Avoidable, Delayed and Under or Overtransfusion (ADU) Case Studies

Avoidable Transfusion

2016-2022

You are free to use these examples in your teaching material or other presentations, but please do not alter the details as the copyright to this material belongs to SHOT

Excessive transfusion for iron deficiency

- *A woman with menorrhagia, a haemoglobin (Hb) of 69g/L and moderate symptoms of anaemia received four units of red cells authorised by a junior doctor*
- *One was warranted, but she should have been reviewed and Hb checked after each unit (or at the very least after two units)*
- *Her Hb was not measured until after the third unit and the result (Hb 105g/L) was not checked until after the fourth unit had been given*
- *Her ferritin of 8micrograms/L was not acted on*
- *There was a lack of understanding about the appropriate treatment of anaemia without transfusion*
- *An anaemia clinic had been suggested but there was no funding*

Results transcription error leads to unnecessary transfusion

- *An oncology patient received a transfusion of three units of red cells in a community hospital after a transcription error on the blood results recording page led to the platelet count of '80' being misread as the haemoglobin (Hb)*
- *At the outpatient follow up appointment after transfusion, the Hb was over 200g/L*

Recent results not reviewed before commencing a transfusion prescribed in advance

- *A patient in their 80s with pure red cell aplasia was referred to the day ward for regular transfusion, two units of red cells every 2 weeks*
- *She had recently been started on steroids*
- *Full blood count was taken on arrival to the ward but transfusion of the first unit of red cells was started before the haemoglobin (Hb) result came back*
- *The Hb was 140g/L and transfusion was stopped*
- *Her Hb check 1 day before was also normal*

Miscommunication at verbal handover leads to a patient receiving an unnecessary red cell transfusion with an invalid prescription

- *A female (Patient 1) in her 50s was admitted to a haematology ward with acute myeloid leukaemia and graft-versus-host disease*
- *Her haemoglobin (Hb) result on admission was 120g/L. She was due to receive extracorporeal photopheresis (ECP) the following day, and there was a unit of red cells on standby in case they were required for this procedure*
- *During a verbal handover Nurse 1 asked Nurse 2 to carry out two separate tasks; to obtain blood samples from Patient 1, and administer a red cell transfusion to Patient 2*
- *Nurse 2 thought that they had been asked to transfuse Patient 1 and as there was a unit of blood in the refrigerator for Patient 1 (on standby for ECP), they collected this*
- *Pre-administration checks, including positive patient identification, checking the details of the patient with the identity (ID) band and prescription chart, and the final check of the compatibility tag with the ID band were carried out by two nurses*
- *They did not notice the blood transfusion prescription dated 2 days previous to this and had not reviewed the patient's Hb result at any point*
- *The red cells were administered. The patient suffered no ill effects from this avoidable transfusion*

Multiple mislabelled samples result in prolonged use of group O D-negative units

- *A woman in her 20s was admitted to the emergency department following major trauma and issued an emergency trauma identity*
- *The sample and request form did not match on the first set of two crossmatch blood samples received - Unknown Unknown on the sample, but a patient's name on request form*
- *The second set of two samples both had unknown spelt incorrectly - Uknown on the sample*
- *A third set of two blood samples was received 2 hours later*
- *One did not have a date of birth and was rejected*
- *Group-specific blood components could only be made available after the seventh sample was received, resulting in prolonged use of emergency O D-negative blood*

Transfusion authorised for the wrong patient

- *A junior doctor was singlehanded on an unfamiliar ward with no consultant support*
- *Two patients had the same first name*
- *The doctor assessed Patient 1 and made the clinical decision that a red cell transfusion was required*
- *He then contacted the hospital transfusion laboratory and ordered red cells using the hospital number for Patient 2 and then prescribed on Patient 2's chart*
- *The red cell unit was collected, and administration commenced*
- *The doctor then realised the error and immediately stopped transfusion*
- *Stressed from workload, the doctor did not communicate clearly with nursing staff who may have identified the error if they were aware of the planned transfusion*

