Feedback from 2011 Annual SHOT Report

The South Thames Technical Advisory Group
for Transfusion Science
&
South East Coast RTC

"Patient Blood Management – Where do you fit in?"
31 January 2013

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Key Lesson 2011

The key lesson from the
Annual SHOT Report 2011 is:

‘Back to Basics’

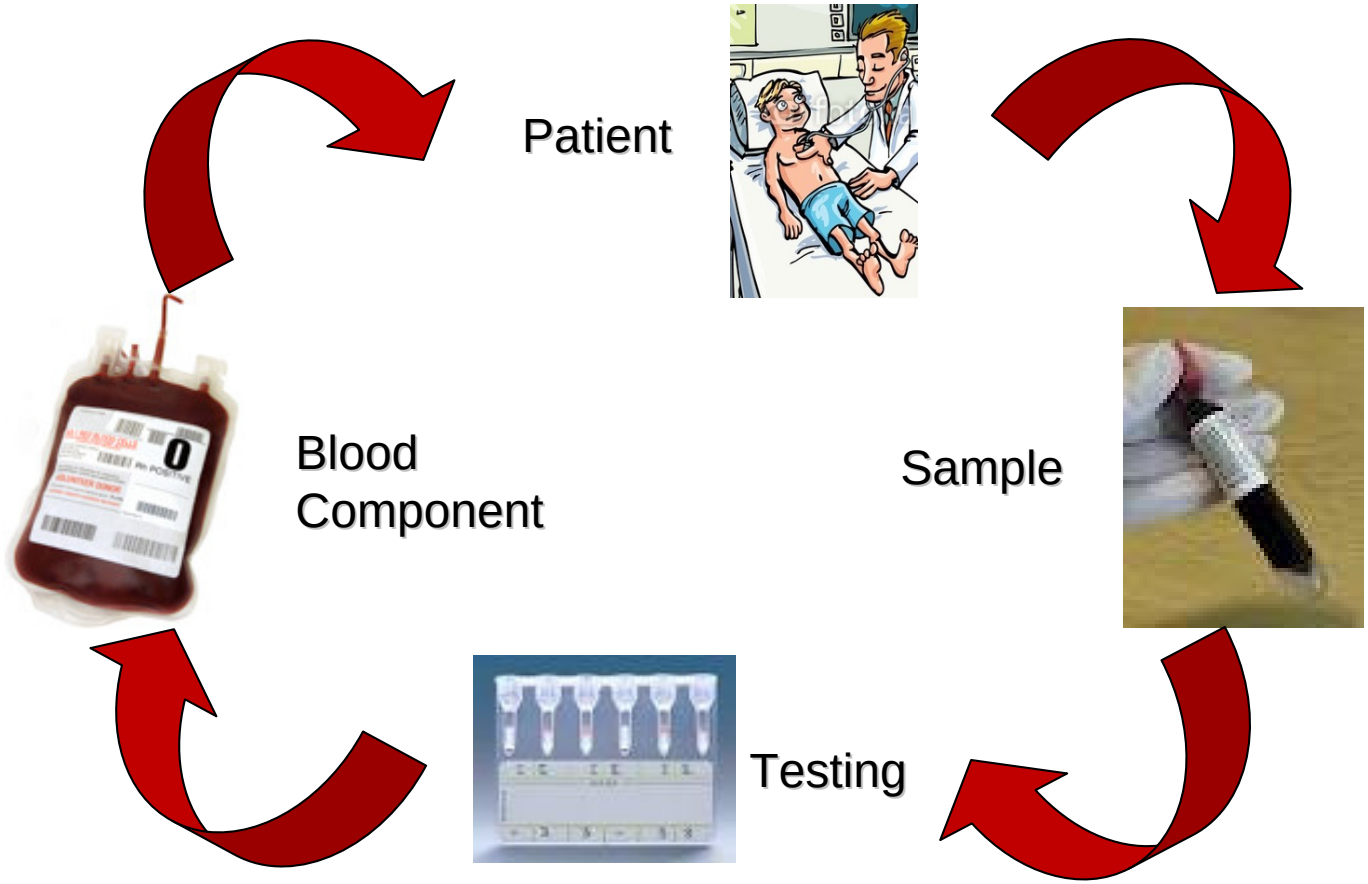
Key Recommendations 2011

Four key recommendations underpinning back to basics:

1. Correct patient identification.
2. Education and competency.
3. Knowledge of transfusion medicine and of prescribing/authorising.
4. Clinical and transfusion laboratory handover.

