5. Inappropriate or unnecessary transfusions (n=51)

These cases are important as they carry a high risk of mortality and morbidity, this year accounting for 2 deaths (see cases 1 and 2 above).

In 37/51 of these cases the decision to transfuse was made on the basis of incorrect information.

- In 21 cases this was due to an FBC result from an unsuitable sample, e.g. taken from the same arm as an i.v. infusion, or allowed to settle in a syringe, or containing clots.
- In 1 reported case the sample for FBC was taken from the wrong patient.
- Four cases were due to wrong analytical results, 2 from the haematology laboratory and two near patient testing, one of which was a derived Hb result from a blood gas analyser.
- In 7 cases the full blood count result was misinterpreted or wrongly entered into the patient's notes.
- In 4 cases the cause of the error was not clear.

In all of these cases it could be argued that there was also a requesting/prescribing error, in that the decision to transfuse was made on the basis of a laboratory result, without sufficient attention to the clinical picture. This is discussed in more detail in the Key Message (p. 17).

Nine cases, including one fatality, involved a prescribing error, and in 5 the wrong component (e.g. platelets instead of FFP) was collected from the blood bank and transfused.

The errors leading to inappropriate or unnecessary transfusions are summarised in table 13.

Table 13
Sites/stages of errors leading to inappropriate transfusion

Primary error	Number
Unsuitable sample for FBC, e.g. from 'drip arm' or from wrong patient	22
Also laboratory failed to note unsuitable sample	*4*
Analytical error (haematology laboratory)	2
Analytical error (near-patient testing)	2
Reason for wrong result not known	4
FBC misinterpreted or wrongly transcribed	7
Prescription error (incorrect volume or rate, failure to check FBC)	9
Wrong component collected from blood bank	5
Total cases	**51**
Total errors	**55**

Case 21 – faulty sampling technique, poor clinical decision making and lack of formal handover result in unnecessary transfusion

An 88-year-old female patient was recovering from elective surgery. Blood samples for full blood count and biochemistry were taken by a junior doctor from the same arm as a saline infusion, resulting in a falsely low Hb (6g/dL). The junior doctor ordered and prescribed 4 units of red cells. The registrar on duty recognised that the results did not fit in with the clinical condition of the patient and asked for the investigations to be repeated. A further sample was sent to the laboratory, but was not requested as urgent and was labelled with a different hospital number. The sample was received in the laboratory following a shift change, and because of the different hospital number the BMS did not recognise the discrepancy in the results. The repeat Hb was 12g/dL, the result was not telephoned to the ward but was sent electronically. The junior doctors had also changed shifts, the doctor coming on duty was not aware of the repeat sample and the 4 units were transfused. The post-transfusion Hb was 18g/dL. No ill effects were reported.

Case 22 – incorrect telephone transcription triggers unnecessary hospital admission and transfusion

A 62-year-old female attended her GP complaining of headache; a full blood count and ESR sample were sent to the hospital for testing. The ESR was elevated and the clinical details prompted the laboratory to telephone the GP surgery with the results, which included Hb 12.4g/dL. The results were written on a scrap of paper by the receptionist and later transcribed into the doctor's log. The original paper was destroyed. The Hb was recorded in the log as 4.4g/dL. The GP saw the patient again the following day and arranged for her urgent admission for transfusion and investigation of anaemia. The admitting doctor noted that she had no symptoms of anaemia but nevertheless proceeded with transfusion. Further blood samples were taken but the transfusion was commenced before the results were available. The repeat Hb of 12.3g/dL was telephoned to the ward, the transfusion was stopped and the patient discharged.

Case 23 – consultant fails to keep up to date with transfusion practice

A consultant verbally instructed a junior doctor to prescribe '5 packs' of platelets (intending 1 ATD) for a 68-year-old male patient with leukaemia. The BMS queried the request, but was overruled as it had been a consultant instruction.

Learning points from these cases – some still pertinent from last year

- All staff undertaking phlebotomy must understand the importance of correct patient identification and correct sampling technique and must be assessed as competent.
- Blood should only be prescribed by a doctor who has undertaken training in blood transfusion and has been assessed as competent.
- Laboratory results must be evaluated in the context of careful clinical assessment of the patient.
- Implementation of shift systems requires an arrangement for formal handover.
- Formal protocols are needed for telephoning of laboratory results, including 'read-back'.
- There should be local protocols empowering blood transfusion laboratory staff to query clinicians about the appropriateness of requests for transfusion against local guidelines for blood use.
- Analytical errors involving point of care testing (e.g. erroneous Hb results obtained from blood gas analysers) should be reported to the MHRA Medical Devices division so that they can be investigated with the manufacturer of the device, and any problems disseminated to all users. Reports can be submitted electronically or forms downloaded from the MHRA website www.mhra.gov.uk.
- Consultant staff should ensure that they keep up to date with current transfusion practice.