Avoidable transfusion to a Jehovah Witness

- *A man in his 80s was transfused following surgery for fractured neck of femur despite an advance directive specifying no transfusions*
- *The decision was made to transfuse a stable patient based on a haemoglobin of 79g/L (the patient had a minor cardiac history) by an on-call team who did not know the patient*
- *The patient also had a plan documented the day before that he was not for transfusion*

Avoidable transfusion for B12 deficiency

- *Two units of red cells were given to a patient with B12 and folate deficiency*
- *His haemoglobin (Hb) was 39g/L with macrocytosis*
- *He was referred by his general practitioner (GP) with pancytopenia*
- *He had symptomatic anaemia and a single unit transfusion would have been reasonable, but the administration of the second unit could have been avoided*

Avoidable transfusion for iron deficiency

- *A woman with symptomatic iron deficiency had a haemoglobin (Hb) of 27g/L*
- *She was transfused three red cell units, and her post-transfusion Hb was 56g/L*
- *She was stable with no overt bleeding or cardiovascular compromise, but she went on to receive two more red cell units*
- *Iron replacement was not considered*
- *The locum haematology consultant did not review the patient's latest Hb or iron results before authorising the extra two units*

Avoidable transfusion of group O D-negative emergency blood in an iron deficient patient

- *A man admitted to the emergency department (ED) with gastrointestinal bleeding was found to have a Hb of 49g/L, with a ferritin of 2micrograms/L*
- *Four units of red cells were requested with no clinical details and urgency was also not indicated*
- *The laboratory staff liaised with the haematology registrar who approved issue of one unit of red cells following discussions with the gastroenterologist*
- *It was agreed that transfusion was appropriate to stabilise prior to endoscopy*
- *In the meantime, the treating team had transfused emergency O D-negative red cells, but the laboratory staff were not updated*
- *After two units the Hb was 68g/L*
- *The first unit of group O blood was justifiable, but as a male, he could have received O D-positive red cells*

Confusion caused by duplicate hospital numbers

- *A woman in her 30s was admitted for elective surgery*
- *The surgical team requested that blood be available but when they needed it, it was not ready because the biomedical scientist (BMS) expected a second group sample (which was not necessary as she had a group record with another hospital number)*
- *The woman was bleeding heavily so the major haemorrhage protocol (MHP) was called and emergency group O D-negative was used*
- *She was transfused three units of blood, four units of fresh frozen plasma (FFP) and two pools of cryoprecipitate*
- *The reporting organisation had three sites; two sites use the same hospital number*
- *This caused confusion for this patient who had more than one hospital number which was not noticed by the BMS*

Errors in procedure

- *An elderly man with neutropenic sepsis (myelodysplasia) was transferred from a ward to the coronary care unit*
- *He developed hypotension and an initial haemoglobin (Hb) check done was 58g/L*
- *The major haemorrhage protocol (MHP) was activated and although a repeat Hb was 73g/L he received two units of group O D-negative red cells based on the erroneous Hb result*
- *O D-negative red cells were used despite the fact that crossmatched red cells were available*
- *There were several errors noted in this case such as prescription errors, incomplete information on the traceability records with no patient identification (ID) information and acting on erroneous Hb results*
- *The first Hb result may have been from a diluted sample*

Did the platelet transfusion contribute to thrombosis?

- *A patient with COVID-19 vaccine induced thrombotic thrombocytopenia (VITT) and post thrombolysis intracranial haemorrhage with mass effect required an external ventricular drain (EVD). Platelet count originally was 16x10^9/L and increased to 46 after 2 adult therapeutic doses (ATD) of platelets. Haematology advice to the intensive care unit (ICU) consultant and neurosurgeon was to proceed with EVD because*

- *Platelet count of >80x10^9/L was not achievable*
- *The patient was unlikely to bleed given that he had VITT and was prothrombotic (i.e., thrombocytopenia would not translate into a higher risk of bleeding)*
- *There was a reasonable possibility that a platelet transfusion might cause thrombosis*

Continued…

Did the platelet transfusion contribute to thrombosis? (2)

