 2019 to January 2020 (n=17593)

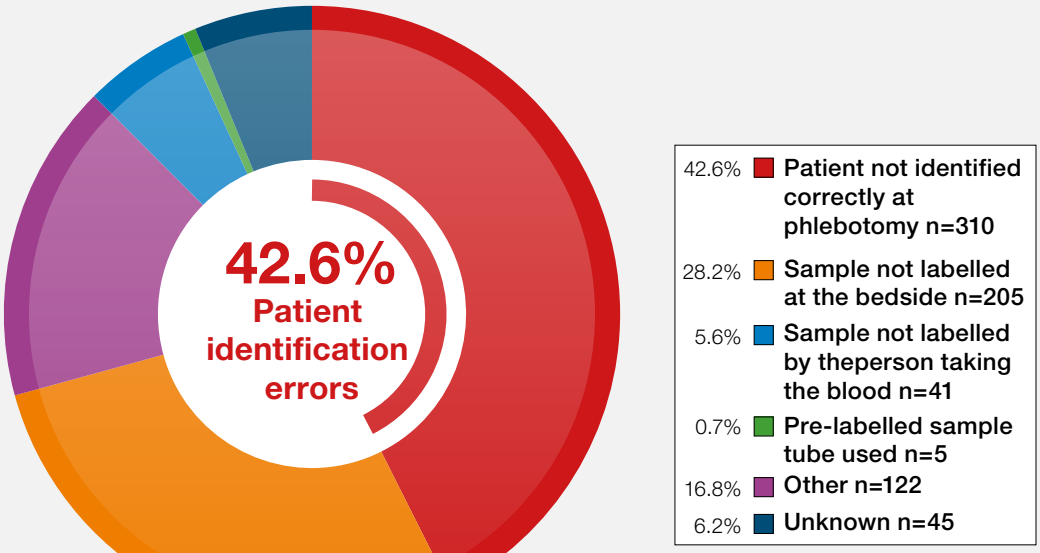


Denominator data have been supplied by the Oxford University Hospitals NHS Foundation Trust. Midwives and doctors continue to be over-represented, whereas phlebotomists and nurses and healthcare assistants are under-represented following comparison against the percentage of transfusion samples taken by the equivalent staff group in Oxford hospitals.

What goes wrong?

Primary sampling errors

Figure 12a.3: Primary sampling errors



Patient not identified correctly at phlebotomy

Guidelines have been developed (NICE 2012) however the performance of healthcare professionals does not always follow recommended clinical practice. This may be due to extra constraints placed on the staff member or lack of awareness and training.

The most common reason stated for WBIT events was a failure to identify the patient correctly at phlebotomy 310/728 (42.6%).

Studies have shown that involving the patient in their own care can lead to improvement in professional practice (Fonhus et al. 2018, Bolz-Johnson et al. 2020).

Case 12a.1: Incorrect information given by care home

Patient A was admitted to hospital from a care home, however the care home gave hospital staff incorrect details of Patient B who has dementia. Patient A told the staff his correct name and date of birth (DOB) but was ignored due to incorrectly informed staff assuming the patient had dementia. A member of the radiology department staff queried the patient's identification details but were told that the patient was 'just confused'. Due to departmental pressures, Patient A was not clerked by a doctor for more than 5 hours after admission. It was at this point the doctor noticed that the patient was not confused, and the medications were for a completely different patient. The details were checked with the lucid patient, who was confirmed as Patient A. The blood samples taken from Patient A were identified as 'wrong blood in tube' as the blood group did not match that on record for Patient B and all results were removed from Patient B's record.

This case demonstrates the importance of prompt and accurate patient clerking. Fortunately, no harm came to the patient, but there is real risk in assuming all previous information provided is complete and not performing an accurate evaluation of the patient with fresh eyes.

It is important to ensure that the minimum patient identification criteria are sufficient to uniquely identify the patient, and that local processes for pre-transfusion sample taking are clear. Responsibility for the incident should not be attributed to the sample taker for not following the correct procedure or policy if this policy is not available, or if staff have not been trained and competency-assessed.

Learning point

- Minimum patient identification criteria should be sufficient to uniquely identify the patient

Patients with the same name and date of birth can't happen?