Underlined sections are most relevant to laboratory

Transfusion Loop



Preventable Errors

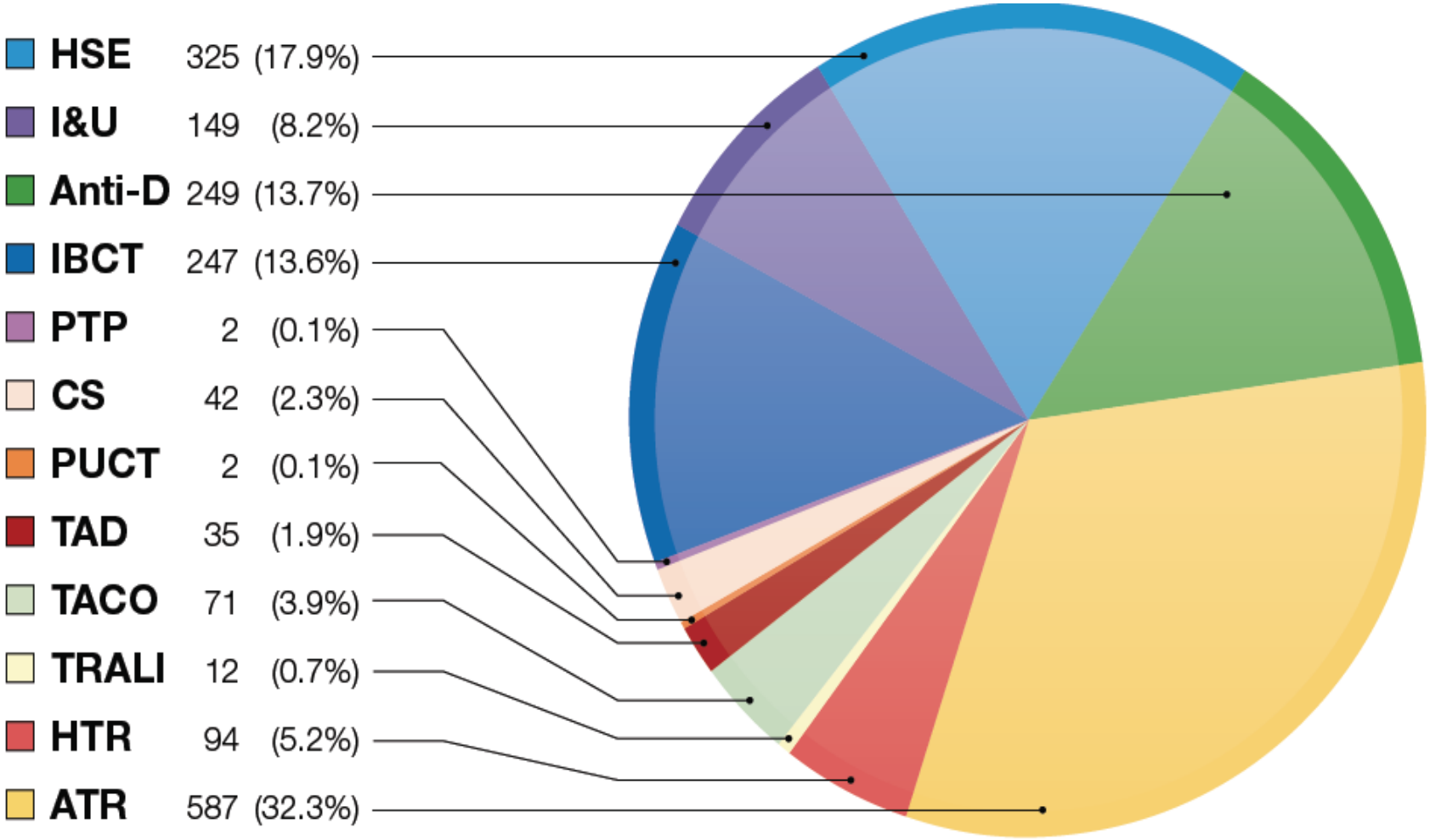
- About half of the cases reported to SHOT are due to preventable mistakes.
- Similarly, most of the serious adverse events reported to the Medicines and Healthcare products Regulatory Agency (MHRA) are also attributable to human error (*n=788/811*).