- *The neurosurgical registrar insisted on an additional ATD of platelets before surgery but was unwilling to wait for a check of the platelet count prior to theatre*
- *The full blood count (FBC) was checked at 18:15 immediately after return to ICU from theatre. The platelet count was 33x10^9/L, with no increment following the third unit*
- *The patient did not bleed*
- *Subsequent postoperative head computed tomography (CT)/CT venogram at 22:40 showed no worsening of bleed but there was a new cerebral venous sinus thrombosis (CVST) (not present on 01:34 scan), that subsequently progressed despite adequate anticoagulation*
- *The patient recovered slowly and was discharged to another hospital*

Inappropriate transfusion for immune thrombocytopenia (ITP)

- *An elderly man with ITP on a background of chronic lymphocytic leukaemia received 50mL of platelets before transfusion was stopped as his platelet count was 1258x10^9/L*
- *His previous count 2 weeks before was 13x10^9/L but he had been treated with Eltrombopag*
- *The plan was to review the count before proceeding with platelet transfusion but that was overruled by a doctor*

Inappropriate management of anaemia

- *A woman in her 60s with minimal symptoms was found to have a haemoglobin (Hb) 62g/L*
- *She was transfused with three units of red cells without checking the Hb until afterwards when it was 103g/L*
- *She was then found to have B12 deficiency*
- *Three days later when Hb was 89g/L she was given another unit, and a further unit the next day when Hb was 94g/L*

Get the blood sample details right first time – potentially avoidable use of O D-negative blood at delivery

- *The initial sample from a woman's booking visit to the antenatal clinic was successfully grouped without incident (A D-positive), however a subsequent sample taken 6 months later gave a different result (O D-positive).This discrepancy was flagged on the analyser but was not acted on correctly by the member of staff processing the samples, instead the result was amended manually and transmitted*
- *Three weeks later the group was again O D-positive but was now flagged as a wrong blood in tube. The next grouping sample was clotted. The fifth sample was taken when the woman was in the delivery suite*
- *By now there were two records of A D-positive and two that were O D-positive. Emergency O D-negative blood was issued as the blood grouping results did not match either of the previous results*
- *Neither the acceptance of the discrepant result on the analyser or its subsequent amendment on the laboratory information management system (LIMS) were in accordance with laboratory standard operating procedures*
- *Further information was provided in the investigation report submitted by the reporter. It stated that the provider of LIMS systems was subsequently contacted, and a call logged to investigate whether it would be possible to limit access to the grouping results editor function to higher level staff. On this occasion the member of staff had used this function instead of following documented laboratory procedures*
- *LIMS access rights could not be restricted*

Avoidable transfusion of group O D-negative units in an emergency

- *The major haemorrhage protocol had been activated for a patient on the obstetric delivery unit*
- *The porter arrived in the laboratory to collect the shock pack. The biomedical scientist (BMS) selected a bag containing two units of red cells from the refrigerator, signed them out and handed them to the porter*
- *They were transfused and retrospectively assigned to the patient. This occurred towards the end of a shift*
- *When the next BMS on duty came to replace the shock pack they noticed that although the O D-positive units were signed out and allocated, the O D-negative shock pack was actually given to the porter and had been transfused*
- *The patient's group was O D-positive, this had been checked before the shock pack was collected and was the reason the BMS intended to give the O D-positive units instead of the O D-negative units*
- *On realising the mistake, the BMS allocated the correct units to the patient*

Panic at low haemoglobin (Hb) level results in avoidable use of group O D-negative blood

- *A patient in her 60s was readmitted with bleeding from arthroscopy sites*
- *Her Hb had fallen to 67g/L from 87 four days previously*
- *Her international normalised ratio (INR) was 7.7 (on warfarin for mitral and aortic valve replacements)*
- *She was not hypotensive or decompensated*
- *The junior staff gave emergency O D-negative units against the advice of haematology staff*
- *A sample was available in the laboratory and she could have received group-specific units*
- *The INR was corrected using intravenous (IV) vitamin K*

Use of the wrong haemorrhage protocol leads to inappropriate transfusion of cryoprecipitate

- *A woman in her 70s bled following an insertion of an intramedullary nail*
- *Thromboelastography results were interpreted using the postpartum haemorrhage protocol and she received cryoprecipitate*
- *The laboratory fibrinogen level was 2.2g/L*
- *A level 2.0 to 3.0g/L would trigger replacement in postpartum bleeding but not in other non-obstetric bleeding*
- *The transfusion was also not properly recorded*

