15 Laboratory Errors n=742 (535 transfused errors and 207 near miss)

Authors: Victoria Tuckley, Nicola Swarbrick, Peter Baker and Heather Clarke

Abbreviations used in this chapter

ABOi	ABO-incompatible
APML	Acute promyelocytic leukaemia
BMS	Biomedical scientist
cffDNA	Cell-free fetal deoxyribonucleic acid
EBMS	Electronic blood-management system
ED	Emergency department
EI	Electronic issue
EQA	External quality assessment
FBC	Full blood count
FFP	Fresh frozen plasma
Hb	Haemoglobin
HCPC	Health and Care Professions Council
HDU	High dependency unit
HSE	Handling and storage errors
IBCT	Incorrect blood component transfused
IBGRL	International Blood Group Reference Laboratory
ICU	Intensive care unit
Ig	Immunoglobulin
LIMS	Laboratory information management system
MHRA	Medicines and Healthcare products Regulatory Agency
PCC	Prothrombin complex concentrate
PTT	Pre-transfusion testing
RBRP	Right blood right patient
SCD	Sickle cell disease
SOP	Standard operating procedure
SRNM	Specific requirements not met
UK	United Kingdom
UK NEQAS	UK National External Quality Assurance Scheme
UKTLC	UK Transfusion Laboratory Collaborative
WCT	Wrong component transfused

Key SHOT messages

- IBCT-SRNM events were the most common category of transfused laboratory errors accounting for 156/535 (29.2%) in 2023
- The most common category of transfused laboratory errors occurred at the testing step, 192/535 (35.9%)
- Major morbidity due to sensitisation to the K antigen continues to occur (n=4 in 2023)
- Laboratory delays contributed to 1 patient death (imputability-probable), and 3 cases of major morbidity in 2023
- Many incidents were related to insufficient staff knowledge in non-routine situations
- Common contributory factors include staff shortages, poor skill mix, lone working, education, ineffective IT, communication issues and poor safety culture

Recommendations

- Patients should not die or suffer harm from avoidable delays in transfusion. Where transfusion needs are complex, laboratory staff should have access to and follow specialist advice to provide the most suitable component available. Hospital policies and processes must reflect this
- Staff must have protected time for training and education to provide a safe service

- Bespoke operational roles should be considered for project/change implementation to ease the pressure on routine staff
- Policies for lone working should be reviewed to identify when extra support or reallocation of tasks are required
- A just and learning safety culture should be implemented to improve the safety of patients and staff members, and to ease the existing recruitment and retention pressures in the laboratory

Action: Transfusion laboratory managers

Introduction

There has been an increase in laboratory errors which resulted in transfusion, 535/1764 (30.3%) of total errors in 2023 compared to 431/1542 (28.0%) in 2022. Laboratory near misses were 207 in 2023 compared to 220 in 2022. The largest category of laboratory errors were IBCT-SRNM events, 156/535 (29.2%), which remains a consistent theme within laboratory errors (Figure 15.1). There was also an increasing trend in giving the incorrect blood group to patients undergoing haematopoietic stem cell transplants. Please see further information in Chapter 10, Incorrect Blood Component Transfused (IBCT) and 'Recommended resources'. Human factors related to laboratory errors are discussed in the supplementary information on the SHOT website (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2023/).

