

# Creating a collaborative approach to antimicrobial stewardship education across the Gulf, Middle East and North Africa (MENA)

A case study from the British Society for Antimicrobial Chemotherapy (BSAC)

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## Context

The British Society for Antimicrobial Chemotherapy (BSAC) is fast becoming recognised as one of the world's most influential educators on antimicrobial stewardship (AMS).

As a learned society and charity, the central tenet of its mission is to work alongside others to provide open access, high-quality, support to those who need it most. This support takes many forms: workshops, conferences, public, media and political engagement, open access online courses amongst many other educational

resources, professional fora, research grants, research publications (the Journal of Antimicrobial Chemotherapy) and a unique e-learning education and open access research journal- JAC-Antimicrobial Resistance), with a strong focus on low- and middle-income countries (LMICs).

In recent years, the Society has worked in many different countries including India, Brazil, Russia, and Kenya, with many different partners (from development banks, professional societies to government health departments, and supranational bodies like the World Health Organization).

Based on the premise of facilitating regional and global collaboration [Lancet Infect Dis 2017; 17: e56–63] and our growing experience of doing this, in February 2020 BSAC launched a collaborative aimed at developing, delivering, and evaluating, sustainable antimicrobial

stewardship programmes (ASPs) in hospitals across the Gulf, Middle East, and North Africa (MENA) region.

## Aim

From the outset, BSAC's MENA project recognised the challenges posed by variations between and within countries, organisations, and systems, across this huge geographical area. There was also recognition of the challenges faced by those in regions torn with turmoil due to conflict and political upheavals.

The aim was to create a network of otherwise disparate communities that, over time, could start to develop a more coherent and cohesive approach to responsible antimicrobial use regionally. The plan was to do this by:

- Providing education on the development of ASPs and interventions.
- Supporting the roll-out of train-the-trainer programmes.
- Facilitating the sharing of knowledge and expertise through peer-to-peer interaction and open access online resources.
- Facilitate the building of individual relationships, technical expertise, and the understanding of specific contextual challenges.
- Enabling measurement of the impact of education and interventions to demonstrate improvements in effective prescribing, patient outcomes, and to contribute to the containment or reduction of rates of antimicrobial resistance.

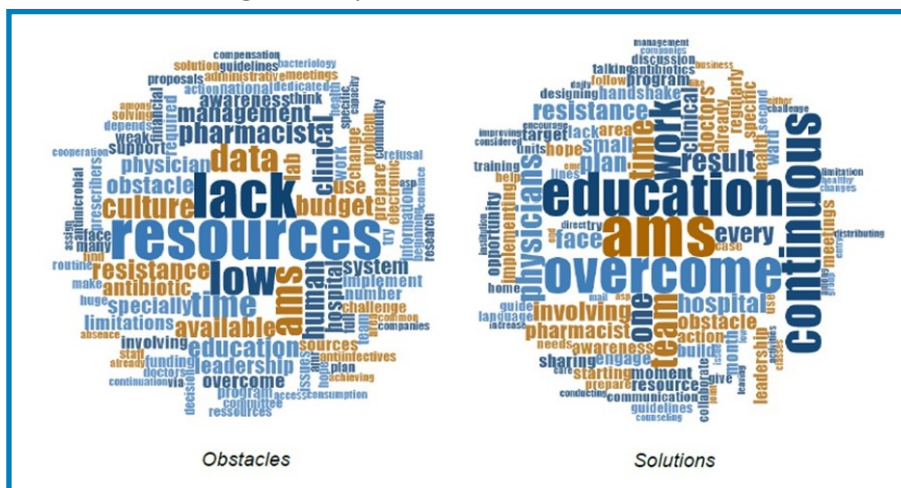


Figure 1. Word clouds of perceived obstacles and solutions in implementing an ASP, taken from post-conference survey responses and separated by node coding (n = 38)

## Inaugural workshop

The initiative was launched with a train-the-trainer workshop [programme available here] in Dubai in February. It involved 72 delegates from the following 12 countries: United Arab Emirates, Tunisia, Saudi Arabia, Qatar, Oman, Lebanon, Kuwait, Jordan, Iraq, Iran, Egypt and Bahrain.

In addition to the traditional plenary sessions and workshops the event was used to unveil – in “real time” – a package of learning support that comprised: immediate access to a new online forum, online access to the course presentations within minutes of being given, instantaneous sharing of survey results, availability of filmed conference sessions within days of the workshop ending, an online discussion forum enabling delegates to share learning and resources as well as signposting to a diverse range of e-learning resources [[www.bsac-vle.com](http://www.bsac-vle.com) and <https://academic.oup.com/jacamr>].