Incorrect use of bedside identification and labelling systems

- *A patient was transfused in error based on a haemoglobin (Hb) from a different patient*
- *Using order comms, a sample was taken from the wrong patient (wrong blood in tube) because the correct procedure was not followed*
- *The procedure for phlebotomists, using a 'computer on wheels' and wireless printer, is to bleed and label one patient's sample at a time, at the bedside*
- *But in practice, medical staff make a request, print off the labels and give to the phlebotomist to do, so this sample probably had a label attached that got left on the trolley and was not checked prior to attaching the label to the sample*

Wrong details provided by ambulance staff

- *A patient was transferred from another hospital with ruptured abdominal aortic aneurysm*
- *Patient details were wrong on the ambulance transfer form (the hospital-based identification (ID) band and addressograph labels were not used) and then these wrong details were used for the hospital's information system*
- *Several samples with different spelling of the first name were sent to transfusion; group O D-negative red cells were used in the interim*

Wrong bleep number

- *Emergency O D-negative red cells were used as the emergency department (ED) could not get through to the laboratory staff*
- *They were using the wrong bleep number*

Potentially unsafe use of O D-negative units in a patient with autoimmune haemolytic anaemia (AIHA)

- *A patient with AIHA secondary to non-Hodgkin lymphoma and haemoglobin (Hb) 25g/L had refused blood on religious grounds but on the 3rd day consented to transfusion*
- *Three blood samples were rejected by the laboratory*
- *When satisfactorily repeated, the patient was found to have irregular red cell antibodies*
- *The clinical team decided to use uncrossmatched O D-negative units*

Panic at low haemoglobin (Hb) result led to major haemorrhage protocol (MHP) activation and inappropriate transfusion of three different components for folate deficiency

- *A woman in her 30s was admitted as an emergency and found to have Hb 30g/L with mean cell volume (MCV) 118fL*
- *The laboratory staff requested a repeat sample, but this advice was ignored*
- *She had no evidence of bleeding or decompensation, was normotensive and had no symptoms of anaemia to warrant transfusion*
- *The haematology registrar had noted the high MCV and advised that haematinics should be checked and not to transfuse the patient*
- *However, a trainee activated the MHP*
- *The biomedical scientist (BMS), not aware of the clinical situation, did not challenge this and the woman received an inappropriate transfusion of four units of O D-negative red cells together with two of fresh frozen plasma (FFP) and one of platelets (count 45x10^9/L)*
- *The folate result (<1.6 microg/L indicating severe deficiency) was available 11 hours after the MHP activation*

Near miss – avoidable transfusion for one patient is associated with ABO-incompatible transfusion in another due to failure of bedside identification

- *An elderly patient was admitted after a fall with two fractures*
- *Her haemoglobin (Hb) was 82g/L and she was transfused with one unit of red cells*
- *A second unit was collected but not given, as it was decided not necessary*
- *This decision should have been made before the unit was collected*
- *However, after checking the unit with the doctor at the nurses' station, transfusion of this unit was started in error on another patient who was also being transfused*
- *This wrong patient received ABO-incompatible red cells as a result and suffered major morbidity (Case 8.1 in Chapter 8, Incorrect Blood Components Transfused (IBCT) of the 2018 Annual SHOT Report)*

Patient transfused despite religious objection

- *A woman in her 70s with religious objection received a red cell transfusion (despite having specified that she did not want transfusion) due to failure of handover when she was transferred to the intensive therapy unit (ITU)*

An elderly man with repeated transfusions against his religion was detected incidentally

- *An elderly man with renal disease was transfused red cells on six occasions over a 3-year period but with no evidence of consent*
- *His religion was not consistently recorded in the notes nor is there evidence that alternatives to red cells were discussed, nor whether or not he consented to red cell transfusion on the last two occasions*
- *This was picked up incidentally at a morbidity and mortality review following trauma management*
- *In 2014 there was evidence of consent for transfusion for serious bleeding when the haemoglobin (Hb) was 51g/L*
- *On three other occasions he was transfused with no record of consent*
- *The renal physician commented regarding past refusals of transfusion, there is no evidence that this was followed up*

