

Global Antimicrobial Resistance Surveillance System

Manual for Early Implementation

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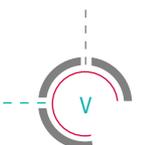
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Abbreviations

AMR	antimicrobial resistance
AST	antimicrobial susceptibility testing
CAESAR	Central Asian and Eastern European Surveillance of Antimicrobial Resistance
CLSI	Clinical and Laboratory Standards Institute
EARS-Net	European Antimicrobial Resistance Surveillance Network
EUCAST	European Committee on Antimicrobial Susceptibility Testing
GLASS	Global Antimicrobial Resistance Surveillance System
NCC	national coordinating centre
NRL	national reference laboratory
ReLAVRA	Latin American Antimicrobial Resistance Surveillance Network



1. Introduction

1.1 Background

Antimicrobial resistance (AMR) is the development of resistance in microorganisms—bacteria, viruses, fungi and parasites—to an antimicrobial medicine to which it was previously sensitive. AMR in a wide range of infectious agents is a growing public health threat of huge concern to countries and to many sectors. Especially alarming is the rapid global spread of multi-resistant bacteria that cause common infections and that resist treatment with existing antimicrobial medicines.

In May 2015, the Sixty-eighth World Health Assembly adopted the Global Action Plan on Antimicrobial Resistance,¹ which reflects the global consensus that AMR poses a profound threat to human health. One of the five strategic objectives of the Global Action Plan is to strengthen the evidence base through enhanced global surveillance and research. AMR surveillance is the cornerstone for assessing the burden of AMR and for providing the necessary information for action in support of local, national and global strategies.

Global surveillance programmes that monitor resistance in specific bacterial pathogens, such as *Mycobacterium tuberculosis*² and *Neisseria gonorrhoeae*³, have been in place for many years. In addition, a number of regional surveillance programmes have been monitoring resistance in selected geographical areas, such as the Central Asian and Eastern European Surveillance of Antimicrobial Resistance (CAESAR), the European Antimicrobial Resistance Surveillance Network (EARS-Net) and the Latin American Antimicrobial Resistance Surveillance Network (ReLAVRA).

Despite the success of these programmes in gathering data over many years, significant gaps remain in surveillance of many other bacterial pathogens that cause common infections in humans. These gaps, together with a lack of common standards for methods, data-sharing and coordination at local, national, regional and global levels, are hampering efforts to produce meaningful data at a global level to enable comprehensive monitoring and analysis of the occurrence and trends of resistance worldwide⁴.

International standards on AMR surveillance and monitoring programmes exist for some aspects of animal health,⁵ however standards across the medical, veterinary, agricultural and environmental sectors are not harmonized, except for foodborne and zoonotic bacteria.⁶ Furthermore, the proposed WHO standards for collecting data and reporting on AMR in human health⁷ are yet to be widely implemented. No global forum currently exists for rapid sharing of standardized information on AMR.

In a meeting hosted by the Swedish Ministry of Health and Social Affairs and the Public Health Agency of Sweden,⁸ 30 WHO Member States, from all WHO regions, reaffirmed the need for a global programme for surveillance of AMR of relevance to human health, to form the basis for local, national and regional action

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