Laboratory Errors

- Laboratory errors increased slightly in 2011 to 217 compared with 205 in 2010.

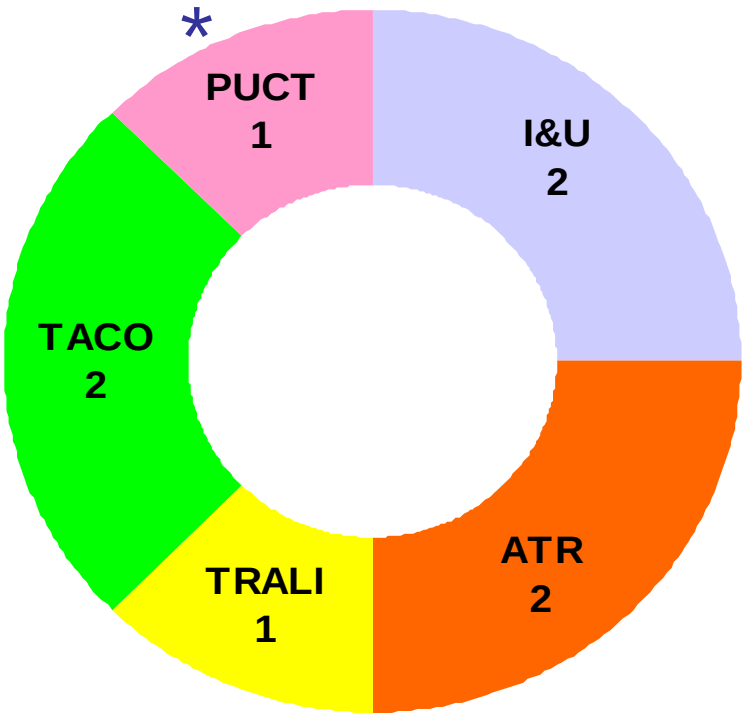
- There were 7 ABO grouping errors + 1 error as a result of using the wrong sample. Four of these errors occurred in emergency situations when staff may have been rushed and tempted to take short cuts.

