UKNEQAS BTLP and SHOT 2023 report

Uninterpretable ABO - blood grouping, group allocation and component issuing

Introduction

Background

Serious Hazards of Transfusion (SHOT) accepts reports of serious adverse events (SAE) and reactions (SAR) relating to blood transfusion in the UK, which include where incorrect blood component transfused (IBCT) events have occurred. These have the potential to cause major morbidity or patient death, as evident in the 2023 Annual SHOT Report data. These errors accounted for 356/3833 (9.3%) of all reports analysed by SHOT in 2023.

Blood group interpretation by the transfusion laboratory is a critical stage of the transfusion pathway. Where ABO grouping results are uninterpretable, this can impact on the ability of the laboratory to determine a blood group and issue suitable and timely components.

Where an ABO group cannot be determined, allocation of a 'safe' or 'most likely' blood group to issue blood components may have unintended consequences on other areas who may use this information such as organ donation teams who use the blood group assigned to the donor to determine suitability of organs. The safest ABO group to a blood recipient may not be the safest to an organ recipient.

N.B. uninterpretable (UI) – this terminology will cover uninterpretable, unidentifiable, mixed field reaction, dual population, discrepant and unresolved blood group results, as there may be variations in wording in local policies and procedures.

Laboratory information management systems (LIMS) with the capability of recording uninterpretable (UI) as ABO blood group against a patient record can allow transfusion teams to issue blood components with associated LIMS rules and algorithms. This could also prevent misinterpretation by clinical areas that a group had been determined. Transfusion teams should not rely on emergency O red cells, as many LIMS are capable of issuing named patient group O red cells with or without a blood sample.

UKNEQAS exercise details

UKNEQAS exercise **23R5** was distributed on 22 May 2023, and provided an additional sample for **Lucas Skywalker**, DOB 15/10/1994, with the scenario that this patient was from a transferring hospital to the local Intensive Care Unit following a road traffic collision. The scenario was designed to simulate a dual population of red cells, arising from transfusion of emergency O-D Positive red cells pre-hospital admission to a A-D Positive patient.

Participants were requested to perform a group and antibody screen on the sample and report the findings. They were also asked to complete a SurveyMonkey questionnaire relating to the results and the subsequent issue of blood components.

The exercise 23R5 was sent to 323 UK participating laboratories, of which 317/323 (98.1%) submitted exercise results. The SurveyMonkey questionnaire was open to all participants and was completed by 254/323 (78.6%) responders.

Not all laboratories answered all the questions as they were non-mandatory, and therefore the denominator may differ between questions. This was an educational exercise, and the questions were **non-scoring and voluntary**, and the responses will aim to inform policy.

Aim of exercise

The aim was to assess the interpretation of mixed field (MF) reactions obtained during testing and the action that would be taken in terms of selection of blood components; this included decisions made both with and without a transfusion history being provided. The questionnaire also asked about the reporting of an uninterpretable blood group on LIMS.

This exercise was designed by UK NEQAS BTLP, in partnership with SHOT and UKTLC (United Kingdom Transfusion Laboratory Collaborative). Anonymised data from UK laboratories has been shared with SHOT and UKTLC. All three organisations would like to thank all laboratories for participating in the exercise. Your results will be used to inform recommendations and resources made by SHOT and UKTLC.

The UKNEQAS report can be access via the UKNEQAS homepage https://ukneqas.org.uk/ using local organisations registration details.

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Executive summary of findings from UKNEQAS exercise

Distribution and demographics
Exercise 23R5 was sent to 323 UK participating laboratories of which 317/323 (98.1%) submitted exercise results
254/323 (78.6%) laboratories completed the SurveyMonkey questionnaire relating to the additional sample

Key highlights
Testing and component issue
Over 85% of responses identified the ABO group as uninterpretable (UI) following testing of one transfusion sample, but 12% determined as group A even though sample gave mixed field results
97% of responders would have issued the safest option of group O red cells, and 98% would have issued appropriate ABO group FFP. 3% would have issued group A red cells following the first sample with a mixed field result
Communication
After receiving additional information from **Air Ambulance**, 28.0% said this **would** change their group interpretation
After receiving additional information from the **transferring hospital BMS,** 65.7% said this **would** change their group interpretation
Information technology
63% LIMS **allow** entry of **uninterpretable blood group** (e.g., UI) as a blood group interpretation
35% LIMS **did not allow** enter of uninterpretable blood group. These organisations stated LIMS was not capable of recording UI as an ABO group against the patient record, and LIMS had no plans to implement this change. Blood components could still be issued as 34% LIMS allowed **issue without a group**, 30% would **enter a 'safe' group**, 12% would enter the **mostly likely group**, and 24% gave site specific responses
65% stated LIMS allowed issue of red cells **without a group on record**
6% stated their LIMS would allow **EI** if grouping results had been **edited**, against BSH guidance
Wide variety of LIMS suppliers currently in use, and **>60 LIMS software versions** in use. Many responders were unsure of their LIMS version
93% stated that if there was anything unusual about blood group that this would appear on the EPR as a comment/flag
Reporting of results to clinical areas
17% stated that they were able to release **interim blood grouping** results, and when updated the clinical areas would be informed by either telephone, EPR flag, tag, or pop-up message

Editing/amending grouping results
Adding comments to patient's transfusion record – most organisations only allowed registered BMS staff (95%), advanced specialist BMS (91%) and transfusion laboratory managers (87%) to add comments. Smaller numbers allowed trainee BMS (17%) and support staff (10%) to add comments
Deleting comments from the patient's transfusion record – most organisations only allowed registered BMS staff (57%), senior BMS (75%) and transfusion laboratory managers (80%) to delete comments. Small numbers of organisations allowed trainee BMS (3%) and support staff (1%) to delete comments
Amending/overwriting historical blood groups – nearly all organisations only allow registered BMS (33%), senior staff (74%) and transfusion laboratory managers (83%) to amend/overwrite historical blood groups. One organisation would allow trainee BMS staff to amend/overwrite historical blood groups
Policies relating to discrepant groups
Although 94% had a policy for **investigating discrepant blood groups**, 4% did not and 2% did not respond
Of these **policies**: 92% included unknown patients, 89% post HSCT patients, 79% antenatal patients, and 64% organ donors
59% did not have a policy which covered what to do if you were contacted by the organ donation team for a **blood group**
51% did not have a policy which covered what to do if you were contacted by the organ donation team for **pre-transfusion samples**

Conclusions

Results indicated 85% of responders identified a UI result from the UKNEQAS sample, yet only 2/3 of these organisations would have been able to enter UI as a result into their LIMS. Of the 1/3 unable to record UI as a blood group, responders stated their LIMS was not capable or configured to record a UI result against a patient record. If a blood transfusion was required in these organisations many had identified a local work-around which included issuing without a group, by entering a 'safe' group (i.e., group O), or by entering the 'most likely' group. All these options must be associated with appropriate algorithms within the LIMS to ensure safe ABO groups are selected at component issue for all component types. Where a 'most likely' group has been entered, use of ABO algorithms may result in flawed decisions.

Transfusion laboratories must be aware of the consequences of allocating a group to a patient when ABO result is unresolved i.e., 'safe' group O or 'most likely' group, as this grouping result may be made available to the clinical areas including organ donation teams. The group assigned to the donor may subsequently be based on an incorrect blood group, leading to major or minor incompatible transplants with potential negative outcomes for the recipients including organ rejection. Laboratories also need to be aware that selection of a safe group 'O' only applies to red cell transfusion, and not to other blood components such as plasma components (BSH, 2018) and platelets. (BSH,2016).

A safe group for a transfusion recipient, assumed group 'O', is not the safe group for solid organ transplant. Uninterpretable blood groups must be clearly documented and flagged in all relevant IT and paper reporting systems to ensure transfusion and transplant safety.

