



**National Comparative Audit
of Blood Transfusion**

NHS
Blood and Transplant

National Comparative Audit of Blood Collection

October 2009

St. Elsewhere's Hospital

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How to use this report

This report presents the findings from the audit in the sequence of the questions asked, in common with many other national audits, therefore the results are not necessarily presented in order of importance.

After the results are presented for each question asked, the Project Group has commented to provide an interpretation of what the results mean. You should always take the opportunity, though, to look at your results and consider what they say about your local practice, and any risk it presents of patients receiving blood intended for someone else.

It is impracticable to collect large amounts of data for this kind of clinical audit, so where the numbers reported are small, care should be taken that the results are not over-interpreted, but asking yourself if the result is important to you, locally, and what the impact of the result is, should prevent this.

To aid interpretation of the data we have borrowed in this report from the *National Patient Safety Agency's '7 Steps – Root Cause Analysis'* material ⁽⁶⁾. In that, NPSA describes two reasons why things may go wrong: “Care Delivery Problems”, and “Service Delivery Problems”. These are defined later in this report.

You could look at any Care Delivery Problems encountered and assess if they are a reflection of the training, education and development of staff. Arguably, successfully trained staff should not experience Care Delivery Problems. Similarly, where Service Delivery Problems have been encountered, you could take an opportunity to examine the systems in use to see that they are inherently robust.

To help you do this, we have provided, at Annex One, an overview of and some guidance on using a novel audit technique known as HACCP audit. In short, this is a form of process mapping which allows you to see, for the system you have in place today, if there are any parts of the process which could fail and what the consequences of that failure might be.

One thing which seems to have emerged from the audit is that, conducting it prospectively, transfusion practitioners had a valuable opportunity to train those unable to collect blood properly and to correct mistakes, perhaps in some cases avoiding blood being taken, which had the bedside transfusion process not been rigorous, might have led to the wrong blood being given. Repeating this audit from time to time will repay the time spent.

Executive summary

This audit looked at the process of collection of blood from the main blood issue fridge. The audit took place in June 2009 and 5059 cases were audited from 140 NHS Trust and 28 independent hospitals.

Key Audit Findings

The majority of audited blood collections were made by nurses (38%), porters (34%) and healthcare assistants (22%). The blood collection systems in place were mainly paper-based registers. 19% of blood was collected using fully automated electronic fridge tracking.

Standard 1: In 96.1% of cases the member of staff collecting blood brought documented patient identification and the four core patient identifiers were present in 92.8% of cases.

Standard 2: In 94.7% of cases the documented patient ID was checked against the blood bag label.

Standard 3: In 98.9% of cases the collector recorded their identity and the date and time of collection of the blood from the issue fridge.

Standards 4 and 5: 96.5% of collections were undertaken by staff who stated they had been trained for this role but only 70% of collections were undertaken by staff who stated they had been competency assessed.

Recommendations

- Systems for blood collection should be compliant with the BCSH Blood Administration guidelines and hospitals should consider using the HACCP audit technique set out in Annex One to assess if their blood collection systems are sufficiently robust to prevent wrong blood being taken for transfusion.
- Only staff authorised, trained and assessed as competent should be able to collect blood and systems should be in place to restrict access to issue fridges if these criteria are not met.
- The person collecting blood must bring a document (blood component collection form, prescription chart or the patient's notes according to local policies) containing the patient's core identifiers (forename, surname, date of birth and unique patient number) and must use this document to check the patient identification details on the laboratory produced label attached to the blood bag. Systems should be in place to prevent blood collection if there are any discrepancies between the patient ID on the documentation and blood bag label.
- When the blood is removed from the issue fridge, the identity of the person removing the blood should be recorded as well as the date and time of the removal. This is to ensure that the 'cold chain' is maintained and that a clear audit trail is available for every unit of blood.
- This audit should be repeated locally in order to assess the effectiveness of local training and competency assessment, and this may be especially beneficial soon after training sessions are delivered or if a critical failure of the system has been identified by a clinical incident.
- Although not specifically addressed by this audit, the recommendations apply equally to collection of blood in emergency situations and collection of blood from remote issue or satellite fridges.

Introduction

Why is this audit necessary?

There are many steps in the process that delivers the right blood to the right patient. Recent attention has been focused on the bedside administration process and this has been the subject of National Comparative Audits (NCA) ⁽¹⁾, and a National Patient Safety Agency (NPSA) initiative ⁽²⁾.

The Serious Hazards of Transfusion (SHOT) haemovigilance scheme ⁽³⁾ has repeatedly shown that, in the incorrect blood component transfused category (IBCT), errors can often be traced to the wrong blood being collected from the issue fridge combined with a failure of the bedside checking process. In the 2008 SHOT report, ⁽⁴⁾ 29/47 cases of administration of wrong blood involved the initial collection of the incorrect unit from the blood bank issue refrigerator. These collection errors are also documented in the near miss SHOT category where a problem has been identified by one of the systems in place and incorrect transfusion has been prevented.

There are existing British Committee for Standards in Haematology (BCSH) guidelines for this procedure in the 1999 Guidelines for Blood Administration ⁽⁵⁾. These are currently undergoing revision. In 2006 the NPSA Safer Practice Notice 'Right Patient, Right Blood' ⁽²⁾ produced recommendations and a framework for competency testing staff involved in the collection of blood. There is a target date of November 2010 for full implementation of this standard.

What does this audit aim to achieve?

The audit aims to ascertain if, at the time a unit of red cells is collected from a hospital's main blood fridge, the person collecting the unit has been trained and assessed as competent to undertake the role, is in possession of a document containing adequate patient details and completes the procedure for collection safely and accurately.

Who are the principal stakeholders?

NHS Trusts
Independent hospitals
NHS Blood and Transplant
Medical Royal colleges
Royal College of Nursing
National Blood Transfusion Committee
National Transfusion Laboratory Managers Group

Data transparency and data sharing

In line with current practice within national clinical audits, the National Comparative Audit of Blood Transfusion is exploring ways of making key results available to organisations such as the Care Quality Commission (CQC). At present we supply to the CQC the names of those hospitals and NHS Trusts who contribute data to our audits, but we have undertaken not to supply other data. In future, our clinical audit project groups will identify which audit data could be shared, and seek permission for sharing from those hospitals wishing to take part in an audit.

In respect of slideshows, which are produced to accompany each audit report, we continue our practice of identifying participants by name, having obtained consent from those participants to do so. The data of those withholding consent are excluded from the slideshows, and the slideshows are distributed to participants and Chairs of

Regional Transfusion Committees. We have discontinued the practice of making these slideshows publicly available on the Internet.

Method

How were NHS Trusts and independent hospitals recruited?

Invitations to participate in the audit were sent to NHS Trusts and independent hospitals in England. Trusts and hospitals in Wales, Northern Ireland and Scotland were invited to participate via nominated contacts within the blood services in those countries.

A letter about the audit was sent from the Clinical Audit Lead to the Hospital Transfusion Team, Medical Director and Clinical Audit Manager in each English NHS Trust, and to managers in independent hospitals.

Participation

175 NHS Trusts and 38 independent hospitals were invited to participate. Of these, 161 NHS Trusts and 35 independent hospitals agreed to participate, with data received from 140 (80%) NHS Trusts and 28 (74%) independent hospitals.

Cases audited

140 NHS Trusts contributed a total of 4604 audit cases (median 38 cases IQR 22-40, cases).

28 independent hospitals contributed a total of 455 audit cases (median 9 cases, IQR 6-19).

Your hospital contributed data on 40 case(s)

Nature and size of the audit case sample

The case sample is the event of a member of staff routinely collecting a unit of red cells for transfusion. The sample size is 40 such events (or if less than 40, all that can be reasonably audited) during the month of June 2009.

The audit was designed to prospectively audit a representative sample of staff collecting blood from the issue fridge as well as a target number of collections. It was anticipated that the majority of audits would be undertaken during routine working hours.

Auditors were asked to exclude batch transfer of red cell units to other fridges, transfer of red cell units to other hospitals and emergency issue of multiple units, because this either involves a different collection process and more than one red cell unit is collected at a time. However, this biases the audit data towards routine transfusions and cannot necessarily be extrapolated to collection of blood in an emergency situation or to collection of blood from satellite fridges. Collection of blood components other than red cells were also excluded.

Auditors were asked to not include the same member of staff more than twice, because repeated audit of one person provides little new information. The range of staff audited was arbitrary and would have been biased by which staff were on duty at the time the auditor was able to be present at the blood issue fridge.

Auditors were given the opportunity to comment on the collection process and where they highlighted the lack of patient ID or the lack of understanding that patient ID was

essential to the collection process, these cases were classified as a 'care delivery problem' (see appendix C). In the majority of hospitals where this part of the process failed, it was an individual 'care delivery problem'.

The terms 'Care Delivery Problems' and 'Service Delivery Problems' are borrowed from the NPSA's *Root Cause Analysis* ⁽⁶⁾. Care Delivery Problems are defined as "problems that arise in the process of care, usually as a result of the actions or omissions of staff". Service Delivery Problems are defined as "failures in a process not associated with direct provision of care".

The data collection method

Data entry was directly onto the audit tool webpage designed for the purpose (see appendix A for items included).

Pilot

The audit was piloted in two stages. Stage one consisted of a visit to four volunteer hospital sites to go through the audit process step by step, refining the audit tool and method as necessary. In stage two the audit was independently evaluated by four other hospitals.

Presentation of results

Wherever possible the audit question numbers have been added within tables of results to facilitate reference to the actual questions in the audit tool in Appendix A.

National results are presented as percentages for categorical data and as median and inter-quartile range (IQR) for numerical data. Missing data are reflected by variation in patient denominators.

Individual hospital results are shown alongside the national results, to facilitate benchmarking and guide local implementation of audit recommendations. Some of the 'Your site' results are based on small numbers of patients and hospitals need to take account of this when interpreting their own results.

Standards and Criteria

Standards and criteria were created by the Project Group and are based on published guidelines or papers where possible. Each standard is accompanied by a rationale statement which is referenced. References are shown on page 23. Where published evidence is unavailable, standards and criteria are based on the Project Group's consensus on best practice.

