

# Improving Biomedical Scientist confidence in urgent result authorisation

Naomi Elkin, Clinical Biochemistry, Queen's Hospital, Romford

## Introduction

In the Clinical Biochemistry laboratories at Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT), Biomedical Scientist (BMS) staff authorise results in the Laboratory Information Management System (LIMS) for inpatients and A&E patients as an extension of technical validation. In preparation for UKAS, the Pathology department at BHRUT were standardising training and competency assessment across all specialities with harmonised documentation, and a gap in training for BMS result authorisation in Clinical Biochemistry was identified. At the same time, the need for such training was becoming more apparent with an increasing number of less experienced staff in the laboratory.

## Training and competency framework

A training and competency framework was developed covering the areas shown in table 1, with training delivered by Clinical Scientists. Competency assessment consisted of clinical cases based on real laboratory situations. Cases were set up in the LIMS to be as close to real life as possible, with the ability for staff to remove results and add comments as appropriate. Figure 1 shows an example case study used to assess competence. The results suggest EDTA contamination, and the BMS is able to demonstrate which results they would remove and how they would add a comment. The basic competency assessment consists of five cases chosen by the assessor from 22 cases covering topics relevant to the training. BMS staff are given time to look through the cases and then discuss their actions with the Clinical Scientist assessor. The cases often have more than one approach so the Clinical Scientist assessor uses their judgement to assess competence. Additional cases or tasks are identified for staff if considered necessary.

Table 1: Topics covered in BMS urgent result authorisation training

Topic	Areas covered
Clinical authorisation	<ul style="list-style-type: none"> <li>Use of relevant functions in LIMS</li> </ul>
Assessing clinical validity of results	<ul style="list-style-type: none"> <li>Using delta checks, patient history, sample suitability, sample stability</li> <li>Common sample contaminants</li> <li>Clinical utility of non-blood samples</li> <li>Assessing the clinical relevance of a change in results</li> <li>Options for confirming clinical validity of results (e.g. requesting a repeat sample)</li> </ul>
Evaluating sample suitability for add on requests	<ul style="list-style-type: none"> <li>Procedure for add on tests</li> <li>Assessing sample suitability for add on tests</li> </ul>
Managing critical results	<ul style="list-style-type: none"> <li>Importance of identification and communication of critical results and associated procedures</li> </ul>
Release of information/samples	<ul style="list-style-type: none"> <li>When to release patient information/results and to whom</li> <li>Procedures for releasing samples to external bodies (e.g. police)</li> </ul>
Authorisation responsibilities	<ul style="list-style-type: none"> <li>What is expected of BMS staff</li> <li>Who to contact if assistance is required</li> <li>Shadowing the Duty Biochemist to improve awareness of different roles and responsibilities</li> </ul>

Figure 1: Example case study for assessing result authorisation competence

## Evaluation of the new training and competency framework

The new training and competency framework for urgent result authorisation was rolled out in 2019 with 30 members of BMS staff trained over an eight month period by six Clinical Scientists. A feedback questionnaire completed by 17 BMS staff showed highly positive responses to the new training (figure 2). In particular, 88% staff reported improved confidence with authorisation of urgent results. Staff were also asked whether they had made any changes to their practice following the training and competency assessment, with 35% of respondents making changes (figure 3). These included being more vigilant with authorising, and being more confident with use of comments and authorisation queues in the LIMS. Further comments from the feedback questionnaire are presented in figure 4.

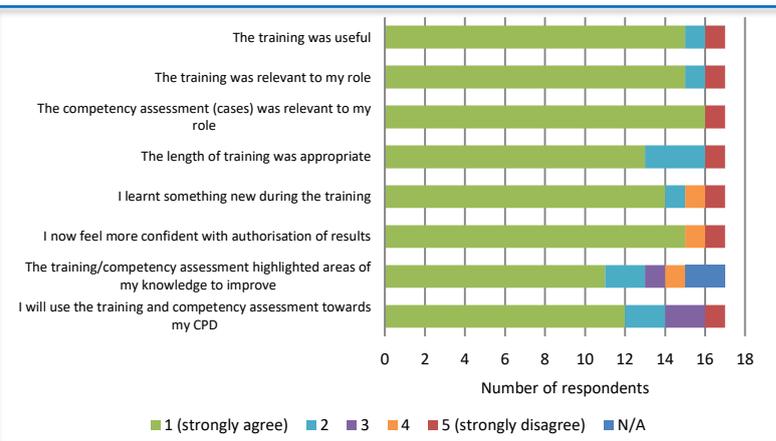


Figure 2: Feedback questionnaire results from 17 BMS staff

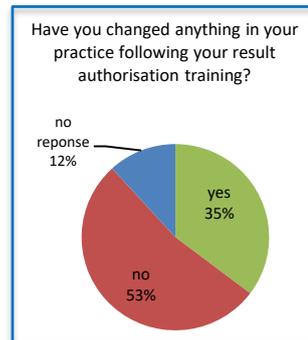


Figure 3: Number of staff making changes to their practice following their result authorisation training. Note 'No' responses include those who were already working to all the procedures covered in the training.

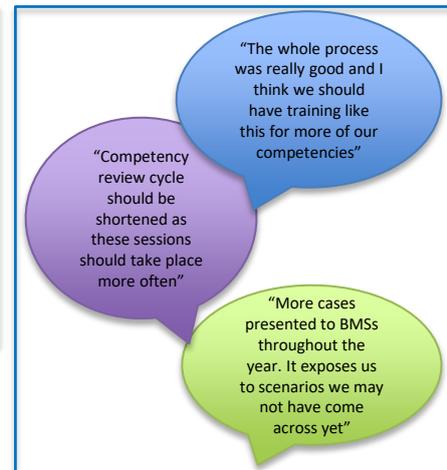


Figure 4: Further comments from feedback questionnaire

## Further work

In general, competency reviews in the department are based on a two year cycle. While it would be ideal to shorten this period for this training, the time commitment required from the Clinical Scientists means that this is not feasible. New cases for competency assessment are currently being set up, based on recent scenarios observed in the laboratories. The majority of BMS staff are reaching their two year review; to re-assess competence, the Clinical Scientist assessor will select five further cases for the BMS to review and then discuss appropriate actions, as with the initial training/competency assessment. In addition, similar competency assessments with real life scenarios are being considered for EQA review and other lab processes. Further activities for staff engagement and exposure to clinical cases including CPD presentations and discussions in the lab are also being explored.

## Summary

- A new training and competency framework for BMS result authorisation was developed with Clinical Scientist led training and practical competence assessment using real case scenarios set up in the LIMS
- The new training and competency framework was well received by BMS staff and improved confidence with result authorisation
- New cases for competency assessment are being developed to enable re-assessment of staff competence in a two year cycle
- Similar competency assessment with real life scenarios is being developed for EQA review.

**Acknowledgements** Thank you to all the BMS staff who provided feedback.