

SHOT UK Collaborative Reviewing and reforming IT Processes in Transfusion (SCRIPT) Laboratories Survey 2020 Summary

Introduction

The SCRIPT group was formed by the laboratory and IT SHOT Working Expert Groups, with plans for wider stakeholder engagement in the future. The main driver is to improve transfusion safety through improved IT systems and practices. SCRIPT aims to identify gaps in practices, barriers for IT, recognise areas for improvement and begin a constructive dialogue between transfusion stakeholders and IT providers. Further goals include identifying training needs, promoting subject matter experts, and supporting and maintaining a community of practice within transfusion IT. An online survey was sent to all registered SHOT reporters to begin data gathering from transfusion professionals working in hospitals.



- One response was requested per transfusion laboratory: 102 responses were received
- The Survey Monkey™ survey was open between – 30 November 2020- 14 February 2021
- A completion rate of 88% was recorded
- Responses were received from a wide range of different sized hospitals, including NHS and private laboratories, and responses were received from all countries within the UK

Key Survey Findings and Recommendations

1. Laboratory information management systems (LIMS) upgrades



Upgrades to LIMS are often not implemented by laboratories due to financial, time or resource constraints. Upgrades provide resolution to deficiencies noted by other users and will increase safety and functionality of the system



Opportunities for safety improvements are being missed if upgrades are not applied to the system. It would be useful for suppliers to highlight which upgrades are safety critical to enable laboratories to make an informed choice.

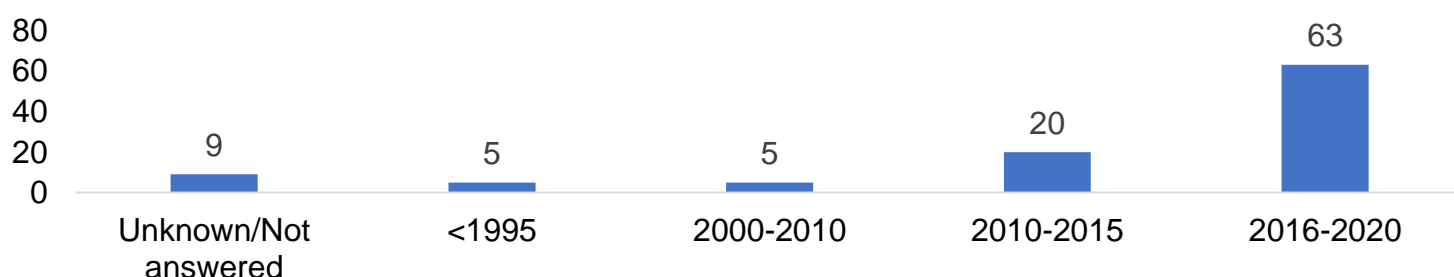


Suppliers should specify costs of upgrades during tender processes. This will inform laboratories about financial implications throughout the lifetime of a system.



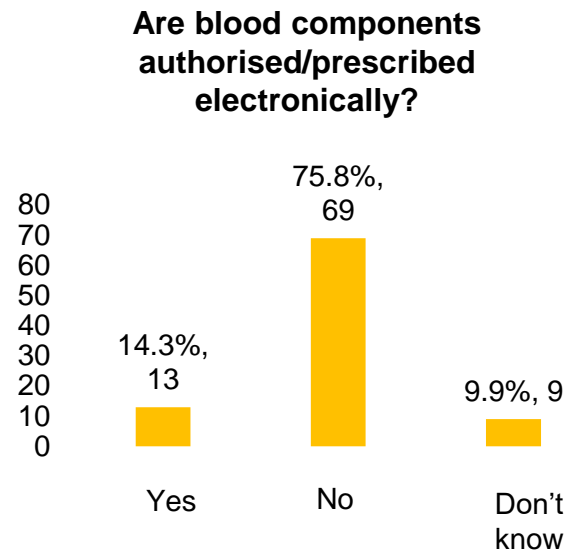
Some LIMS systems have not been updated for >10 years as shown below. Those with systems which have not been upgraded for several years should investigate the additional functionality and safety features of newer versions.