Standard 1

A staff member removing a unit of blood from the transfusion department issue fridge has documentation containing the patient's identification details by means of a blood collection slip, prescription chart or patient's notes. ^{(5) (7) (8)}

Standard 2

The patient identification details are checked against the details on the compatibility label attached to the unit of blood and, where in use, the compatibility report form or issue slip. ^{(5) (7) (8)}

Standard 3

The withdrawal of the unit(s) of blood is documented including name of staff member and time blood was removed. ^{(5) (7) (8)}

Standard 4

Staff members collecting blood for transfusion are trained to undertake this task and this training takes place annually. ^{(2) (9)}

Standard 5

Staff members collecting blood for transfusion are assessed as competent to undertake this task and this assessment takes place every 3 years. ^{(2) (9)}

RESULTS

Q1 and Q2. What grade of staff is collecting the blood?

Table 1 Grade:	National (5059)		Your Site (40)	
	N	%	N	%
Porter	1707	34%	2	5%
Nurse*	1927	38%	30	75%
Doctor	15	0.3%		0%
Healthcare Assistant**	1137	22%	7	18%
Operating Department Assistant	187	4%	1	3%
Other***	82	2%		0%
Blank	4	0.1%		0%

*Under the grade of staff designated 'nurse' some 56/1927 (2.9%) were described as trainee or student nurses.

** The designation of HCA is not used by all hospitals so included in these figures is the Health Professions Council grade of associate practitioner and other similar job titles.

***Details of the other grades of staff which did not fit the categories given: Biomedical Scientist (11), Admin & Clerical (32), Housekeeper / maintenance worker (13), Non-hospital staff/volunteers (10), Perfusionist (6), Pathology driver (2), Medical courier (2), Theatre orderly (2), Deputy theatre manager (2), Porter support worker (1), Physicians assistant (1)

Comment

94% of the blood collections were made by nurses, porters and healthcare assistants. Doctors rarely collected blood. Of interest is the wide variety of staff groups undertaking this role – including clerical, driving and maintenance staff. With appropriate training and satisfactory competency assessment, there is no reason why diverse staff groups cannot be used for this task, provided the local protocol authorises their inclusion.

Q3 and Q4. What kind of collection system is in use?

Table 2 Type:	National (5059)		Your Site (40)	
	N	%	N	%
Electronic Fridge Tracking	986	19%	40	100%
Electronic Fridge Tracking, Paper †	591	12%		0%
Paper	3473	69%		0%
Paper, Other ‡	3	0.1%		0%
None	1	0.02%		0%
Other*	1	0.02%		0%
Blank	4	0.1%		0%

† This type of collection system occurred in hospitals where an electronic system is in part use, with the rest of the hospital using a paper system

‡ This type of collection system is where there is an additional system in use, apart from a paper blood collection system

*Details of other collection systems: Transfusion care pathway (3), drip chart (1)

Comment

Paper, or hybrid paper systems, were in use to support the collection of blood in 80% of audited cases. 19% of blood was collected using electronic fridge tracking systems alone. Electronic fridge tracking systems are designed to safeguard against collecting the wrong blood from the issue fridge, but this option has only been implemented by a fifth of hospitals taking part in the audit. Later in this report we compare systems against compliance with collection guidelines and problems encountered during the process.

Q5. Does this staff member have documented patient ID with them?

Table 3	National (5059)		Your Site (40)	
	N	%	N	%
Yes	4860	96.1%	39	98%
No	199	3.9%	1	3%

The 199 cases where patient ID was not brought to the issue fridge by the staff member occurred in 71 hospitals. 7 hospitals had 5 or more cases.

Comment

Having written patient identification is a critical step in the blood collection process, and, if no documentation is available, the subsequent checking cannot take place. It also creates the risk, similar to bedside checking prior to administration, whereby blood could be checked against the issue slip or compatibility form that has been printed at the same time as the compatibility label attached to the unit of blood. Despite guidelines which are clear on the procedure for collecting blood for transfusion and the training and competency framework from the NPSA, 4% of staff collecting blood did not bring with them documentation containing the patient's identity, to enable the correct unit of red cells to be identified and collected. The audit did not ascertain the reasons for staff not having the documentation.

Q6. If yes to Q5 (i.e. staff member had documented patient ID with them), does that ID contain:

Table 4	National (4848*)		Your Site (39)	
	N	%	N	%
Identifier:				
First Name	4808	99.2%	39	100%
Last Name	4841	99.9%	39	100%
DOB	4617	95.2%	38	97%
ID number	4723	97.4%	39	100%
All 4	4501	92.8%	38	97%

* ID details not known for 12 cases

Comment

The risk of collecting the wrong unit of blood is comparable with the risk of giving blood to the wrong patient although there is at least one subsequent checking stage prior to blood administration.

Patient names and dates of birth are not unique, while the patient ID number remains the only true unique identifier. The table above shows that out of over 4800 cases there was not one identifier that was consistently present on the documentation brought to the blood fridge by staff collecting blood.

Guidelines state that all four identifiers (the 'minimum dataset' or 'core identifiers') should be present on the patient's documentation, but this was only the case for 92.8% of patients. If we accept that the only true unique identifier is the patient ID number (hospital number, NHS number, emergency number), then that was missing for a small number (125, 2.6%) of collections.

For some 347 patients (7%), then, there was a risk of the wrong unit being collected, and if the bedside check is not robust that risk could translate into wrong blood being given.

Q7. Did the staff member use the patient's ID to check details against the unit of blood?

Table 5	National (4860 with patient ID)		Your Site (39)	
	N	%	N	%
Yes	4600	94.7%	37	95%
No	182	3.7%		0%
Blank	78**	1.6%	2	5%

**Further analysis of the 78 cases where this question was not answered ('blank') can be found in table 7.

The 182 cases in which patient ID was not used were from across 60 hospitals. 12 hospitals had 5 or more cases.

Table 6 below indicates that of the 182 cases shown in Table 5 where the staff member did not use the patient ID to check details against the unit of blood, 158 were taken for transfusion.

Table 6		Q7. Did the staff member use the patient's ID to check details against the unit of blood?			
		No	Yes	Blank	No documented patient ID (Q5=NO)
Q10. Was the blood taken from the fridge for transfusion?	No	24	67	5	58
	Yes	158	4533	73	141
	Total	182	4600	78	199

In 141 cases, the staff member was not carrying any patient ID with them but the blood was still taken for transfusion.

Table 7		Q7. Did the staff member use the patient's ID to check details against the unit of blood?			
		No	Yes	Blank	No documented patient ID (Q5=NO)
Q3. What kind of collection system is in use?	Electronic Fridge Tracking	63	870	11	42
	Electronic Fridge Tracking, Paper	32	538	7	14
	Paper	87	3187	58	141
	Paper, Other	0	3	0	0
	Other	0	1	0	0
	None	0	0	0	1
	Blank	0	1	2	1
	Total	182	4600	78	199

Table 7 shows that 63 of the cases where the staff member did not use the patient ID were collected using electronic fridge tracking alone and another 32 using a hybrid electronic and paper system. In a further 42 cases collection should have been prevented because electronic fridge tracking systems contain prompts to prevent blood being collected without patient ID. These results suggest that the systems were overridden.

This question was not answered in 78 cases (blank) but this is an equal proportion for all systems and is therefore unlikely to represent a failure of the audit system to elicit the information.

Q8. Were any problems encountered during the collection of this unit of blood?

Table 8	National (5059)		Your Site (40)	
	N	%	N	%
Yes	408	8.1%	8	20%
No	4648	91.9%	32	80%
Blank	3	0.1%		0%

The 408 cases in which problems were encountered were from across 108 hospitals. 34 hospitals had 5 or more cases.

Q9. Nature of problems encountered

Auditors were given the opportunity to comment on the collection process and where they highlighted the lack of patient ID or the lack of understanding that patient ID was essential to the collection process, these cases were classified as a 'care delivery problem' (see Appendix C). In the majority of hospitals where this part of the process failed, it was an individual 'care delivery problem'.

In all, 429 "problems" were reported. Of these, 408 were able to be categorised into 'Care Delivery Problems' and 'Service Delivery Problems', borrowing the terminology from the NPSA's *Root Cause Analysis* ⁽⁶⁾. Care Delivery Problems are defined as "problems that arise in the process of care, usually as a result of the actions or

omissions of staff". Service Delivery Problems are defined as "... failures in a process not associated with direct provision of care".

There were 290 Care Delivery Problems, examples of which are "Step missed on electronic system, therefore fridge door would not open. Corrected and carried on.", "Member of staff did not bring patient ID. Patient ID had to be confirmed before the checks could be done and the blood could be collected.", and "Last name spelt incorrectly so had to do further checks of patient's last name"

There were 118 Service Delivery Problems, examples of which are "Noise from staff entering / exiting pathology department made it difficult to concentrate on checks", "The unit had not been issued. Another sample was required before the patient could have blood cross-matched.", and "Blood Bank Register Slip missing, replacement printed and removal documented as per Trust Policy".

These problems, as reported by the auditors, are shown in full in Appendix C

Table 9		Q8 and Q9 Were any problems encountered and what was the nature of the problem?						
		No problem		Care delivery problem		Service delivery problem		Total cases
		N	%	N	%	N	%	
Q3 What kind of collection system is in use?	Electronic Fridge Tracking	873	89%	85	9%	27	3%	985
	Electronic Fridge Tracking, Paper	543	92%	35	6%	13	2%	591
	Paper	3223	93%	170	5%	78	2%	3471
	Total	4639	92%	290	6%	118	2%	5047**

**12 cases were excluded from this table for the sake of clarity. 9 cases used 'other' collection systems and did not report any problems. 3 cases (1 EFT and 2 paper systems did not answer Q8 or Q9.)

Table 9 above illustrates the problems encountered and the nature of those problems related to the kind of collection system in place. This illustrates one major benefit of an electronic system and that is that the system highlights errors at the time of issue and prompts correction or prevents collection. More Care Delivery Problems than Service Delivery Problems were reported for electronic fridge tracking systems which suggests that there is a need to regularly check the effectiveness of training and assessment as well as ensuring that the system is robust and working smoothly.

Q10. Was the blood taken from the fridge for transfusion?