Reports 2011 *(n=1815)*



* *Excluding NM and RBRP*

Deaths - transfusion causal or contributory 2011 *(n=8)*



I&U – Inappropriate & unnecessary or delayed transfusion

ATR – Acute transfusion reaction

TRALI – Transfusion related acute lung injury

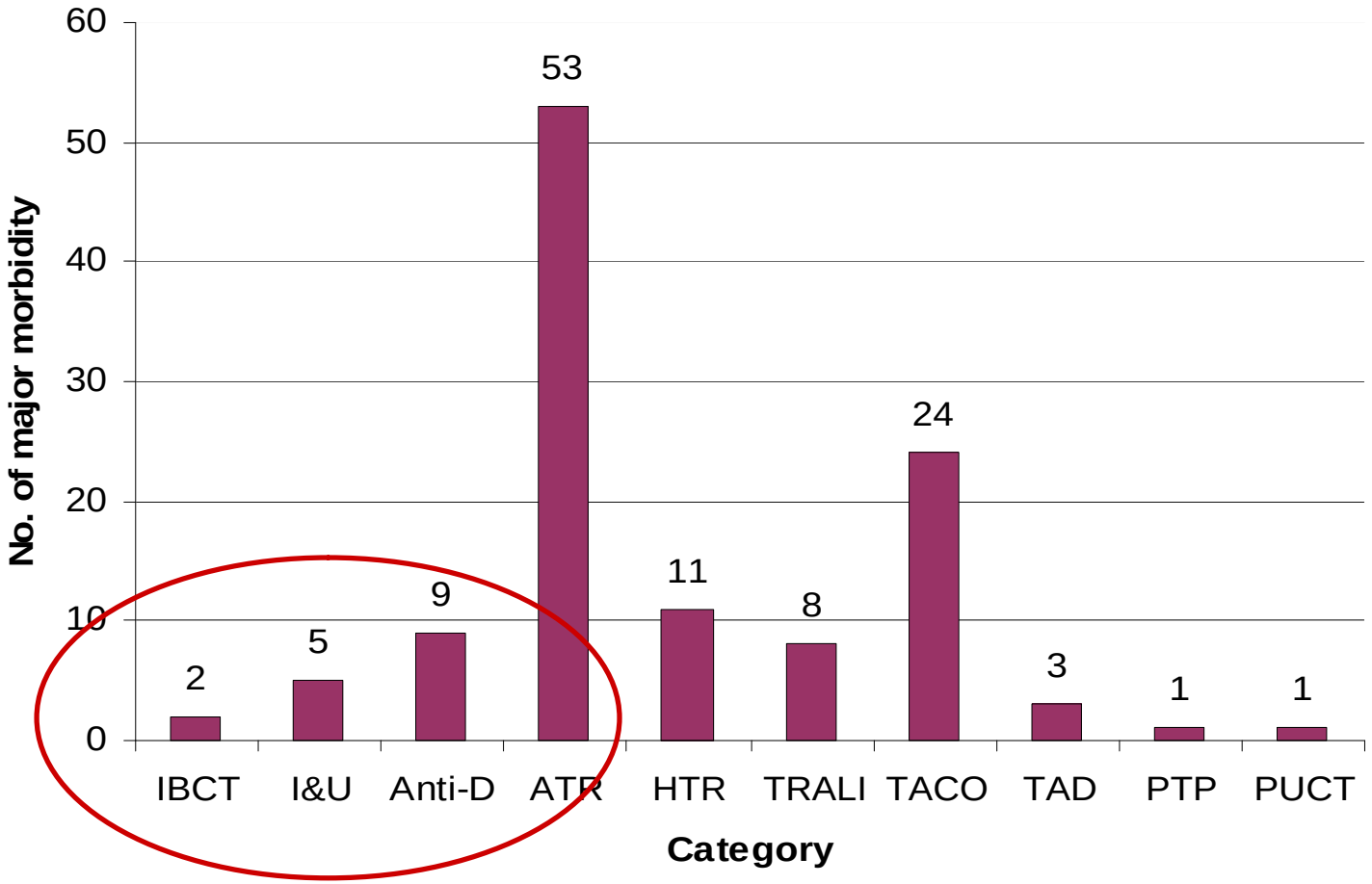
TACO – Transfusion associated circulatory overload

