

Blood Transfusion Laboratory Errors

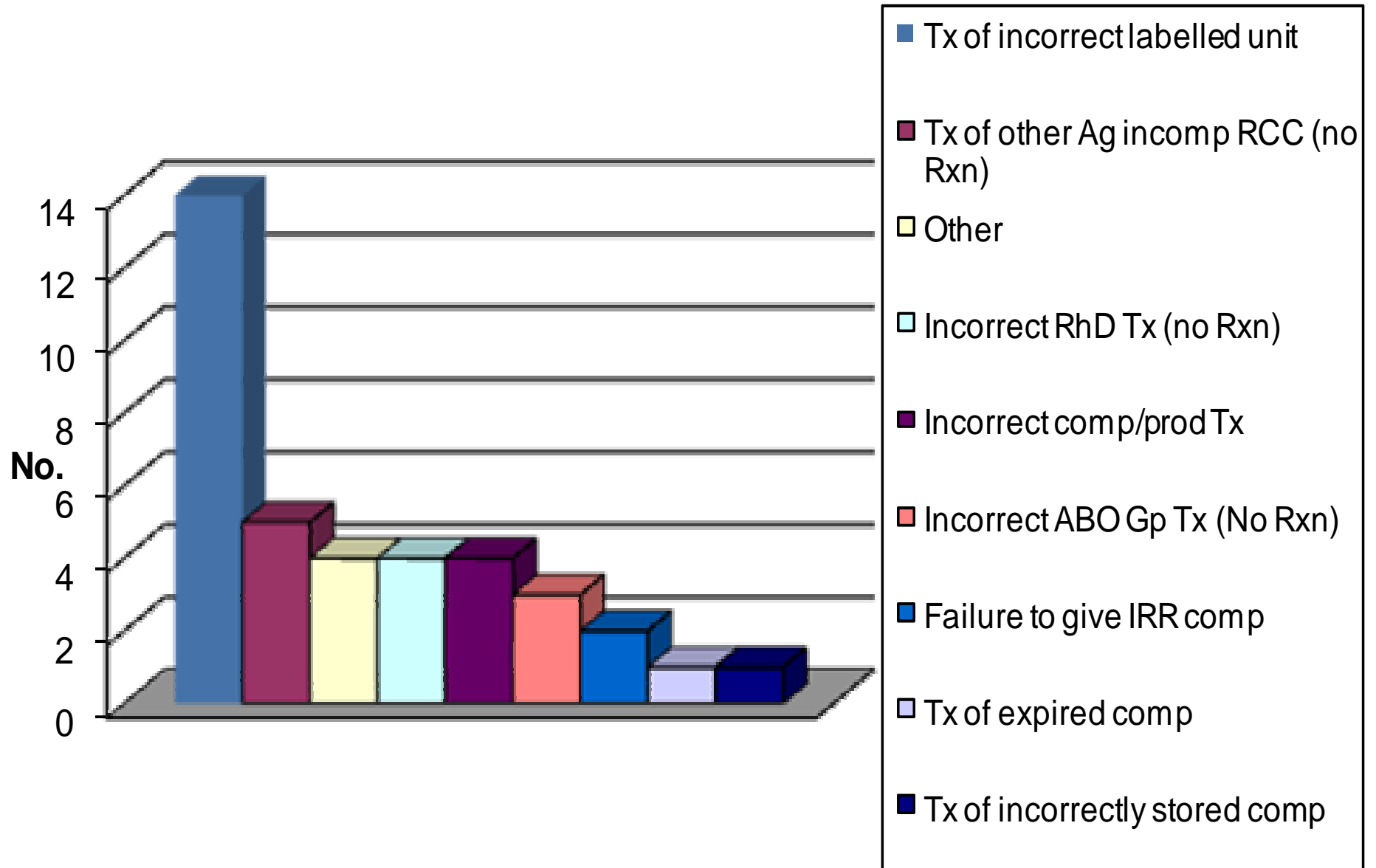
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SAE

