

Overview of the antimicrobial resistance surveillance systems for Ghana, Malawi, Nepal and Nigeria

Summary

This study compares antimicrobial surveillance systems in three low- and middle-income countries in order to describe the components of these systems and to understand which surveillance models are best suited to particular contexts. Ghana, Nigeria and Nepal were selected as study countries because they cover different continents and include one 'fragile' context (Nigeria). Brief information from Malawi is also included.

Standardised data collection tools and approaches for assessing anti-microbial resistance (AMR) surveillance capacity at national level and in four laboratories in each country were provided for each in-country team. The teams were led by senior microbiologists. They visited four laboratories in each country (apart from Malawi) which were selected for diversity to represent the private and public sector and tertiary and secondary facilities. The data collection tools were based on published guidelines including the World Health Organisation's (WHO) Global Antimicrobial Resistance Surveillance System (GLASS) manual for early implementation of AMR surveillance systems, the OASIS tool for assessing epidemiological surveillance systems and a checklist for assessing regional laboratories' capacity for supporting neglected tropical diseases programmes. Data were obtained from on-site interviews, observations of facilities and by reviewing relevant documents.

The data collected from each country show that their AMR surveillance systems are at very different stages of maturity. Only two of the countries had a national plan for AMR surveillance; neither had been finalised. Only one country had a national coordinating centre for AMR surveillance. In the other countries AMR surveillance was limited to specific diseases such as tuberculosis or cholera. No country had a national electronic AMR information system. Two countries relied on external funding to fully or partially sustain the AMR surveillance activities. Two countries had national reference laboratories for AMR but neither of these were internationally accredited. Two countries had sentinel sites for AMR surveillance monitoring but only one country regularly collected data from these sites and the other country only collected data intermittently on AMR relating solely to tuberculosis. There were some examples of interesting AMR initiatives in some of the countries such as inter-hospital collaborations on AMR for specific diseases and checks on the quality of antimicrobials. None of the key informants were aware of any AMR programmes for animal or environmental monitoring in any of the countries investigated.

This was a three-month study commissioned under the theme of '*An analysis of approaches to laboratory capacity strengthening for drug resistant infections in low and middle income countries*'¹. It complements the work performed at the same time under the theme '*Supporting surveillance capacity for antimicrobial resistance: Regional Networks and Educational Resources*'. As the studies were conducted in a short time frame it is recognised that they are not entirely comprehensive; they are intended as starting point to help inform the UK government and its partners of areas of greatest need and how it may best build laboratory and surveillance capacity in LMIC contexts. This is an

¹ <http://europepmc.org/grantfinder/grantdetails?query=pi:%22Bates+I%22+gid:%22202960%22>

independent study commissioned by the Wellcome Trust and funded by Department of Health as part of the Fleming Fund.