PUCT – Previously uncharacterised complication of transfusion

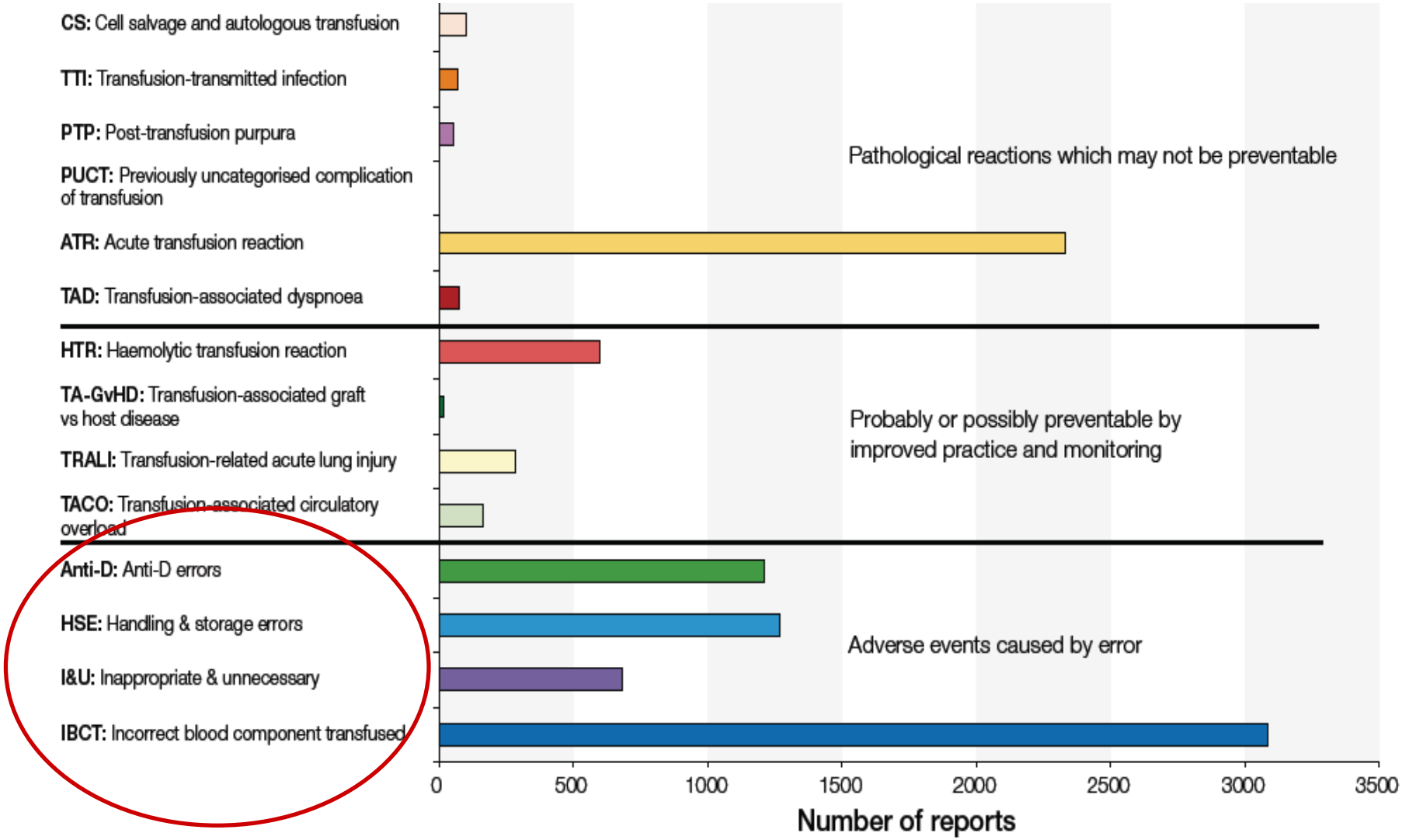
No deaths related to lab incidents

** The PUCT incident was a case of NEC in a baby that is not categorically linked to the transfusion, but is an association that could not be ignored*