The survey results noted that 91% responders had a bidirectional interface between the blood grouping analyser, with many transferring reaction grades, group interpretations, and reaction edits. Less organisations were able to transfer analyser flags and comments made on the analyser.

There were wide variations in the process for interpreting groups when they could not be automatically interpreted which included amending the interpretation on LIMS, the reactions grades on analyser, interpretation on analyser and the reactions on LIMS. Local policies must be clear for staff when dealing with uninterpretable groups, with a standard practice employed. This will ensure the correct algorithms can be associated with the process and safe components issued.

Most EPR systems could receive blood groups transmitted from LIMS and were capable of alerting clinical areas when there was anything unusual about the result through flags, alerts, comments, and pop-up boxes.

Some organisations could issue interim results, viewable by clinical areas. When new results were available the clinical area would be notified via telephone, or adding alerts, flags and pop-up boxes in EPR.

Many organisations had policies for investigating uninterpretable blood groups which included a variety of patient groups including unknown patients, antenatal, HSCT, and organ donors/recipients. Nearly 60% of organisations did not have a policy which covered what to do if you were contacted by the organ donation team for a blood group to ensure they are provide with the correct blood group, informed of any anomalies, and provided with transfusion history.

It is good to note that many organisations have maximised potential for IT within their systems. LIMS providers should work with organisations and comply with UK national guidance to ensure the systems are compliant with guidelines for safe practice, have systems in place to ensure safe provision of blood components where a blood group cannot be confirmed, and that algorithms and rules are available to ensure appropriate ABO group can be issued in relation to all component types.

Recommendations

The following recommendations are grouped according to relevant areas to address gaps and optimise safety

Staff knowledge - dealing with uninterpretable groups

- Organisations should have a local procedure detailing the process for dealing with uninterpretable groups which includes identification, investigation, resolution, and transfusion management of patients with ABO/D discrepant results.
- These policies should include dealing with discrepancy of unknown cause, antenatal patients, post-BMT/PBSCT transplant recipients, and organ donors.
- Staff should be aware of how to issue blood components when a blood group is uninterpretable (UI)
- Staff should be aware of the implications of reporting an uninterpretable group (UI) in relation to blood component issue and viewable results in the clinical area. The implication of entering a 'safe' blood group in order to issue blood components must be considered in relation to organ donation teams.

Information technology - LIMS management of uninterpretable groups

LIMS providers

- LIMS providers should ensure that the LIMS does not allow EI where blood group results have been edited. Cases where EI is currently allowed in these circumstances must be reviewed by laboratory management and LIMS provider for urgent resolution.
- LIMS providers should ensure that the LIMS can record an uninterpretable blood group, ABO and/or D, that can be reported to results systems/LIMS/EPR.
- LIMS providers should ensure that the LIMS has a pathway for provision of safe and appropriate red cells where a blood group (ABO/D) has not been determined. This should use existing processes, with informed decisions when allowing overriding of warnings. This pathway should not be reliant on use of an emergency group O release process that does not include algorithms for matching or alerting to the presence of transfusion specific requirements including, red cell antibodies, antigen negative requirements, irradiated, washed, CMV negative, HbS negative.

Transfusion laboratories

- Organisations should have a local policy detailing the process for dealing with uninterpretable groups which includes identification, investigation, resolution and transfusion management of patients with ABO/D discrepant results.
- These policies should include dealing with discrepancy of unknown cause, antenatal patients, post-BMT/PBSCT transplant recipients, and organ donors.
- LIMS systems should be fully auditable to allow scientists to view blood groups that have been manually edited, but original or ambiguous groups to be visible in audit trails.
- LIMS notes/alerts must be visible, clear, and not easily ignored or overridden.
- Where the LIMS currently requires a blood group to be entered to release red cells, there must be a robust process for selection of red cells, plasma and platelets.
- If anomalous/unresolved blood groups are reported to the clinical teams there should be a process to alert the clinical team to any updates, revisions, or confirmation of the blood group.

Amending/editing grouping results in LIMS
• Organisations should have policies detailing the which staff grade/banding can alter ABO groups in LIMS • There should be a specific SOP and competency assessment for altering ABO groups to ensure the impact of such changes are understood and process is performed correctly. • Where possible, different levels of LIMS access should be applied for those working at different staff grades/bandings to prevent unintentional/inappropriate edits occurring.
IT Interfaces
• Organisations should have access to automated analyser 24/7. • Where edits are made on the analyser or middleware systems, there must be effective mechanisms in place to prevent EI in the LIMS. • Where analyser interface and/or middleware, does not transfer analyser flags, comments, and reaction edits there must be an effective process for ensuring that these are available on the LIMS.
Organ donation
• Organisations should have a local procedure detailing the process for dealing with queries from organ donation teams regarding blood groups of organ donors and any transfusion history. • Laboratories should have a process for identifying organ donors who have received transfusions for traceability and recall purposes.

SHOT Resources	
Good practice guidance document for managing indeterminate ABO blood groups to support safe decision-making, including summary and final report	Good practice guidance document for managing indeterminate ABO blood groups to support safe decision-making - Serious Hazards of Transfusion
Annual SHOT Reports	SHOT Annual Reports and Summaries - Serious Hazards of Transfusion (shotuk.org)
SHOT Bite No 18 detailing errors in Haemopoietic Stem Cell Transplant patients	SHOT Bites - Serious Hazards of Transfusion SHOT Bites (shotuk.org)
SHOT guidance to safe transfusions in HSCT patients	Current Resources - Serious Hazards of Transfusion (shotuk.org)

Data analysis

The following data is a full detailed analysis of the UKNEQAS exercise and survey data, using UK only responses.

ABO D grouping results

Group allocation (based on one group and screen)

ABO Blood group interpretation		D interpretation	
UI (uninterpretable)	217/254 (85.4%)	**D-Positive**	215/254 (84.6%)
Group A	31/254 (12.2%)	**D-Negative**	38/254 (15.0%)
Group O	6/254 (2.5%)	**UI (uninterpretable)**	1/254 (0.4%)

Component allocation (based on one group and screen)

Red cell issue		Fresh Frozen Plasma issue		Platelet issue	
O D-Negative	197/254 (77.6%)	**Group AB**	173/254 (68.1%)	**A D-Positive**	152/254 (59.8%)
O D-Positive	50/254 (19.7%)	**Group A**	76/254 (29.9%)	**A D-Negative**	45/254 (17.7%)
A D-Positive	3/254 (1.2%)	**Group O**	1/254 (0.4%)	**AB D-Positive**	31/254 (12.2%)
4 did not submit a response		4 did not submit a response		**AB D-Negative**	13/254 (5.1%)
				O D-Positive	6/254 (2.4%)
				O D-Negative	3/254 (1.2%)
				4 did not submit a response	

Findings

97% of responders would have issued the safest option of group O red cells. 1.2% would have issued group A red cells based on only one sample, contrary BSH 2013 guidelines. 98% would have issued suitable ABO group plasma components, i.e., A or AB.

Comments

When a second sample was received, 6 laboratories said they would change the ABO group interpretation to group A.

Communication from clinical area in another organisation

If you had been told by the air ambulance that the patient had received 6 group O red cells would this change the group interpretation?			
No	179/254 (70.5%)	**Yes**	71/254 (28.0%)
More evidence would be required before making an interpretation	156/254 (39.4%)	**Where had determined UI, would now change interpretation to group A**	62/71(87.3%)
Would have made a group determination in the first place	23/254 (9.1%)	**Where had determined group O, would amend interpretation to group A**	3/71(4.2%)

*6 did not submit a response

If you had been told by the air ambulance that the patient had received 6 group O red cells would this change the group of components issued? *			
No	190/254 (74.8%)	**Yes**	60/254 (23.6%)

*4 did not submit a response

Where responded yes this would change the group of components issued n=60					
Red cell issue		**Fresh Frozen Plasma issue**		**Platelet issue**	
A D-Positive	52/60	**Group A**	55/60	**A D-Positive**	55/60
O D-Positive	4/60	**Group AB**	5/60	**A D-Negative**	5/60
O D-Negative	3/60				
A D-Negative	1/60				

Findings

When asked if this information would change the group interpretation 70% responded no, and 28% stated yes, this would change interpretation.