Table 10	National (5059)		Your Site (40)	
	N	%	N	%
Yes	4905	97.0%	40	100%
No	154	3.0%		0%

Comment

The 154 cases in which blood was not taken were from across 68 hospitals. 8 hospitals had 5 or more cases.

Table 11 looks at the cases where a problem with blood collection was encountered to determine whether blood was taken for transfusion or not.

Table 11		Q9 Nature of problem encountered		Total cases
		Care delivery problem	Service delivery problem	
Q10 Was the blood taken from the fridge for transfusion?	No	62	27	154
	Yes	228 (79%)	91 (77%)	4905
	Total	290	118	5059

Comment

Of the 154 cases where blood was not taken for transfusion, 40% (62) were due to a care delivery problem and in some of these cases the auditor did not allow the person who came to collect blood to take the blood. Outside the context of the audit, these collections may have gone ahead so the audit highlighted situations where 'wrong blood' collections could occur.

Of 290 with Care Delivery Problems 79% (228) were collected from the fridge and 21% (62) were not collected. Although the systems in place are there to prevent the wrong blood being collected, hospitals should consider the impact of collection failure on patient treatment, since presumably the delay in supplying blood has the potential to complicate or compromise the patient's recovery.

Even though the systems in place are essentially robust, there were, nonetheless, 228 units of blood taken for transfusion when there had been some problem with collection.

Table 12 looks at whether blood was collected or not in cases where the member of staff collecting blood did not have patient ID with them.

Table 12		Q5 Does this staff member have documented patient ID with them?		Total cases
		No	Yes	
Q10 Was the blood taken from the fridge for transfusion?	No	58	96	154
	Yes	141 (71%)	4764 (98%)	4905
	Total	199	4860	5059

Comment

In 71% of cases where no patient ID was available at the point of collection, blood was still collected from the fridge. This represents 2.8% (141/5059) of all cases. When an electronic fridge tracking system is in place the collector should be prevented from removing the unit of blood from the collection fridge if they do not have or use the requisite patient ID. If the system is wholly or partly paper-based then it is possible to bypass this step with the possible consequences of removing the wrong unit of blood. It is clear from the comments (Appendix C) that the presence of the auditor served to prevent collection of blood in some cases where patient ID was not available.

Q11. If blood was taken from the fridge (4905), was the following documented:

Table 13	National (4811* blood taken from fridge)		Your Site (37)	
	N	%	N	%
Date of withdrawal?	4802	99.8%	37	100%
Time of withdrawal?	4788	99.5%	37	100%
Signature of collector**?	4778	99.3%	37	100%
All 3	4759	98.9%	37	100%

* Details not known for 94 cases

** Where an electronic fridge tracking system was in place, the 'signature' of the collector, date and time of withdrawal was assumed to be recorded electronically.

The 52 cases not meeting the 'all 3' criterion came from across 31 hospitals.

Comment

The majority met this standard nationally. Local compliance with this standard should be reviewed against the local system in place for recording these details and the blood collection policy. It should be noted that this information is an important part of the audit trail and may be used in the investigation of transfusion incidents as well as cold chain validation.

Q12 When asked did the staff member collecting blood confirm they had been trained in the blood collection process.

Grade:	Q12 When asked did this staff member confirm they had been trained in the blood collection process?			
	Total in staff group	Trained	Not trained	% not trained
Porter (1707)	1707	1679	28	1.6%
Nurse (1927)	1927	1853	74	3.8%
Doctor (15)	15	9	6	40%
Healthcare Assistant (1137)	1137	1087	50	4.4%
Operating Department Assistant (187)	187	177	10	5.3%
Other (82)	82	75	7	8.5%
Blank (4)	4	4	0	-
Total	5059	4884	175	3.5%

Doctors rarely collected blood during this audit but were the group of staff with the highest proportion not to have been trained. Table 14 above shows the grades of staff who came to collect blood even though they had not been trained. Of the 175 who had not, 7 (4%) were classed as "Other". These comprised three ward clerks, two drivers from a local hospice, a perfusionist and a hospital volunteer.

Comment

Of those 4884 cases where staff stated that they had been trained in the blood collection process, 3919 (80%) had received training in the last year. It is possible that the 'no' responses to question 12 could mean that the staff member didn't know or couldn't remember if they had been trained but if that was the case training could be said to be ineffective.

If staff said they had been trained, it does not automatically mean that the training was appropriate or effective. Training should be targeted to staff groups based on their role within the transfusion pathway and knowledge based training should be followed by observational competency testing.

Hospitals should use the audit data to ensure all appropriate staff receive training, and incidents related to failure of fridge collection systems should be linked to retraining. Electronic fridge tracking systems can be configured to prevent access if staff have not been trained.

Hospitals should ensure systems are robust enough to prevent untrained staff from collecting blood for transfusion. If the blood collection system is dependent on staff that are not employed by the hospital, the responsibility associated with the task should be made clear to them.

Q14 When asked did this staff member collecting blood confirm they had been competency- assessed in the blood collection process?

Table 15					
Q14 When asked did this staff member confirm they had been competency- assessed in the blood collection process?					
Grade:	Total in staff group	Assessed	Not assessed	% not assessed	
Porter (1707)	1707	1339	368	22%	
Nurse (1927)	1927	1304	623	32%	
Doctor (15)	15	3	12	80%	
Healthcare Assistant (1137)	1137	700	437	38%	
Operating Department Assistant (187)	187	131	56	30%	
Other (82)	82	53	29	35%	
Blank (4)	4	2	2	50%	
	Total	5059	3532	1527	30%

Comment

Table 15 above shows what proportions of the staff included in the audit had not stated that they had been competency assessed.

The same comments made under ‘training’ also apply – that is the ‘no’ group could include collectors that did not know or remember whether they had been assessed and those in the ‘yes’ group might not have had an appropriate or successful assessment. The likelihood of ineffective or inappropriate assessment is made less likely by the availability of national competency framework from the NPSA that is recommended to be adapted for local use ⁽⁷⁾.

The following tables, 16 and 17, look at the timeliness of the training and competency assessments. When viewing these results it should be borne in mind that ideally training should be annual. However, recommended periods for competency assessment differ. The NPSA Safer Practice Notice ⁽²⁾ recommends assessment should take place every 3 years, but the Medicines and Healthcare Regulatory Authority would expect competency assessment more frequently. The question was designed to determine how often the minimum standards were being met.

Q12 & Q13. When asked did this staff member confirm they had been trained in the blood collection process? If so, had they been trained within the last year?

Table 16	National (5059)		Your Site (40)		
	Q12	N	%	N	%
	Yes, trained	4884	96.5%	40	100%
	No	175	3.5%		0%
<i>If yes, had they been trained within the last year?</i>					
	Q13	National (4884)		Your Site (40)	
		N	%	N	%
	Yes, in last year	3919	80%	26	65%
	No	924	19%	14	35%
	Blank	41	1%		0%

The 175 cases in which staff members did not confirm they had been trained were from across 65 hospitals, with 5 or more cases from 11 hospitals.

Q14 and 15. When asked did this staff member confirm they had been competency-assessed in the blood collection process, and, if so had they been assessed within the last 3 years?

Table 17	Q14	National (5059)		Your Site (40)	
		N	%	N	%
	Yes, competency assessed	3532	70%	39	98%
	No	1527	30%	1	3%
	Q15	National (3532)		Your Site (39)	
		N	%	N	%
	Yes, within last 3 years	3405	96.4%	38	97%
	No	92	2.6%	1	3%
	Blank	35	1.0%		0%

Comment

Nationally, 77% (3919) of blood collections were by staff trained within the last year but only 67% (3405) of blood collections were by a staff member who had undergone a competency assessment for the task within the last 3 years. Local compliance with these minimum criteria should be used to consider the success of the implementation of training and assessment frameworks. The NHS Litigation Authority Standard 4, Level 1 criterion 1.4.7⁽⁹⁾ relates to training and competency assessment of staff involved in the blood transfusion process, and the NPSA have given targets for compliance with competency testing.

Implications of training and lack of training

290 Care Delivery Problems were experienced by staff with and without training but most (249/290 representing 86% of collections where care delivery problems were reported) had been trained. The other 14% (41) were unable to confirm that training in the blood collection process had been received. This reiterates the need to monitor the efficacy of training and to find ways of refreshing training messages.

Consideration should also be given to reviewing the appropriateness of competency assessment particularly if problems are being encountered with blood collection or wrong blood incidents are being recorded within the Trust/hospital.

Using Hazard Analysis and Critical Control Point (HACCP) audit to identify CDPs and SDPs

The process of undertaking the audit data collection may well have highlighted to the auditor that there were critical points in the process of blood collection that became immediately apparent because of problems that arose and that the auditor was in a position to immediately correct. It is recommended that hospitals use the HACCP tool included in Annex One to map their blood collection process and introduce control measures to prevent the wrong blood being collected, while at the same time allowing blood to be provided to patients in a timely way.

Other information provided

As a final question in the audit dataset, auditors were invited to provide any other information they thought would be informative. 663 comments were provided, and of these 188 provide useful insights, while the remainder give more details about local arrangements. These 188 comments fall into distinct categories:

- Anecdotes which suggest as a quality improvement technique the audit prevented possible wrong blood transfusions;
- 37 auditors commented on ways in which they intervened at the point of collection to rectify mistakes, reinforce training or prevent the issue of a unit of blood where they felt it unsafe to let the collection proceed;
- 53 comments relate to training. Comments included training not being offered every year and staff stating that they had had training more than one year ago (range 2 – 4 years).

Worst case scenario

In attempting to consider the impact of failures in the blood collection process, it may be useful to consider a “worst-case scenario”. This would be the scenario where the member of staff collecting the blood did not bring documented patient ID with them, where there was a Care Delivery Problem, and where the blood was taken.

There were 23 cases, (0.45% of 5059, i.e. 45 per 10,000), that met the worst-case scenario. In at least 8 other cases the blood would have been taken away had the auditor not been there. In addition, there may have been other collections stopped by the auditor, which were not reported. The extent of worst-case scenarios may be underrepresented.