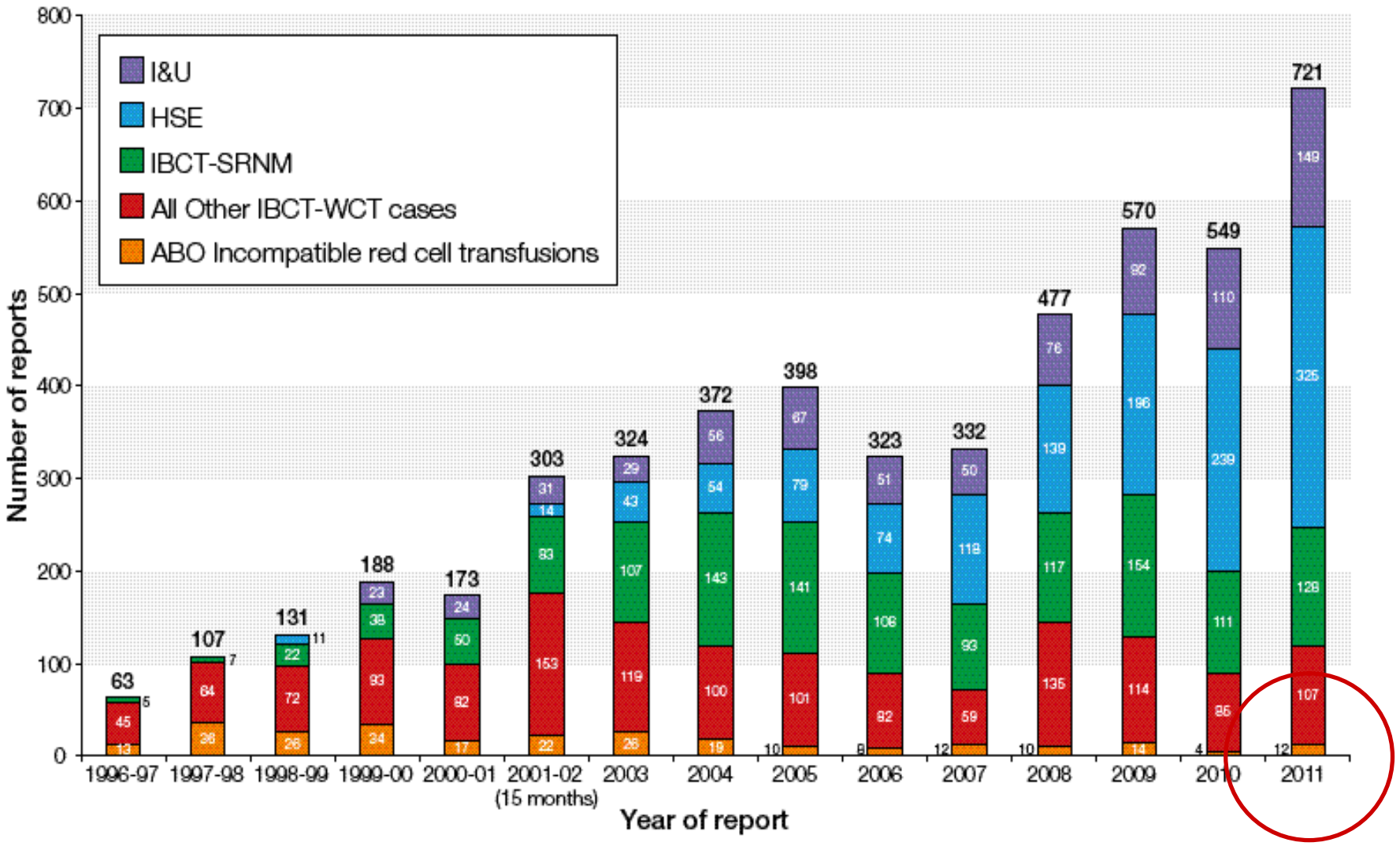
Tx related major morbidity 2011 (*n=117*)



Cumulative 1996-2011



Incorrect blood components transfused (IBCT) either due to wrong component (WCT) or where special requirements were not met (SRNM), handling and storage errors (HSE), showing the number that resulted in ABO-incompatible transfusions



ABO incompatible transfusions

- **12 in 2011 - Listed as a DOH 'never event'**

(8 clinical)

  - **4 laboratory**

    - 1 wrong sample tested

    - 2 grouping errors

    - 1 component selection error

  - **2 RhD incompatible transfusions**

    - RhD positive red cells were transfused to RhD negative females

Case Study 1 - ABO

Wrong sample selected results in patient receiving an ABO-incompatible transfusion

- Due to the wrong sample being selected for testing, a patient was typed as AB RhD positive and transfused 3 units of red cells.
- The patient's actual group was A RhD positive.
- The error was detected when a second group and save sample was processed at a later date.
- The patient suffered no harm.

Case Study 2 - ABO

Unacceptable pre-transfusion testing leads to ABO incompatible transfusion – *grouping error*

- 4 units requested as urgent for patient with haematemesis
- Ward advised to send a new sample in order to provide group specific blood as patient had been transfused 1 week previously
- Doctor sent sample and recorded blood group as A RhD positive on the request form.
- The BMS felt rushed as there was a delay in blood reaching lab & issued a group specific A RhD negative unit.
- Standard testing revealed the patient's blood group to be O RhD positive, not A RhD positive as written by the doctor on form.
- Ward contacted immediately and the transfusion stopped.
- The patient had received approx. 30mLs of red cells and experienced rigors.

