



# Foreword

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It is now 20 years since the publication of the first Annual SHOT Report, detailing transfusion practice and the nature of error in the years 1996–97 (Love et al. 1998). That report began with two pages of summary recommendations. Reading through those now, some of them have been implemented for so long, and seem so obvious and such second nature, that is quite remarkable that, even as recently as twenty years ago, they were necessary to address major contributors in the chain of events leading to potentially fatal errors. Many such errors could be attributed to system faults and others to what we now call ‘human factors’. While it is often possible to mitigate system faults, ‘human factors’ are ever-present and likely to pose a risk to safety. It follows that we must design our practices and systems to minimise the impact of ‘human factors’.

A key recommendation of the first Annual SHOT Report is reprinted in Figure 1.1; it states that ‘the bedside check is vital in preventing transfusion error. Staff should be vigilant in checking identification details of the component against those of the patient.’ (Love et al. 1998). It is surprising that this simple but very strong recommendation has taken 20 years to be applied nationally. Last autumn, on the 9th of November 2017, the Chief Medical Officer, Professor Dame Sally Davies, together with the Chief Nursing Officer for England, Professor Jane Cummings, issued a central alerting system (CAS) alert on safe transfusion practice entitled ‘Use a Bedside Checklist’ (DH 2017). It is to be hoped that this practice becomes universal in the very near future.

Other elements of the Annual SHOT Report, and its recommendations, have changed dramatically over the 20-year period since that first report. In part, this represents the growth of the safety agenda and safety conscious practices in healthcare. In part, it reflects changes in medical practice, the technologies and blood components we use.

The key messages in Chapter 3 of this year’s Annual SHOT Report suggest that errors account for around 85% of all reported incidents. These figures are remarkably reminiscent of those in another very safety conscious industry, aviation, where around 85% of incidents are attributed to ‘pilot error’, and only 15% to technical or systems failures. These figures suggest that we can continue to learn from the parallels with aviation; and further work on minimising the impact of ‘human factors’ is key. It is also clear, from reading through the literature on aviation accidents, that incidents seldom result from a single point of failure, but rather from a chain of ‘unusual events’, none of which in themselves would be expected to lead to a problem, but which in novel and unexpected combinations may do so. The second key message in this year’s report recognises this phenomenon: ‘at each step in the transfusion process, do not assume that errors have not been made in previous steps. Verify each step, particularly patient identification’. The last of the key messages relates to the importance of accountability. In aviation safety, this is referred to as a ‘just culture’. Root-cause analysis of adverse incidents should be thorough and must identify attributable system-related as well as human factors contributions. A ‘just culture’ is crucial to this, to ensure openness and accuracy of reporting and translate safety theory into genuine improvements for patients.

When SHOT first started collecting and analysing data 20 years ago, initial improvements in safety were relatively easy to deliver by picking ‘low hanging fruit’. And those improvements in practice came about relatively quickly. The task facing us in the future is a more subtle and complex one. Progressing the process of improvement requires further education and training to reduce variability in practice. This training, however, applies not only to individuals, but also to teams. Very successful team-based training

in medicine, such as advanced trauma life-support (ATLS) has brought about significant improvements in patient care through the way teams function. There are opportunities to learn from this and apply team-based training in blood transfusion. (Here again, there is an aviation parallel: crew resource management). This is particularly important at the present time, as the high staffing levels we enjoyed in the past, with attendant experience and 'systems redundancy' is no longer the norm. There is a need to train teams to function by design, not accident. Training teams requires motivation, engagement and 'buy in'. Moreover, good team function should be the norm, and not reserved for 'special occasions' such as the triggering of a massive transfusion protocol. The model works well in aviation, and medicine (e.g. ATLS), so why not in transfusion? There are further opportunities to use information technology to fill some of the gaps in human expertise, to minimise variability in practice, and to support functional teams.

Finally, SHOT continues to develop. The remit of the data collection, analysis and reporting has become considerably more comprehensive since the first report 20 years ago. This process is ongoing. As a world-leading haemovigilance programme, SHOT has a responsibility to collect data and improve safety in all areas of transfusion practice. This now includes collecting data on the donor process. But there remain domains of transfusion practice outwith the scope of our data collection, such as transfusion and administration of blood components given in the primary care setting and in general practitioner led units. We are working with key representatives of the primary care community to establish the size of such practice and whether it will be possible in the future to audit this area, where appropriate making safety recommendations.

We very much hope that the next 20 years of SHOT will be as successful, and see as much development, as the last 20.

**Figure 1.1:**  
Key recommendation  
from the first SHOT  
Report 1996-1997

The bedside check is vital in preventing transfusion error. Staff should be vigilant in checking identification details of the component against those of the patient. Every hospital should have a policy for formally checking the identity of the patient against the blood component label at the bedside. Nursing observations during transfusion also show wide variation. National guidelines for the administration and monitoring of transfusion are being developed by the British Committee for Standards in Haematology (BCSH) on behalf of the British Society for Haematology (BSH).

## References

Department of Health (DH). Safe transfusion practice: use a bedside checklist (CAS) CEM/CMO/2017/005 (2017). <https://www.cas.dh.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=102663> [accessed 27 April 2018].

Love L et al. SHOT Annual Report 1996/1997 published 1998. Summary of recommendations, p4. [www.shotuk.org/shot-reports/](http://www.shotuk.org/shot-reports/) [accessed 27 April 2018].