

Multisectoral antimicrobial consumption and resistance surveillance data reporting to inform antibiotic policies in human sector: the EPI-Net experience.

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INTRODUCTION :

Meaningful reporting of multisectoral surveillance data on resistance as well as antimicrobials can foster policies and actions for prudent use of antimicrobials, lowering the emergence and spread of AMR. However, an integrated approach involving the human, animal, and environmental sectors is still a developing concept. This project developed a consensus-based proposal for a One Health (OH) surveillance report which combined surveillance data on AMR and antimicrobial consumption (AMC)/antimicrobial residues (AR) from the human, animal, and the underrepresented environmental sector contextually relevant to guide antibiotic policies in the human sector.

PROTOCOL:

A panel of 46 international experts (from both academia and industry) encompassing the three sectors were selected based on their expertise and active contribution to the mitigation of AMR. Alongside, a multifaceted literature search and data collection performed from current OH surveillance reports and guidance documents (published between 2016-2021) was done. A modified Delphi approach was applied and this resulted in sixteen research questions, and 35 statements for which consensus was sought on a 9-point Likert-scale.

RESULTS:

Sixteen research questions were developed, 5 tackled general issues on OH surveillance reporting, 6 on AMC, and 5 on AMR. Literature review selected 12 guidance documents and 18 OH surveillance reports. Agreement: (median ≥ 8).



MAIN FINDINGS:

Agreement was achieved on the importance of publishing in English language OH reports. Additionally, it was agreed on the production of a One Health surveillance report which includes both AMR and AMC/AR data from all three sectors should be periodically published in addition to sector-specific or unilateral reports, and a common definition for environmental sector.

Consensus on target bacteria/drug combination and antimicrobials, metrics, and core variables for which data should be reported was achieved. Further, inclusion of data from industry-funded surveillance activities was strongly recommended by the panel. When this reporting is focussed on a minimum standard of core elements and data analysis plan, the resulting inferences can help define strategic interventions. Moreover, adapting uniform definitions and engagement of both public and private sectors in reporting can maximise the evidence base.

Major areas of disagreement were the frequency of reporting, if information on falsified and substandard antimicrobials be included, and if and how to include integrated/comparative analysis for AMR data.

CONCLUSIONS and SCOPE:

AMR and antimicrobial residue surveillance in the environmental sector are emerging concepts and conceptualizing data collection and interpretation are of paramount importance. The indications in the present project were developed with the intention to guide One Health surveillance data reporting to impact antibiotic policies in the human sector and can contribute to global interventions and initiatives with the aim of reducing the burden and spread of AMR in human healthcare. The implementation of the present recommendations can play a pivotal role in actual policy development within the strategies advocated to reduce the spread of antimicrobial resistance. Further efforts are needed to strategise One Health reporting to drive decision-making in the animal and environmental sectors.

Bibliography

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