Comments

BMS staff would not change/amend the patient's group or group of the components issued in most responses.

Communication from transfusion laboratory in another organisation

If you had been told by a BMS from the transferring hospital, and received a paper/printable report, stating the patient was historically A D-positive and had received 6 O D+ RBC would this change your group interpretation?*			
No	83/254 (32.7%)	**Yes**	167/254 (65.7%)
More evidence would be required before making an interpretation	48/254 (18.9%)	**A D-Positive**	All 167/167 (100%)
Would have made a group determination in the first place	35/254 (13.8%)	**Of these, what red cell group would now be issued:**	
		Group A	136/167 (81.4%)
		Group O	2/167 (1.2%)
		Did not respond	29/167 (17.4%)

*4/254 did not respond

Findings

When asked if this information would change the group interpretation 65% stated yes, and 33% stated no.

Comments

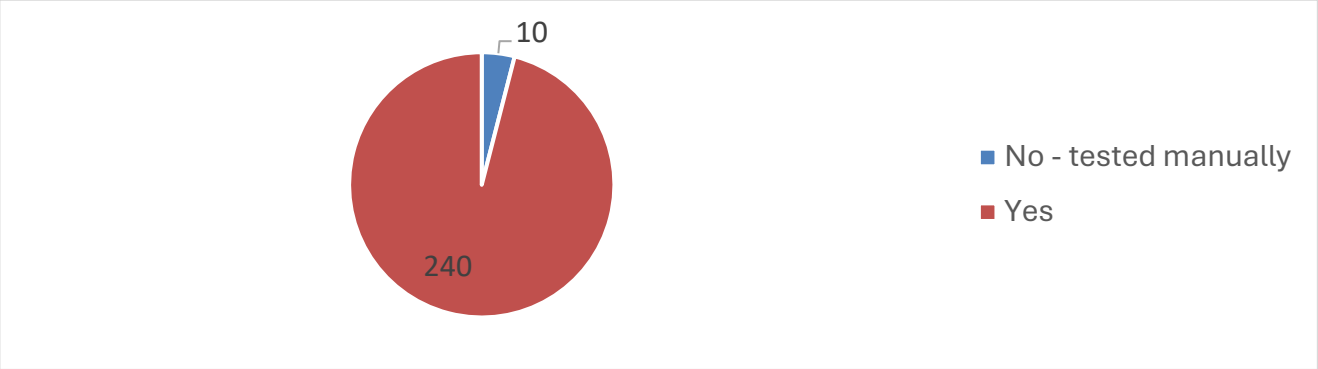
BMS staff would change/amend the patient's group or group of the components issued in most responses.

Overall findings following further communication from both clinical and laboratory routes

After receiving additional information regarding recent emergency blood transfusions, 167 said a BMS contacting the receiving laboratory would change their interpretation, as opposed to 71 who would alter their interpretation when contacted by the air ambulance team.

Testing

Did you perform your testing on an analyser?



What analyser do you use?

Analyser	Number of responses
Ortho Vision Ortho Vision Max	48
Bio-Rad IH-500	44
Bio-Rad IH-1000	43
Grifiols Erytra Eflexis	24
Grifols Erytra	20
Ortho Vision Swift	11
Immucor Echo	7
Grifols WADiana	6
Immucor NEO IRIS	6
Immucor NEO	5
Immucor Echo Lumena	5
Ortho Autocues Innova	4
Ortho AutoVue Ultra	1
Immucor Galileo	1
Other	16
Grand Total	241

Laboratory Information Management Systems (LIMS)

Do you use a LIMS?

250 responded that they use a LIMS, 3 no responses.

Which of the following IT suppliers provides the LIMS currently in use?

IT Supplier	Number of responses
Clinisys	123
DXC/CSC/iSOFT	79
Meditech	8
Technidata	8
MAK systems	7
BSO	5
Bank Manager	4
Haemonetics	4
Other	12

What is the name of your LIMS?

Row Labels	Count of What is the name of your LIMS?
Winpath	64
Telepath	49
Winpath Enterprise	34
LabCentre	19
APEX	19
Meditech	8
eTraceline	7
SUNQUEST	5
iLAB	3
Technidata Nexlabs	3
Bank Manager	4
other 8a	3
LABS	2
TDBB	2
Other 4a	2
Other 2a	2
BSO	2
ILab (Apex)	2
Safetrace Tx	4
Other 6b	2
Other 6a	1
APEX (iLab)	1
iLaboratory	1
iLabs Telepath 2000	1
Masterlab	1

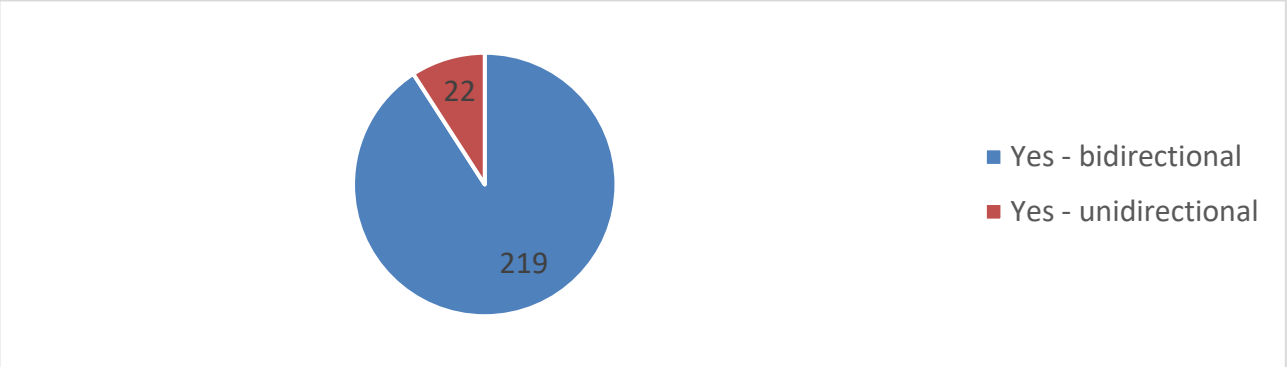
Swift Integrated Healthcare Solutions - Dedalus	1
Other 1a	1
TD NexLabs / Bloodbank	1
TD Synergy	1
Dedalus	1
Other 3a	1
technidata	1
LabCentre/MasterLab	1
DIRECTORATE INFORMATION SYSTEMS	1
Grand Total	**250**

What is the current version number of your LIMS?

There were 203 different versions of LIMS software stated in the responses, and 15 responders did not know their current version of software

Interfaces

Do you have an interface from your analyser to the Laboratory Information Management System (LIMS)?