Year of implementation of current LIMS version n=102



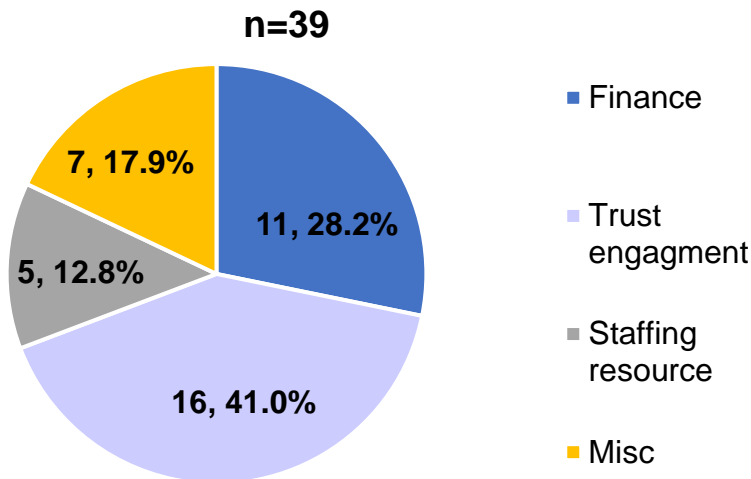
2. Lack of knowledge of other systems within the hospital

- There was a lack of knowledge of other electronic systems relating to transfusion and medication practice used within the hospital
- Not all respondents were aware of how blood components were authorised/prescribed. For laboratory staff to be able to provide a safe transfusion service they should have an understanding of the clinical aspects of transfusion (Annual SHOT Report, 2019)
- Those involved in transfusion processes are mostly able to make decisions about their own systems, however this is not seen universally.
- It is essential that no decisions regarding transfusion IT are made without input from those with relevant knowledge and expertise, to do so would put patient safety at risk



3. Challenges with implementation of IT systems

Barriers to implementation of transfusion IT systems



“Lack of support from Trust IT. Way too much red tape. Lack of funding. Lack of support from Trust board.”

“Lack of IT specialists with any Transfusion knowledge. Having to act as a 'middleman' with external companies and Trust IT without adequate training, companies not communicating directly.”



Many respondents stated they had encountered barriers to implementing new electronic systems for transfusion (mainly lack of resources and engagement from the Trust/ Health Board).



Appointment of Chief Clinical/Nursing Information Officers (CCIO/CNIO)/ creation of Chief Pathology Information Officer is required to support decision making



Appropriate resources must be allocated at UK government level to enable these advancements, whilst also supporting excellent care as usual



Hospital boards must recognise the importance of safer transfusion systems (e.g. electronic patient ID) and the risks implicated by not introducing available technologies



Whilst different challenges may be introduced by these electronic systems, safety improvements have been published (Murphy et al., 2019)

4. Supplier support

- Many reporters indicated a desire for greater transparency from suppliers and increased support
- The highest ranked options (out of 5) for desired SCRIPT outcomes were:

4.1/5

“Industry standards for transfusion IT suppliers to ensure compliance with national standards”

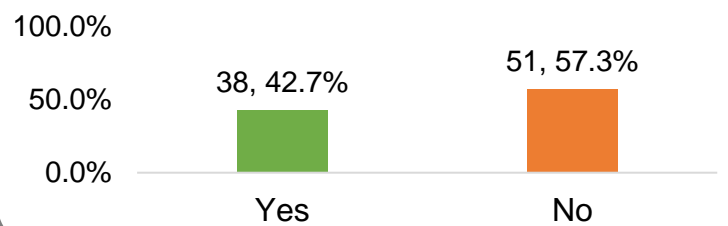
3.1/5

“Agreement for transparency in the functional aspects of the system prior to purchase”

5. Lack of transfusion IT expertise, training and allocated time

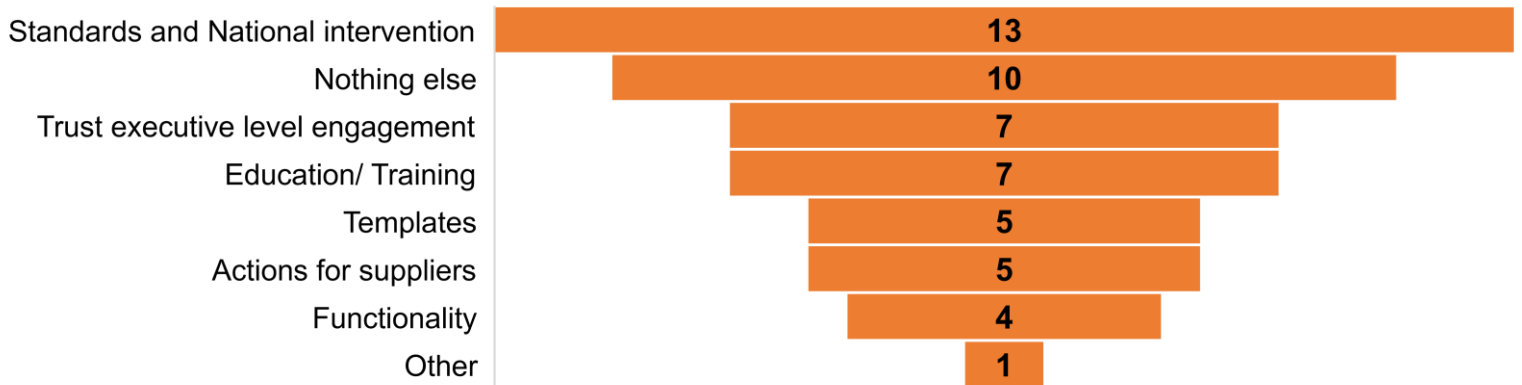
There is a clear need for more training and resources for IT experts in transfusion laboratories. A specialist role for IT experts in transfusion should be created. This survey has shown where there is a specified transfusion IT expert with time allocated for transfusion this is largely sufficient.

