Table 1: Cost-banding model of laboratory tests

Band	Cost in £
Band A	<1.25
Band B	1.25–5.00
Band C	5.00–20.00
Band D	20.00–40.00
Band E	>40
Band F	External referral

out their CIP targets. Of course, without their cooperation we could not have achieved the targets. The Head of Department and the Lab Manager made a point of personally meeting with the teams, presenting an internal cheque of money and a thank-you cake.

7. Conclusion

Our approach, whereby we discussed our strategies jointly with senior clinicians throughout the directorates, was not only highly effective in savings, but also in bringing many other benefits. We shaped better relationships with the clinicians and at the same time they developed a greater understanding of the microbiology service and its role in their working. It resulted in improved quality of communication between the users and the lab staff. For all of the samples we demand-managed, or for any new algorithm implemented, there were never any problems encountered or complaints made. Overall, a considerable amount of waste was taken out from the system, hopefully for good, with no detriment to patient management.

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Zero tolerance for labelling of all pathology specimens: a recommendation from SHOT 2013

The national scheme for reporting adverse events related to transfusion (SHOT, Serious Hazards of Transfusion) finds worrying errors in patient identification and sample labelling.

SHOT has a high rate of participation by NHS hospitals in the UK. In 2012, 97.8% made reports.[1] These reports are reviewed, classified and published (anonymously) in an annual report each July, with lessons and recommendations for changes in practice. The annual published SHOT reports contain vignettes that are used locally for teaching and training by hospital transfusion staff. The SHOT scheme began in 1996 and the findings have been instrumental in changing transfusion practice resulting in a reduction in deaths and major morbidity from bacterial transmission, transfusion-related lung injury and ABO-incompatible transfusion.[2]

Transfusion reactions may be idiosyncratic and unpredictable (e.g. acute allergic reactions) or possibly preventable by improved practice (e.g. avoidance of transfusion-associated circulatory overload by better pre-transfusion assessment), but the most common cause of adverse events is human error.

The importance of correct identification of the patient, together with accurate and correct labelling of blood samples for transfusion, has long been recognised. Four key identifiers are mandatory:

- first name
- second name
- date of birth
- unique identification number (preferably the NHS number or equivalent).[3]

These are the core identifiers to be used on wristbands.[4] In Wales, the first line of the address is also required. Ideally, the sample label should also include gender, date of sample and be signed by the person taking it.

SHOT data demonstrate year on year that for every incident of 'wrong blood in tube' there are approximately 100 'near miss' events. 'Wrong blood in tube' means that the blood in the tube does not originate from the patient whose details are on the tube label. 'Near miss' means that this was detected before any transfusion took place. The most conclusive evidence is provided when the blood group on the current sample differs from a previous sample from the same patient. Recording a patient ABO blood group as A when it is actually group O could result in transfusion of group A red cells to a group O patient, with potentially catastrophic outcome (death or major morbidity). Fortunately, this 'never event' is rare. However, ten ABO incompatible transfusions were reported

to SHOT in 2012, three of which resulted in major morbidity.[1] It is this risk that led to clear recommendations for full sample labelling for transfusion samples,[3,5] which are well accepted.

'Near miss' reports constitute about a third overall of all reports to SHOT each year (980 of 3545 in 2012). About half of these (534 in 2012) are sample errors, of which 95% (505 in 2012) are 'wrong blood in tube'. The majority, about 70%, are caused by failure to correctly identify the patient, or labelling the sample away from the patient's side. About 40% of these are samples taken by medical staff, about another 30% by nursing and midwifery staff, but less than 5% by phlebotomists who probably take most hospital blood samples. If the 'near miss' events had not been recognised, 70% would have resulted in a wrong component transfusion.

Correct identification of the patient is crucial in all aspects of medicine and should never be assumed. Patients should be asked to identify themselves and not just to confirm their name (positive identification). A national comparative audit of sample collection and labelling also noted that doctors were the staff group most likely to be responsible for mislabelling.[6]

Complete and correct labelling is important for all pathology specimens. The SHOT report for 2012 noted the transfusion of patients who did not require it, because the transfusion was given on the basis of wrong haemoglobin results.[1] Such unnecessary transfusion puts patients at risk of transfusion-associated circulatory overload (TACO), which is a serious complication. Half of the 30 deaths that were either directly or possibly related to transfusion in the last three years (2010–2012) were related to TACO. Patients may also be put at risk of wrong medication as a result of wrong coagulation or biochemistry results. Mislabelling of histology or microbiology samples could result in inappropriate diagnosis and management. SHOT therefore recommends the same standard of sample labelling for all pathology specimens and that transfusion samples should not be singled out for special treatment.[1]

Even for transfusion samples, laboratory staff do not always practise what they preach – as was demonstrated in the recent national clinical audit of transfusion sample labelling.[6] While 154 hospitals said they had a zero tolerance policy for sample labelling, in fact 50 permitted amendments.

Patient safety has been much in focus this year. The Francis[7] and Berwick[8] reports remind us that the safety of the patient must be at the centre of everything we do. It is clear from 16 years of SHOT reporting that most transfusion incidents are caused by human error. Failure to identify the patient correctly at the time of blood sampling and at the time of transfusion remain the most common causes, and many reports have evidence of multiple errors.

Transfusion is particularly well regulated and it is likely that similar errors affect all branches of pathology. SHOT therefore recommends improved (zero tolerance) sample labelling for all pathology specimens to ensure the core identifiers are used. Pathology laboratory managers need to implement this recommendation, with support from their chief executives.

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