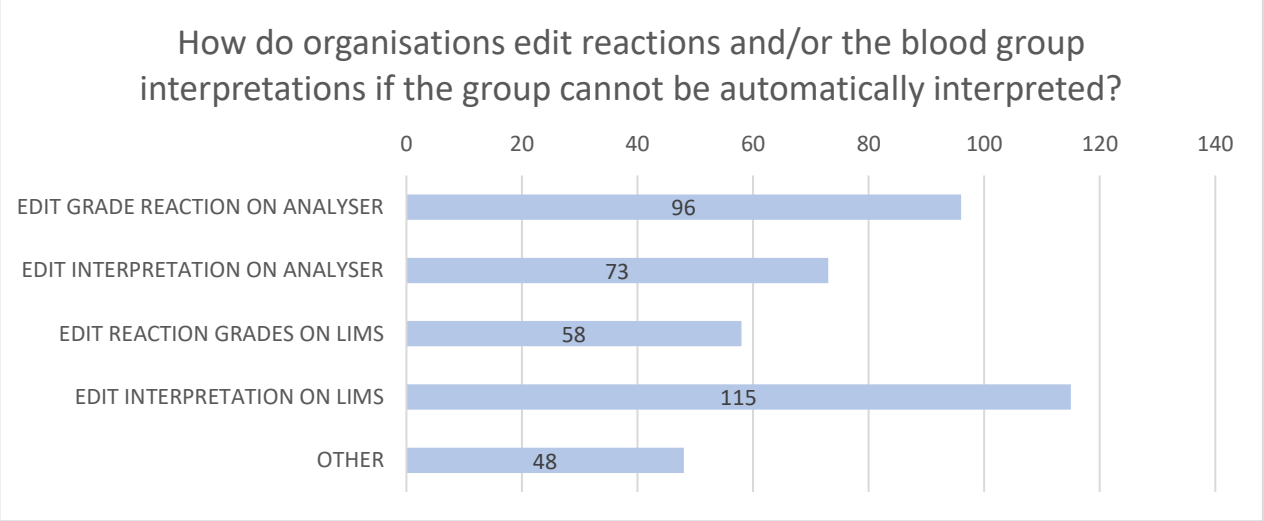
Does the interface transfer the following information from the analyser to the LIMS?

Tick all that apply

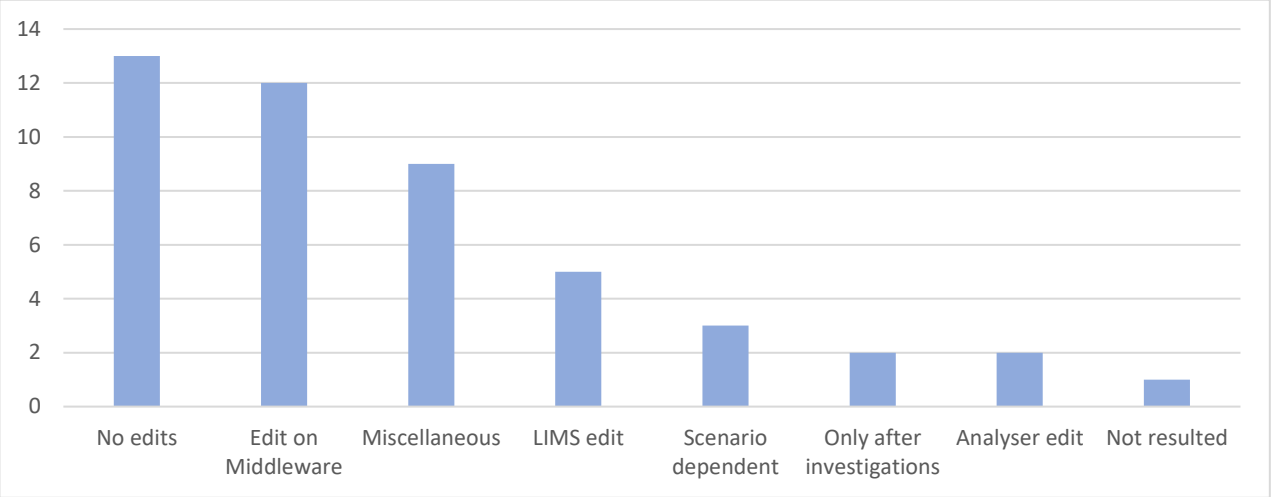
Information	Number of responses
Reaction	203
Blood group interpretation	225
Comments	16
Analyser flags	46
Reaction edits	154

Do you edit reactions and / or the blood group interpretation if the group cannot be automatically interpreted? Tick all that apply

Information	Number of responses
We edit the reactions on the analyser	96
We edit the interpretation on the analyser	73
We edit the reactions on our LIMS	58
We edit the interpretation on our LIMS	115
OTHER	48



Where response was 'Other', how do organisations interpret group where it cannot be automatically interpreted?



Unresolved groups in LIMS

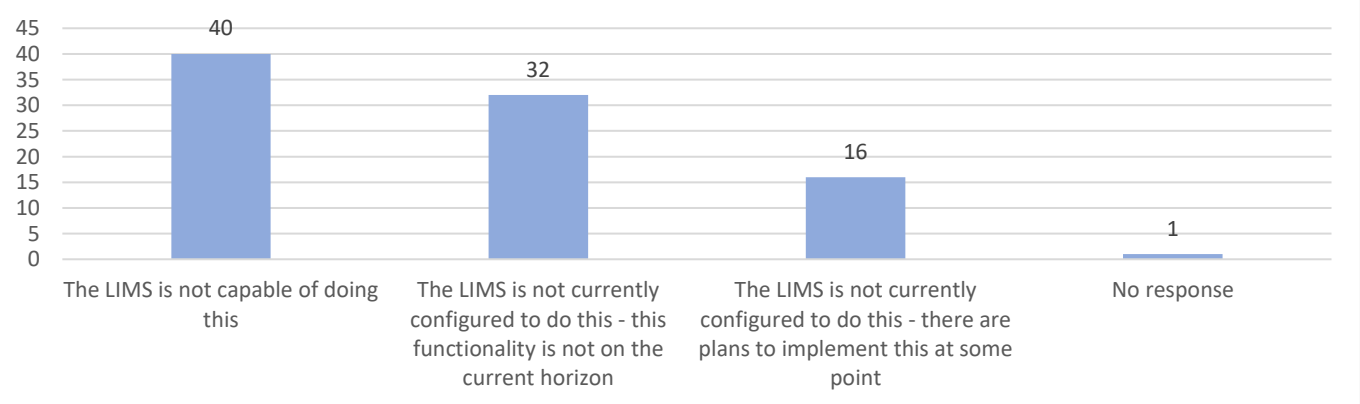
Entering unresolved blood group results into LIMS

Does your LIMS allow you to enter an unresolved blood group (e.g., UI) as a blood group interpretation?*			
Yes	161/254	**No**	89/254
*4/254 did not respond			

LIMS capabilities to record unresolved blood groups

Where responses stated no, they were unable to enter an unresolved blood group (UI) as a blood group interpretation n=89			
LIMS was not capable of doing this	40/89	**LIMS was not currently configured to do this and this additional functionality is not on the current plan to implement**	32/89
LIMS was not currently configured to do this but there were plans to implement this soon	16/89	**Did not respond**	1/89

If your LIMS is unable to record an unresolved blood group, is this because?



How do you report the blood group so that red cells can be reserved?