Case 12a.2: Incorrect selection and editing of patient address leads to WBIT

A biomedical scientist (BMS) in the transfusion laboratory was contacted by the ward to alert them that a group and save sample had been labelled incorrectly. The patient was admitted as an emergency with suspected myocardial infarction and under pressure to rapidly admit the patient, a healthcare assistant (HCA) selected an incorrect patient from the electronic patient record (EPR). This incorrect record had the same forename, surname and DOB as the admitted patient, however, the address did not match so this was edited by the HCA. When addressograph labels and identification (ID) bands were printed, the correct forename, surname, DOB, and address were present but the hospital numbers were incorrect. The group and screen sample was taken during an emergency procedure by a doctor - it was witnessed by a nurse who then labelled the sample, using an addressograph label, as the doctor was scrubbed and unable to label it themselves.

The patient was asked to confirm their ID, which matched the ID band, however the error in hospital number remained undetected. When relatives arrived the details were checked and the HCA realised their error.

Case 12a.3: Incorrect wristband and subsequent failure to positively ID patient leads to WBIT

A surgical patient was booked into the EPR under an incorrect record, which differed only by hospital number and year of birth. An incorrect wristband was generated and applied to the patient. Two group and save samples were taken from the patient by two different members of staff who both used request forms containing the incorrect details, and did not note a discrepancy when asking the patient for their DOB. The error was not initially detected by the laboratory as the details on the samples matched the request forms. The error was discovered when a third sample was taken later in the day which was labelled with the patient's correct details and generated the same blood group and positive antibody screen result.

It is important that full positive patient identification is performed when taking blood samples as records may be very similar.

Electronic identification systems

The use of electronic patient identification (EPI) systems has been shown to result in a lower incidence of WCT and near misses such as WBIT compared to manual processes (Murphy et al. 2019).

The Healthcare Safety Investigation Branch (HSIB) recommend (Recommendation 2019/46) that hospitals should take steps to ensure '*the adoption and ongoing use of electronic systems for identification, blood sample collection and labelling'* (HSIB 2019).

However, 57/728 (7.8%) of incidents mentioned EPI and resulted in WBIT. This was either due to a system being used incorrectly or being present in the department but not used because it was not working properly or staff had not been appropriately trained.

Sample labelling errors

There were 205/728 (28.2%) reports where the sample was not labelled at the bedside. The reason 'other' was listed in 122/728 cases (16.8%) these included; registration errors 8/122 (6.6%), the use of pre-labelled sample tubes 5/122 (4.1%), historical errors being discovered 3/122 (2.5%) and possible identity fraud 2/122 (1.6%).

Case 12a.4: Failure to check wristband at registration and subsequent failure to positively ID patient leads to WBIT

A patient was admitted to the ambulatory care unit with a haemoglobin (Hb) of 61g/L and was clerked as another patient with the same name but different DOB, address and hospital number. Two crossmatch samples were taken by the same assistant practitioner 23 minutes apart as the patient was previously unknown to the blood transfusion laboratory (one sample using EPI and the second being handwritten). The patient grouped as B D-positive on both samples and blood was prepared. Upon completing bedside verbal administration checks on an inpatient ward, the nurse found that the patient's DOB did not match either the wrist band or the blood compatibility label. The blood was immediately returned to the laboratory, the patient was readmitted under the correct details and received two units of red cells the following morning.

Case 12a.5: WBIT due to multiple patient records and incorrect merging

A WBIT incident was queried when a sample for group and screen was received for a patient who had a previous group recorded as B D-positive but tested as A D-negative. A prior WBIT incident had been investigated 3 years previously when the sample received also grouped as A D-negative. This patient's record had been amended multiple times and had six different hospital numbers and two different National Health Service (NHS) numbers present. Investigation found that the patient record had been merged incorrectly 3 years previously and none of the suspected samples were WBIT incidents.

Learning point

- Transfusion requirements must be considered when creating policies and procedures for merging patient records on the laboratory information management system (LIMS). Errors will continue to occur unless those performing record merges have the appropriate knowledge

Conclusion

Regardless of whether patient identification is manual or electronic, it is imperative that this is correctly determined. This is the simplest way of involving the patient in their own care and can prevent adverse clinical outcomes. Appropriate minimum identification criteria should be established and adhered to. Registration and merging of patient records should be standardised with a policy in each healthcare setting to reduce the risks associated with incorrectly merging records. If electronic systems for patient identification are available, they should be utilised correctly by appropriately trained staff.

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