Missed advance directive

- *A patient with religious objection and an advance directive in place was transfused following gastrointestinal (GI) bleeding at a time when lacking capacity*
- *This was discovered later and was due to communication factors and failures to follow hospital policy*

An inappropriate platelet transfusion due to confusion over names and failure of correct patient identification

- *A haematology patient informed his consultant that he had been called in for a platelet transfusion 3 months earlier*
- *Despite repeated questioning at the time by the patient, and a normal platelet count of 230x10^9/L a month before, he received this transfusion without a check of his count on the day*
- *The doctor had made a verbal instruction to the booking clerk*
- *Two patients had the same surname and the wrong one was called in for transfusion*
- *The other one, who needed platelets and who had been informed verbally by the doctor, was admitted as an emergency the day before*

Inappropriate fresh frozen plasma (FFP) transfusion based on coagulation results from heparinised syringe (1)

- *Three units of FFP were transfused for abnormal coagulation results prior to surgery*
- *These results were caused by the blood being taken into a heparinised syringe and were therefore invalid*
- *The patient had possible ascending cholangitis and an endoscopic retrograde cholangiopancreatogram (ERCP) was planned*
- *The white cell count was raised at 23.8x10^9/L (normal range 4-10x10^9/L), with normal coagulation and platelet count*
- *The next day the white cell count was still raised, and the platelet count had fallen (335 on admission down to 177x10^9/L)*
- *The coagulation screen was abnormal, and repeat was also abnormal with prothrombin time (PT) 23 seconds (s) (normal range (NR) usually 11 to 13.5s), activated partial thromboplastin time (APTT) 40s (NR usually 30-40s but varies with method and range was not given in this case report), and thrombin time (TT) 18s, (NR 12-14s)*
- *Two days later the platelet count had fallen to 54x10^9/L*

(continued)

Inappropriate fresh frozen plasma (FFP) transfusion based on coagulation results from heparinised syringe (2)

- *The patient was very difficult to bleed; several attempts had been made by different members of staff*
- *It was decided to take an arterial blood sample (and the laboratory had agreed to this)*
- *The doctor knew the arterial blood gas kit contained heparin, but he knew the laboratory staff were aware*
- *Blood was taken and then transferred into the coagulation sample tube and into tubes for a full blood count and electrolytes*
- *The platelet count was 27x109/L consistent with continued fall*
- *The coagulation screen results were more abnormal with PT 24s, TT 46s and no APTT result could be given*
- *The laboratory comment was 'results abnormal, repeat'*
- *The consultant haematologist reviewed these and previous results, being aware that the patient was difficult to bleed*

(continued)

Inappropriate fresh frozen plasma (FFP) transfusion based on coagulation results from heparinised syringe (3)

- *He decided not to repeat the bloods and advised 10mg intravenous (IV) vitamin K and one unit of platelets followed by a full blood count 1-hour post transfusion to confirm that the platelets incremented by 30-40*
- *He advised that the patient should receive 1 to 2 litres of FFP and be monitored for overload*
- *The following morning a full blood count and coagulation screen showed that the platelet count was 20x109/L and the coagulation was normal*
- *Another request was made for a unit of platelets preprocedure*
- *The junior doctor who had come back on duty noted the grossly abnormal results from the previous evening*
- *He asked his colleague if there had been any difficulties taking the sample*
- *At this point the junior doctor realised what had happened regarding the results due to the heparin contamination*

WBIT with failure to verify unexpected results

- *A nursing home resident in her 70s was reviewed in the community*
- *A blood sample taken by the general practitioner (GP) showed a platelet count of 6x10^9/L with a white cell count of 1.98x10^9/L*
- *She was admitted to hospital later that day for a platelet transfusion*
- *Blood sampling was repeated on arrival to hospital prior to transfusion; the platelet count was 186x10^9/L and white blood count was 11.7x10^9/L*
- *These results were not reviewed by the admitting doctor and a unit of platelets was prescribed and administered*
- *The error was detected by laboratory staff*