Do you have an IT expert for transfusion? n=89



6. A need for national guidance and templates

What else could SCRIPT do to help your department ensure transfusion IT systems are safe? n=52



- Many respondents expressed a desire for national guidance for IT suppliers to follow, and also for requirements of IT systems within transfusion.
- The BSH guideline on Specification, Implementation and Management of Information Technology (IT) Systems in Hospital Transfusion Laboratories is currently under review and due to be published.
- Standards for interoperability exist within other areas of the NHS (e.g. dictionary of medicines and devices) and transfusion should be considered for inclusion in this or a similar system

“Clear minimum standards with a tier system of features split into necessary & desirable”

“National standards endorsed by the NBTC”

Actions for SCRIPT

1. Suppliers should be surveyed regarding upgrades and whether charges are applied, release note availability, communication of safety critical information, and how assurance of pre-hospital validation is made available

2. SHOT should recommend an 'electronic systems' forum within Trusts/Health Boards to enable communication between siloed areas and increase the potential for interoperability between systems

3. Reinforce SHOT recommendations that electronic systems should be implemented. A communication regarding this specific issue should be sent to chief executives, CCIO, CNIO, patient safety leads and clinical governance departments. NHSX or other equivalent UK wide central body should raise transfusion in the digital agenda when discussing resource allocation for digital projects which will improve patient safety. This central body should lead the project for the whole of the UK

4. Workshops including suppliers and users should be set up to enable open conversation and develop an action plan for improved working relationships

5. Work in collaboration with the IBMS or other transfusion educational professional bodies to develop transfusion specific modules for a training course IT, and other resources for transfusion expertise

6. Work in collaboration with NHSX, IT suppliers, BSH and NBTC to develop national standards for transfusion electronic systems. These standards should focus on component compatibility, warning flags and interfacing



Full results from the SCRIPT laboratory survey will be published in due course. If you have any questions prior to this, please contact shot@nhsbt.nhs.uk



Further resources

2019 Annual SHOT Report –
Laboratory errors and IT
webinar

<https://www.shotuk.org/resources/current-resources/webinars/>



SHOT Bite 13 – Information
Technology in Transfusion:
Highlights and lessons

<https://www.shotuk.org/wp-content/uploads/myimages/SHOT-Bite-No.-13-IT.pdf>



Abbreviations

BSH: British Society of Haematology
CCIO: Chief Clinical Information Officer
CCNO: Chief Nursing Information Officer
ID: Identification
IT: Information Technology
LIMS: Laboratory information management system/s

NBTC: National Blood Transfusion Committee
NHS: National Health Service
SHOT: Serious Hazards of Transfusion
SCRIPT: SHOT UK Collaborative Reviewing and reforming IT Processes in Transfusion
UK: United Kingdom

References

- BSH Jones J, Ashford P, Asher D, et al. (2014) Guidelines for the specification, implementation and management of information technology (IT) systems in hospital transfusion laboratories. <https://b-s-h.org.uk/media/15774/transfusion-jones-specification-implementation-and-management-of-information-technology-systems-in-hospital-transfusion-laboratories.pdf> [accessed 25 February 2021]
- Murphy MF, Addison J, Poles D, et al. (2019) Electronic identification systems reduce the number of wrong components transfused. *Transfusion* 2019;59(12):3601-3607. <https://onlinelibrary.wiley.com/doi/10.1111/trf.15537> [accessed 25 February 2021]
- S Narayan (Ed) D Poles et al. on behalf of the Serious Hazards of Transfusion (SHOT) Steering Group. The 2019 Annual SHOT Report (2020). <https://www.shotuk.org/wp-content/uploads/myimages/SHOT-REPORT-2019-Final-Bookmarked-v2.pdf> [accessed 12 May 2021]