Where responses stated no, they were unable to enter an unresolved blood group (UI) as a blood group interpretation n=89			
Could issue red cells without a blood group present	30/89	**Would enter a safe blood group (e.g., O D-negative) to ensure only group O red cells can be issued**	27/89
Would enter the most likely interpretation based on the results they have obtained	11/89	**Site specific responses**	20/89

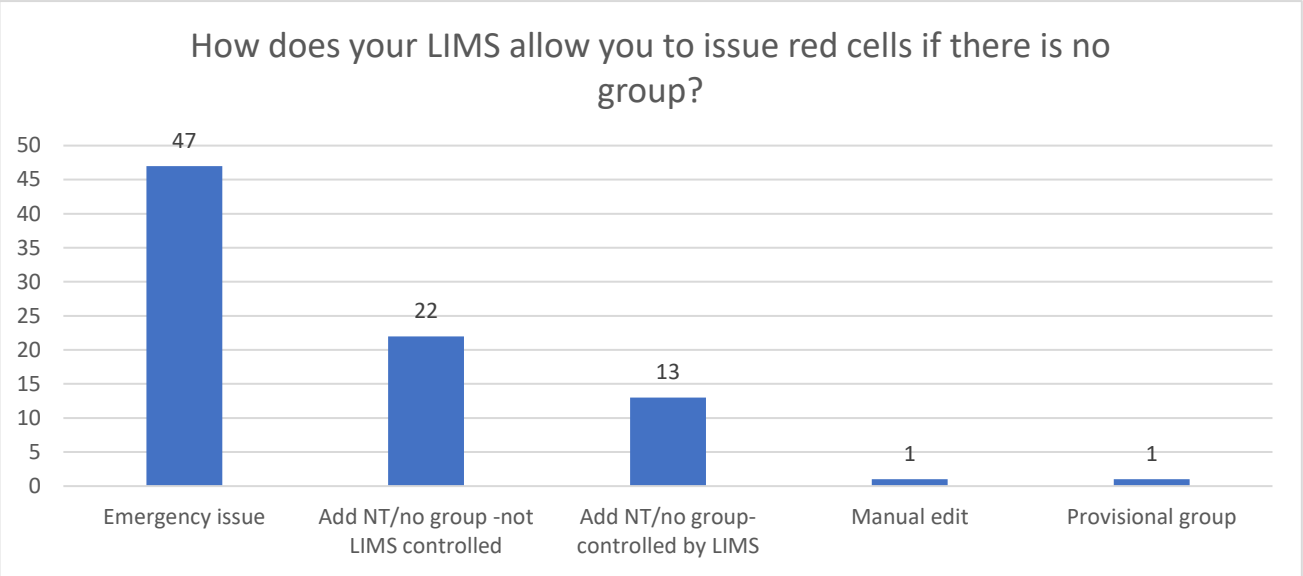
* 1 response blank

Site specific responses	Number of responses
add comment to LIMS to issue only group O red cells only	1
change to unk	1
Emergency Release	1
Enter the most likely group with an internal comment / grouping anomaly comment. It would require investigation	1
Flags are entered with interim group until confirmation	1
Issue emergency o neg units only	1
Issue for emergency patient until able to resolve	1
LIMS will allow issue of group O on an NG Provisional group being entered.	1
provisional blood group allocated after further manual tube technique used.	1
Send to RCI NHSBT	1
Stat issue O Negatives	1
Until a blood group is assigned after investigation, Group O red cells can only be issued	1
We can only issue blood group O without a valid group being present	1
We hold the blood group on the analyser until it can be resolved	1
We issue O RhD Positive if Male and O RhD negative, K negative for female of childbearing age.	1
We issue universal groups for all products until the group can be confirmed.	1
We would contact SNBTS for advice	1
We would issue against 'Emergency Patient' which would then be merged onto patient's record after confirmation of Transfusion.	1
We would not report a blood group, enter a lab comment & issue universal group as appropriate	1
write unit tag comment - agreed process - concessionary release	1
Grand Total	20

Does your LIMS allow you to issue red cells if there is no group on record?*			
No	47/254	**Yes**	114/254 (65.7%)
		Enter a safe blood group (e.g., O D-negative, or O D-positive) and add a comment to allow issue	21/114
		Enter a safe blood group (e.g., O D-negative, or O D-positive) to allow issue	7/114
		Enter the most likely interpretation based on the results they have obtained	1/114
		No response	1/114
		Site specific responses	84/114

*93/254 did not respond

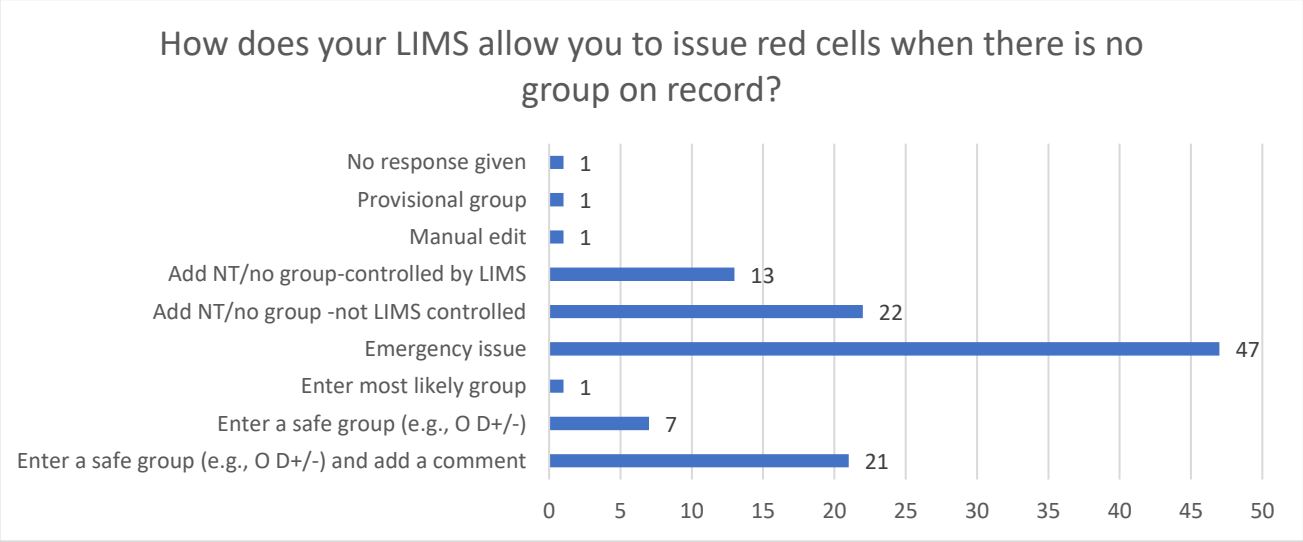
Site specific responses



How does your LIMS allow you to issue red cells if there is no group?	
Would use the emergency group O pathway to issue red cells	47/87
Would add NT/ no group and issue red cells, but it was not detailed whether this is controlled by LIMS	22/87
Would add NT/no group and LIMS controls release of group O red cells only	13/87
Would manually edit the control well to prevent interpretation	1/87
Would enter provisional group to allow compatibility rules to apply	1/87

OR

All results together:



Does your LIMS allow you to add a comment when anomaly with group for that sample?*			
No	7/254	**Yes**	242/254
They were unable to add a comment when there was an anomaly with a group for a sample		They were able to add a comment when there was an anomaly with a group for a sample	
Comments included: • Comments would already be transferred from the analyser • LIMS is not capable of this • Not local policy to add these comments			