Poor management leads to excessive transfusion

- *An elderly man required a revision hip replacement (40-year-old prosthesis)*
- *At preoperative assessment a week before surgery his Hb was 127g/L*
- *He bled during the technically difficult and long procedure (about 5 hours) and received six units of red cells before the Hb was checked and found to be 170g/L*

Inappropriate transfusion in a patient with iron deficiency and failure to check response to transfusion

- *A woman in her 50s with iron deficiency anaemia and Hb of 57g/L presented with fatigue as her only symptom*
- *She weighed 54kg and was prescribed a five-unit red cell transfusion by a junior doctor*
- *All five units were transfused with a repeat full blood count (FBC) only checked after the fifth unit had been given*
- *The post-transfusion Hb was 131g/L*

Perioperative transfusion of red cells due to failure to manage iron deficiency anaemia preoperatively

- *A man in his 70s was found to be iron deficient 6 months prior to an elective abdominal aortic aneurysm repair (AAA)*
- *The iron deficiency was not managed adequately*
- *Preoperatively, the Hb was 106g/L but it was felt that surgery could not be deferred*
- *The Hb fell to 83g/L following the procedure and four units of red cells were transfused*

Delayed provision of red cells for postpartum haemorrhage caused by miscommunication by the clinical team and failure to check sample validity in the laboratory

- *A young woman had an estimated 3.6L blood loss from a vascular tear following vacuum-assisted vaginal delivery at 07:45*
- *A valid sample was available for EI from the previous day*
- *Two litres of fluid were infused and another transfusion sample was sent to the laboratory at 08:00 with a request for two units of red cells to be crossmatched*
- *The urgency of the request was not conveyed to the laboratory*
- *The laboratory staff then failed to check for sample availability and therefore unnecessarily processed the new sample*
- *This caused additional delay, preventing EI from the existing sample*
- *Crossmatched blood was issued at 09:22 after one unit of emergency O D-negative blood had been transfused at 08:30*

Unexpected severely abnormal results should be checked prior to release by the laboratory

- *A man with alcoholic liver disease undergoing surgery was reported to have INR >11 with an abnormal fibrinogen result and was transfused FFP and cryoprecipitate on the basis of this result which should have been repeated by the laboratory*

Avoidable transfusion of FFP associated with poor communication and the distance of surgical treatment centre from transfusion laboratory (1)

- *A patient at a local treatment centre (TC) (12 miles away) was bleeding following emergency evacuation of a haematoma two weeks following a hip replacement*
- *This emergency surgery took place at a weekend*
- *The patient required four units of group O D-negative red cells*
- *There was no group and screen sample at the main hospital as the procedure was considered low risk for bleeding (the TC keeps O D-negative red cells as stock)*
- *At 12:00 a request for FFP was referred to the on-call consultant haematologist who advised that due to the clinical situation and distance two units of plasma should be thawed and sent*

(continued)

Avoidable transfusion of FFP associated with poor communication and the distance of surgical treatment centre from transfusion laboratory (2)

- *He also requested that FBC and clotting samples were taken as soon as possible, but there was a significant delay in taking these samples*
- *At 14:00 the consultant haematologist was contacted by the anaesthetist to inform him that the patient was in recovery, and was now 'haemodynamically stable' although hypotensive with a tachycardia*
- *Four units of red cells had been transfused*
- *The haematologist advised that given this information and in the absence of the clotting results that the previously authorised FFP be transfused*
- *At 15:30 the clotting results (all parameters within normal limits) were telephoned to the haematologist but not conveyed to the TC*
- *Although no further red cells were transfused two units of FFP were transfused, at 17:30 and 18:00, despite the patient being stable and 2 hours after clotting results were available showing normal parameters*

Excessive platelets requested to cover a procedure that was subsequently cancelled

- *A patient with myelofibrosis and a chronically low platelet count was due to undergo a liver biopsy*
- *The platelet count was stable at around $40x10^9/L$*
- *Six units of platelets were requested to cover the procedure by a consultant haematologist*
- *Two units were transfused prior to the procedure, which was subsequently cancelled, following concerns raised by a junior doctor and interventional radiologist who had not been consulted in advance and considered the procedure too risky*
- *The laboratory staff had also raised concerns regarding this request*
- *There was a comment made in relation to this event, that due to the culture at the hospital, laboratory staff did not feel empowered to act further*