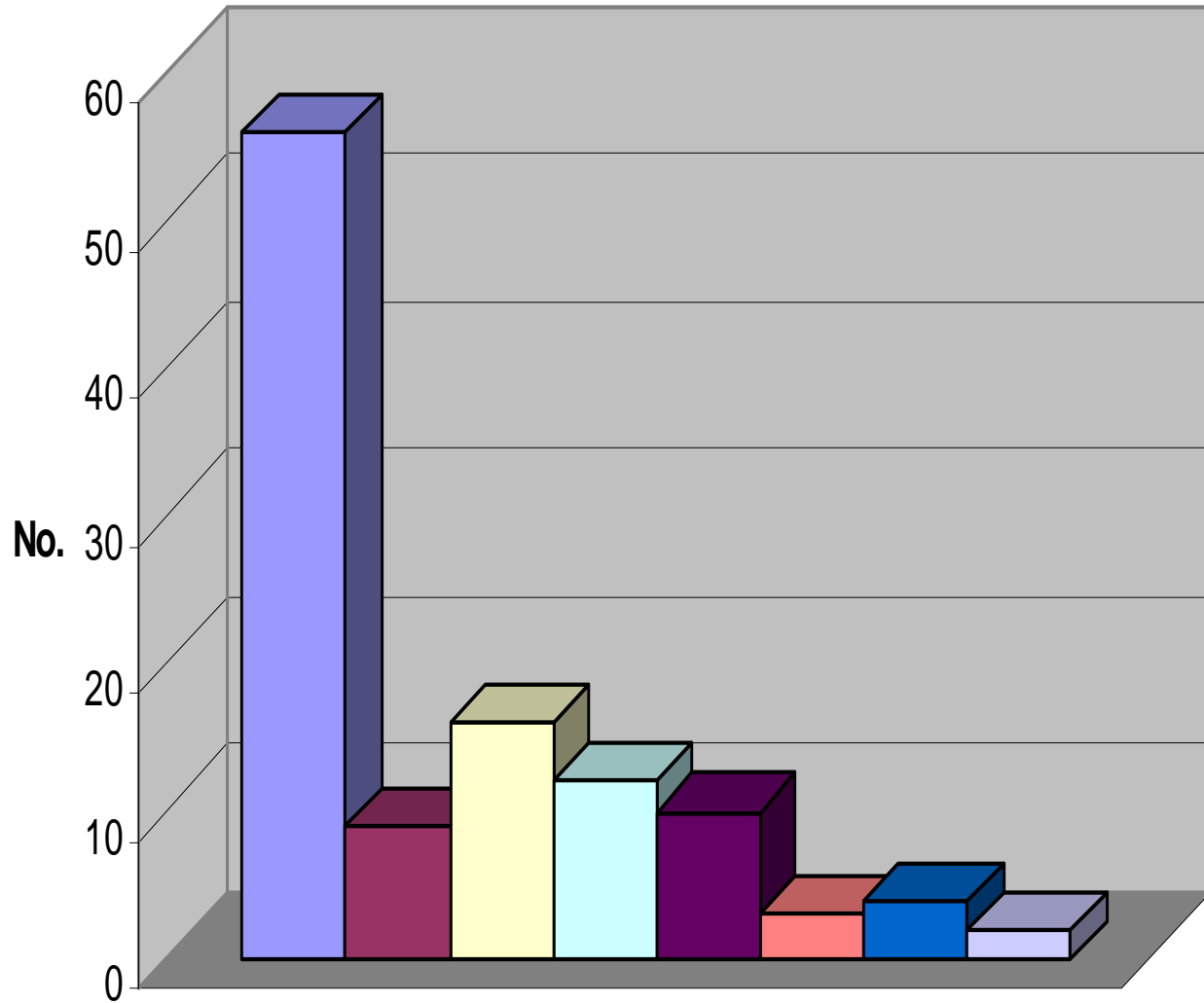


Who	N	Mandatory	Non Mandatory
Medical Scientist	42	29	13
Haemovigilance Officer	37	9	28
Medical Scientist and Haemovigilance Officer	6	4	2
Nurse	17	9	8
Doctor	8	1	7
Other	1	1	0