*5 did not respond

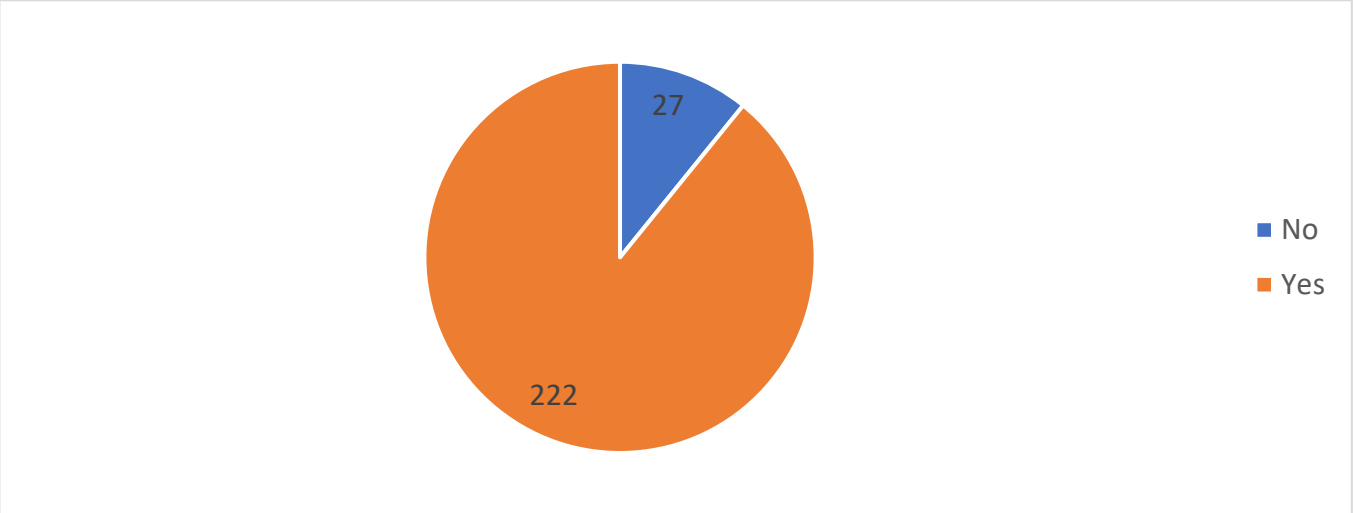
Electronic Issue

Does your LIMS allow Electronic Issue (EI) if results have been edited?*					
No	207/254	**Yes**	13/254	**Did not use EI**	29/254
		Where LIMS did not prevent EI this was due to:			
		LIMS not capable of preventing this	7/13		
		Patient is added to an exclusion list on LIMS	5/13		
		Functionality has not been implemented – planned for future	1/13		

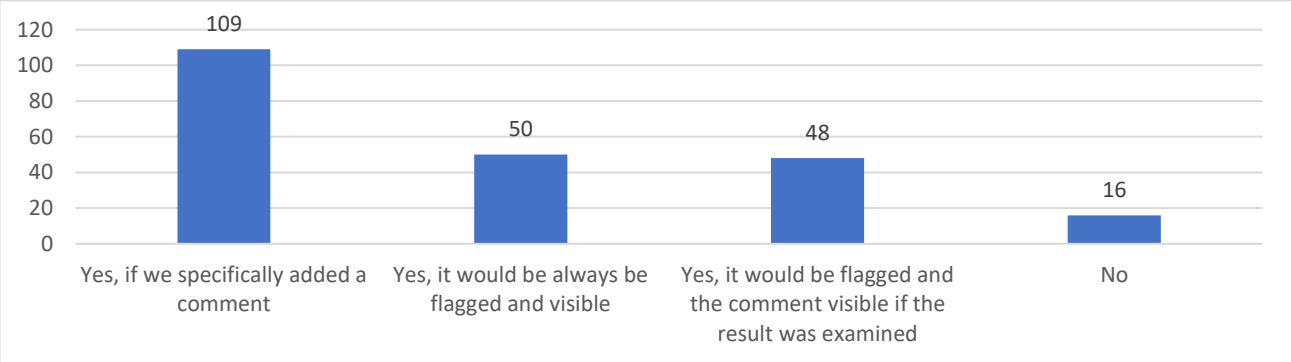
*5 did not respond

Electronic patient record (EPR) viewing of results

Are your blood group results transmitted electronically to a results system/EPR?



If there was anything unusual about a blood group result, would this appear on the results system / EPR

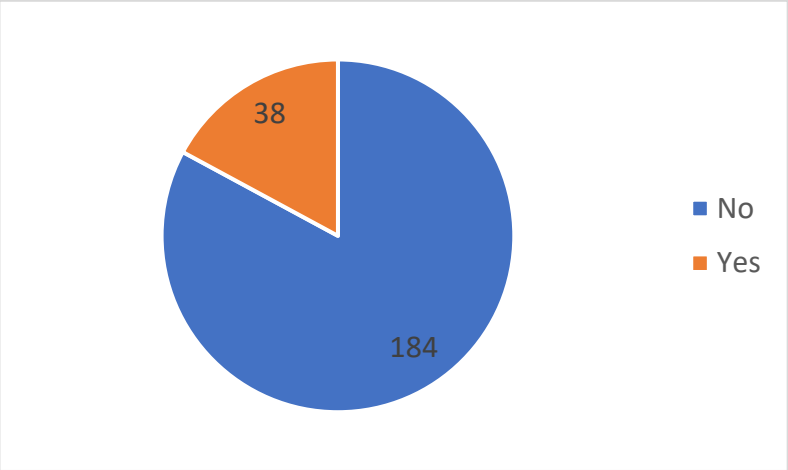


If unusual results are not flagged on the results system / EPR, is this because?

Why results not flagged on the results system/EPR	
Policy is not to do this	6
Results system/EPR is not capable of doing this	5
LIMS not capable of doing this	3

Interim results

Does your LIMS and results system / EPR allow interim results to be released?



How are final / amended results then notified to the clinical team?

Clinical team notified of final/amended results	
Phone call to clinical area	21
Amended results are tagged when viewing the results	8
Results system/EPR has as flag that is visible prior to being viewed	3
Results system/EPR has a pop up message whenever any amended results are available	2

Which of the following results require authorisation on the LIMS prior to release to a results system / EPR? Tick all that apply

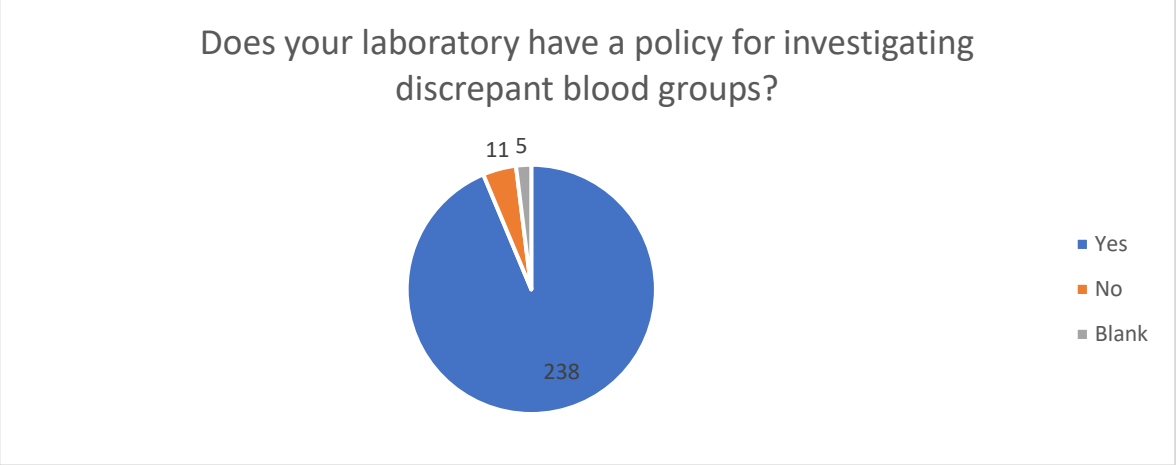
Response	Number
All results	33
First time results (no historical group)	4
Positive antibody screens	5
Anomalous blood groups	5
Blood group mismatch vs. historical group2	4
Any result that has required intervention on the analyser	5
None of the above, everything goes straight from the LIMS to the results system / EPR without intervention	0

Local policies relating to discrepant blood groups

Responders were asked about the implementation of local policies relating to investigating and managing discrepant groups. These questions also included actions relating to amending groups and reports.