Unnecessary use of two units where one would do, associated with cardiac decompensation

- *A lady in her 90s attended the ED unable to manage at home and with malnutrition*
- *Her Hb was 76g/L and she had a low potassium*
- *She had no symptoms or signs of anaemia or bleeding*
- *The ED junior doctor wrote a care plan to transfuse two units, correct potassium and transfer to the elderly care unit off site*
- *The patient weighed 50kg*
- *The transfusion plan was not reassessed at the treating unit*
- *Following transfusion the Hb was 160g/L*
- *More than 24 hours post transfusion the patient developed fast atrial fibrillation (AF), cardiac failure and subsequently died*
- *The transfusion was considered possibly contributory but there were other medical factors*

An avoidable transfusion (specific requirements not met) to a transplant patient who then needed repeat stem cell harvests

- *A young girl with a recurrent malignant tumour was scheduled for autologous haemopoietic stem cell transplant (HSCT)*
- *She was admitted on a Sunday evening and an irradiated unit of red cells ordered for the next day*
- *A different BMS issued two units of non-irradiated red cells electronically (despite the need for irradiation noted in three places on the request)*
- *These were transfused with a two-person check at the bedside in relation to two stem cell collections on the Monday and Tuesday*
- *When it was noted that these were non-irradiated cells, the stem cell harvests had to be wasted and the child underwent repeat harvesting six weeks later following further stimulation with granulocyte-colony stimulating factor*

Inappropriate treatment of megaloblastic anaemia

- *A haematology registrar authorised transfusion of four units to a woman in her 50s with megaloblastic anaemia due to lack of knowledge*
- *Her Hb was 42g/L and she was generally unwell with development of sepsis*

Obstetric patient with anti-Jk^{a} transfused emergency O D-negative unit that might have been incompatible (1)

- *A woman presented with an antepartum haemorrhage and required urgent caesarean section*
- *The transfusion laboratory was advised that red cells would be required*
- *The first blood sample was haemolysed, and the second sample received 30 minutes later had an incorrect date of birth*
- *The woman had a known anti-Jka so theatre staff were advised that the emergency O D-negative units may not be compatible*

(continued)

Obstetric patient with anti-Jk^{a} transfused emergency O D-negative unit that might have been incompatible (2)

- *Due to misunderstanding of the consultant haematologist's advice one unit of emergency O D-negative red cells was used one hour after the initial telephone call*
- *Crossmatched blood was available within 30 minutes of this. Fortunately, as 76% of Caucasian donors are Jk(a+), retrospective matching of this unit confirmed it was compatible*
- *Three units of red cells were transfused in total*

An infant with HDFN due to anti-c was transfused with emergency O D-negative red cells

- *A pregnant woman presented at 39 weeks because of reduced fetal movements*
- *She was sent home, but was found to have new anti-c*
- *She was readmitted and underwent emergency section later that evening*
- *The baby was unwell, Hb 65g/L and was transfused with emergency O D-negative blood*
- *The maternity staff had not handed over to neonatal unit staff that the mother had anti-c*
- *The baby then received exchange transfusion with appropriate red cells*

Avoidable transfusion of O D-negative units to a pregnant patient with sickle cell disease due to misunderstanding

- *A pregnant woman known to have sickle cell disease with a low Hb of 69g/L (normal for her) was taken to theatre*
- *She was not actively bleeding*
- *The doctor wanted two units of O D-negative blood for the patient and did not want to wait for crossmatched units*
- *The first unit was started but was stopped by a haematology registrar after approximately 20mL had been transfused*
- *She did not need transfusion at all*

Avoidable transfusion where patient identified by bed number

- *A man in his 60s received red cells as a result of a prescription based on a FBC result from another patient*
- *The patient's bed number was used to communicate which patient needed a transfusion*
- *However, the patients' beds had changed*
- *An incorrect patient was crossmatched and prescribed two units of blood*
- *This patient was then given one unit of red cells, but when the error was recognised no further blood was given*