



Alert fatigue : System overload

KEY WORDS: ALERT, FATIGUE, SAFETY

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BACKGROUND



Alert fatigue occurs when staff are exposed to large numbers of alerts, leading to desensitisation



Staff then ignore critical alerts that warn of impending serious patient harm.



Between 2016-19 **over 10% of SHOT** reports stated the source of error was **overriding alerts**¹

METHOD AND DISCUSSION

SHOT reports are assessed for IT involvement. SHOT has identified that excessive or inappropriate alerts can lead to significant number of errors in the transfusion process¹. Integration of technology in healthcare has been encouraged and promoted for many years, with IT systems providing auditory and visual alarms to allow staff to act on unsafe situations². **Failure to act** upon alerts can lead to patient harm but **excessive or inappropriate alerts** can lead to **ALERT FATIGUE**. One source stated clinicians override alerts **49-96%** of the time³, and one study stated that over 300 alerts were needed to prevent one adverse drug event⁴.

Alert fatigue is an issue in both clinical and laboratory areas

RESULTS

An illustrative case from the 2020 Annual SHOT Report¹

An antenatal patient with sickle cell disorder required red cell transfusion.

Multiple alerts at point of issue for units: CMV neg, HbS neg, C- K-, <10 days old meant the BMS became alert fatigued. The unit issued was K+, leading to potential sensitisation to K antigen.

The BMS said:

'too many boxes appear to acknowledge' and the report stated that **staff became desensitised** to the numerous alerts and failed to pick up safety critical ones.



<https://sensu.io/resources/whitepaper/alert-fatigue-guide>⁵

Information Technology can help across all of the '10 step transfusion' pathway from clinical decision making to laboratory transfusion practices

1. DECISION TO TRANSFUSE AND CONSENT PATIENT
2. REQUEST
3. SAMPLE TAKING
4. SAMPLE AND REQUEST RECEIPT
5. TESTING
6. COMPONENT SELECTION
7. COMPONENT LABELLING
8. COMPONENT COLLECTION
9. PRESCRIPTION/AUTHORISATION**
10. ADMINISTRATION, MONITORING FOR ANY REACTIONS AND DOCUMENTATION

CONCLUSION

SHOT REPORTS INDICATE:

Alerts are only moderately effective

Alert fatigue is common

More alerts = higher potential for fatigue



RECOMMENDATIONS

- LIMS alerts should only display when **action is required**
- Alerts should be **tiered by relevance** and **reviewed regularly** to remove redundant messages
- Alerts should be transformed into **relevant and actionable intelligence**
- Encourage a **safety culture** in which concerns are raised and assumptions reduced

REFERENCES

- (1) S Narayan (Ed) D Poles et al. on behalf of the Serious Hazards of Transfusion (SHOT) Steering Group. The 2016 - 2020 Annual SHOT Reports.
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- (3) Van der Sijs H, et al. Overriding of drug safety alerts in computer physician order entry. J Am Med Inform Assoc. 2006; 13:138-47.
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- (5) <https://sensu.io/resources/whitepaper/alert-fatigue-guide>

INFORMATION TECHNOLOGY MUST BE SET UP AND USED CORRECTLY TO BE SAFE

IT SUPPORTS SAFE TRANSFUSION - USE IT



ACKNOWLEDGEMENTS

Thanks to all SHOT reporters, blood donors, patients, everyone in the transfusion community, colleagues at MHRA and key SHOT stakeholders.



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