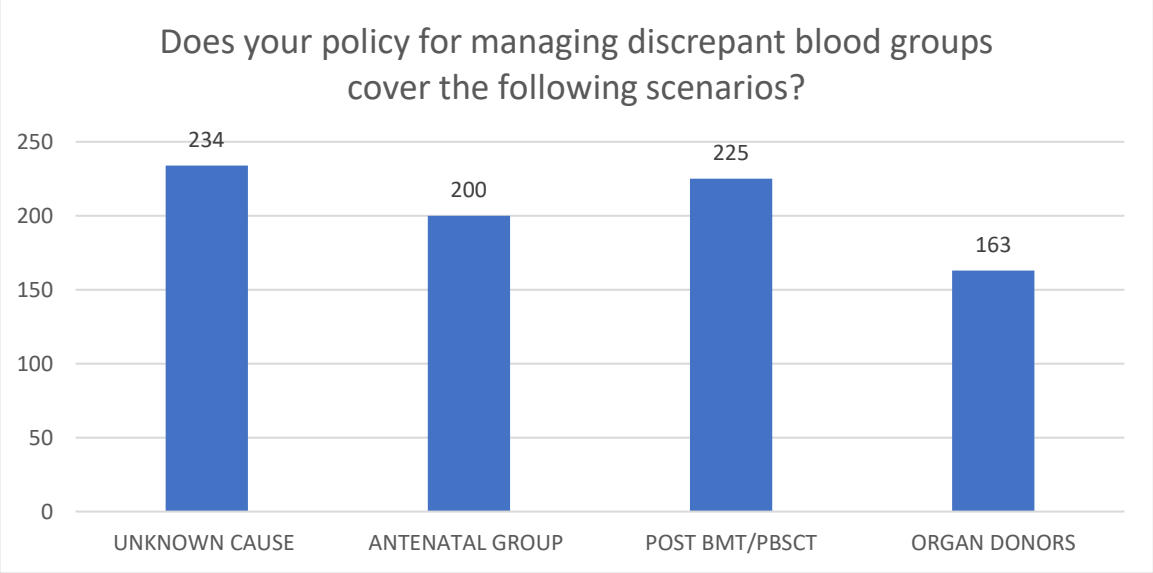
Discrepant groups

Does your laboratory have a policy for investigating discrepant blood groups?



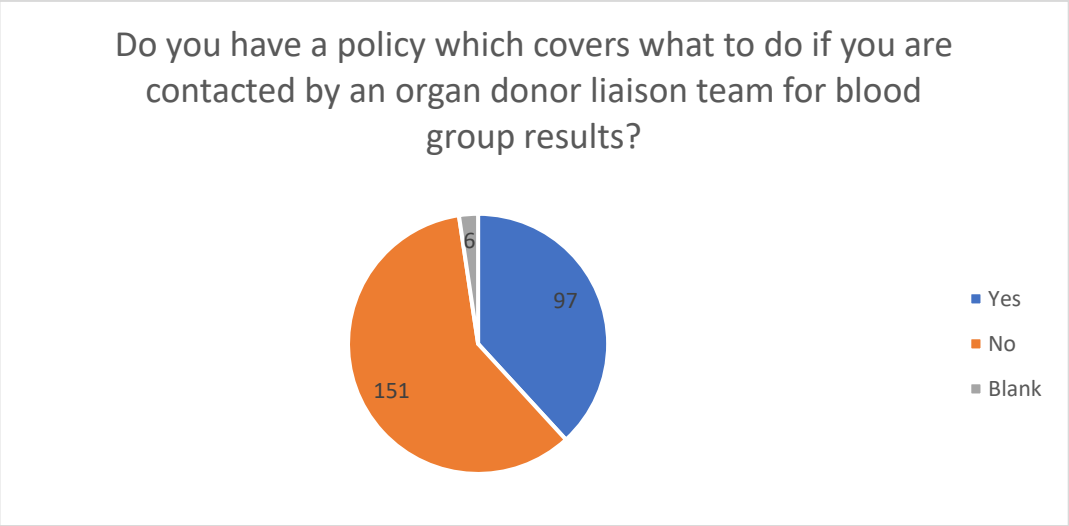
Comment: We have an SOP for dealing with grouping anomalies that describes the process of investigation, resolution and management of patients with ABO/D discrepant results.

Does your policy for managing discrepant blood groups cover the following scenarios?

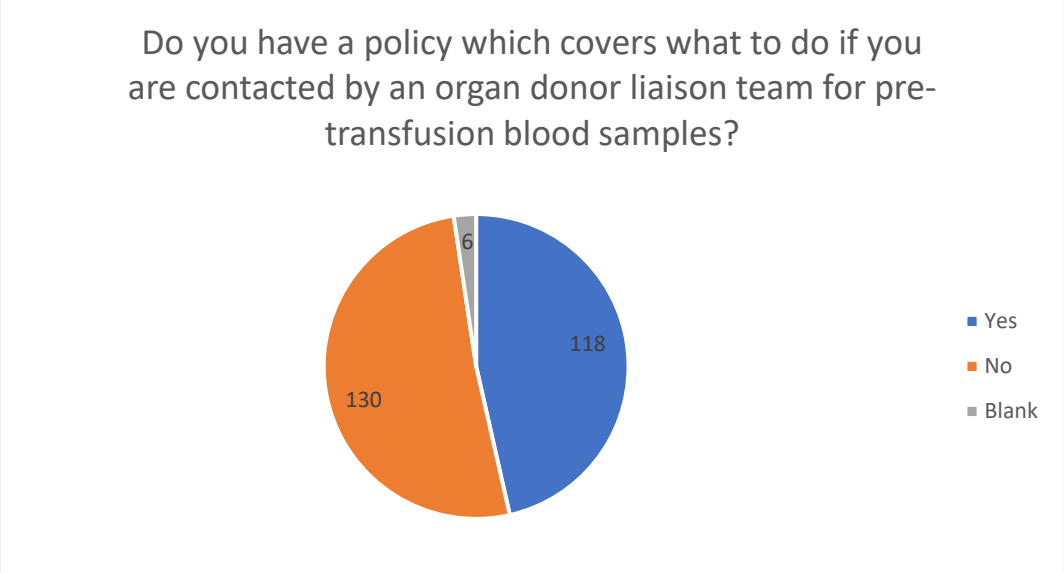


Organ donation

Do you have a policy which covers what to do if you are contacted by an organ donor liaison team for blood group results?



Do you have a policy which covers what to do if you are contacted by an organ donor liaison team for pre-transfusion blood samples?



Comment: The questions in relation to providing result for organ donation team, we have a process for provision of results to a clinical team but not specific for the donation teams.

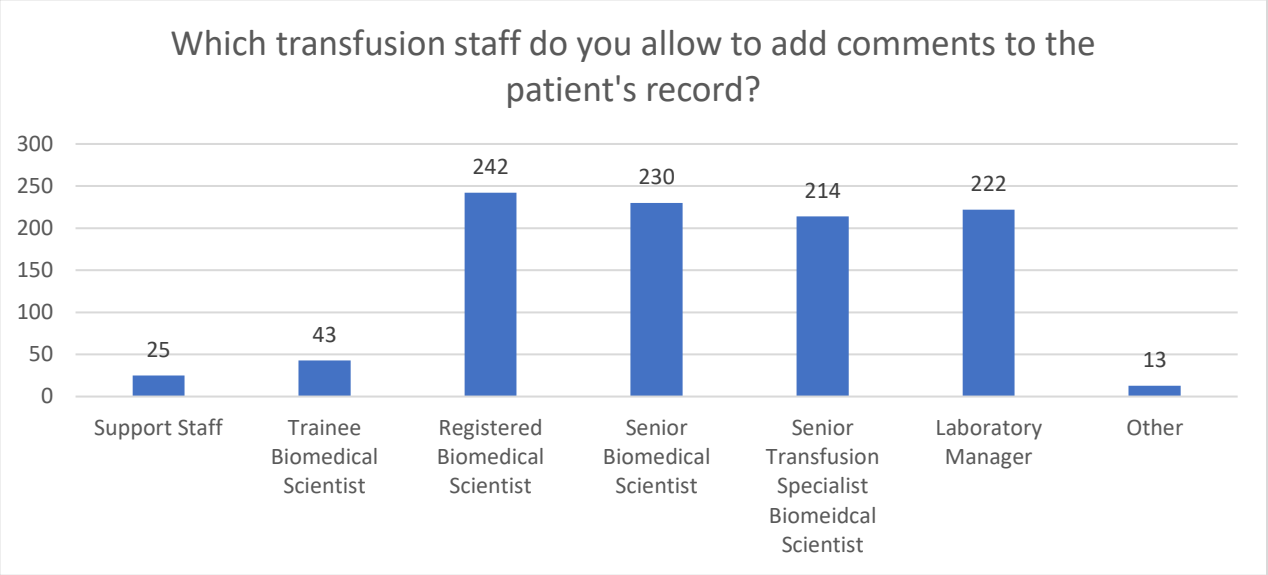
Comment: We do not have a policy on providing blood groups for organ donation as it is not applicable to the hospital setting (Women's hospital, gynae maternity and neonatal patients only)