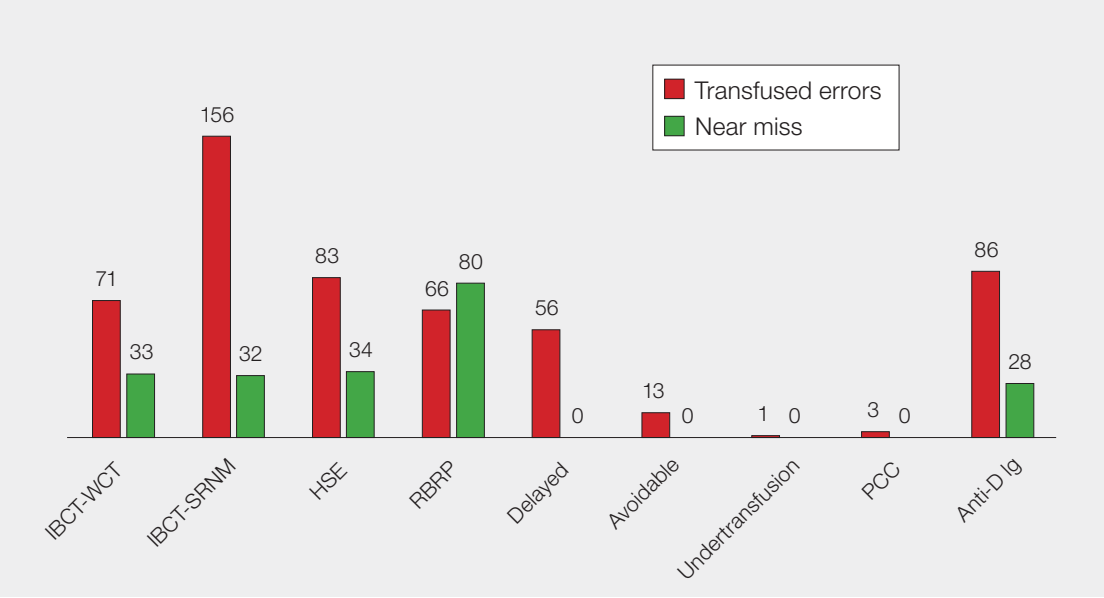
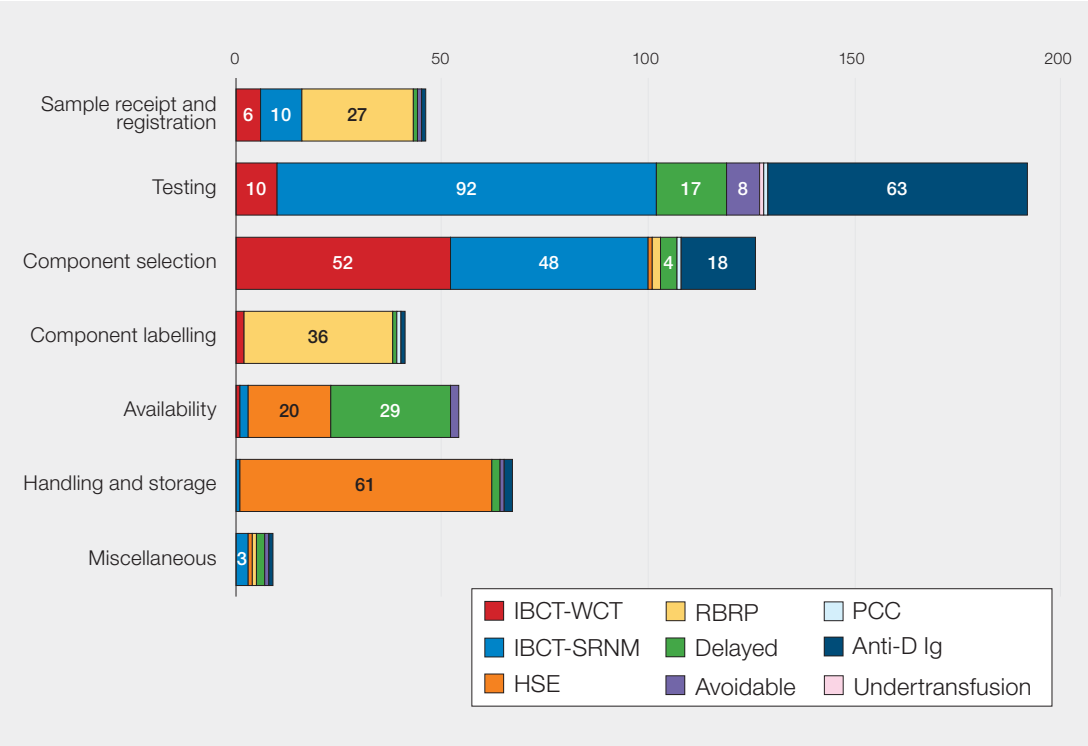


Figure 15.1: Laboratory errors and near misses by reporting category in 2023 (n=742)

IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin

In 2023, categorisation of errors at the component labelling, availability and handling and storage transfusion step, have been separated into three constituent steps to gain focused learning. These are now categorised as component labelling errors, availability errors, and handling and storage errors. Errors occurring at the testing step are, as in previous years, the highest source of error within the laboratory 192/535 (35.9%) (Figure 15.2).

Figure 15.2: SHOT laboratory data across all categories showing the stage in the transfusion process where the primary error occurred (n=535)



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors; RBRP=right blood right patient; PCC=prothrombin complex concentrate; Ig=immunoglobulin
Note: numbers <3 are too small to be annotated on the figure

Deaths related to transfusion n=1

There was 1 death in 2023 where there was a delayed transfusion caused by an error during haematology testing (imputability 2).