## Workshop feedback

Many of the participants repeatedly highlighted the value of the workshop format, pointing to the unrivalled importance of face-to-face networking, and in coming together to identify common obstacles and solutions (Figure 1).

As far as those obstacles and solutions were concerned, a significant number of participants said the biggest barriers to AMS in the region were:

- Lack of resources (including IT, drugs and time).
- Staff shortages.
- Non-compliance of healthcare professionals, primarily as a result of widespread misconceptions

about AMR and AMS amongst prescribers.

- Lack of policies and guidelines or their implementation.

## Impact

To uncover the ongoing needs of participants and to help chart progress, questionnaires were issued two weeks prior to, and immediately upon conclusion of, the train-the-trainer event.

The results (Figure 2) showed generic improvement in all 5 knowledge domains below with the greatest reported increases in understanding how to facilitate sharing of knowledge and expertise in AMS, accurate measurement and report on antibiotic quality and consumption and facilitating sharing and access to knowledge resources. These data as well as interactions with delegates are instrumental in providing educational programme developers with intelligence and direction of future courses and learning resource needs.

## Building current and future education training delivery capacity and capability

More than half of the delegates (56.1%) were directly involved in AMS training preceding the conference, and 50% of those used e-learning resources to assist training. However, following the conference 100% of delegates said they were planning to share their learning with colleagues using workshop material as well as the e-learning resources available. They were keen to engage a broader health care professional community, for example more pharmacists and nurses as well as consider community engagement, for example schools and local media.

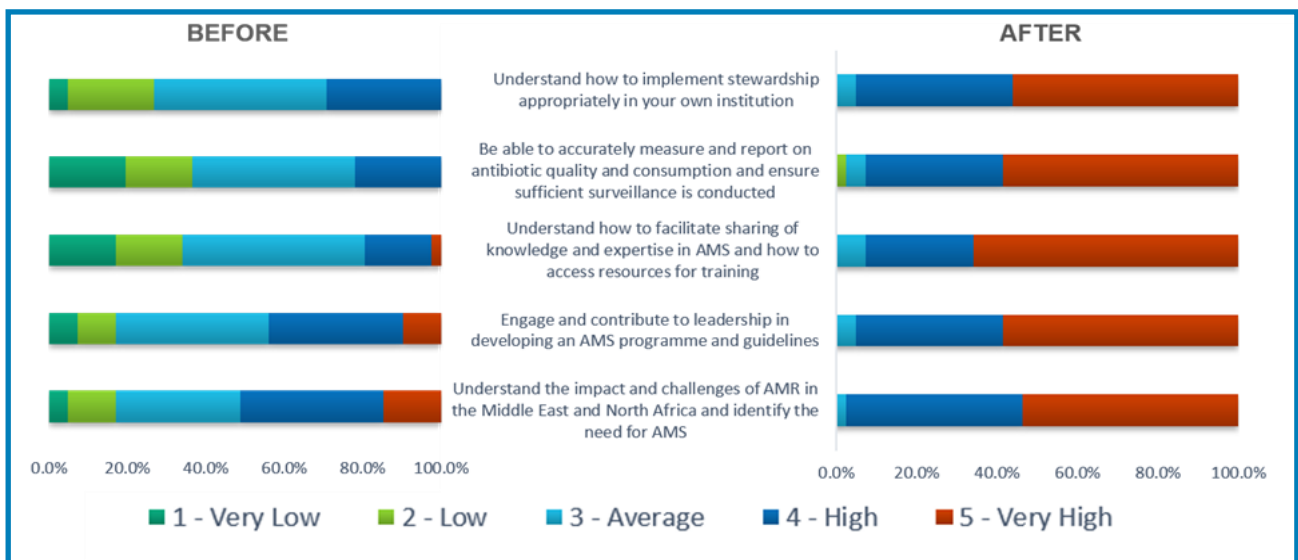
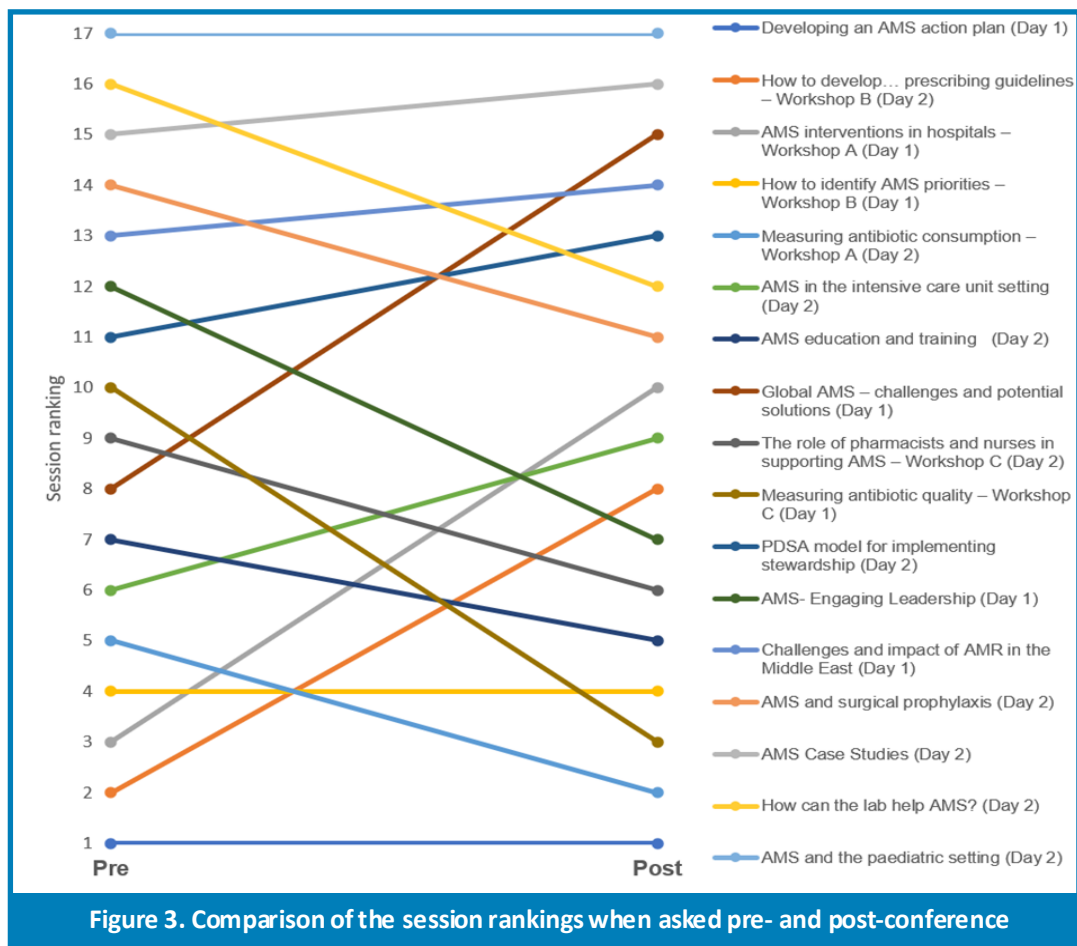


