Background to and Data from the National Audit of Sample Labelling

Anne Varey
Transfusion Quality Coordinator
South Tees Hospitals NHS Foundation Trust
Member of National Audit of Sample Labelling Project Group

Sample Errors - Safety Issues

Pathology sample labelling errors

- Potential for inappropriate treatment or failure to treat based on results from erroneous samples

Wrong Blood in Tube (WBIT) errors

- Transfusion sample taken from one patient but labelled with the details of a different patient

Accurate patient identification and correct specimen labelling are critical patient safety issues in healthcare.

Transfusion Sample Errors

- Rate of mislabelled and miscollected samples 1000 -10 000 fold more frequent than the risk of viral infection

  BEST working party ISBT 2003
- Estimated that 1 in 2000 samples is from the wrong patient, commonly known as “wrong blood in tube”

  Dzik et al., 2003, Murphy et al., 2004
- SHOT: Analysis of the ‘near miss’ data for the past two years indicates that for every ‘wrong blood in tube’ (WBIT) error that results in a wrong blood incident, there are about 100 ‘near miss’ sample mistakes.
  - **2011 data: 1080 near misses of which 469 were WBIT**
  - **5 incorrect component transfused (IBCT) reports due to WBIT**

SHOT 2011

“Errors detected at sample booking are not included in the Annual SHOT Report, because they have been detected by the quality management system at the first opportunity. However, they should not be regarded as trivial and local audits on sample labelling might be beneficial to improve performance in this area.”

Aims of the 2012 Audit

- To collect information on quality of practice of collection and labelling of transfusion samples
- To determine
  - If patients are correctly identified at the time of sampling
  - If there is a robust system for labelling the sample

- To understand the reasons for errors
- To reduce the incidence of blood sample labelling errors

Audit Design

Initial proposal was for

1. An organisational survey to look at policies for sample collection and labelling
2. A laboratory audit of sample labelling accuracy (3 months)
3. An observational audit of sample labelling (1 month)

Final Design

1. Organisational data on
   - Hospital policy for taking transfusion samples
   - Laboratory SOP that covers sample rejection
   - Information on practice regarding amendments
2. Laboratory staff asked to record all transfusion samples rejected for labelling errors
   - For 3 months - May, June and July 2012
   - Who (staff role), where, when, why?
3. Observational audit replaced by follow-up investigation questionnaire
   - Transfusion practitioners asked to investigate minimum of 3 sample labelling errors/week
   - " Please talk me through what you did when you took this blood sample"

Preliminary National Findings

272 sites participated

NHS Blood and Transplant

Results – Organisational Survey

- All sites have a policy that covers the taking of blood samples for transfusion
- Most sites have an SOP that covers the rejection of mislabelled samples
- 72% of sites have a “zero tolerance” policy, while the remainder allow some changes to sample labels or request forms

Preliminary National Findings

Data has been analysed on over 21 000 rejected samples so far…

NHS Blood and Transplant

Results – Who is mislabelling?

	National	
n= 21,185	N	%
Unknown	8112	38%
Doctor	4873	23%
Nurse	3027	14%
Midwife	2235	10%
Community midwives	1254	6%
Phlebotomists	995	5%
Healthcare Assistant	434	2%
ODA/ODP	82	0.3%

Preliminary National Findings

Data has been analysed on over 21 000 rejected samples so far…

NHS Blood and Transplant

Results – Where are the errors made?

	National	
n= 21,185	n	%
Inpatient ward	6257	30%
A& E / Emergency Dept	3750	18%
Outpatient / Pre-Op clinic	2980	14%
Community	2715	13%
Delivery suite	1756	8%
Medical Assessment Unit (or similar)	915	4%
Day ward	901	4%
Unknown	575	3%
Intensive care/HDU	570	3%
Paediatric ward or similar	350	2%
Theatres/Recovery	172	<1 %
Neonatal unit	178	<1 %

When?

- **69% taken in core hours**
- **27% taken out of hours**
- **4% time unknown**

Preliminary National Findings

Preliminary Results – Why - what data was missing?

NHS Blood and Transplant

n=21 185	N
Core patient identifier(s) don't match on tube or form	8568
Core patient identifier(s) missing from tube	4816
Other required details missing from tube	1439
Core patient identifier(s) missing from form	1395
Pre-printed label on tube	1326
Other required details missing from form	1042
Sample rejected by system because information was incorrect	1041
Unlabelled tube or form	711
Other required details don't match on tube and form	490
Illegible details on tube or form	467
Details overwritten	438

Follow Up Investigations

Preliminary results – Who makes the errors?

NHS Blood and Transplant

n= 5439	n	%
Doctor	1890	35%
Nurse	1640	30%
Midwife	738	14%
Phlebotomists	554	10%
Healthcare Assistant	335	6%
Community midwives	262	5%
ODA/ODP	8	0%
Unknown	12	0%

Competency assessed?

Yes	**62%**
No	**21%**
Don't Know	**17%**

Follow Up Investigations

Preliminary results – Why are errors being made?