Case 15.1: Death probably related to delay in platelet transfusion, due to laboratory results being suppressed pending film review

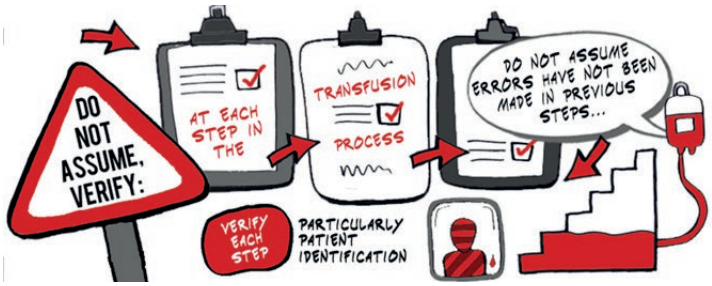
A patient with undiagnosed APML presented in the ED at 9pm on day 1. An FBC sample showed a Hb of 39g/L, white cell count of 86x10^9/L and platelet count of 15x10^9/L. Results were reviewed by BMS 1 who had not been signed off on FBC validation whilst BMS 2 was taking a break. A routine blood film was requested, and an urgent review was not flagged. The platelet count was not visible to clinical staff, as reporting parameters required it to be confirmed by blood film. The FBC result was not phoned through to the clinical area. Red cell transfusion commenced around 03:00 on day 2. The high white cell count was referred by the ED to the clinical haematology department using the routine referral system, and was not flagged as urgent, therefore it was not viewed by the haematology team until 11:00 on day 2. After seeing this result the blood film was reviewed urgently, and the diagnosis of an acute leukaemia was made. The critically low platelet count and diagnosis was available to the clinical teams at around 11:20 on day 2. There was over a 12-hour delay in the diagnosis of an acute leukaemia and commencement of urgent chemotherapy. This also caused a delay in coagulation testing, which was requested around 12:30 on day 2 and the fibrinogen result was 1.8g/L. However, when the fibrinogen level dropped to 1.2g/L on day 3 this was not escalated as an urgent referral as it was above the local threshold for telephoning results. Cryoprecipitate was not administered for another 7.5 hours after the result was available on day 4. Treatment was initiated urgently with blood component support, but the patient developed a subdural haemorrhage and died.

Upon investigation, there was a communication failure between the BMS staff. BMS 2 originally requested that BMS 1 looked at the FBC results and make any blood films that were needed. This was interpreted as being asked to validate the results. Local action was to remind BMS 1 to act within their scope of responsibility. Within the laboratory, inadequate staffing levels and skill mix had already been raised within the organisational risk register and has subsequently been escalated to the divisional director.

APML is a specific form of acute leukaemia characterised by severe coagulopathy which can rapidly lead to death through haemorrhage. The provisional diagnosis can be made based on the appearance of the blasts on the blood film. If suspected, specific APML therapy will be given immediately. For this reason, all patients newly presenting with suspected leukaemia in the ED require a coagulation screen and discussion with haematology urgently, so that appropriate treatment can be initiated.

Learning points

- Staff should never be expected to perform tasks they do not feel they have sufficient knowledge or expertise to do
- Clinicians who order blood tests have a responsibility to follow up and review test results so as to initiate appropriate management
- Provision of essential blood components for patients may depend on timely availability of relevant haematology/coagulation test results, necessitating prompt release of these results



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Major morbidity n=7

There were 7 cases where laboratory errors contributed to major morbidity, 4 cases of IBCT-SRNM causing sensitisation to the K antigen in patients of childbearing potential, and 3 cases of delays, 2 of which caused admission to the ICU or HDU, and 1 case where a patient went into peri-arrest before being given red cells (Case 15.2).

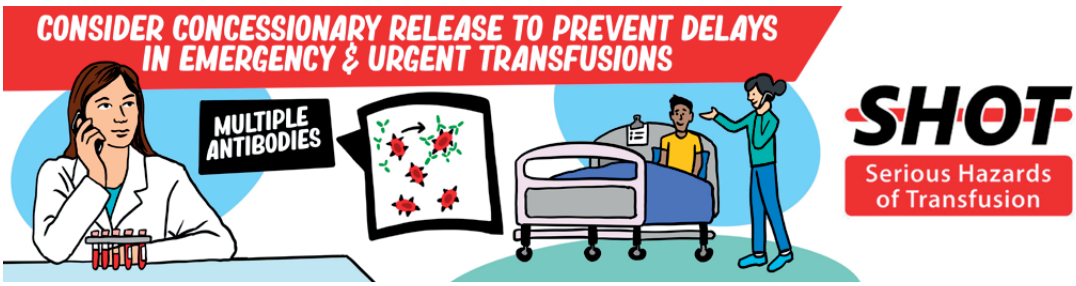
Case 15.2: Communication failure causes delay and major morbidity