Comment: With regards to the policy for organ donation, there is an awareness but not a specific written policy for this. We would also investigate grouping discrepancies as they arise. For this patient, there would have been communications to the clinical area regarding his recent transfusion history. Until the cause of the discrepancy has been identified we would only issue group O red cells.

Amending records

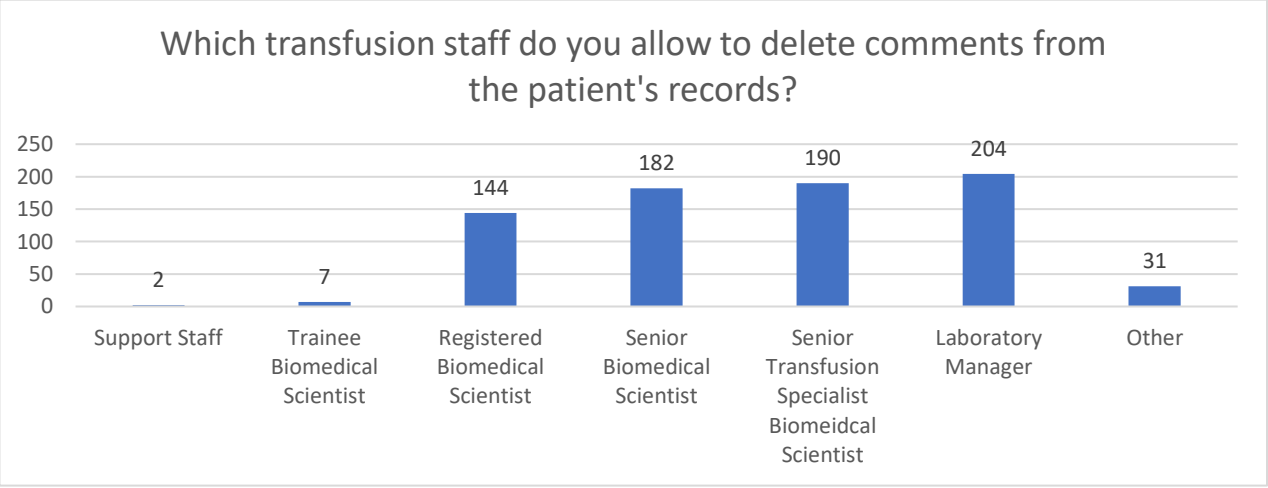
Adding comments

Which transfusion staff do you allow to add comments to the patient's transfusion record?



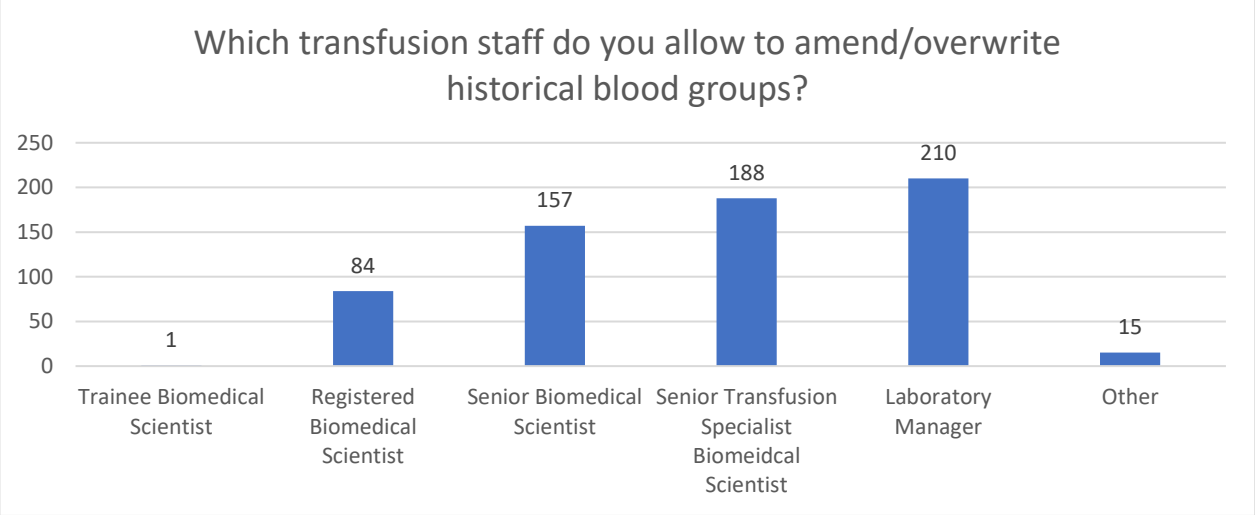
Deleting comments

Which transfusion staff do you allow to delete comments from the patient's transfusion record?



Amending / overwriting historical blood groups

Which transfusion staff do you allow to amend / overwrite historical blood groups?



Comment: We would like to add that only senior blood transfusion BMS and Laboratory Manager are able to amend blood group results on our analysers. In place security levels of allowances with passwords attached

Appendices

LIMS version numbers - responses

Current version number	Count	Current version number	Count	Current version number	Count
5.32	15	6.1 V9	1	6.1 build 6	2
7.24	14	V 6.0	1	1	2
2.3	11	6.1b9	1	AIX Version 7.1	2
7	10	v10-1	1	Version 7.18	1
Version 7	6	7.21.305(db7-21-111)	1	Winpath 5.32	1
5.34	6	5.32 sp27	1	7.22.101	1
6	6	Winpath: V5.32 SP28	1	Not known	15
5	5	2022	1	Version 5.34	1
V1.14	5	1.2.2	1	version 6.0p1b10	1
7.21	5	v01.31.b	1	Not stated	1
5.8	4	7.23.107	1	4.5.24	1
7.24.425	4	5.67	1		
5.32 SP28	4	1.5.9 Build 8542	1		
7.21.384	4	v5	1	**Grand Total**	**218**
2	3	7.24.245	1		
7.24.235	3	v7	1		
7.2	3	7.13	1		
AIX Version 7	3	Version 6	1		
7.22	3	72.5.0	1		
v1.13	3	Version 7.24	1		
10.1	3	11.2.4	1		
1.14	3	Unsure, between 6 to 7	1		
4.26	2	13.0.0	1		
4.6.1	2	v 7.24	1		
10.5.0.38	2	V01.51.B	1		
v11.2.4	2	14.0.0.58933	1		
5.32 SP22	2	6.1	1		
v6.3.7	2	HOSTACCESS 7.20g , Build 985174793	1		
Enterprise	2	4-5-25.002	1		
1.13	2	iLab IL5.8.1002 SP2.4 Build 3	1		
2.2	2	4-5-25-002	1		
4.41	2	iLAB version 5.81002t24b3	1		
v10.5.0.38	2	V5.32	1		
7.23	2	4.84	1		
4.5	2	3.1.1	1		
version 5	2	v7.24	1		