Lab errors - Breakdown

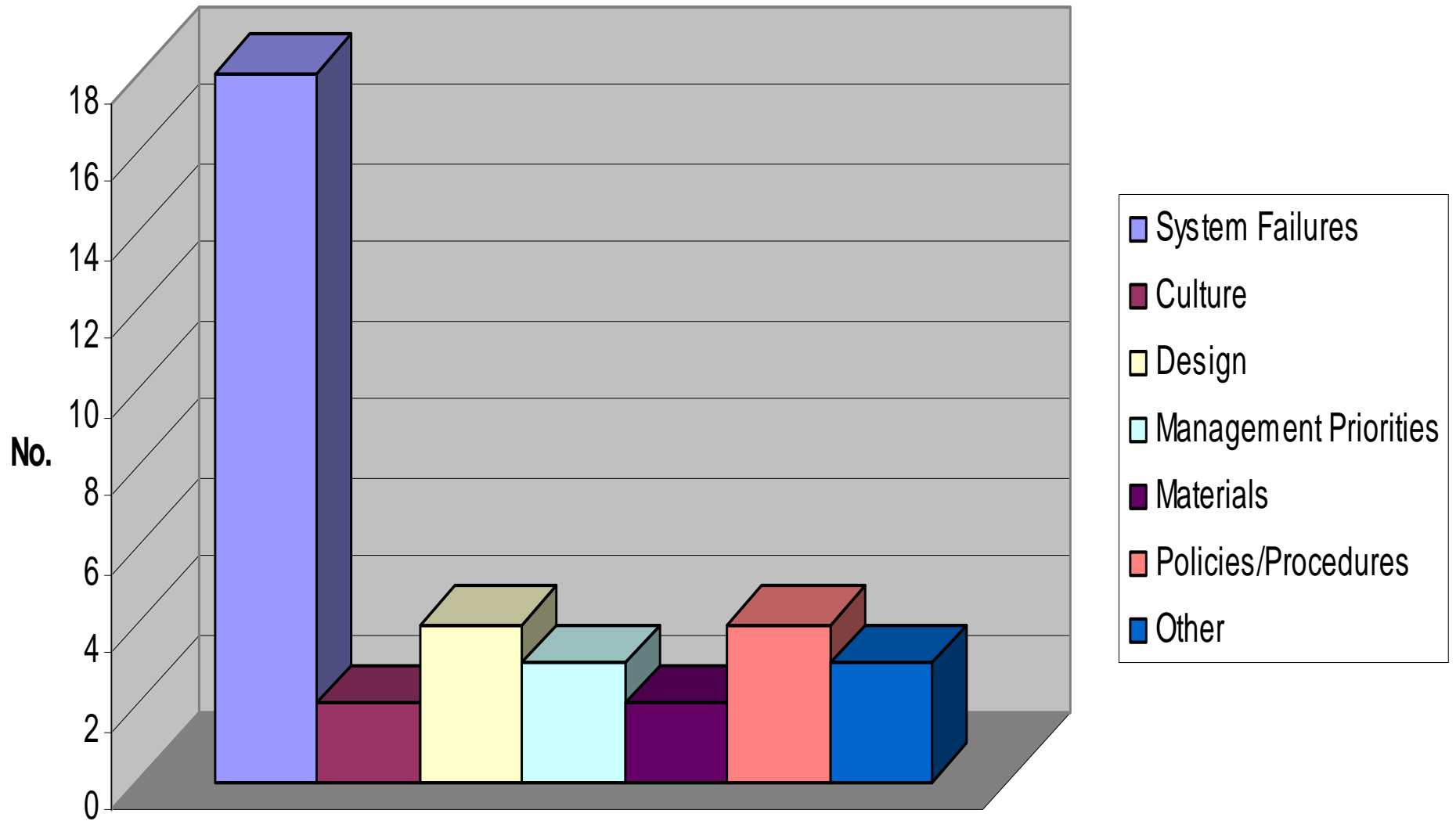


Human Failure



- Human Failure
- Carrying out task incorrectly
- Failure to adhere to policies/procedures
- Slip
- Verification
- Co-ordination/Communication
- Knowledge
- Monitoring