A patient with SCD and a Hb of 45g/L was admitted in crisis. The patient had a progressive anaemia with multiple antibodies therefore frozen red cells were ordered from the Blood Service. The following morning, the patient deteriorated with peri-arrest, hypoxia and acidosis. One red cell unit was transfused at 08:00. The transfusion consultant advised to administer further red cell units although fully compatible units would not be available for some hours. The laboratory was advised by the consultant haematologist to select ABO, Rh, K matched red cells at 09:00. The laboratory was contacted at 11:30 to ask about availability of the blood. The patient was finally transfused after midday and recovered from this episode. The transfusion delay was caused by communication failure, poor venous access for sampling and staff inexperience with issuing the best available red cells due to the presence of multiple red cell antibodies. The staff are now aware that if blood is required urgently the clinical team can request red cells to be issued using concessionary release before testing is complete.

Learning point

- Guidance for concessionary release should be detailed within an SOP and should form part of competency-assessments or scenario-based training drills within the laboratory (Milkins, et al.,2013; Stanworth, et al., 2022)

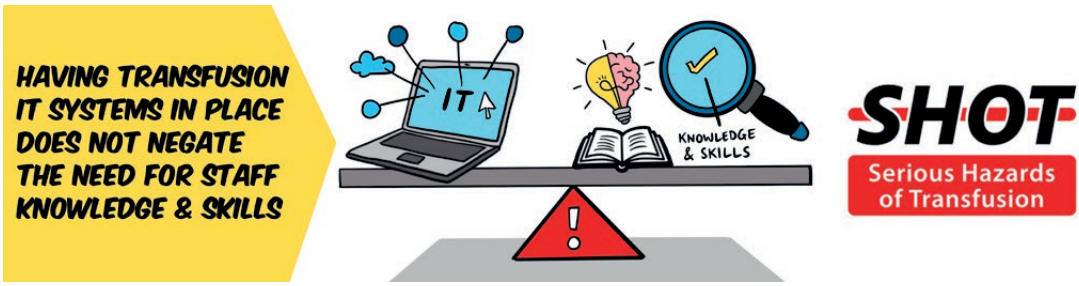
Further cases of laboratory errors impacting upon delays can be found in Chapter 12a, Delayed Transfusions.



ABO-incompatible transfusions n=2

Two laboratory errors resulted in ABOi FFP transfusions, one to an adult and the other to a child. Both errors occurred at the component selection step.

The 1st case involved transfusion of four group O FFP to a group B patient during a major haemorrhage protocol activation. The patient suffered no adverse effects. In the 2nd case, 5mL of group O high-titre negative FFP was transfused to a neonate who was group A. They appeared to be group O upon testing of one sample only (policy stipulates two groups required for this action); however, the laboratory was subsequently informed that the patient had been transferred and had received one unit of group O emergency red cells at a previous site. These cases are discussed in more detail in Chapter 10, Incorrect Blood Component Transfused (IBCT).



Laboratory themes 2023: Laboratories under increasing pressure

Many complex and interacting themes were observed within the laboratory data in 2023. These are similar to those observed in 2022, with additional pressures being observed, presenting an increasingly complicated picture (Figure 15.3).

Figure 15.3: Additional pressures on transfusion laboratories evident in 2023 SHOT data

Errors by step in the transfusion process

Transfusion step		Pressure points	Learning points
Sample receipt and registration n=64		Data entry and information not being inputted into the LIMS from the request form	The use of end-to-end electronic systems should prevent most transcription errors and allow pertinent clinical information to be automatically transmitted to LIMS
46 errors↑	**18 NM↔**		
Testing n=206		Errors mostly due to failure to follow procedure 101/192 (52.6%)	LIMS should have appropriate controls to prevent issue of blood components without appropriate testing, in the absence of a clinical concession All incorrect cffDNA results should be reported to SHOT
192 errors↑	**14 NM↓**		
Component selection n=197		Incomplete knowledge of several transfusion principles including • Group changes in transplant patients • Patient groups requiring phenotype-matched components • Anti-D and anti-K	Laboratories should have clear procedures for blood grouping requirements in transplant patients Laboratories should have a clear procedure for concessionary release and be aware of when to escalate potential delays in obtaining blood components to clinical teams
126 errors↑↑	**71 NM↑↑**		
Component labelling n=115*		Component labelling errors were mostly detected by a formal bedside checklist, 51/74 (68.9%) Many incidents stated label verification software could have detected the error earlier, or that it was in place but not used	Label verification software can detect many component labelling errors before the component is released to the clinical area The use of a laboratory exit checklist or pre-administration checklist can assist in identifying component labelling errors
41 errors	**74 NM**		
Component availability n=66*		Communication in emergencies Lack of clear procedures to return blood components which no longer meet requirements (e.g., expired component or expired sample) Please also see Case 15.5 in the supplementary information	Laboratories should have a clear procedure for concessionary release and be aware of when to escalate potential delays in obtaining blood components to clinical teams Clear communication between laboratory staff and clinical teams is vital to prevent transfusion errors. Policies, procedures, and advice from experts should be easily accessible Patients should never be transfused unnecessarily when not clinically indicated to avoid wastage of blood stocks
54 errors	**12 NM**		
Component handling and storage n=78*		Timely response to temperature-monitoring software	Laboratories should have clear procedures regarding component quarantine and return to stock parameters
67 errors	**11 NM**		