Summary and Conclusions

- **Standard One:** 4860/5059 (96.1%) of staff collecting blood had with them some form of documented patient identification, but of these only 92.8% of identification produced contained all 4 core identifiers, with the patient's unique ID number being present on the identification in only 97.4% of cases.
- **Standard Two:** 4600/4860 (94.7%) of staff collecting blood used the documented patient ID they had brought to confirm that they were collecting the correct unit of blood.
- **Standard Three:** 4759/4811 (98.9%) recorded date, time and identity of collector blood prior to removing blood from the issue fridge.
- **Standard Four:** 4884/5059 (96.5%) of staff stated that they had been trained in the collection process. 3919/5059 (77%) had been trained in the last year.
- **Standard Five:** 3532/5059 (70%) stated they had been competency assessed. 3405/5059 (67%) had been assessed in the last three years.
- The majority of blood was collected by nurses (38%), porters (34%) and healthcare assistants (22%).
- Most blood is collected using a paper based or hybrid paper-based and electronic system. Only 19% of cases were collected using electronic fridge tracking.
- During 8.1% of collections problems were noted by the auditor. Where possible these were analysed to be problems with the collector (Care Delivery Problems) or with the system (Service Delivery Problems). The range of problems experienced can be found in the appendix. There seems to have been an immediate benefit in conducting the audit, in that auditors were able to intervene to prevent errors and provide instruction, possibly preventing wrong blood being taken for transfusion.

Discussion

In the last 10 years, with increasing focus on the processes involved in the delivery of the right treatment to the right patient, there has been much attention paid to systems that have inbuilt safety to prevent misidentification, such as electronic fridge tracking. Implementation of these systems is costly and time consuming but has delivered real benefits in terms of patient safety and robust audit trails.

There has also been a change in attitude in the delivery of healthcare and the crossing of professional boundaries. Whereas collection of blood from the fridge was previously a nursing or medical role, porters and healthcare assistants are now taking on this role allowing clinical staff to concentrate on direct clinical care.

This changing environment is reflected in the updated BCSH guidelines ⁽⁵⁾ for administration of blood and blood components and, although the audit standards are drawn from the 1999 version of these guidelines, the recommendations made from this audit are supported by the updated document.

Hospitals should look at this report to see if the standards are met within their own organisation. Compliance should be 100% for all five standards. Although this audit did not contain an organisational survey, it is assumed that blood administration policies that contain a section of fridge collection are in place and that role-based training and competency testing are mandated for all staff undertaking the task of collecting blood from the fridge.

This audit focuses on the collection of the right blood for the right patient. The standards against which the audit was conducted exist to reduce the likelihood of the wrong blood being collected. However, balanced against these safety measures is the possibility that a patient who needs blood might be unable to have a transfusion when they need it because blood is unable to be collected. Both wrong blood collection and delayed transfusion are failures of delivery of care to the patient.

Hospitals are encouraged to use this audit to identify any failures in their local systems but also to use the process mapping tool annexed to this document to identify weaknesses in their own systems and to redesign their processes accordingly.

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**7. Did the staff member use the patient's ID to
Check details against the unit of blood?** Yes No

**8. Were any problems encountered during the
collection of this unit of blood?** Yes No

9. If yes, please provide details:

**10. Was the blood taken from the fridge
for transfusion?** Yes No

11. If yes, was the following documented:

Date of withdrawal?
Time of withdrawal?
Signature of collector?

**12. When asked did this staff member confirm they had
been trained in the blood collection process?** Yes No

13. If yes, have they been trained within the last year? Yes No

**14. When asked did this staff member confirm they had been
competency-assessed in the blood collection process?** Yes No

15. If yes, have they been assessed within the last 3 years? Yes No

**Please use this space to provide any other information or feedback you may wish
to give us:**

End of audit tool

Appendix B – List of participating hospitals

Addenbrookes Hospital
Aintree University Hospital
Airedale NHS Trust
Alder Hey Children's Hospital
Ashford and St Peters Hospitals NHS Trust
Barnet Hospital
Basildon and Thurrock University Hospitals
NHS Foundation Trust
Basingstoke and North Hampshire Hospital
NHS Foundation Trust
Birmingham Childrens Hospital
BMI Mount Alvernia
Bradford Teaching Hospitals NHS Foundation Trust
Calderdale and Huddersfield NHS Foundation Trust
Charing Cross Hospital
Chase Farm Hospital
Chelsea and Westminster Hospital NHS Foundation Trust
Chesterfield Royal Hospital
Christie Hospital
Colchester Hospital University NHS Foundation Trust
Countess of Chester Hospital NHS Foundation Trust
Crosshouse Hospital
Cumberland Infirmary
Darent Valley Hospital
Derby City General Hospital
Derriford Hospital Plymouth
Doncaster & Bassetlaw Hospitals NHS Foundation Trust
Dorset County Hospital NHS Foundation Trust
East Lancashire Hospital NHS Trust
Foresterhill Site Aberdeen
Freeman Hospital
Frenchay Hospital
Friarage Hospital
Frimley Park Hospital NHS Foundation Trust
Gartnavel General Hospital
Glan Clwyd Hospital
Glasgow Royal Infirmary
Gloucestershire Hospitals NHS Foundation Trust
Good Hope Hospital
Great Ormond Street Hospital For Children
NHS Trust
Guys and St Thomas NHS Foundation Trust
Trust
Hammersmith Hospital
Harefield Hospital
Harrogate and District NHS Foundation Trust
Heartlands Hospital Birmingham
Hinchingsbrooke Hospital
Hull and East Yorkshire Trust
Inverclyde Royal Hospital
James Cook University Hospital
Kent and Canterbury Hospital
Kettering General Hospital
King George Hospital
Kings College Hospital NHS Foundation Trust
Lancashire Teaching Hospitals NHS Foundation Trust
Leeds Teaching Hospitals NHS Trust
Leighton Hospital
Lister Hospital Stevenage
Liverpool Heart and Chest Hospital NHS Trust
Liverpool Womens Hospital
London Bridge Hospital HCA Group
Mayday Healthcare NHS Trust
Medway NHS Foundation Trust
Mid Essex Hospital Services NHS Trust
Mid Yorkshire Hospitals NHS Trust
Milton Keynes Hospital NHS Foundation Trust
Monklands Hospital Airdrie
New Cross Hospital
Newcastle General Hospital
Nobles Hospital Isle of Man
North London NHS Trust
North Middlesex University Hospital NHS Trust
Northampton General Hospital NHS Trust
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust
Nottingham City Campus
Oxford Radcliffe Hospitals NHS Trust
Papworth Hospital
Peterborough District Hospital
Poole Hospital NHS Foundation Trust
Portsmouth Hospitals NHS Trust
Princess Alexandra Hospital
Princess Royal University Hospital Orpington
QEII Welwyn
Queen Elizabeth Hospital Kings Lynn
Queen Elizabeth Hospital NHS Trust
Queen Elizabeth The Queen Mother Hospital

Queen Marys Sidcup NHS Trust
 Queens Hospital Burton
 Queens Hospital Romford
 Queen's Medical Centre Campus
 Royal Bolton Hospital
 Royal Brompton and Harefield NHS Trust
 Royal Devon and Exeter NHS
 Foundation Trust
 Royal Free Hospital
 Royal Marsden Hospital Chelsea
 Royal National Orthopaedic Hospital
 NHS Trust
 Royal Surrey County Hospital
 Royal Victoria Infirmary
 Salford Royal NHS Foundation Trust
 Salisbury NHS Foundation Trust
 Sandwell and West Birmingham
 Hospitals
 NHS Trust
 Scarborough General Hospital
 South Devon Healthcare NHS
 Foundation
 Trust
 Southend University Hospital NHS
 Foundation Trust
 Southern General Hospital
 Southmead Hospital
 Southport and Ormskirk Hospital NHS
 Trust
 SPIRE Bushey Hospital
 SPIRE Cambridge Lea Hospital
 SPIRE Cardiff Hospital
 SPIRE Cheshire Hospital Warrington
 SPIRE Clare Park Hospital
 SPIRE Dunedin Hospital Reading
 SPIRE Harpenden Hospital
 SPIRE Hospital Bristol
 SPIRE Hospital Leicester
 SPIRE Hull and East Riding Hospital
 SPIRE Leeds Hospital
 SPIRE Little Aston Hospital Sutton
 Coldfield
 SPIRE Parkway Hospital
 SPIRE Portsmouth Hospital
 SPIRE South Bank Hospital
 SPIRE Southampton Hospital
 SPIRE St Saviours Hospital Hythe
 SPIRE Sussex Hospital
 SPIRE Thames Valley Hospital
 SPIRE Washington Hospital
 St Anthonys Hospital North Cheam
 St Marys Hospital Isle of Wight
 St Marys Hospital Paddington
 St Richards Hospital
 Staffordshire General Hospital
 Stobhill Hospital North Glasgow
 Surrey and Sussex Healthcare NHS
 Trust
 Taunton and Somerset NHS Foundation
 Trust
 The Dudley Group of Hospitals NHS
 Trust
 The Harley Street Clinic HCA Group
 The Hillingdon Hospital NHS Trust
 The Ipswich Hospital NHS Trust
 The Lister Hospital HCA Group
 The Luton and Dunstable Hospital NHS
 Foundation Trust
 The Portland Hospital
 The Princess Grace Hospital HCA Group
 The Wellington Hospital HCA Group
 Trafford Healthcare NHS Trust
 University Hospital Birmingham NHS
 Foundation Trust
 University Hospital Lewisham
 University Hospital of Coventry &
 Warwickshire
 University Hospitals Bristol NHS
 Foundation Trust
 University Hospitals of Morecambe Bay
 NHS Trust
 University Hospitals of South Manchester
 NHS
 Foundation Trust
 Vale of Leven Hospital
 Victoria Infirmary Glasgow
 Warrington & Halton NHS Foundation
 Trust
 Watford General Hospital
 West Middlesex University Hospital NHS
 Trust
 West Suffolk Hospital NHS Trust
 Weston Area Health NHS Trust
 Wexham Park Hospital
 Whipps Cross Hospital
 William Harvey Hospital
 Wirral University Teaching Hospital NHS
 Foundation Trust
 Wishaw General Hospital
 Worcestershire Acute Hospitals NHS
 Trust
 Worthing Hospital
 Wrexham Maelor Hospital
 Wrightington Wigan and Leigh NHS Trust
 Yeovil District Hospital NHS Foundation
 Trust
 York Hospitals NHS Foundation Trust
 Yorkhill Hospital
 Ysbyty Gwynedd Hospital

