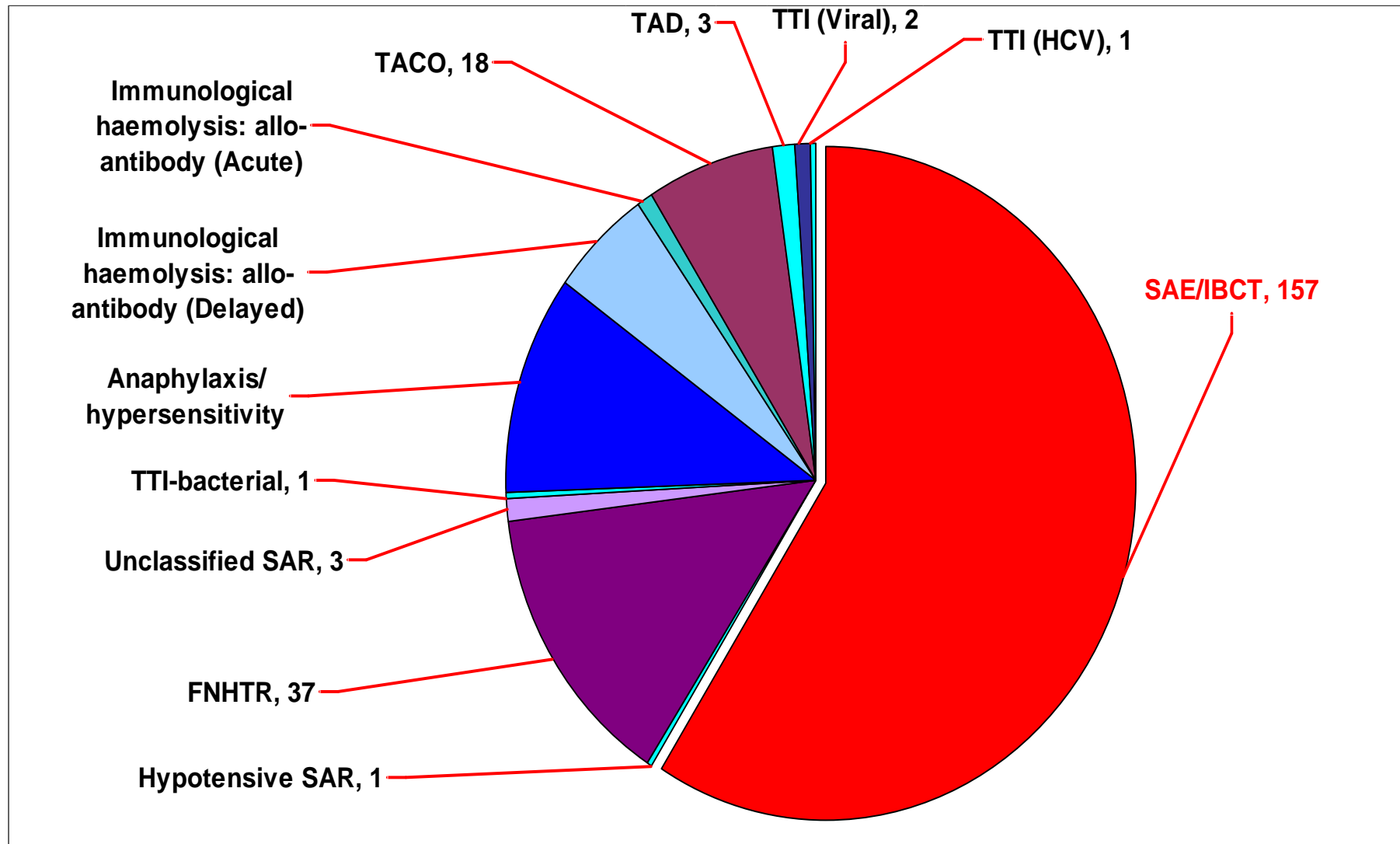




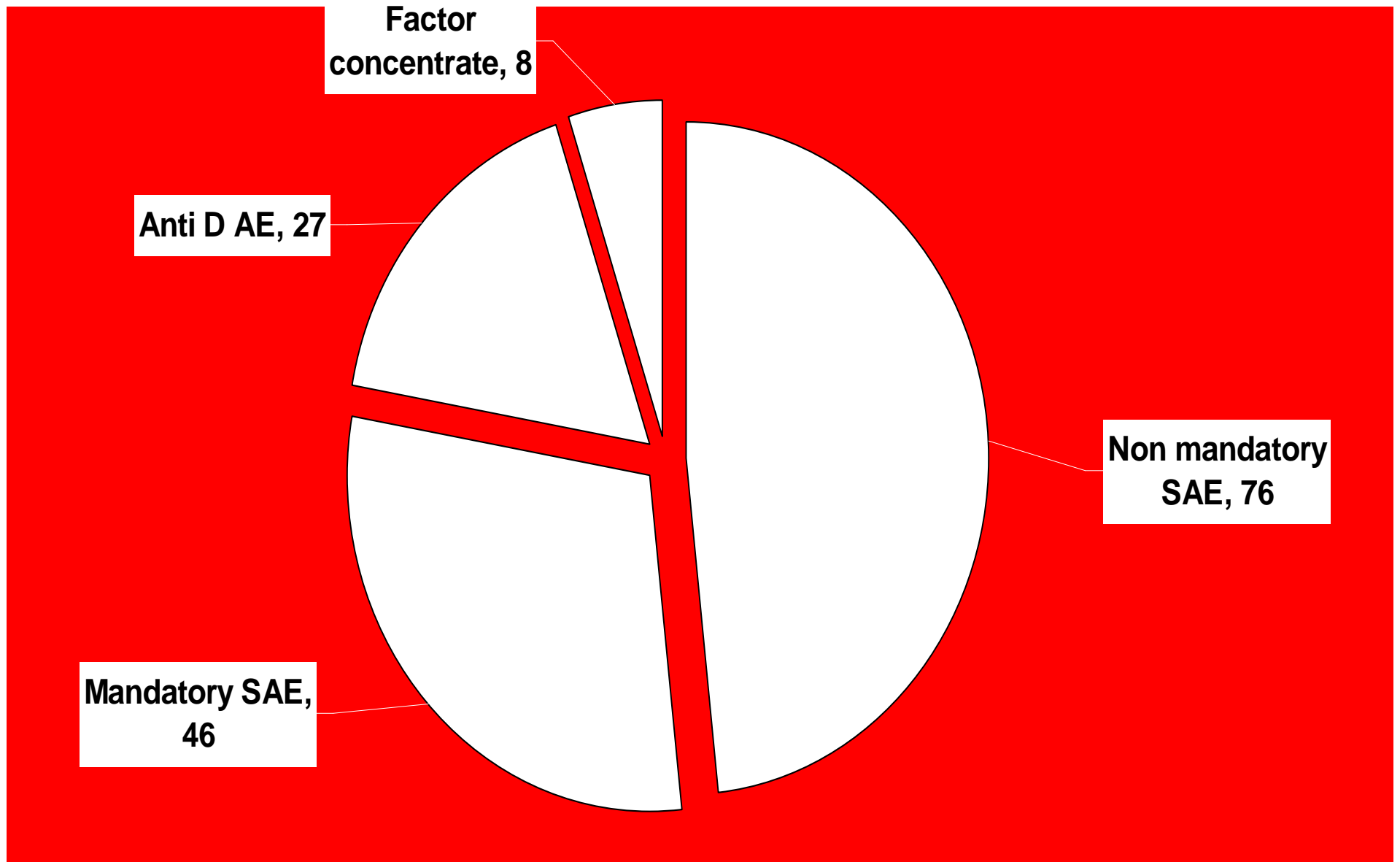
Adverse Transfusion Events in the clinical area

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Annual Conference 2009

Reports analysed by NHO 2009 N-267



SAE 2009 N=157



Embedding haemovigilance in a patient focussed service

Standard 4.1

Service providers protect the safety, health and welfare of service users.

4.1.8 Service providers develop, implement and monitor relevant programmes to maximise the safety and quality of core care processes. These core care processes should include haemovigilance



Non mandatory events /IBCT

- Unnecessary transfusions
- Failure to transfuse special requirements
- Incorrect component / product transfused
- Administration errors
 - Incorrect transfusion time
 - Incorrect transfusion administration set
 - Packs punctured at administration



Iron Deficiency anaemia N=5

- Most likely under-reported
- Young women- Menorrhagia
 - Patient was admitted with iron deficiency anaemia. She had a history of *menorrhagia*, and was also a vegetarian, and was not compliant with oral medication. Her pre-transfusion Hb was 6g/dl. Intravenous iron therapy was not considered.



Iron Deficiency anaemia N=5

- Nutritional anaemia e.g. iron, folate, vitamin B12 is a treatable condition.
- Intravenous iron preparations should be considered in cases where patients have either poor tolerance of oral preparations or there are compliance issues.