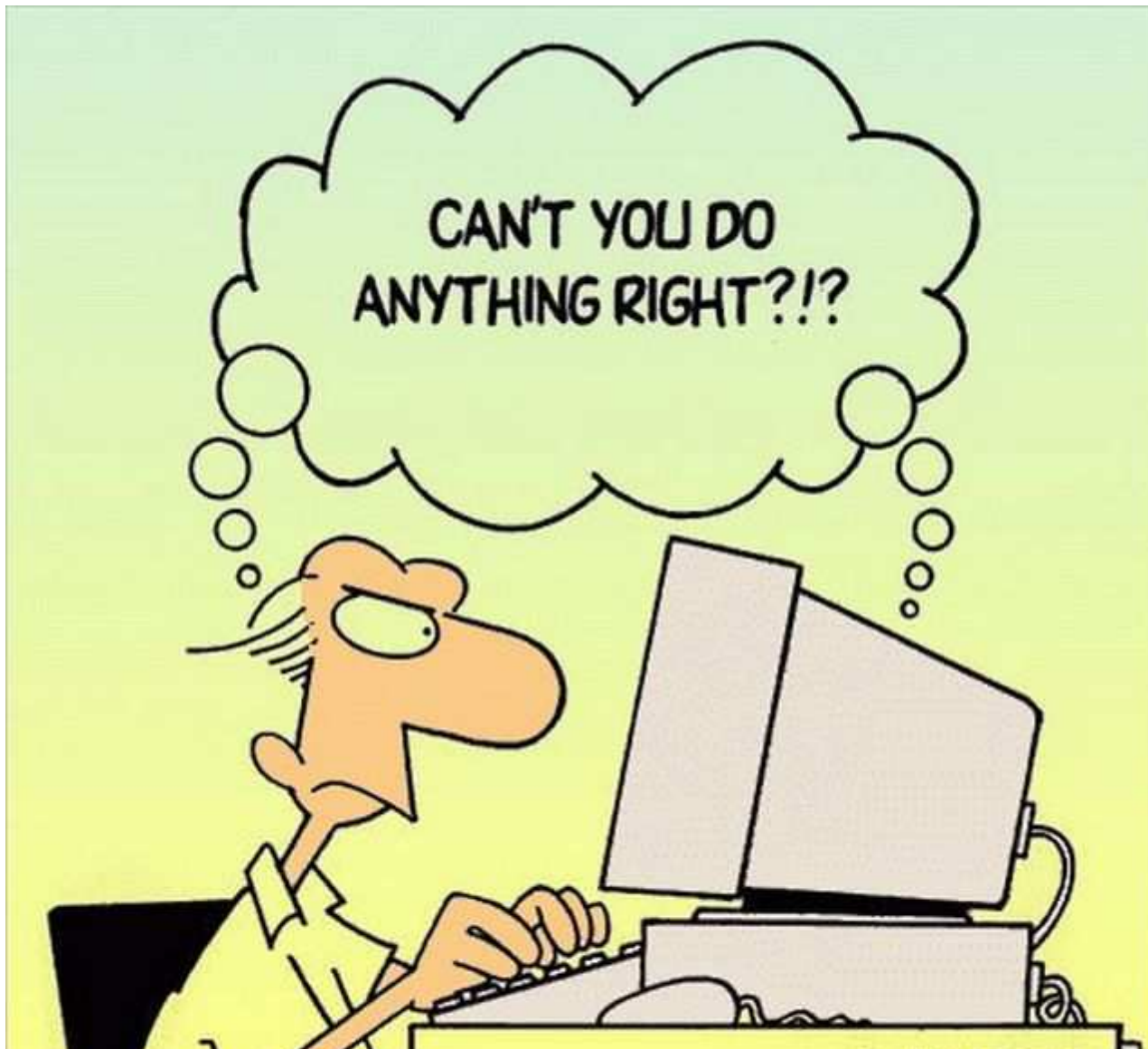
System Failures



System Errors

- 18 Recorded
- At least 7 of these had associated human error i.e.
- 2 had incorrect transcription of results onto LIS
- 2 cases the system/LIS flag was overridden
- 1 label transposition
- 1 incorrect label placed on sample for xm
- 1 xm performed correctly. Not labelled until next shift, wrong unit labelled.

System Errors



Automated Systems

- Case A
- System available but scientist not trained (not normally working in BT), manually tested, correct result obtained but incorrect result recorded on LIS (no 2nd check)
- Patient received wrong RhD type.

Automated Systems

- Case B
- Automated system used, However
Sample taken for crossmatch was incorrectly labelled. Automate accepted and crossmatched with wrongly labelled sample. Reconciliation error – unit labelled for transfusion with no documented evidence of crossmatch having taken place.
- Only as good as the information provided to them!