Case Study 3 - ABO

Manual transcription error and failure to heed IT alert leads to ABO-incompatible transfusion

- An oncology patient grouped as an O RhD positive but with no anti-B.
- Manually entered on to LIMS as group B (with no anti-B) but result was not authorised.
- Blood group B RhD pos was reserved for crossmatch prior to grouping results being authorised.
- The BMS issuing the blood overrode the IT alerts which indicated that the group results had not yet been authorised.
- The patient received 80mL of ABO-incompatible red cells before the error was noticed and the transfusion stopped.
- There was no transfusion reaction.

Case Study 4 - ABO

Manual transcription leads to a blood group error and the failure to capture the error on that sample
- fortuitously compatible

- Urgent crossmatch request received from the medical admissions unit (MAU) for ‘Chronic Anaemia’.
- No historical record on the LIMS, a group, screen and XM performed.
- As XM was urgent, analyser group result manually entered onto the LIMS, but incorrectly as O RhD Pos instead of B RhD Pos.
- Group O RhD positive red cells were issued as compatible.
- The group and screen testing completed on the analyser but because the group results were already on the LIMS they were not overwritten.
- Error discovered one month later when repeat sample tested.

Case Study 5 - RhD

Female of childbearing potential develops anti-D as a result of an RhD *grouping error*

- 2 x 2mL samples received for 11 year old girl.
- 1 sample tested on analyser - insufficient volume, but partial grouping gave RhD negative, which was discounted.
- Tested manually and RhD typing results of 1+ and 2+ were obtained, but not investigated further.
- One unit of RhD positive red cells was transfused.
- Error noticed when a second unit was requested.
- The patient was immediately treated with high dose IV anti-D immunoglobulin but has since produced immune anti-D.

Case Study 6 - RhD

RhD grouping error due to misinterpretation of ‘mixed field’ (dual population)

- A Patient was admitted with GI bleed, grouped as O RhD pos and transfused O RhD pos red cells.
- Routine testing the following day revealed a dual population of cells when testing with anti-D
- No investigation or follow-up of anomalous result
- Later that year patient re-admitted with a further GI bleed and required transfusion
- G&S confirmed patient now O RhD negative with anti-C+D+E.
- The RhD pos cells present in initial sample resulted from a transfusion the patient had received in Portugal.

Common Themes...

- **Manual entry**
  - interpretation/transcription errors
- **Communication & Distraction**
  - Lack of effective communication
  - Any part of the process should be uninterrupted to prevent errors
- **Procedural errors**
  - failure to follow SOP which can lead to numerous additional errors
  - taking shortcuts
  - failure to obtain or look up relevant patient history
- **Knowledge, training and competency**
  - Staff must have background transfusion knowledge to underpin practice

Further SHOT info

(if time allows)

New for SHOT in 2013

- Enhanced SABRE-Dendrite interface.
- Changes to Dendrite questionnaires.
- Immune anti-D questionnaire.

+

- SaBTO CMV recommendations - March 2012.

Reporting to SHOT - DOs

- Be clear and concise, but comprehensive and objective.
- Print off the dataset from Dendrite to make sure you can answer everything.
- Answer all the questions if possible.
- Attach any RCA and CAPA i.e. what happened next.
- Remember acute transfusion reactions aren't usually serological reactions

Reporting to SHOT – DON'Ts

- Use names of staff colleagues or patients.
- Use abbreviations unless very common.
- Assume your processes are standard (e.g. "ward didn't complete the pink form").
- Close the report without reading it back later to see if it still makes sense.
- Report without understanding the whole picture, e.g. is the ref lab doing an eluate?

Acknowledgements

- SHOT office in Manchester
- Steering Group
- Working Expert Group
- Hospital Transfusion Committees for reporting

Thanks for listening

Any questions?

SHOT Symposium 2013

The next Annual SHOT Report (2012 data) will be launched in July 2013.

Wednesday 10 July 2013

Royal Society of Medicine, London