Unnecessary platelet & SD plasma transfusions associated with procedures n=7



- In four cases, patients were transfused blood components at the wrong time prior to planned procedures.
 - In two cases, the procedure had not been actually been arranged .
- Poor medical knowledge -3 unnecessary transfusions

HVO prevented further unnecessary transfusion I

- A patient with a platelet count of $12 \times 10^9 / L$ was scheduled to have a hickman line inserted under radiological guidance.
- Hospital guidelines state patients should have a platelet count of $50 \times 10^9 / L$ prior to procedures but a member of the X ray department ordered that the platelet count should be $70 \times 10^9/L$ pre procedure.
- Three units of platelets were ordered and transfused. The post transfusion platelet count was $88 \times 10^9 / L$.
- Following the transfusion, it was discovered that a specific introducer, was required which was not available in the X Ray department and the procedure was postponed



HVO prevented further unnecessary transfusion II

- On the next day, the patient's platelet count had dropped to 58×10^9 , and the patient was transfused a further unit of platelets again on advice of the X ray department.
- On this occasion although the introducer was available, the patient's radiology slot was taken by an emergency patient and the procedure was again postponed.
- On the following day, the patient's platelet count was $49 \times 10^9 / L$ and the patient was again transfused with a further unit of platelets.
- After the HVO drew the attention of the X ray staff to the guidelines, the procedure was then carried out.



This case highlights

- Important clinical role of HVO
- Hospital staff in specialised areas may not be aware of hospital transfusion guidelines
 - Specially targeted education sessions.
- The nature of hospital activity can impact on planned procedures.
 - Medical, nursing and other clinical teams caring for patients along with HBB staff should be closely monitor the clinical activities and co-ordinate care to ensure patients do not unnecessarily receive blood components, where procedures are cancelled or postponed.
- Platelets should be given as close as is practical to allow for measurement of post transfusion values prior to planned procedure.



Based on an incorrect / absent haematology result

- Three cases of unnecessary transfusion involved either a delay in posting current haematology results to the LIS or where posted results were not validated.
 - Laboratories should ensure that validated results are available to clinical areas in a timely manner.
- A further three involved transfusion based on results from haemodiluted samples,
 - A recurring problem
- Near patient testing may be necessary in emergency settings. Where this is used, maintenance and validation of equipment as well as ongoing training and competency of clinical staff must be ensured (NHO, 2006).
 - Hb results leading to transfusion should be re-checked in the laboratory at a later stage



Failure to transfuse special requirements n-18

- Related to transfusions which did not conform with local guidelines.
- Majority clinical errors -14/18 AE occurring at prescription /request
- Hospital and laboratory policies are very often broader than published guidelines for transfusing CMV negative or irradiated components.
 - The objective of such blanket policies is to ensure that at risk patients receive blood meeting their specific requirements



