SHOT Office Manchester, Blood Centre, Plymouth Grove, Manchester M13 9LL. +44(0)161 423 4208 shot@nhsbt.nhs.uk www.shotuk.org @SHOTHV1 SHOT Serious Hazards of Transfusion

Is the reality as you assume? The risk of cognitive bias influence on decision-making

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Introduction

Serious Hazards of Transfusion (SHOT) analyse reports of serious adverse events and reactions relating to transfusion with preventable errors accounting for most of these events; 2908/3499 (83.1%) in 2022. Inconsistently reported and therefore challenging to quantify, cognitive biases are increasingly recognised as contributors to patient safety events. Cognitive biases are flaws or distortions in judgment and decision-making. While mitigating the occurrence of cognitive bias can be challenging, organisations should implement strategies to help increase the awareness of cognitive biases and promote work system conditions that can detect, protect against, and recover from cognitive biases and associated risk.

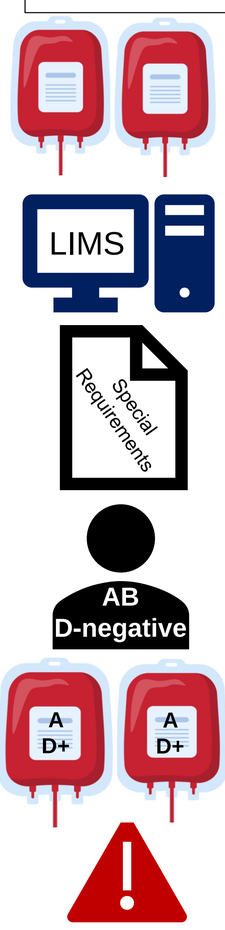
Methodology

2 case studies from the 2022 Annual SHOT Report are described here

To highlight the impact of cognitive bias on transfusion safety

Case Studies – Recognising cognitive biases as contributory factors

Case Study 1 – D-incompatible blood transfused



- Two units of red cells were requested for a patient admitted with renal failure
- Patient's record on the **laboratory information management system (LIMS) had a flag** alerting the need for irradiated blood components
- **Local policy required confirmation** of this specific requirement by clinical team as several years had passed since the patient's previous admission
- The clinical team **completed the specific requirements form** but inadvertently, **two forms were sent to the laboratory with discrepant information** for the requirement of irradiated blood components
- As a precaution the Biomedical Scientist (BMS) **updated the LIMS** to continue to **provide irradiated blood components until discrepancy was resolved**
- The patient's blood group was AB D-negative, but the **BMS issued A D-positive red cells** in error
- **LIMS alerts** were **overridden** as the ***BMS assumed*** these were due to the ABO substitution while their ***focus remained on the irradiated requirement***, **not detecting the D-incompatibility**

*This is an example of **anchoring bias** with staff focusing on one piece of information perceived as important and not seeing other valuable details*

Case Study 2 – Late administration of prophylactic anti-D

- A D-negative pregnant patient had an emergency caesarean section
- **Cell-free fetal DNA** (cffDNA) result was inconclusive, so **cord and maternal samples** were **sent** to the laboratory **for testing**
- Baby's D-status was D-positive but **anti-D immunoglobulin (Ig) was not issued**
- The ***BMS assumed*** this had been done immediately after delivery as with pregnancies with D-positive cffDNA results
- A **Kleihauer test was not performed**, and the **ward was not informed** about the anti-D Ig requirement
- **Clinical staff did not check** if anti-D Ig was required, and patient was **discharged before administration**
- When the **error was identified the patient returned** to the hospital, but **anti-D Ig was given >72 hours post-delivery**

*While other contributory factors such as poor staffing levels and heavy workload were identified, **decisions were based on assumptions rather than objective evidence**. This led to inappropriate treatment decisions resulting in the delayed administration of anti-D Ig*

Conclusion

These cases highlight that decisions made by healthcare professionals are influenced by cognitive, affective or other biases. Biases have the potential to seriously impact the quality, consistency and accuracy of decision making and threaten patient safety. Potential solutions to reduce cognitive bias include enhancing knowledge and awareness of the bias; enhancing work systems; workflow designs that affect cognition; and enhancing professional reasoning, critical thinking and decision-making skills.

References

S Narayan (Ed) D Poles et al. on behalf of the Serious Hazards of Transfusion (SHOT) Steering Group. The 2022 Annual SHOT Report (2023). https://doi.org/10.57911/WZ85-3885.