Table 15.1: Laboratory errors by step in the transfusion process (n=742)

There were an additional 9 errors and 7 NM classed as 'miscellaneous' which are discussed in the supplementary information on the SHOT website (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2023/)

**These transfusion steps are new for 2023 therefore comparison with previous data is not available*

Sample receipt and registration errors resulted in:

- Compatibility labels with incorrect patient information due to data entry errors
- Patients receiving components which were not irradiated, or were of the incorrect blood group due to not identifying information on the request form and/or LIMS

Testing errors resulted in:

- Patients receiving blood components prior to testing being completed
- Incorrect management of anti-D Ig due to incorrect cffDNA screening predictions
- Delays in provision of blood components
- NM errors mostly resulted in potential incorrect management of anti-D Ig

Component selection errors resulted in:

- Incorrect group components being transfused to transplant patients
- Provision or potential provision of components which were; incorrect phenotype/not antigen-negative, K-positive to patients of childbearing potential and not irradiated
- Incorrect provision of anti-D Ig to patients with immune anti-D or to those with a D-negative infant

Component labelling errors resulted in:

- Transposition of labels on blood components intended for the same patient
- NM errors mostly resulted in potential RBRP errors

Component availability errors resulted in:

- Delays in provision of blood components, or expired blood components being available when they should have been discarded

Component handling and storage errors resulted in:

- Transfusion or potential transfusion of components with incomplete cold chain or reservation period exceeded

Abbreviated and accelerated training

The results of the UKTLC survey 2022 showed increasing recruitment and retention issues within the transfusion laboratory workforce, with concerns raised relating to the number, suitability, and calibre of applicants for HCPC registered roles. Most respondents felt that newly qualified HCPC registered BMS had a poor level of transfusion education. These recruitment and retention issues are occurring alongside an increase in workload (60.8% saw an increase in workload). A concerning trend of 'abbreviated and accelerated training' has been observed within reports submitted to SHOT, in which staff are being allowed to work alone and outside of routine hours with only selected competency-assessments completed. In these circumstances there may also be a delay in receiving additional training required, as once a staff member is 'signed off' for lone working they are traditionally compliant with all training requirements. In environments when staffing provision is already at critically low levels any further training may 'slip through the net'. This compounds the initial risk of working without adequate knowledge for all tasks. Similar concerns have been noted with approved abbreviated training programmes for junior doctors (Chivers, 2023).

Cases 15.6 and 15.7 in the supplementary information for this chapter highlights errors where staff were allowed to participate in lone working before they were fully trained.

Lone working

Laboratory data in 2023 showed that errors occur at a disproportionate rate when individuals were lone working. A total of 431 reports provided an answer to the question 'Was the member of staff lone-working at the time of the incident', with 160/431 (37.1%) staff lone-working. Lone working is usually instigated outside of core hours when the workload is anticipated to be lower than in the routine working day. The UKTLC standards 2024 state that staff should have access to specialist transfusion laboratory advice outside of routine working hours (Dowling, et al., 2024), however in the UKTLC survey 2022, 45.9% had no formal arrangement for support. Lone working may be considered a risk factor for transfusion errors, and laboratories may wish to evaluate when lone working is necessary, or other methods to alleviate pressures when a member of staff is working by themselves. Case 15.3 describes how many different laboratory pressures may be influencing inadequate testing and substandard patient care.

