Foreword and SHOT Update

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Overall, transfusion components themselves are very safe, but there is clearly room for improvement in practice. The pattern of reports in 2016 was much the same as in previous years, however the absolute number and percentage related to error has increased; 87.0%, 2688/3091. Similarly 98.1% of serious adverse event (SAE) reports to the Medicines and Healthcare Products Regulatory Agency (MHRA) resulted from error.

The number of ABO-incompatible red cell transfusions has continued to reduce with 3 reported in 2016 but there were nevertheless 264 near misses which could have resulted in incompatible transfusions had they not been detected. The number of ABO or D mismatches following allogeneic haemopoietic stem cell transplants continues to cause concern. Despite acknowledgement 17 years ago of the need to learn from errors (Department of Health 2000), a recent House of Commons committee noted that the National Health Service (NHS) still falls short in this area (House of Commons Public Administration and Constitutional Affairs Committee 2017). In 2016 the Healthcare Safety Investigation Branch was set up and their expert advisory committee noted that 'all of this evidence points unequivocally to the unsatisfactory nature of the current system: it is seen as threatening by staff; untrustworthy by those affected; and fails to identify many opportunities to prevent future harm' (HSIB 2016). This branch began work in April 2017 and will review about 30 incidents a year. It is essential that it remains fully independent and does not pass information to regulators or courts (Macrae and Vincent 2017). Transfusion incident-reporting may have been adversely affected by the recent trial of a nurse and her conviction of manslaughter for death resulting from an incompatible red cell transfusion. This error could have been prevented by a correctly completed bedside check.

Following SHOT's focus on human factors, a number of questions were added to the error reporting questionnaires in order to learn more about why things go wrong. The text added in these fields adds to the evidence that staff are working under pressure with inadequate staffing levels, lack of training and feeling overwhelmed.

These factors are widely recognised and reported in the press with an NHS which is at capacity with bed occupancy above the recommended safety limit, and 'in the face of ever increasing demand, care quality is unavoidably being eroded' (Maynard 2017). The Care Quality Commission (CQC), in its report on the findings of the first round of hospital inspections, noted that 'safety remains a real concern, often due to a failure to learn when things go wrong.' Sir Mike Richards also noted that 'the NHS now stands on a burning platform – the need for change is clear, but finding the resources and energy to deliver that change while simultaneously providing safe patient care seems almost impossible' (CQC 2017).

This is at a time when enthusiasm for entering medical training is reduced (a 3.6% reduction in applications to medical schools), and for the first time some foundation year posts will not be filled in 2017 (Rimmer 2017). Additionally the proportion of doctors who have been through the foundation programme who then enter into speciality training has reduced from 71.6% in 2011 to 50.4% in 2016 (Rimmer 2017). Concerns about medical education and training have been expressed by the General Medical Council (GMC): 'there is a state of unease within the medical profession across the UK that risks affecting patients as well as doctors. The reasons are complex and multifactorial, and some are long standing. The signals of distress are not always easy to interpret but they are unmistakable. This should

not be seen as a counsel of despair but as a message to governments, employers, regulators, and the profession itself' (GMC 2016). Robert Francis has also recorded his concerns about the NHS pressures (Lintern 2017). Concerns about laboratory staffing are widespread and also noted by the UK transfusion laboratory collaborative (UKTLC) survey performed in 2015. The Royal College of Nursing (RCN) notes in polling for a strike that 'the 1% cap on nursing pay is putting patient care at risk. RCN members are taking second jobs and using food banks. They are exhausted, morale is low and it's affecting the care they are able to provide' (www.smartsurvey.co.uk/s/5FNL0 poll now closed).

Reflecting the current climate in our health service, SHOT is concerned by increasing numbers of reports, both from clinical areas and laboratories, where investigation of the error or near miss has concluded that the root cause, or a significantly contributing factor, was lack of adequately trained staff, either due to vacancies or increased workload and 10.0% (103/1027) of SAE reported to the MHRA were noted to be related to resource issues (staffing, workload, skill mix).

The majority of errors result from failures of communication, documentation and failure to follow procedures both in the laboratory and clinical areas. Many could be prevented by the final bedside check if it was done properly. This is our main recommendation for 2017. At worst a patient may die (ABO-incompatible transfusion reported last year) and the health care worker be convicted of manslaughter. For much of medical practice some flexibility and resilience is essential, but the bedside check is one process which should now follow a strict adherence to the checklist, as pilots do before take-off. There is new evidence that the World Health Organisation surgical checklist reduces mortality: there was a reduction in the 30 day post-surgery mortality in hospitals that completed a quality improvement programme to implement this (Haynes et al. 2017).

Pulmonary complications, particularly transfusion-associated circulatory overload (TACO), remain the most commonly reported cause of death and major morbidity and are most common in elderly patients who are noted to be particularly vulnerable 'the growth of multi-morbidity has been significant across all age groups, and especially the elderly' (Maynard 2017). Our second main recommendation is to use the TACO checklist which has been modified slightly from last year.

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