Failure to transfuse special requirements

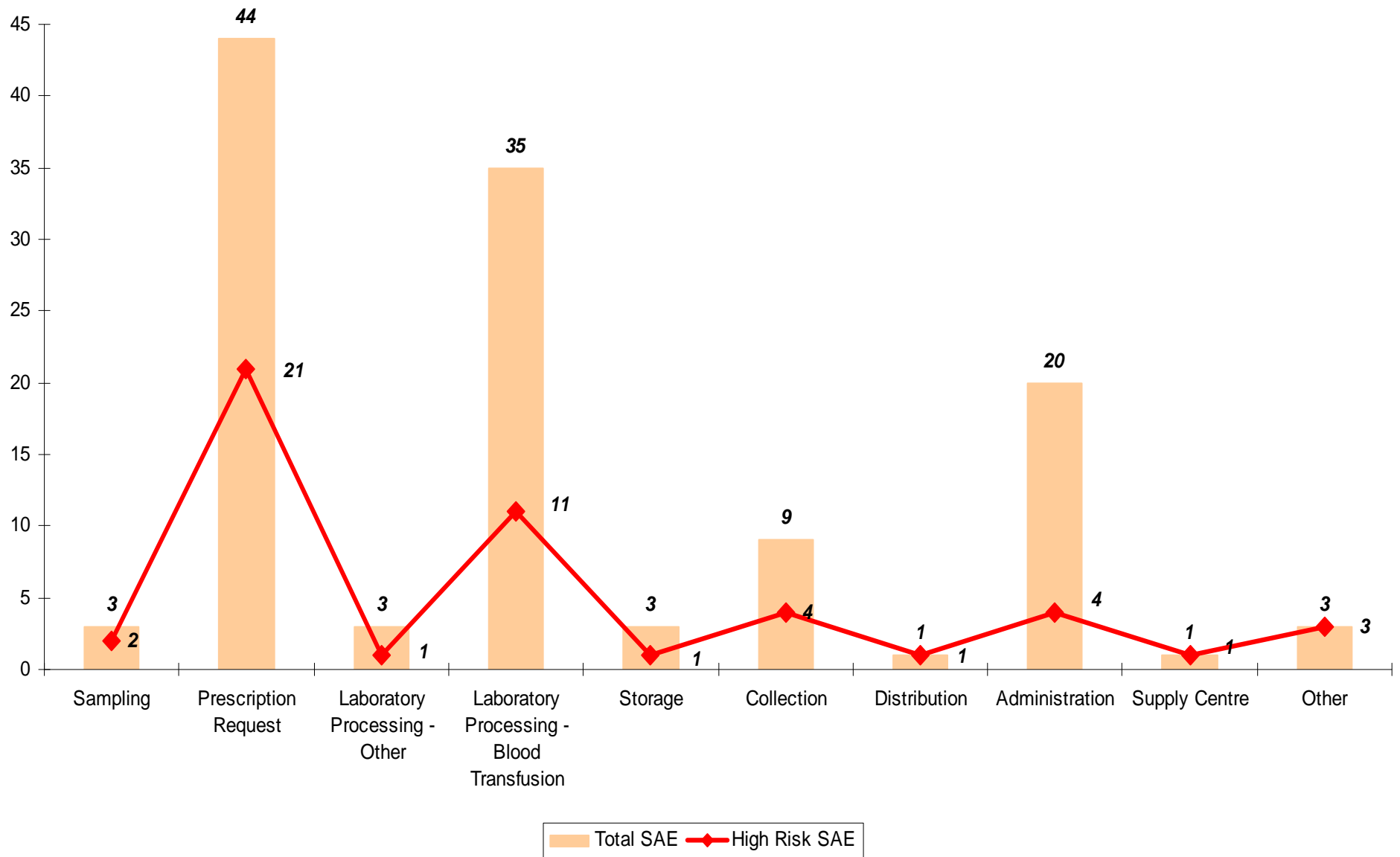
- In cases where a hospital policy specifies special requirements outside best practice guidelines,
 - *These reports should be managed as non conformances in the hospital quality system, and not reported as SAE/IBCT.*
- Reports relating failure to transfuse components with special requirements should only be submitted to the NHO where there is clear evidence for this requirement.
 - *Hospitals are encouraged to review against expert published guidelines.*
- There is a need for a national policy on appropriate use of irradiated and CMV negative blood components are required.
 - *In this context, hospitals are likely to revise their local policies.*

Standard 4.2

Service providers plan and deliver services to minimise risks to service users associated with the delivery of care.

- 4.2.4 Service providers monitor, analyse and trend and respond to patient safety information including patient safety incidents and ensure that lessons are learnt and disseminated.
- 4.2.5 Service users are informed as soon as practicable after an adverse event affecting them has occurred or becomes known and they are actively informed at all further stages.
- 4.2.8 Service providers actively promote learning both internally and externally to the service to minimise the risk of patient safety incident from reoccurring.

Risky steps of the work process 2009



Clinical IBCT	Description of system failure
Lack of policies and procedures	Incomplete or no clinical policies
Materials	<ul style="list-style-type: none"> ■ Pack leaked in clinical area ■ Extremely similar packaging of both blood and IV fluid administration set.
Management priority / Culture	<ul style="list-style-type: none"> ■ Clinical management of patient ■ Haemovigilance / transfusion educational updates not attended by consultants.

Clinical IBCT	Description of human failure
Knowledge	Clinical staff failed to apply knowledge resulting in IBCT.
Failure to adhere to policies and procedures	Clinical staff failed to adhere to established hospital policies resulting IBCT.
Co-ordination /Communication	<ul style="list-style-type: none"> <li data-bbox="873 932 1808 1268">■ On specific patient care issues / transfusion event within and between disciplines <li data-bbox="873 1305 1860 1461">■ Failure to seek out or clarify specialist advice



What is done?

- Education in clinical practice delivered by the HVO & Consultant Haematologist is critically important to integrate theory with safe transfusion practice.
 - *Training of staff especially medical staff is complex.*
- Initiatives such as audit, provision of feedback, presentations and a “clinical” presence by the hospital HVO & Consultant Haematologist will support transfusion education and raise the profile of safe transfusion practice through out hospital.



Conclusion

- Reporting and seeking to minimise adverse events
- Root cause analysis
- Education
- Haemovigilance Officer
- Making important contributions to safer transfusion practice for patients in Irish hospitals