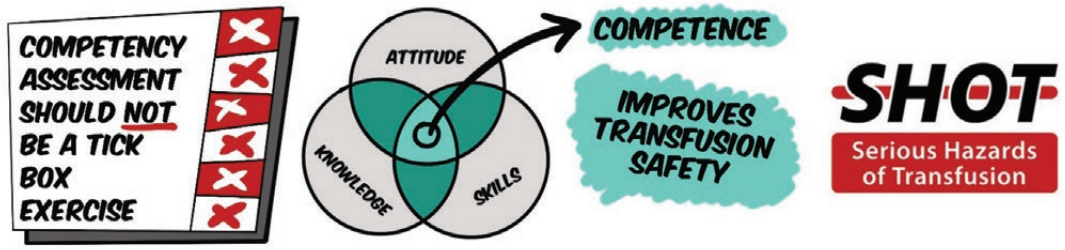
Case 15.3: Lack of staff knowledge leads to inappropriate editing of results and incomplete testing when lone working

A sample was received from a patient requiring red cell transfusion postoperatively when the BMS was lone working in the laboratory. The analyser flagged the sample as haemolysed, and the results were validated and accepted by the BMS rather than being rejected, as the BMS did not know how to reject a haemolysed sample. There was no result in the patient reverse group (B cells) and the BMS inappropriately amended the result to a 3+. The LIMS excluded the patient from EI and highlighted the requirement for a serological crossmatch due to the group amendment. The BMS was unaware that a modification would de-select EI and entered a negative reaction (compatible) into the crossmatch result, even though no test had been performed, due to the patient not having any antibodies or alert flags.

Although the BMS was deemed competent, they were bank staff who did not routinely work core hours and were previously employed as a transfusion BMS within the organisation. This incident happened over a weekend where there was no second checker available. The reporter identified that samples prior and after this incident were suitable for EI suggesting there was a primary issue with the sample being tested at the time.

This case illustrates the importance of laboratory staff having regular knowledge updates and practical time within the laboratory. The UKTLC standards 2024 state that all staff should have a minimum of 10 routine working days within the laboratory, so that they can be informed of changes in practice and receive appropriate support from senior staff (Dowling, et al., 2024).

It also illustrates that competency-assessment can often be a point of weakness if it is completed as a one-off tick box exercise. Scenarios and questions within competency-assessments should also be regularly updated in light of changes in practice or following learning from patient safety incidents. The 2019 UPTAKE model of competency-assessment can be found in the 'Recommended resources' for this chapter.



IT implementation

In 2023, 287/535 (53.6%) of all laboratory error reports were assessed to have an IT component, with the most common reason for this being cited as a lack of functionality to support safe practice.

Many laboratories in the UK are undergoing IT implementation projects – either through the introduction of electronic blood-management systems, integration with new electronic patient record or new LIMS systems. Introduction of new IT systems can temporarily increase the workload pressures within the laboratory along with challenges relating to migrating data and changes in functionality from older systems. These factors may temporarily increase the risk of errors occurring when there is no extra staffing provision or expertise made available to manage such projects. New guidelines relating to IT within the transfusion laboratory have recently been published and can be used as a source of information for any laboratories implementing new IT systems (Staves, et al., 2024).

Safety culture in the transfusion laboratory

In November 2023 a survey was undertaken by SHOT and the UKTLC, with input from the MHRA haemovigilance team, to examine safety culture within transfusion laboratories in the UK. Many of the results were concerning. The recommendations from the survey report should be implemented to improve safety culture within laboratories. A link to the survey summary can be found in the 'Recommended resources' for this chapter.

Case 15.4 below illustrates the impact of a poor safety culture on staff decision-making and the potential to generate error.

Case 15.4: Laboratory safety culture and leadership issues influence a component selection error

A patient with thalassaemia received red cells which did not match their Rh and K phenotype. The requirement for phenotype-matched components was recorded in the LIMS (despite an initial mistaken diagnosis of sickle cell disease being communicated). An additional step to highlight this requirement in the patient notes field on the LIMS was not completed which resulted in the BMS

not selecting phenotype-matched red cells.

During investigation the BMS stated they were multi-tasking and rushing, and the event happened at a weekend when there were less staff available than normal. The report stated that staff do not have the correct amount of protected time to develop their knowledge and are less prepared to deal with complex cases. Additionally, the BMS stated they felt they were 'being watched' and there was a blame culture within the laboratory. Leadership and staffing issues within the laboratory had been identified during a recent inspection. Corrective actions included updating SOP for issuing phenotype-specific blood and potential changes to LIMS but did not mention culture issues identified.

It is encouraging to see that systemic problems were identified and specific actions were put in place, however the impact of poor leadership and culture cannot be underestimated.