Appendix C – List of reported problems associated with the collection of a unit of blood (Q9)

Care Delivery Problems

Step missed on electronic system, therefore fridge door would not open. Corrected and carried on.
Had no documentation with him-unit given to him by lab BMS after he received telephone request from theatre requesting unit urgently.
Incorrect unit of two, assigned to same patient, was signed out.
Never collected blood before. Asked for help from BMS
Staff wrote patients details in register instead of looking for patient's entry
Wrote the patients identification in the register, did not follow procedure
Forename was different
Blood Bank Register not signed, dated or timed. Date and time taken was recorded on the report
Was not sure where the unit was stored
BB staff had placed unit in wrong drawer
Could not remember door code
ID number on collection slip was wrong. Nurse returned to ward and obtained correct number before coming back to collect the collecting the blood.
Member of staff did not bring patient ID. Patient ID had to be confirmed before the checks could be done and the blood could be collected.
Hospital number was different on card, however matched sample, apex and notes
Looked in fridge, couldn't find it
Nurse from renal satellite dialysis unit arrived to collect blood without correct documentation. Blood not issued.
One of patient's notes/form had a wrong digit in date of birth
Originally checked against transfusion derived report (compatibility report) then rechecked against patient notes
Only brought lab generated cross match report form. Lab obtained correct documentation from ward to check patient ID
HCA didn't remember the name of the patient and had to return to the ward to get collection slip.
Then returned to the laboratory and continued with collection process.
BMS assisted with patient identification and used laboratory number
Last name spelt incorrectly so had to do further checks of patient's last name
Mixed up the first name and the last name
Porter was an x ray porter who had no training and had been sent by x-ray portering manager.
A BMS helped with the collection.
Porter did not bring his own ID card which allows entry to the room with the issue fridge.
Staff not trained. Unaware of procedure. Turned away by lab staff.
Porter not trained. Collecting for theatre therefore TP checked blood and gave to porter to take to theatres with instructions to get staff to check & sign as correct. Porter told not to collect again until trained.
Manager told to inform theatres that he must not collect. Training dates set up with TP.
Wrong spelling of surname
2nd unit of blood on register slip signed out against 1st unit - error noticed when 2nd unit collected.
Patient identification details checked against the compatibility report and not the prescription.
However, prescription checked against the compatibility report first.
Only the pack number was checked. TP corrected the porter's practice and re-checked the unit before delivery to the ward.
Porter noted patient ID was incorrect. Surname spelt wrong. Ward contacted to obtain correct spelling.
Dispatch informed of correct spelling ,another correct request form sent
Sent back to ward to collect patient blood therapy chart for ID purposes.
Nurse did not bring correct ID documentation, therefore sent back to the ward to collect.

Sent back to ward for correct documentation.

The chi number recorded on the collection slip did not match the chi number on the unit of blood.
On phoning the ward it became apparent that the chi recorded on the collection slip was incorrect.

The hospice usually send patient documentation with the driver but on this occasion the documentation did not have all the information required. Lab staff had to telephone the hospice to check patient name, DOB, & ID number before release.

Entered collection date as 25/6 instead of 26/6. This was amended by lab staff

Staff member not permitted to take blood as not been trained

Staff member not trained so not allowed to take blood

Staff member not trained so not permitted to collect blood

HCA originally came to collect unit of blood without paperwork, and was sent back to ward area without blood component. She then returned with correct documentation but had not been trained in blood collection. The collection was checked and assisted by blood bank staff and the HCA was allowed to take the product to the ward. Manager contacted to arrange training

No documentation so not permitted to remove unit. Sent back to ward

No ID & no training. Sent back to ward without unit

Student nurse unaccompanied. No blood products training so not allowed to collect blood. Checked out by senior BMS. Incident report raised.

Nurse tried to scan the blood pack number in the Patient ID box

Nurse couldn't remember process.

Staff member forgot password for tracking system

Staff member not trained to use the tracking system, therefore unable to remove blood.

Staff member was unclear of the correct process using electronic system.

Doctor did not bring any official documentation with her. As a result, blood was not issued to her.

ODO had never collected blood before so had to be advised on completion of paperwork

Collection slip used had abbreviated name and date of birth was illegible. Clinical area contacted for patient details

No patient ID brought. Previously confirmed with the ward so blood released

No patient identification

Incorrect D.O.B on slip

Hospital number incorrect. Old addressograph sticker on prescription chart.

Was prompted to check ID

Patient details on porter's request form did not match blood - not collected

No request form had been sent.

No request for the blood sent/received.

No written 4 points of patient ID

No patient ID brought initially. Nurse sent back to ward to collect it

Nurse not allowed to collect blood until returning with patient details

Minor error-tried to open fridge without scanning barcode to open electronic lock

New user-tried to open fridge before scanning their barcode

Asked by nurse to collect 2 units. Porter checked with Blood Transfusion staff who phoned ward, and subsequently asked porter to collect only 1 unit.

Doctor collected blood due to lack of porters. Asked in Blood Transfusion laboratory for training/help to ensure following correct procedure when collecting, having previously phoned to say he was coming to collect.

HCA did not check blood tag against blood pack, checked tag against paper blood transfusion form in lab binder.

Porter did not check blood tag against bag.

Porter did not check the blood tag against the blood bag.

Porter did not check the blood tag against the blood bag.

Porter did not check blood tag against blood bag.

1. EPR form did not specify quantity or which product should be picked up, 2. Porter did not check blood tag against blood bag.

More than one patient collected, but all for same ward in same box.

Porter checked the tag against the blood transfusion form and not against the blood bag.

1. Hand written collection form used instead of EPR (electronic patient record), 2. porter checked blood tag against blood collection form and not blood bag.

Porter did not check blood tag against blood bag.

Handwritten blood collection form instead of hospital approved EPR form.

Handwritten collection form used instead of the Trust approved EPR form.

Handwritten form used instead of Trust approved EPR form.

Porter checked blood tag against blood transfusion form and not blood bag.
Porter checked blood tag against blood form and not blood tag.
Porter did not check blood tag against unit, checked tag against blood collection form.
Porter did not check blood tag against unit
Porter checked blood tag against blood transfusion form and not against blood unit.
Porter did not check blood tag against blood unit.
Porter did not check blood tag against unit.
Incorrect patient name spelling on EPR versus blood unit.
1. Porter did not check tag against blood. 2. Handwritten form used instead of printed EPR form.
1. Handwritten form used instead of preprinted EPR form, 2. Porter compared blood tag against blood transfusion form instead of blood unit.
No first name on collection slip
Wrong unit signed for previously (by someone else)
Wrong unit of blood previously signed for. Member of staff audited signed out correct unit and got staff who had made the previous error to amend the form & sign for the correct unit.
No check of patients details
Staff came to collect 3 units for 3 different patients. (2 were not yet issued by lab so unavailable for collection.)
Patient's hospital number handwritten on prescription chart and did not match the hospital number printed on the fridge issue record/tag.
Unit removed from the fridge and checked with patient ID. Staff went to sign issue record and found a signature time and date next to that unit of blood. On investigation a different unit had been removed for that patient the previous evening and the issue record incorrectly completed. A different unit was signed out while the investigation was completed.
Incorrect address on units. Address changed to match request & patient ID form
Unit not scanned out correctly.
Did not scan out correctly
Nurse stopped from taking blood
Porter did not record time of withdrawal in register.
Although blood was in the fridge in the stated location, the nurse could not see it there and was insistent it was not ready for collection
Nurse unable to access fridge as no documentation
Nurse did not know how to use blood track to remove unit of blood
Previous unit taken out, person who had collected it had signed in the wrong place in the register.
This HCA asked lab staff to explain the correction in the register
As the member of staff did not have the patient ID with them, they were not allowed to collect the unit of blood.
Staff Member has problem using the Blood Tracking system but eventually got it right
The user forgot to touch OK for second pack and had to enter the code again
Tried to take 4 units at the same time, against hospital policy
Did not know the blood fridge access code to open the fridge door.
Nurse did not know the blood fridge access code (only staff assessed as competent have authorised access to the blood fridge, they are given the code when they pass their assessment).
Patient ID number was different on blood collection slip than what was detailed in the blood fridge register.
The HCA telephoned the ward (phone by the fridge) and asked the nurse to check the unit number.
The unit number had had a 2 added at the end on the collection slip. The collection slip was amended and the details cross checked with the unit of blood (which was correct).
Blood track details checked against the compatibility sheet not the collection sheet.
Did not complete the scan process by pressing done and leaving blood track open for next user
Did not comply with blood track
Unfamiliar with blood track and had not used it for some time.
Did not check ID against blood track details
Addressograph only no prescription order.
Addressograph only no prescription order.
Did not comply with blood track
Scanning own ID
Wrong donor number. Given 3rd unit given instead of second
Needed to use drop down button to choose pack number, but did not understand or seem to know of it

