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I have been part of the SHOT Steering Group and Working Expert Group since 2012, so it is a great honour for me to continue to support SHOT as the Steering Group Chair and to introduce the 2024 Annual SHOT Report.

There have been many significant changes since the first Annual SHOT Report (ASR) in 1996 and much progress in transfusion safety from the period covered by the Infected Blood Inquiry (IBI) Report published in May 2024 (IBI, 2024). And yet, new challenges have emerged which require different thinking as well as resilience in our practice. At a time when we feel less secure in our personal lives and are experiencing huge pressure on resources in healthcare across the UK, we must continue to learn lessons from haemovigilance and aspire to the high standards that our patients reasonably expect.

We must be proud that SHOT-reportable events are recognised, investigated, and reported so diligently by our hospital transfusion teams and healthcare colleagues involved in the transfusion of patients. Expertise in the application of human factors is increasing and, as a result, the quality of the reports is improving and the potential for realistic improvements in transfusion practice is being identified at a local level and, through this ASR, shared with others.

SHOT promotes patient safety and supports healthcare workers in delivering safe clinical transfusion practice. To disseminate haemovigilance messages as widely as possible, SHOT has diversified its resources, and these are all available on the new upgraded SHOT website with access to the current and all previous ASR, including figures and cases for shared learning, and ASR summaries for distribution at a local level. The 'Meet the Experts' webinars throughout the year provide an opportunity for the SHOT chapter authors from the Working Expert Group to discuss the various sections of the report in detail and answer questions. These webinars are recorded and are free to access at any time. The SHOT Bites topic summaries are regularly updated and expanded as issues are identified. Short, animated videos cover key transfusion safety subjects including learning from the IBI. Sadly, these resources are probably under-used and many people who would benefit from their content are unaware they exist. I would encourage you to explore the new SHOT website and spread the word to your colleagues.

There are several concerns highlighted in this year's ASR. Firstly, the number of deaths where transfusion events are possibly or probably implicated has increased significantly. As in previous years, the two reporting categories where most deaths have occurred are transfusion delays and pulmonary complications, particularly transfusion-associated circulatory overload. Both were the subject of Patient Safety Alerts in 2022 and 2024 respectively with the purpose of raising awareness and systematically reviewing processes to reduce the risks (SHOT, 2022; MHRA and SHOT, 2024). Whilst it could be argued that increased awareness leads to increased reporting, the intended reduction in risk has not led to a reduction in deaths. This raises the wider issue of how to move from evidence into practice, or for haemovigilance reporting to translate into improved outcomes.

The human factor analysis of haemovigilance reports demonstrates some of the potential barriers which need to be addressed and overcome. These include appropriate clinical and laboratory staffing levels, sufficient up to date knowledge, competencies relevant to role for all skilled healthcare staff and a supportive culture where adverse events are treated as opportunities to learn and improve. In this reporting year there have been difficulties in healthcare recruitment in many areas leading to understaffing, strikes leading to increased pressure on critical services and reduction in time and budgets for training and continuing professional development. All of these, as well as other issues, have been referenced in the reports to SHOT.

One of the main opportunities to improve processes has been the use of technology, particularly information technology (IT), to guide and support safe and efficient processes in clinical and laboratory transfusion (BBC, 2024a). SHOT has encouraged this, at the same time reiterating the importance of

maintaining the knowledge and understanding of the correct processes that underpin the systems we use and having robust downtime procedures. SHOT has been pleased to observe an increased uptake of clinical transfusion IT systems, as well as implementation and upgrading of laboratory IT systems. These have increasingly been configured to work across networked hospitals and laboratories and to integrate with clinical systems. But we have also seen the catastrophic consequences of the failure of these systems when subject to malicious attack resulting in a forced return to manual systems. These cyber-attacks have been widely reported (NHSE, 2024b) and you can see the specific transfusion-related adverse events in this ASR. This is not to discourage the use of technology but to highlight the critical importance of resilience and business continuity.

The IBI recommendations (2024) have rightly guided us and focused our attention over the past year and should continue to do so. In response to the IBI, SHOT has been involved with the planning and delivery of haemovigilance workshops across the UK. Recognising the difficulty some hospitals have in responding in a consistent and lasting way to the many and varied SHOT recommendations over the years, a different approach has been taken. This includes standardising the presentation of the haemovigilance data in the ASR to make it easier to access and to disseminate. It also includes translating the recommendations into a series of structured standards for transfusion safety which apply to all hospitals where patients are transfused. These have been the subject of a wide stakeholder consultation before being launched at the Annual SHOT Symposium in July 2025.

Finally, I would like to thank all of those who report to SHOT for your continued dedication to improving patient safety. Thank you also to the members of the SHOT Steering Group and the Working Expert Group for your time, expertise, and guidance. I particularly thank the patient representatives who provide such valuable insight.

I hope you all find time to read this ASR and share it with others. There is so much still to be done to honour the principles and recommendations in the IBI report and those that have been affected by the adverse effects of transfusion.

Dr Megan Rowley
Chair SHOT Steering Group.

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Serious Hazards of Transfusion