Overload the system



ABO Errors

- O negative patient following BMT transplant (AB+). Flags on system to provide AB/A/B platelets.
- Patient received O neg in error.
- Flags were not reviewed at issue, system flags do not prevent issue to patient.

ABO Errors

- Gr A positive infant (with maternal anti-A)
- Required specific Red Cells for surgery (<5 days old, CMV-, Suitable for neonate)
- Urgent situation, a unit was selected (Gr A) without any reference to Computer System flag. (should have rec'd Gr O).
- Computer system flag not sufficient for this instance.

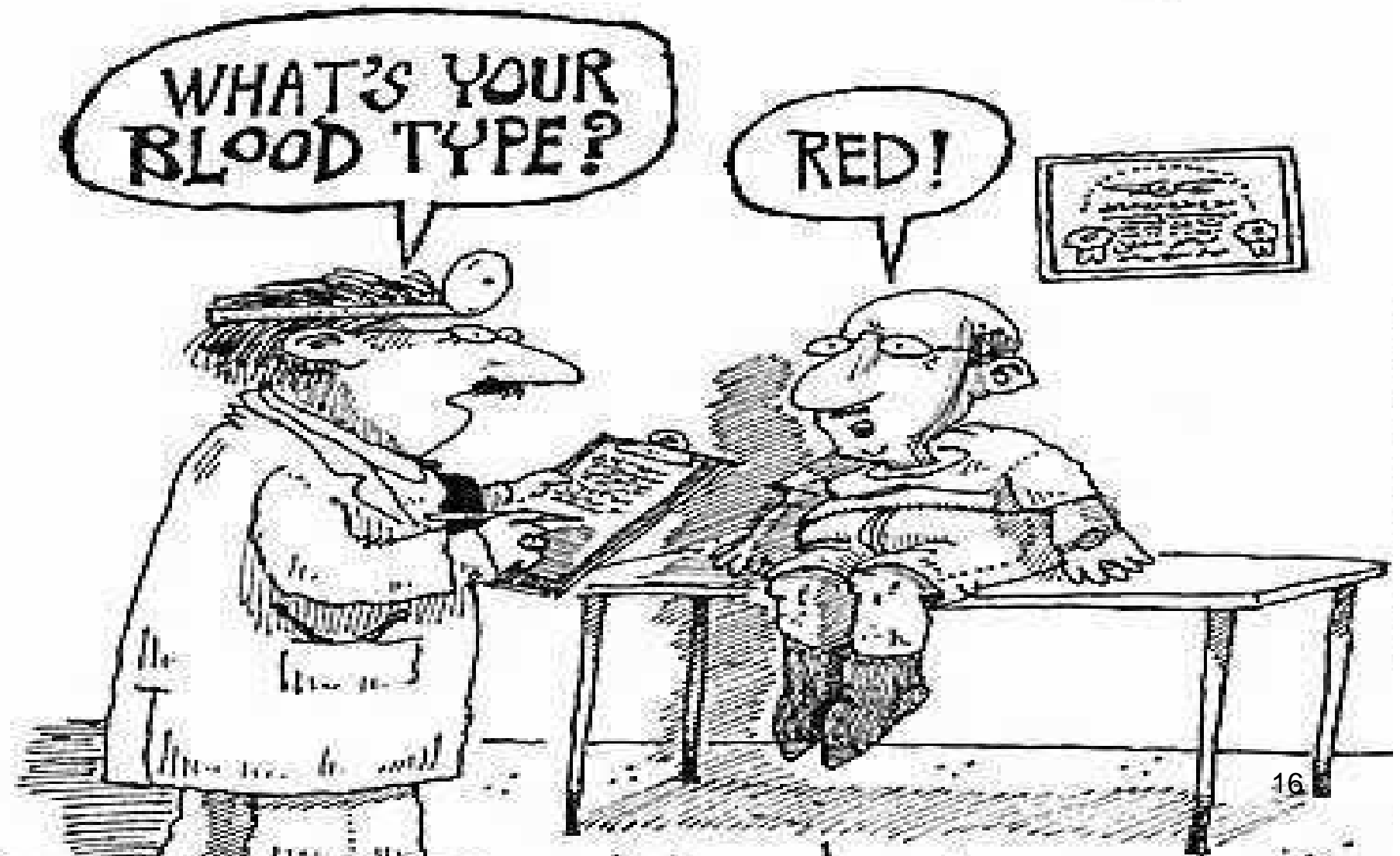
ABO Errors

- IBTS issued group O platelets to Group A patient.
- Out-of-hours
- Discovered following day.