Compatibility slip presented as the patient ID so staff was stopped from taking blood
Cold chain form presented as the patient ID. Collection procedure stopped blood was not collected
Compatibility slip presented as patient ID. Collection procedure stopped, blood not taken
On checking, document did not contain patient's DOB or hospital number, so blood unit was not taken
Did not document time of collection
Not trained. Sent back to ward without blood unit.
Hospital number incorrect on patient documentation. Porter phoned ward from blood bank to confirm correct hospital number.
Did not check group and unit number on label and bag matched
Only two units prescribed on the chart but three were requested and taken
Didn't have prescription chart with them
Pressed emergency blood button on electronic system - this button is for flying squad and not those in emergency situations with compatible blood issued - still some confusion here as new system.
Staff member away during new system training so not able to use electronic system - used old paper system only - let in fridge by lab staff.
Not yet trained in electronic system so unable to unlock fridge - lab staff opened fridge for them and they completed collection using only the paper system
Pressed training mode on electronic system - not sure why! Was corrected by lab staff present
Had problems scanning the barcode on the blood bag
Couldn't get barcode to scan - lab staff assisted with no problems
The member of staff collecting the unit of blood noticed the address on the collection form and issue form were different and therefore phoned the ward and also consulted a senior member of the laboratory .
The patient's first name was incorrectly spelt.
The date of birth on the collection form did not match the unit tag or issue form. The porter came into the transfusion lab to query. The ward was phoned, the correct date established and a new collection form was to be generated before the blood could be taken.
Unable to collect as no patient ID
No patient ID to collect units
No patient ID so could not collect blood.
ID badge of nurse borrowed from another member of staff.
ID badge borrowed from another member of staff, unable to access fridge.
No patient ID brought to the lab, unable to collect units.
Member of staff did not check patient identification by using the compatibility slip against the signing out sheet with the blood instead of the formally recognised Transfusion Record Sheet
Blood checked with the compatibility slip and sign out form as opposed to the Transfusion Record sheet she had brought with her so was encouraged to do so
Staff Nurse in HDU had given the compatibility slip to the Healthcare Assistant to check and collect blood. They did not have the Transfusion Record Sheet with them. The nurse was turned away and left without being allowed to take any blood
Audit data collector had to prompt member of staff to cross-check unit ID with blood prescription (blood collection document) ID
Member of staff came to lab with the drug chart instead of the blood prescription (collection document). They were sent away. Came back later with correct document and procedure performed correctly.
Blood not available - it had already been collected but not signed out
Porter not using/checking the blood barcode to check against the code on pink form (using the tag code instead)
Nurse had just cannulated patient - attached name bands - but had no documentation regarding patient ID for collection of first unit.
Staff nurse looking after patient came to collect first of 3 units - did not use white collection form - on discussion for subsequent units she would use the pink compatibility form.
Not a full year documented in DOB, only 196". Letter incorrect on sheet.
DOB was incorrect - wrong month. Rang dispatcher - claimed ITU gave the wrong month - rang ITU – they claimed they said the month September not the number 12 (as was on ID). Confirmed details with ITU - new dispatch form issued.
Collecting staff wasn't sure how many units she needed to collect -collecting staff took time to look for the unit in the tray and left the fridge door open for a while
Nurse had to be called back to write in time and date of removal in the blood bank register

Hospital number different on drug chart. Patient's notes, wristband and previous drug chart checked. Number on blood, wristband etc. match so new drug chart amended to show correct numbers. Explained new documentation to collector as had not received training in it. Plus member of staff had never collected blood before.

The D.o.B on the patient ID and the blood unit do not match.

No Patient ID. Did not allow staff member to proceed.

Staff member not very confident with process - asked lots of questions. Invited for additional training on a 1:1 basis by the transfusion practitioner.

No official patient ID brought to lab. Collection process not allowed to continue.

DOB on prescription different (year different) to DOB on blood transfusion paperwork. Transcription error on prescription.

Surname and forename were wrong way around on patient's ID form for checking on collection.

Blood Bank Staff refused to allow the member of staff collect the blood as the Trust Guidelines on Blood Collection were not complied with.

Blood Bank staff refused to allow unit to be collected until trust procedure was followed and patient ID collected.

Initially checked patient ID against transfusion register (to be signed) before checking blood label

Nurse had to be recalled to complete documentation

They signed for the blood before removing the unit from the fridge, thus signed before the relevant checks were made.

They didn't check the donation number on the front of the pack.

They didn't have suitable patient ID, they used a previous transfusion tag.

There were 2 units available, both were signed for and only one was taken, as HCA decided to take a different unit instead of the one first chosen, thus signed for both.

Patient report was used as patient ID, not an acceptable identifier.

Unable to access blood in the fridge as the only ID supplied was the patients first name and surname.

The surname was spelt incorrectly therefore Blood Track would not recognise the name supplied.

Unable to verify the patients date of birth was correct. Staff member returned to ward to obtain 3 points of ID as per hospital policy.

Staff observing did not feel that the checking procedure was carried out adequately. The nurse checked the label against the lab paperwork and not against the prescription chart as per trust policy.

Patient's date of birth was wrong on the paperwork and unit of blood. Blood returned to fridge – Healthcare Worker contacted transfusion lab immediately.

Tried to take last unit first - not order on issue sheet.

As the nurse collecting the blood had no patient documentation she was asked to ensure that she was collecting the right blood for the right patient - nurse called the ward who verbally confirmed patients details.

Wrong ward listed on unit documentation

The handwritten blood collection request form had an extra number in the hospital number.

The porter rang control and the problem was sorted

The doctor had not been trained to collect blood nor had access to the locked blood fridge.

Needed BMS to collect blood with him

Date of birth on blood collection request form incorrect

Porter did not take back copy blood form (used by ward staff for checking)

Wrong hospital number on blood collection form so wrong number put into system for collection

The name on the collection slip was not clear, so porter rang the base for confirmation

Hospital number incorrect on form, so porter rang base to confirm

Staff did not use correct checks against patient ID despite being competency assessed recently.

To be reassessed.

HCSW was using ward compatibility form to check unit of blood as treatment sheet was in use on ward.

Advised to confirm patient details with that on treatment sheet and to bring alternate patient ID in future.

Unit of blood was removed from fridge prior to checks being carried out. Staff had to be prompted to carry out full patient ID checks

Staff nurse was sent back to the ward to get patient identification.

Staff nurse was sent back to ward area to collect patient ID

Needed to be reminded to check NBS label

No unit number on issue sheet or trace label.

The unit was removed without scanning, therefore unable to determine if unit details were checked against patient details

No Date of Birth - Telephoned Ward

Had no patient identification at all. Sent back to ward to get proper documentation

Handwritten on scrappy piece of paper. No Date of Birth and Forename Spelt wrong

No ID whatsoever - he informed me that he had left it behind - I sent him back to get relevant documentation. Returned with proper documentation

No date of birth - asked to telephone ward to clarify before taking blood from blood bank

The blood unit was not scanned out therefore unable to determine whether patient details were checked against unit details

The blood unit was not scanned out therefore unable to determine whether patient details were checked against unit details (x22)

Blood unit not scanned out therefore unable to confirm whether staff member checked patient details (x10)

The blood unit was not scanned out; however the unit was signed out of the book manually; it is assumed that patient details were checked against unit details (x2)

Attempting to scan too quickly, support required

Required assistance with scanning

Took two units tried to scan one unit twice.

Porter informed collection slip with patient details must be used

Unable to collect blood as no documented details of patient

First name not present on documented patient ID

Staff member did not bring documented patient ID

Documented patient ID incorrect and Porter did not remove blood from fridge.

Documented patient ID not with staff member

Electronic system flagged oldest unit of blood not being removed

Electronic system flagged oldest blood not being removed

Electronic system indicated oldest blood had not been removed

Electronic system indicated oldest blood was not being removed

Porter was stopped removing the blood and told to get patient ID containing the minimum patient identifiers

Unsure of code for fridge so asked lab staff for help

Forgotten code for fridge

Forgot number for fridge access

Staff member did not check patient details on the screen or against the unit of blood selected from the fridge. The unit was taken for transfusion after being prompted by auditor to check the details were correct.

Staff member had a problem with the touch screen on the Blood Track kiosk which was resolved by the auditor. There were no problems with the ID of the patient.

Staff member had not brought staff ID Badge with barcode to access the fridge and was therefore unable to collect blood for the patient.

Staff member typed the patients hospital number incorrectly. Blood Track alerted and staff member then typed the number correctly

Staff member was attempting to scan barcode on the collection form although the blood track kiosk was not on the appropriate screen. The staff member realised the error and was able to rectify this before removing blood from the fridge

Staff unable to gain access to the fridge with no patient ID. Nurse returned to ward to obtain patient ID.

Nurse did not check patient details against the blood unit. Advised to check this before scanning the unit of blood through blood track.

Staff member attempted to scan wrong barcode on unit of blood. Advised by auditor of correct barcode.

Member of staff in training period. We give a three month training period before we assess the competency. This person had problems using the scanner, they were scanning the wrong bar code on the pack.

Nursing assistant not confident with the scanning out of the unit - required help, but asked for it

HCA had not been trained, and was not familiar with the blood collection process. Member of blood bank staff was called to assist.

Patient's surname on the blood collection form (from ward) did not match the patient details in the blood bank. Porter did not realise this until the nurses were checking upon receipt of the product.

No harm done: blood was returned to the blood bank & Porter retrained.

Porter signed out 2 units instead of 1.

Porter could not find blood, asked for help from lab staff

Hospital number on collection form did not match that on the unit compatibility label. Porter informed lab staff immediately, did not take the unit to the ward.

Two patients with same surname. Porter signed for the wrong one and delivered to wrong ward.

Nurses sent him back to the blood bank to inform lab staff.

Started to take the lab copy of the report form instead of the ward copy.

The HA had to call the ward to confirm the details of the patient for whom she was collecting the unit

Student should be accompanied by the qualified staff first time they come to collect blood.

Student had a training in blood collection but was confused on what to actually do.

Porter did not bring any ID for a patient

Incorrect addressograph label put on authority to collect form. Porter returned to ward where they replaced the sticker. Porter returned to issue fridge and took the unit.

Porter noted that the patient's blood group was not the same as the donor units and was unsure whether to take the unit or not.

Porter was collecting the second of two units. Noted that the first unit was taken at 11.25 and it was now 13.41. He queried if the second unit was being collected too soon.

Given different first name by switchboard but checked hospital number and that was correct

Porter did not bring his book with him and had to phone for the patient's details

Hospital number given was 1 digit wrong

Sister's name was put in instead of patient's name. Ward send new request form

Ward requested 2 units to be collected - only one unit at a time is allowed unless it is an emergency

The surname on the documented patient ID did not match the patient details on the unit of blood

Blood of longer expiry removed first, electronic system ensured that the unit was returned and shorter expiry unit used first.

Platelets and blood in fridge, 2 barcodes to choose form, staff member didn't realise!

Electronic system would not accept donation number, number had been incorrectly scanned ok on second attempt

Blood of shorter date in fridge, electronic system would not allow release of selected bag with longer expiry, bag replaced and shorter expiry bag removed ok

Staff couldn't find printout for patient in file in order to remove blood was just looking under wrong letter!!

