

RESISTANCEBANK.ORG, AN OPEN-ACCESS REPOSITORY FOR SURVEYS ON ANTIMICROBIAL RESISTANCE IN ANIMALS

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INTRODUCTION

In low- and middle-income countries (LMICs), a growing number of animals are raised under intensive conditions using antimicrobials. This has potentially serious implications for human and animal health due to the development of antimicrobial resistance (AMR). However, in LMICs, surveillance systems to monitor AMR remain largely absent. Hence, point prevalence surveys (PPS) on foodborne pathogens could be a useful source of information to guide early interventions to limit AMR in LMICs.

METHODOLOGY

We built an open platform centralising all PPS on AMR found in Web of Science, PubMed and Scopus concerning common foodborne pathogens: *E. coli*, *Campylobacter*, *Salmonella* and *Staphylococcus aureus*. The platform was developed using the web-development tools of the Shiny R package. Its reactive programming model allowed us to implement the application software in R, CSS and HTML language, with the addition of JavaScript actions. The standalone platform provides the opportunity to download or upload individual PPS by means of a user-friendly interface.

RESULTS

Resistancebank.org provides access to 1,284 PPS from 72 countries, which equates to more than 13,000 resistance reports for common foodborne pathogens. The platform also provides access to maps of AMR hotspots at 10x10 km resolution. New surveys can be added to the platform using the submission form, and a YouTube tutorial can guide users through this process. The country-level summary metrics provide snapshots of a country's AMR situation and its standing with respect to other countries.

DISCUSSION

resistancebank.org provides a focal point for the community of researchers working on AMR in animals. It is a data repository meant to accelerate AMR data sharing and improve the visibility of researchers from LMICs by overcoming the barriers associated with publication costs. It also provides a baseline for international donors to optimally allocate resources for interventions based on current AMR levels rather than expert opinions.