Conclusion

Transfusion laboratories are under escalating pressures, and this is reflected in the steep increase in laboratory errors in 2023. It is evident that many of these events were preventable and would potentially not have occurred in periods of proper staffing and resource allocation. There has been a reduction in staffing availability, change in education of newly qualified staff and increased workload alongside many necessary improvement projects. Transfusion laboratory professionals need to be appropriately supported so they may continue to provide high-quality patient-centred services.

Concerning results observed in the 2023 laboratory culture survey may be a direct result of this increased pressure and a service approaching breaking point. It is essential that staff members are able to acknowledge and escalate when patient and professional safety concerns arise. In the face of a challenging working environment, staff members should feel valued for the lifesaving work they do every day.

Despite these challenges, laboratory staff are working tirelessly to provide support to patients. There are 4 cases within Chapter 6, Acknowledging Continuing Excellence in Transfusion (ACE) which illustrate excellent communication, collaboration and focus on patient safety by transfusion laboratory staff.

SHOT would like to acknowledge the unwavering commitment, dedication, and tireless efforts by all staff in transfusion especially in the laboratories, who work under immensely stressful situations to save and improve lives.

UK Transfusion Laboratory Collaborative update

Authors: Kerry Dowling and Jennifer Davies

The UKTLC continues to work in partnership with key stakeholders in the transfusion process aiming to improve transfusion safety. This year the 2023 UKTLC standards have been published in Transfusion

Medicine and have been welcomed by the laboratory community. The standards aim to help laboratories in four main areas (staffing, education, IT and a just culture). The standards are evidence based to reduce errors occurring in the transfusion laboratory and were updated to reflect changes in practice and support transfusion laboratories with current challenges.

The 2022 UKTLC survey highlighted staffing, workload, and education challenges, this is reflected in the laboratory errors reported to SHOT. Gaps in transfusion knowledge, lack of specialised staffing resource and inability to meet staffing levels required in capacity plans impacts the laboratories' ability to provide a safe and stable service. Positively, 86.5% of the survey respondents had a capacity plan in place, however respondents noted a lack of compliance with the plan and highlighted deficiencies in both staffing numbers and skill mix. Where capacity plans are not met escalation to Trust/Health Board management is required detailing the risks and impacts with reference to the requirements of BSQR 2005.

The 2023 culture survey has highlighted further concerns with a theme of incivility in the working place, a lack of psychological safety and a pressure to present an inaccurate assessment of the severity of incidents. This coupled with the staffing and workload pressures is a cause for concern for transfusion safety. Recommendations have been released in response to this survey and the UKTLC is working with partners to highlight these issues.

The implementation of IT systems such as 'electronic blood-management systems' remains a challenge for hospitals as demonstrated by the UKTLC survey where a third of respondents had no EBMS in place. The 2023 UKTLC standards recommend implementation of these systems to their full functionality to support safe transfusion practices.

In May 2023, the UKTLC survey findings and new standards were publicised in two webinars. A joint UKTLC, SHOT and MHRA webinar in June 2023 explored key aspects of incident investigations, regulatory framework, the use of human factors and ergonomics, and the importance of effective interventions. Recordings of these webinars can be accessed on the UKTLC page of the SHOT website (https://www.shotuk.org/resources/current-resources/uktlc/), along with other resources, including survey results and tools for compliance with the standards.

This year, the UKTLC will continue to work with key partner organisations to help laboratories improve transfusion safety including staff education and IT strands of work.

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UK NEQAS update

Authors: Richard Haggas and Claire Whitham, UK NEQAS BTLP

Participation in EQA offers the chance to learn from errors. The errors made in EQA exercises can be viewed as 'free lessons', as appropriate corrective action can be taken before the error occurs with a clinical sample.

As in other years, 'procedural' errors (errors caused by sample or result transposition, and/or data transcription into the UK NEQAS website) continue to be a significant cause of penalty during 2023. On this occasion, there were ABO grouping errors made, when during a PTT 'R' exercise, one laboratory labelled the samples and recorded the results in a non-standard order, and this was not noticed during data entry. Compounding this grouping error, the laboratory also reported two incorrect phenotypes and the theoretical deselection of a donor unit due to the blood group being incorrect. Three other

laboratories, across more than one exercise, recorded correct grouping reactions but reported an incorrect blood group interpretation. Since ABO/D grouping and antibody screening tests are largely automated, with automatic transmission of results to the laboratory information management systems (LIMS), the errors seen in EQA for these tests may not be fully representative of a similar error in a clinical situation, where the automated processes are functioning as intended. However, during analyser and/or LIMS downtime, these procedural errors acquire a greater significance in terms of risk to the patient.