Unit was scanned twice in error creating message unit not known, when checked unit had actually been removed through BARS (Blood Automated Release) system

Unit had been scanned already creating message "unit not known". When checked, unit had actually been removed through BARS

Platelets and blood were loaded into BARS, staff had to select which product she required and didn't realise that!

Service Delivery Problems

Unable to check patient's details against the unit of blood because no units were requested therefore no blood was present in the fridge.

Patient had changed ward, so nurse could not find unit on the shelf she was looking on.

BB staff had placed unit in wrong drawer

Renal satellite dialysis unit. Hospital number on documentation was a Leeds hospital number – not our hospital number. NHS number checked that it matched.

Theatre orderly unable to obtain prescription or anything else other than PAS sticker for ID.

Lab confirmed data via telephone to theatre

Porter given hospital number and patient had been cross matched under A&E number.

There was no blood available

Noise from staff entering / exiting pathology department made it difficult to concentrate on checks

Distractions caused by noise from staff walking past / in and out of department

Very noisy & busy whilst removing unit - staff entering / exiting department

Noise distraction during collection caused by staff passing through area

Compatibility form had been lost by clinical area - had to wait for re-print to be provided.

Shelf number (to locate unit in fridge) not documented on blood register form

Could not read prescription, some details cut off addressograph label

The porter was unable to find the unit of blood. Biomedical scientist investigated. Units usually kept in alphabetical order, this unit incorrectly filed. Found by BMS.

Patient on CCU but as blood was originally ordered when patient was in A&E it was in a different drawer in blood fridge. Nurse had to ask where blood was.

Blood had been ordered while patient was in another area. However nurse worked out where it would be as not in her ward drawer.

There was no blood for the patient available as a request for crossmatched blood had now been made.

Patient had been transferred to a different ward. Blood was in a different drawer in the issue fridge

The blood was not in the main fridge, it had been moved to another blood fridge in the hospital.

Blood was in the wrong drawer

Blood not available yet

Blood issued to the ward the patient was previously on.

The unit had not been issued. Another sample was required before the patient could have blood cross-matched.

Small delay was encountered. Blood was not in blood fridge. Was needed urgently and was being issued at the time.

Blood was not ready

Blood was not in the fridge as it had gone by the reserve date and the staff member didn't realise this when coming to the fridge.

Register copy not in folder - found in lab, blood not taken until register copy found.

Blood not in fridge, had been returned to stock - another crossmatch sample required

Blood not available

Unit(s) had already been collected.

Not available for collection as not yet labelled. When labelled handed to porter who completed collection process.

Porter was initially checking the blood against an old form where all the blood had been collected. He did not realize that this blood had already been collected. At the time, the new blood had not been dispensed.

Blood stored alphabetically in fridge and this unit of blood not in correct section.

Blood track working slowly

Blood Track down

Blood Track down

Blood track down

Blood Bank Register Slip missing, replacement printed and removal documented as per Trust Policy

The blood unit had not been entered onto the electronic tracking system by the BMS in the lab performing the crossmatch

Blood unit had not been entered onto the electronic tracking system by the BMS performing the crossmatch

The blood was in the wrong drawer. It should have been in ward 8 but was in ICU drawer.
Called labs laboratory to confirm blood brought down. Found in other drawer.
Blood no longer available for patient: had been returned to stock.
Lab staff had 'issued' the blood unit to the wrong location on blood track therefore the system created an alert box
2 different requests: 1 blood unit, 1 platelet. No blood in fridge. Called to check with ITU. Blood was taken after 3rd attempt
The system raised an error about taking the oldest pack first and the porter took the older one to resolve the error
Blood was not ready, Ward had not checked it on their computer before sending the porter to collect. The interface was down because of network problems. One of lab staff overrode the system using the keypad on fridge and recorded the information on paper
Blood was not available in fridge, but was collected at the second attempt.
System did not scan the patient barcode. Had to enter patient number manually.
Two names with same ID number but only one had blood reserved in it which was the correct one.
Units not issued when they arrived to collect phone call only just taken
Many units of blood in the fridge. This patients blood in with the Emergency O neg.
Wrong bar code, needed new one for glucose meter and blood track as there is a share of bar code for the 2 systems, only activated once trained
Needed replacement bar code as worn out.
Blood not ready
Alarm went off
Blood initially not available for collection and not in issue fridge.
Problem with the computer: it was responding much slower than the operator was inputting data
Awaiting new sample
The staff member had to wait for the crossmatch to finish and therefore phoned the portering supervisor to inform and the transfusion collection/record form did not state what to collect although the portering supervisor verbally informed the porter.
The staff member could not find the blood issue form. She came into the transfusion lab to query. A laboratory member of staff found the form filed non-alphabetically in the file folder. The collection of red cells continued as normal.
Units had previously been requested for the day of collection but were not ready. The nurse came into the transfusion lab to enquire. Explanations were given and the nurse told the ward would be phoned when the units were ready.
The printer had not lined up exactly and so made the peel off labels with the unit number half with half without the number. The nurse came into the transfusion lab where a new label correctly lined up was printed and used to replace the old one.
The issue form was not filed alphabetically, however when looking through the folder it was found
Incorrect patient details on BloodTrack screen: unit brought to lab to correct.
Units returned to stock.
Unit returned to stock
Unit returned to stock. Unit re-issued.
Lab staff had put compatibility slip in wrong place so it was a little harder for the porter to find it
Blood Track stopped working paper records started
1st unit of blood issued through blood track which stopped working so the 2nd unit was recorded on paper
Blood Track was down
Not in allocated ward slot - found in ED (where patient was admitted)
Blood had been de-reserved therefore not standard pick up
Query because de-reserved date is today. Checked with deputy lab manager - ok. within date, packed last night.
Form for signing out was missing
Delay encountered in the collection process due to units being placed in the wrong tray in the fridge (trays are labelled alphabetically by surname order)
Blood was in theatre fridge not issue fridge
Blood unit was not in the fridge.
Unit no longer available as past reserve date therefore returned to stock.
There was not a red form card attached to the blood unit.

The blood unit has been requested by the ward but still has not been delivered to the fridge.
S/N had to wait 10 mins for blood to be issued as transfusion lab had not been told when the blood was required, request form just said 'pm'
A two unit crossmatch had the labels attached to the blood bags transposed on the units.
(i.e. label 1 on bag 2 and label 2 on bag 1.)
Pathology wide policy to remove leading zero's from hospital numbers with letter prefix. HCA queried that the numbers were not matched.
Blood not available
Blood not available in satellite fridge but was delivered by the lab within 5 minutes and the collection process continued from then onwards
The blood register paperwork was missing because the BMS was using it. The porter took the correct action.
Unit filed in wrong place in fridge - porter took correct action
Blood still being labelled by BMS. Porter checked fridge, reported the problem and waited for the blood
Blood not requested therefore not in fridge
Blood Tracking system was down, the blood unit was not scanned out; however the unit was signed out of the book manually; it is assumed that patient details were checked against unit details
Blood not in fridge
Blood not available
Compatibility form was not printed
Compatibility form required reprinting
No cool box left for transport. Assistance given.
Assistance required accessing cool packs
New sticker provided for scanning
Blood not in fridge to allow check of patients ID.
Group and save only had been requested so no blood was in the fridge for that patient
Blood had not been requested so not available
Blood on wrong shelf in fridge
Blood Track had alerted that this unit of blood had been assigned to another patient (incorrectly.)
The patient ID and the details on the unit of blood all matched therefore the staff member took it to transfuse.
On gaining access to the fridge the staff member was unable to find the unit of blood for the patient as the patient had been recently transferred from another ward. The unit of blood was on the shelf allocated to the previous ward.
Computer problem: this was not the individual's fault. The lab was having problems with the computers due to the heat in the server room causing the occasional blip on the lab's computers which affected the removing blood computer.
Patients first name provided by blood bank was Margaret when it should have read Margery - error resolved in blood bank
No blood available. A unit of blood cross matched electronically for patient.
BARS error - system restarted
Blood was not ready: it took a few minutes to proceed with electronic crossmatching
Unit no longer in issue fridge. Due to transfusion history the patient required a new sample every 24 hours whilst still having transfusions. This unit had been restocked at 09.00 but was then re-issued when the porter came to collect it as there was still time on the current sample.
Name in book was misspelled
Blood register had been removed temporarily to check a porters signature on a returned unit.

Annex One – HACCP Analysis

Hazard Analysis and Critical Control Points (HACCP) is a systematic preventive approach used in the food and pharmaceutical industries, to ensure quality. HACCP is used in the food industry to identify potential food safety hazards, and to identify key actions, known as Critical Control Points (CCPs). A CCP is a point, step or procedure at which controls can be applied and a hazard can be prevented, eliminated or reduced to acceptable (critical) levels.

HACCP itself was conceived in the 1960s when the US National Aeronautics and Space Administration (NASA) asked Pilsbury to design and manufacture the first foods for space flights. Since then, HACCP has been recognized internationally as a logical tool for adapting traditional inspection methods to a modern, science-based, food safety system.

Hence, HACCP has been increasingly applied to industries other than food, such as cosmetics and pharmaceuticals. This method, which in effect seeks to plan out unsafe practices, differs from traditional "produce and test" quality assurance methods which are less successful and inappropriate for some processes.

HACCP audit has been used in audits undertaken by the Health Protection Agency in connection with national systems for testing patients for HIV ⁽¹⁾, and to look at the provision of irradiated blood product to patients in an NHS Trust (unpublished audit)

The HACCP five principles as applied to a healthcare setting

Principle 1: Conduct a hazard analysis. An assessor visits the site of the clinical activity to be evaluated to determine the hazards and identify the preventive measures that can apply to control these hazards. A hazard is any action performed during the delivery of the clinical activity that could fail and whose failure could lead to the activity not having the desired outcome, in this case the correct collection of blood from a blood bank fridge.

Principle 2: Identify critical control points. A Critical Control Point (CCP) is a point, step, or procedure in the process of delivering the clinical activity at which control can be applied and, as a result, an adverse outcome can be prevented, eliminated, or reduced to an acceptable level.

Principle 3: Establish critical limits for each critical control point. A critical limit is the maximum or minimum value to which a hazard must be controlled at a critical control point to prevent, eliminate, or reduce it to an acceptable level. It is arguable that there are no critical limits for the blood collection process, since wrong blood collected can lead to wrong blood transfused.