NHS Blood and Transplant

	National	
n= 5439	n	%
Transcription error (copied information wrongly)	1693	31%
Was interrupted or distracted	1263	23%
Copied details from something other than the patient's wristband	437	8%
Knew I should sign tube or form but forgot	416	8%
Was unaware of some / all of the procedure	404	7%
Did not check patient ID	289	5%
Did not know that the information was needed	216	4%
Asked someone else to label the sample / Labelled the sample for someone else	154	3%
Patient was not wearing a form of ID	153	3%
Unable to label the sample at the patient's side	141	3%
Information needed to complete the labelling was not available	71	1%
Put wrong sticky label on request form	45	1%
Was told that the missing information was not needed/not important	15	0%
Other	23	1%

NE RTC Survey of WBIT

- To determine the incidence of and risk factors for WBIT incidents in hospitals in the NE RTC region
- Data collected prospectively on all WBIT incidents reported 1/8/2011 to 31/07/2012
- 50 WBIT
  - 35 identified by transfusion lab and further 3 identified by other pathology discipline
  - 48% taken by doctors, 20% nurses, 14% midwives, 6% HCA, 2% phlebotomist, 10% unknown
  - 82% up to date with transfusion training
  - 78% competency assessed

NE RTC Survey of WBIT

- WBIT Location: Top 5 clinical areas
  - Wards
  - Acute assessment/ admission
  - Emergency dept.
  - Delivery suite
  - Day unit
- Clinical Specialty: Top 5
  - Other Medical
  - Obstetrics
  - Emergency surgery
  - GI Bleed
  - Elective surgery

NE RTC Survey of WBIT

RCA summaries provided by reporters

- Labelling sample away from the patient
- Inadequate or no positive ID check at bedside
- Labelling sample from
  - wrong patient's notes, wrong sticker on form, wrong patient on computer, wrong twin
- Multiple staff involved
- Interruption/distraction
- Maternal/cord blood transposed

So Why Are Samples Mislabelled?

- Do we have policies with regard to positive patient identification and the correct labelling of samples and request forms ? YES
- Do we have sample acceptance protocols? YES
- Do we train staff to take/label transfusion samples? YES
- Do we assess competency to take/label transfusion samples? YES

Investigations Show

- Human Behaviour
  - Some staff are simply not complying with policies and protocols when taking samples
  - Culture of deviation from required practice in clinical areas
  - Human beings make transcription errors
- Key areas of risk
  - Failure to positively identify the patient and/or
  - Failure to label the specimen immediately

    - AT THE BEDSIDE!
  - Failure to confirm the patient's details match on the wristband, sample and request form

Electronic Patient Identification!

2012 Sample Labelling Audit Results	n	%
Sample tube labels are handwritten at patient's side	168	99%
Sample tube labels are printed at the patient's side and are stuck onto the tube	14	8%
Other	8	5%

	n	%
Request forms are handwritten	129	76%
Labels that are printed at the patient's side are stuck onto the request form	15	9%
Pre-printed labels stuck onto request form	121	71%
No form is used - electronic ordering in use	18	11%

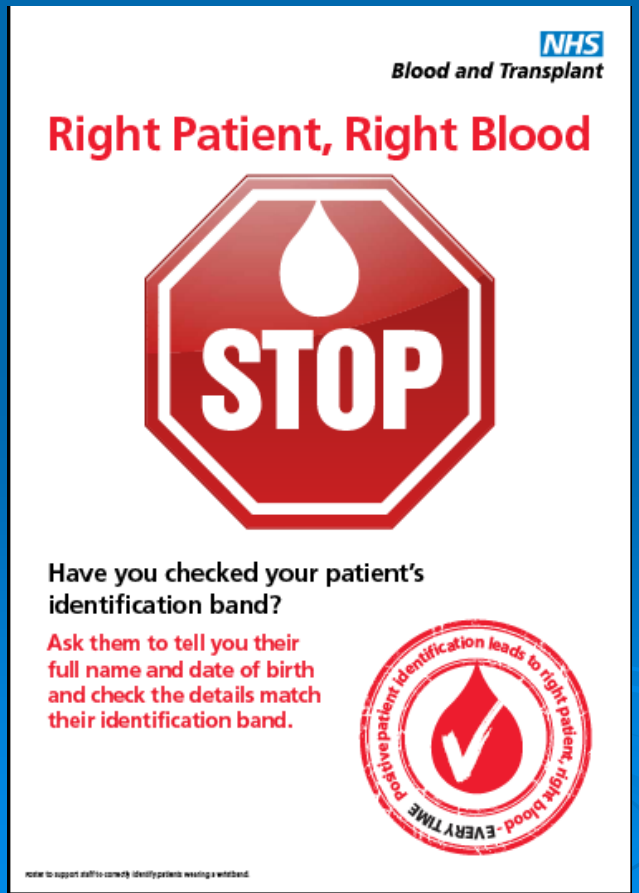
Reducing Risk of WBIT

"Unless secure electronic patient identification systems are in place, a second sample should be requested for confirmation of the ABO group of a first time patient prior to transfusion, where this does not impede the delivery of urgent red cells or other components."

BCSH Guidelines for pre-transfusion compatibility procedures in blood transfusion laboratories 2012

Patient Empowerment

2012 Transfusion Awareness Campaign 'Do you know who I am?'



Sample Errors – What Are The Consequences?

Safety Issues: Potential for Never Events

- ***Death or severe harm as a result of the inadvertent transfusion of ABO-incompatible blood components***
- ***Death or severe harm as a result of administration of the wrong treatment following inpatient misidentification processes…***

Negative Patient Experience:

- Risk of death or severe harm
- Subjected to repeat venepuncture/discomfort/anxiety
- Possible delays to treatment
- Risk of receiving inappropriate treatment or failure to treat

Cost and Efficiency:

- Increased turnaround times/processing. Poor use of resources
- Litigation costs / loss of reputation

WBIT- If there is no laboratory record of a historical group no opportunity exists during the subsequent procedure for detection of the error.

"When you look back after someone has been killed in a patient safety incident, you can often see that all the ingredients were in place for a disaster to happen."

Sir Liam Donaldson

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