'Procedural' errors also account for a high proportion of missed compatibility and missed incompatibility during crossmatching. During the PTT 'R' exercises, several laboratories made errors in crossmatching due to various factors; these include incorrectly labelling the samples when booking into the LIMS, making data entry errors, and transposing samples during testing. Where tests are still performed manually, with no automated transmission of results to the LIMS, the risks of procedural errors are a constant that should be mitigated as far as possible. Although most LIMS will prevent the issue of ABO-incompatible units, when IT systems fail this safeguard is not available and manual checking of groups on donations is required. This is also the situation with EQA samples, and it is important to check the group of donors prior to making decisions on theoretical compatibility. When testing samples, or entering data for EQA samples, it is important to check that the data is being recorded and transcribed against the correct patient or donor; this also applies to the positive identification of the sample being tested, data entry of results of manual testing of clinical samples into a LIMS, or in the event of LIMS downtime. Care should be taken to confirm the identity of all samples before testing. For clinical samples, this requires a full check of the patient demographic details to ensure that results are assigned to the correct patient. EQA samples should be subject to the same process with a check of the patient number and exercise code on each sample.

Like ABO and D grouping, antibody screening sees very low error rates. Although few in number, false-negative antibody screens can have a significant impact, particularly in laboratories employing electronic issue as a means of establishing compatibility. As in 2022, there was a repeat occurrence of a laboratory obtaining negative reactions during the initial screen for a plasma sample containing an antibody. Repeat testing after the closing date showed expected results; an investigation showed the original result had a low liquid level flag which had not been actioned as per the local policy. Flags against reactions or results on an analyser are intended to draw attention to a problem with testing, and laboratories should have a policy in place for handling all flags to ensure invalid results are not accepted.

Interestingly, this year there have been a small number of examples of donor unit deselection, on grounds that are out with the BSH guidance (Milkins, et al., 2013). Two laboratories deselected two group O D-negative r"r (cdE/cde) donors for a 92-year-old male with a blood group of A D-negative and no alloantibodies. Both laboratories indicated they did not want to select E positive red cells for a D-negative patient; this deselection went against their laboratory policy. Additionally, one further laboratory reported two group O D-negative K-positive donors as incompatible with a male patient with blood group B D-positive and no alloantibodies. According to this BSH guideline, there is no requirement to deselect r"r donor units for issuing to D-negative male patients, or K-positive donor units to male patients, when no alloantibodies are detected, unless the clinical details indicate a specific requirement to do so. Doing this may reduce the availability of rr (cde/cde) units, and K-negative units respectively, for patients who require them to prevent potential sensitisation.

Recommended resources

UKTLC standards
https://onlinelibrary.wiley.com/doi/10.1111/tme.13029

SCRIPT Using Information Technology for Safe Transfusion
https://www.shotuk.org/resources/current-resources/script/

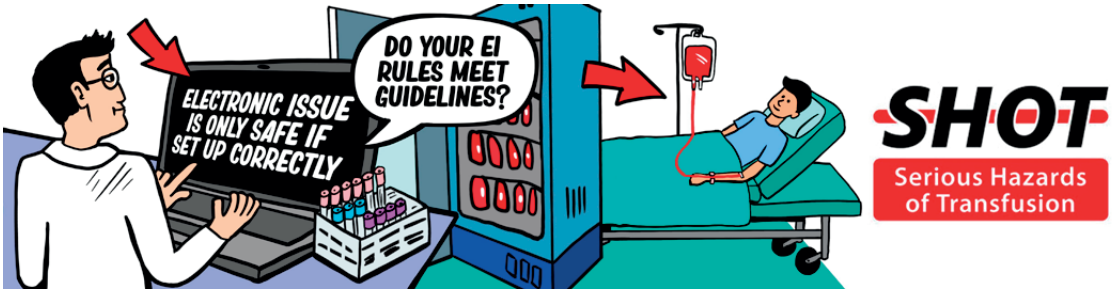
2023 SHOT, MHRA and UKTLC laboratory culture survey summary
https://www.shotuk.org/resources/current-resources/shot-surveys/

UPTAKE model of competency-assessment (page 107, 2019 Annual SHOT Report)
https://www.shotuk.org/shot-reports/report-summary-and-supplement-2019/

SHOT Bite 24: Speaking up for patient safety
https://www.shotuk.org/resources/current-resources/shot-bites/

PAUSE checklist
The laboratory component labelling and exit check
https://www.shotuk.org/resources/current-resources/

Concessionary release example template (Appendix 9)
https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1365-3148.2012.01199.x



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