ABO Errors

- Group AB negative patient
- Given 2 units of group A plasma
- Group AB available
- (review of chart showed that decision based on fact patient had received cross groups previously)

Laboratory Errors



Incorrect Rh D group transfused (if no reaction)

- 4 in total recorded.
- Correct result obtained but recorded incorrectly.
- Scientist over-rode computer flag
- No RhD negative available –selected RhD Positive red cells without informing clinician –not emergency situation.
- Incorrect unit selected.

Human Errors

- 2 units of platelets were ordered for 2 different patients. Wrong platelet was issued to the neonate. 2nd platelet was not issued. The medical scientist did not cross check the product with the patient details and special requirements before issuing.

Incorrect component / product transfused

- Group and screen reserved for a patient in A+E. 2 units RCC xm by MS on call but not labelled or issued.
- 2nd person had taken over call - 2 units RCC were requested for this patient. 2 units RCC were labelled and issued but one of these units were not the original units cross matched for the patient. Unit was transfused but was actually not crossmatched. Checking procedure for issue of blood components not carried out correctly

Failure to give irradiated components

- request for special requirements not seen by medical scientist - not normally working in transfusion - occurred during on-call work - first request for special requirements for this patient - not flagged on computer - not detected at bedside.
- this was the first time to crossmatch blood for this patient, therefore it was not flagged on the system to give CMV- and irradiated blood & products.

Communication

Patient was to receive an infusion of buffy coat granulocytes. The blood transfusion lab in this hospital had not received this component in approx 20 years. Breakdown in communication between the clinical staff and the HBB and the IBTS. The pooled granulocytes were issued directly from the IBTS to the ward without any patient information MRN or DOB or crossmatch being performed.

Transfusion of an incorrectly labelled unit

- 14 cases.
- 10 involved transposition of labels within a crossmatch.
- 5 were urgent / out-of-hours
- One case related to a hospital with normally only one pedi pack in stock. In this instance there were two. 1 crossmatched but the 2nd labelled for the patient.

Transfusion of other antigen incompatible RCC (if no reaction)

- Patient with known Anti-K. Sample retested for Validation study- anti-Fya detected.
- Anti-Jka not detected initially –discovered on subsequent XM
- Anti-Jka flag removed from LIS – no audit trail available
- Female < 60 not given K negative units

Retraining



Laboratory Errors

- 41% of those reported stated that they happened out of hours.
- 38% of these errors occurred with MS not normally working in Blood Transfusion

Key point

- Patients who have had previous pregnancies or transfusions are at risk of developing antibodies unless the hospital blood bank is aware of this, either through their own records or in cases where patients have not been treated in the hospital, through a **national antibody register**. This would only be feasible through a **national unique health identifier**.

UK Transfusion Laboratory Collaborative

- Recommended minimum standards for hospital transfusion laboratories.
- *Transfusion Medicine*, 2009, 19, 156-158
 - 3 groups of recommendations
 - Staffing
 - Technology
 - Training and Competence

Staffing

- Staffing levels and skill mix be adequate to ensure the safe and effective delivery of routine and emergency services.
- Staffing levels and skill mix be reviewed and agreed through the appropriate hospital structure.
-protocols in place to ensure that adequate staff numbers with an appropriate skill mix are available to match the work load and case mix during ALL work periods.

Technology

- All labs have full walk away automation which is in use 24/7 (with bidirectional interface to LIS) where this is not possible due to work load (<10 G&S / Week) every effort must be made to mitigate lab errors.
- Electronic Issue of Red cells (where the LIS meets BCSH Guidelines)

Training and Competence

- Qualifications
- Non-BT staff – minimum of 10 days pa, supervised in BT lab. A program of ongoing training and an annual competency assessment in which all individuals working at any time in the BT lab will participate.
- Senior BT staff available (out-of-hours) for appropriate specialist transfusion advice.

Recommendation

Keep reporting

SAR



