

Results from knowledge gathering survey for antibiotic prescribing dashboard requirements from healthcare professionals – Dr Jo Hobbs (Public Engagement Lead)



Background

'Building Rapid Interventions to reduce antimicrobial resistance' (BRIT) aims to reduce antimicrobial resistance and the prescribing of antibiotics by using 'SMART' analytics to identify current antibiotic prescribing trends.

The BRIT project is one of 3 Greater Manchester Connected Health Cities (GM CHC) care pathway projects. These projects aim to make better use of under-used information and apply the latest technology in order to meet local health and care needs. BRIT which is overseen by the University of Manchester (UoM) is concerned with evaluating the use of antibiotics and developing capabilities which could reduce rates of antibiotic prescribing.

BRIT project aims and objectives

The BRIT project aims to develop an e-lab and dashboard for NHS staff as part of efforts to tackle antibiotic resistance. The e-Lab is a stable, secure and 'smart' electronic repository which allows researchers to access a great wealth of information and is a framework within which users can perform actions such as data management. The dashboard can be thought of as a visual interface which the user can interact with. Few (2013) defined a dashboard as "A visual display of the most important information needed to achieve one or more objectives consolidated and arranged on a single screen so the information can be monitored at a glance"(p. 7).

The e-Lab will improve:

- Data access
- The ability to share data analytics
- Knowledge exchange regarding best practice

e-Lab users will:

- Have access to their local data
- Be able to conduct advanced data analytics
- Compare their data with data from other regions
- Share effective action plans

- Access statistical analysis provided by the GM CHC analysis team

The new dashboard will:

- Offer the user an interface to a platform which will provide user-centric information.
- Help maximise the effectiveness of antibiotic prescribing for specific sectors of clinical practise within the NHS
- Be a useful additional resource for Greater Manchester health and social care professionals
- Play an important part in facilitating the more effective prescribing of antibiotics.

Every dashboard is built on a set of priorities and assumptions about what is important and what should be included in its design (McIntyre, 2016). The BRIT survey was concerned with gathering stakeholder opinions of what should be included in the E-lab and dashboard to ensure it met the needs of the professional community.

Below is a summary of what respondents to the BRIT survey said they would like to see incorporated into the e-Lab and dashboard.

The term respondent refers to those who participated in the survey i.e. the people who answered the survey questions.

BRIT survey findings

The online survey was live between 04/05/17 and 31/07/17. In total there were 375 respondents but certain questions elicited a greater response than others. 260 respondents identified the area of practice they currently worked in.

The largest number of respondents came from 3 areas of practice, General practice clinical staff (88) staff from dental services (44) and public health staff (40).

The functional nature of the dashboard is to provide user-centric information which will help in the more effective prescribing of antibiotics. Respondents were asked to rank from 'very useful' to 'very useless' items they would like to see selected for inclusion. 107 respondents answered this question. (N = refers to the number of respondents who selected this option).

The most popular items for inclusion in elab/dashboard were:

1. 'Level of inappropriate antibiotic prescribing' (i.e., wrong type, dose and duration) (N=98)
2. 'Guidelines (local and NICE) on how to treat infections' (N=90)
3. 'Counts of antibiotic prescribing in each general practice' (N=90)

Non-Functional Requirements of Dashboard

The non-functional requirements capture conditions that do not directly relate to the behaviour or functionality of the dashboard. Instead, they describe environmental conditions or supplementary requirements which help it perform its function. 93 respondents gave free text responses which related to the non-functional items they would like to see selected for inclusion. Free text responses prompt a much wider range of suggestions from respondents. Answers contain more detailed content depth and richness i.e. quality but with a reduced number count i.e. quantity.

The most popular items for inclusion in elab/dashboard were:

1. Provide access to education for both patient and professionals (N=25)
2. Increase access to information, primarily seen as important for professionals (N=12)
3. Provide access to awareness raising material, primarily for patients (N=11)
4. Provide access to feedback (N=10)

E-lab Functional Requirements

The E-lab will improve data access, the ability to share data analytics and knowledge exchange on successful interventions. Users will have access to their local data and be able to conduct advanced data analytics. 109 respondents gave free text responses which related to the functional items they would like to see selected for inclusion.

1. Provide access to prescribing rates, trends, patterns (N=25)
2. Provide access to peer comparison (N=10)
3. Provide access to audit/re-audit data (N=6)

4. Provide access to Benchmarking (N=5)
5. Provide access to local resistance patterns (N=4)

Qualitative findings

Free text responses to survey questions were analysed using thematic analysis and word frequency analysis. Thematic analysis refers to a process in which the researcher explores the data by focusing on themes sharing common characteristics (Yin, 2011). Word-frequency analysis refers to a process whereby the researcher explores the data by focusing on the frequency with which keywords, phrases, and associated concepts appear throughout the text (Underwood, 2015). Combining thematic analysis and word frequency analysis helped to unpack the data by facilitating the identification and perceived importance of broad themes and sub themes.

Evidence from the survey suggests there is a clear and pressing need for:

1. For specific and contextualised information, training, awareness-raising and guidance for those working in dentistry.
2. For public facing interventions which focus on raising public awareness of the difference between viral and bacterial illness.
3. For broader information and knowledge exchange and training for professionals.
4. To look closely at the practice of 'Out of Hours' doctors and mental health practitioners.