

An interactive, web-based and easy-to-use dashboard for EQA-results – A modern way of presenting and visualizing data

Christina Andersson, David Afzelius
Equalis AB, Uppsala, Sweden

CONCLUSIONS

To save time and simplify the evaluation process for our participants, an interactive, web-based and easy-to-use dashboard could be an effective tool for administration of the majority of EQA results, especially in fields where healthcare professionals are responsible for multiple laboratories and/or instruments, where a good and quick overview is important.

BACKGROUND

Equalis is a Swedish provider of over 120 external quality assessment (EQA) schemes within a variety of clinical laboratory investigations. Today, we distribute EQA results in extensive PDF reports to our participants. To save time and simplify the evaluation process for our participants, we aimed to develop an interactive, web-based and easy-to-use dashboard, which visualizes the EQA results and presents a quick overview of the performance of each instrument.

METHODS

Coordinators within the POCT field in regions of Sweden indicated the need for an easier way to evaluate EQA results. Interviews were performed with POCT teams in two Swedish healthcare regions to get information for developing a minimal viable product.

We used the low-code development platform Oracle APEX, together with SQL and Javascript, to create an interactive and web-based dashboard. The dashboard was connected to Equalis data system for import and evaluation of EQA data from one POCT EQA scheme to start with.

Once the dashboard was created, a pilot was launched in two regions where the end-users were given the opportunity to test it and give feedback for further development.

RESULTS

The pilot version of our dashboard, with multiple ways to filter the data for a good and quick overview, is now in use for one of our POCT EQA schemes in two regions in Sweden. On the start page of the dashboard (Fig. 1), the user is presented with the response rate and the number of deviating results for all laboratories/instruments the user is responsible for in a round. In addition, the result can be presented by each component. A list of laboratories having deviating results or no submitted results can easily be displayed (Fig. 2). Furthermore, it is possible for the user to visualize trends of EQA results from earlier rounds for specific laboratories (Fig 2). The use of colors quickly indicates where further investigation is needed and makes the work for a coordinator easier and faster compared to traditional PDF reports. Moreover, since the dashboard is web-based, it is easy to access for all participants, from both computers and mobile phones. Equalis intends to provide this modern way of presenting and visualizing data within the rest of the POCT field, and also broaden the concept to our other EQA schemes.



Figure 1. The start page of the dashboard showing an overview of the EQA results from a certain round. The bars are clickable and will present filtered results.

Figure 2. Top: A list of laboratories with deviating result. Bottom: Visualization of trends of EQA results from previous rounds for a specific laboratory. Up to ten rounds are possible to visualize.