Figure 2. Comparison of level of knowledge on key learning objectives before and after attending the conference, by percentage of respondents who rated their level of knowledge on a scale of 1 to 5. Data was obtained from the post-conference survey and is therefore semi-retrospective (n = 41)



### Course content preferences and strengths

When asked to rate conference sessions pre- and post-workshop, “Developing an AMS action plan” retained top spot (Figure 3) illustrating its critical importance and in many areas an unmet need. Other content preferences and value are illustrated in Figure 3. It is hoped the final evaluation report will also include the results of a three/four -month follow-up to specifically assess how participants have put learning into action. It is hoped to make this available on JAC-AMR.

### Next steps

Given the nature of the remaining challenges, it is important that the energy and momentum generated through the regional train-the-trainer workshop is sustained. As such, a significant amount of focus is being given to the next steps, which will see BSAC:

- Continue to establish separate collaboratives, with shared objectives for both:
  - Gulf-Middle East-North Africa
  - Africa (East, Central, South)
- Continue the development of the networking forum
- Host another AMS conference and training workshop in:
  - Kenya - Africa (East, Central, South)
- Launch a three-week MENA version of the Massive Open Online Course on Antimicrobial Stewardship (the first run will start on April 27, 2020).
- Provide training on measurement of antimicrobial

consumption (via a Point Prevalence Survey online course)

- Publish the full evaluation report in the open access online journal JAC-AMR.

Consideration will also be given to topics delegates said they would like to see covered in future events. These include, in-depth training on planning ASPs, guideline development, surveillance work, and the application of AMS to different clinical and social settings.

### Connect

BSAC is always keen to work alongside others, including local professional societies as well as other international bodies committed to education such as the Alliance for Prudent Use of Antibiotics (APUA) - BSAC has global reach, commitment to supporting low- to middle-income countries (LMICs), and is multi-disciplinary in its approach. This is combined with the speed and economy with which the Society develops and delivers educational projects on a range of topics linked to antimicrobial therapy and stewardship. It is especially keen to hear from anyone interested in promoting or developing the MENA Forum, in a bid to increase user-numbers and to augment the quality of its outputs and outcomes.

For more information, contact BSAC’s CEO, Tracey Guise [tguise@bsac.org.uk](mailto:tguise@bsac.org.uk).