Principle 4: Establish critical control point monitoring requirements. Monitoring activities are necessary to ensure that the process is under control at each critical control point.

Principle 5: Establish corrective actions. These are actions to be taken when monitoring indicates a deviation from an established critical limit. There should, for any process, be a plan to identify the corrective actions to be taken if a critical limit is not met.

Using HACCP audit to evaluate the blood collection process.

Step One – Map the system as it is used by a sample of nurses/porters/etc.

a) Select one but preferably two people to be the HACCP auditors. Ideally, they should be “ignorant, intelligent observers” – having prior knowledge of the process can bias the audit process. One person asks the question and the second person documents the answers, and can ask supplementary questions to clarify the description of the process being audited.

b). Select a sample of nurses/porters, etc. to interview. This can be one from each high user clinical area, for example, but over time the aim should be to map all areas that transfuse blood.

c) The HACCP auditors arrange a time to meet with the nurse/porter, etc, and explain the process. All that is required of the nurse/porter, etc. is that they **tell** and **show** the auditors how they collect a bag of blood for transfusion for a patient. The auditors ask the staff member to describe the process as an overview first. This is usually described linearly, for example:

Identify patient for whom blood is prescribed → Collect a document that contains the patients full name, date of birth and ID number → Take that document to the blood fridge → Find the compatibility slip for the patient → Find the unit of blood → Check that all details are correct → Sign the documentation → Take blood to ward

Once this has been recorded, the auditors then ask the staff member to describe and demonstrate each of those process steps in detail. It should be possible after the auditors have completed their recording for any person reading the notes to exactly recreate what the staff member did. The HACCP audit therefore involves following the member of staff through the process, moving from the clinical area to the blood bank to record all the operational steps.

d) The HACCP auditors then draw up a simple flow chart that visually describes the blood collection process *as it is operated by this member of staff*. It does not matter that another member of staff may do it in a different way – that will be revealed at a later stage. What is important at this stage is to discover if the way this member of staff does it presents any risk of wrong blood being collected. See Figure One below for an example of a typical HACCP flowchart

Figure One – Typical HACCP flowchart based on the linear example above

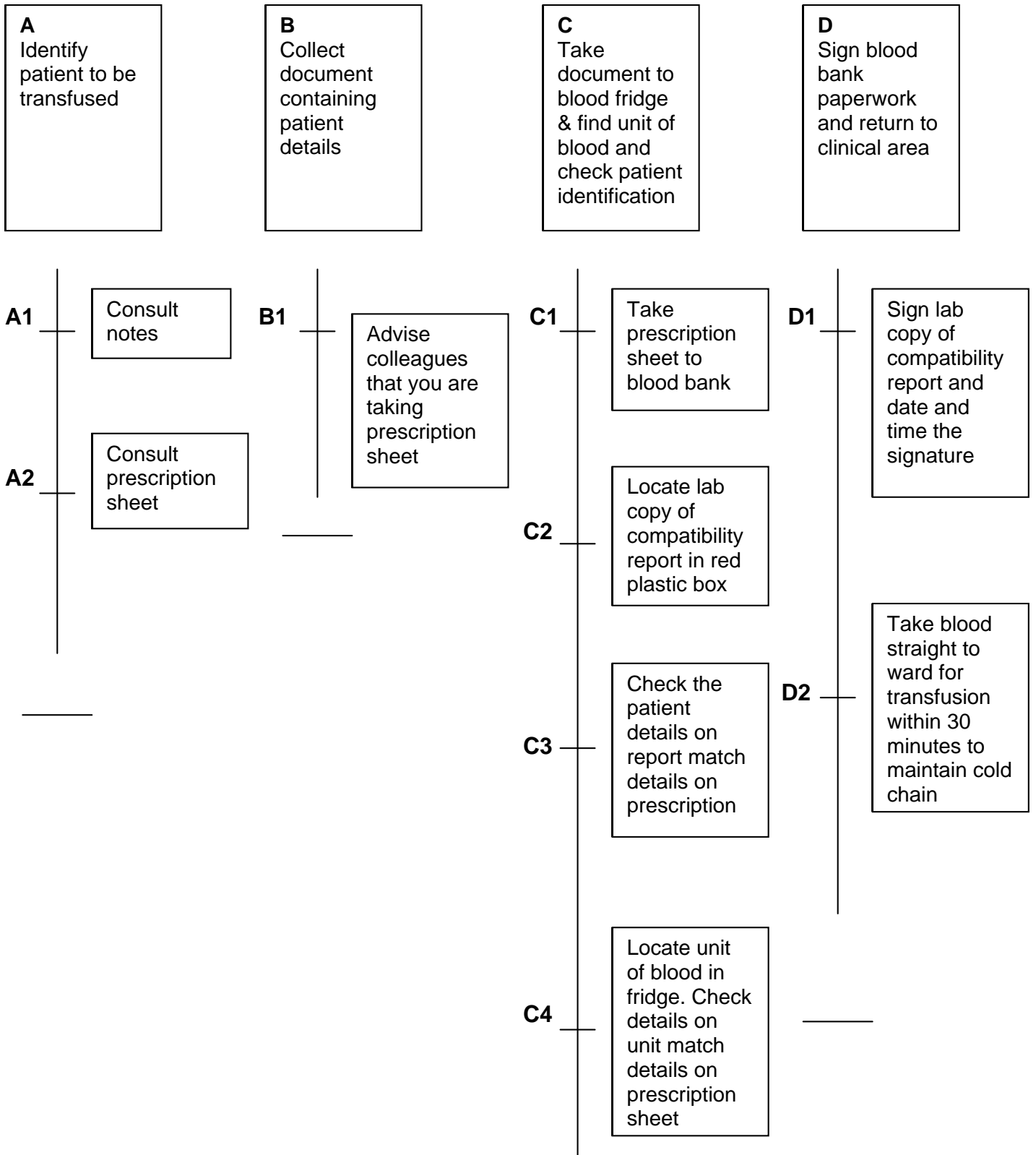


Figure One above shows the basic steps in the process as described by the staff member and those various steps broken down into detail, with each distinct task being allocated a separate letter/number for ease of description.

Step Two – Identify the hazards

Hazards are any parts of the process described by Figure One that are capable of failure, and the next task of the HACCP auditor is to identify the hazards. It is important that hazards are not evaluated at this stage, but simply identified. It does not matter at this stage what the consequences would be if a part of the process failed – what matters at this stage is identifying what can and cannot fail. Hazards, then, are parts of the system which could fail should there be a failure of technology or a failure by a person to operate part of the system.

Looking back to Figure One, the hazards are shown in the following table:

Flow Point	Hazard
A1	The staff member could fail to consult notes and identify the patient incorrectly
A2	The staff member could fail to consult the prescription sheet and fail to identify the patient correctly and could fail to check that blood had been prescribed
B2	The staff member could fail to advise colleagues that the prescription sheet is being removed from the clinical area
C1	The staff member could fail to take the prescription sheet to the blood bank
C2	The staff member could fail to locate the lab copy of the compatibility report
C3	The staff member could fail to check patient details against the compatibility report
C4	The staff member could fail to check patient details against the details on the unit of blood
D1	The staff member could fail to sign, date and time the collection
D2	The staff member could fail to take the blood to the clinical area or to take it there within 30 minutes of it being collected

You can see from the table that most of the process steps are capable of failure, but having gone through the exercise you will have mapped the extent of the possibility of failure. The next step is to judge which of those process steps, should they fail, would lead to the wrong blood being taken to the clinical area. Once we have identified those process steps, we call these the **critical control points**, since it is critical to control them in order to prevent the unwanted outcome of the wrong blood being taken to a clinical area. The table below considers each hazard in turn and assesses its value as a critical control point:

Flow point	Consequence of failure	Critical Control Point?
A1	Could lead to wrong blood collected IF staff member did not do A2	No
A2	Could lead to wrong blood collected (and could lead to blood transfused when not prescribed)	Yes
B2	Could cause inconvenience but no impact on blood collection	No
C1	High risk of wrong blood collected since no written patient ID would be taken to the blood bank	Yes
C2	Would lead to a failure to sign blood out but would not lead to wrong blood being collected	No
C3	Staff member could miss opportunity to notice errors but would not lead to wrong blood being collected	No
C4	High risk of wrong blood being collected if details not checked and found to match in all respects	Yes
D1	Will lead to lack of traceability but would not lead to wrong blood being collected	No
D2	Might lead to delay in transfusion and/or wastage because unit out of cold chain, but would not lead to wrong blood being collected	No

Step Three – Identify the Critical Control Points

As can be seen from the table above, there are several sorts of failure possible with different consequences. HACCP can be used to assess the consequences of any sort of failure, but the adverse event or unwanted outcome we are guarding against here is the wrong blood being collected. Thus, as the table shows, there are only three parts of the process that are very likely to lead to the wrong blood being collected – failing to identify the correct patient for transfusion, failure to take complete, written patient ID to the blood bank and failure to check that those details fully match the details on the unit of blood being collected. Thus A2, C1 and C4 are the critical control points, and staff should be trained and assessed as competent in at least those three steps, and those steps should be audited regularly to ensure that the critical control points are monitored.

Step Four – Take corrective action

If any of the CCPs fail, then those failures should be noted as incidents and investigated. Corrective action includes one to one training, suspending the staff member from collection until proved competent and further audit to demonstrate continuing good practice.

Widening the picture

So far the process flowchart has been created on the basis of one interview with a staff member. That staff member may, though, not be operating the standard procedure, so it may not be the correct procedure. What is helpful as a next stage, once the process has been mapped, is to present the flowchart to other staff in the clinical area who collect blood and ask them to amend the chart as they think necessary. If each member of staff is given a copy of the chart to amend, collecting these charts will soon reveal the diversity of practice within that clinical area. This provides a training needs analysis, and individuals can be risk assessed.

Process maps, hazard tables and critical control point tables should be produced for all staff groups who collect blood.

References

1. Grant-Casey, J Rodney, A. Right every time? The diagnosis of HIV in the GUM Clinic. PHLS 1998. Available from the authors.