

HOW TO RESPOND TO ANTIMICROBIAL RESISTANCE¹

A POCKET GUIDE FOR MINISTERS ACROSS SECTORS



This guide has been developed by the Global Leaders Group on Antimicrobial Resistance.¹

While this guide is directed to Ministers mentioned in this document, its utility can be expanded to other relevant Ministers and relevant authorities based on country-specific arrangements.

¹ The [Global Leaders Group on Antimicrobial Resistance](#) consists of world leaders and experts working together to accelerate political action on antimicrobial resistance. The Group is co-chaired by Their Excellencies Sheikh Hasina, Prime Minister of Bangladesh and Mia Amor Mottley, Prime Minister of Barbados. Secretariat support is provided by the Quadripartite Joint Secretariat (QJS) on Antimicrobial Resistance, a joint effort by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH).



WHAT IS ANTIMICROBIAL RESISTANCE?

- Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites no longer respond to antimicrobial agents. As a result of drug resistance, antibiotics and other antimicrobial agents become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness and death.

- The emergence and spread of AMR has been accelerated by:
 - Use of antimicrobials in humans, animals and plants;
 - Inadequate sanitation, hygiene, biosecurity, infection prevention and control (IPC) measures and waste management in health care settings, communities, farming and food production systems;
 - A lack of equitable access to affordable and quality-assured antimicrobials, vaccines and diagnostics; and
 - Pollution from healthcare delivery, agri-food systems, pharmaceutical production.

- Sometimes the antimicrobials administered to animals and plants are the same as, or similar to, those used to treat humans and the use of antimicrobials in one sector can affect others.

- A 'One Health' approach which recognizes that the health of animals, humans, plants and the environment are interlinked is essential to respond to AMR.



WHY IS AMR AN IMPORTANT ISSUE FOR ALL MINISTERS?

- AMR has been described as a silent pandemic. Together with the climate crisis and the COVID-19 pandemic, AMR is one of the greatest and most complex health threats currently facing the world;
- But this silent pandemic is silent no more. In 2019, drug-resistant bacterial infections contributed to nearly five million deaths, making AMR a leading cause of death globally²;
- Increasing levels of AMR also have severe impacts on human and animal health, animal welfare, economies, food security, food safety, livelihoods and development;
- Rising levels of AMR will hinder progress towards many of the Sustainable Development Goals (SDGs), particularly those focusing on health and well-being, poverty reduction, food security, environment and economic growth³;
- The World Bank estimated that if AMR is not addressed, the global economy may stand to lose nearly 4% of annual gross domestic product (GDP) by 2050, with the greatest impact in low- and middle-income countries (LMICs). Unchecked AMR could push up to 28 million people into poverty by 2050, mainly in LMICs⁴; and
- Investing in containment of AMR is high-yield, with estimated returns far outweighing the costs.

2 Murray, C et. al (2022). 'Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis'. The Lancet. Available [here](#).

3 FAO, OIE, WHO and UNEP (2021). 'Antimicrobial resistance and the United Nations sustainable development cooperation framework: guidance for United Nations country teams.' Available [here](#).

4 World Bank (2017). 'Drug-Resistant Infections: A Threat to Our Economic Future.' Available [here](#).



WHAT CAN ALL MINISTERS DO TO RESPOND TO AMR?

- 1** Coordinate and collaborate under a One Health framework to develop, fund and implement national action plans on AMR. This includes establishment of an effective cross-sectoral One Health governance and coordination structure with defined responsibilities and adequate resources;
- 2** Develop, strengthen and integrate national and international One Health AMR surveillance systems to enable countries to determine and monitor antimicrobial use, discharges and resistance and set science-based and nationally-relevant targets for responsible and sustainable antimicrobial use across all sectors;
- 3** Increase financial resources, infrastructure, and technical capacity to detect, prevent and respond to AMR and invest in sustainable actions across human health, animal health, food, plant and environmental eco-systems;
- 4** Advocate for the inclusion of One Health and AMR-related issues in pandemic preparedness, prevention and response plans at national, regional and global levels, including in any global pandemic instrument; and
- 5** Ensure access to and use of existing and new affordable diagnostic testing, disease prediction tools, vaccines, safe and efficacious non-antimicrobial alternatives and appropriate nutrition across sectors to optimize human and animal health and reduce the need for antimicrobials.



WHAT CAN A MINISTER OF HEALTH DO TO RESPOND TO AMR?

- 1** Propose, implement and enforce laws and policies to reduce or eliminate antimicrobial use that is not under the guidance of a trained health care provider, while ensuring equitable access to quality antimicrobials;

- 2** Develop and implement antimicrobial stewardship policies and protocols in human health systems that include responsible and sustainable use and procurement of antimicrobials, and effective waste prevention and management approaches including in collaboration with other ministries;

- 3** Reduce the need for antimicrobial use and the spread of AMR through implementation of effective infection prevention and control measures in human healthcare, including vaccination and ensuring adequate water, sanitation and hygiene (WASH) in health facilities; and

- 4** In coordination with other sectors, ensure effective governance and professional oversight of the sales and use of antimicrobials and stewardship of antimicrobials in all sectors, and fund and implement policies and systems to incentivize, regulate, enforce and manage the supply chain for quality-assured antimicrobials for human, animal and plant/crops health, including measures to prevent and prohibit the sale and use of counterfeit antimicrobials.



WHAT CAN A MINISTER OF AGRICULTURE AND/OR FISHERIES DO TO RESPOND TO AMR?

- 1** Develop and implement regulatory frameworks and national policies to support the responsible and sustainable use of antimicrobials in agri-food production, particularly antimicrobial drugs of critical importance to human health;

- 2** Reduce the need for antimicrobial use and the emergence and spread of AMR through implementation of policies and practices to enhance animal health and welfare and ensure effective infection prevention and control measures in food and agriculture systems, including water, sanitation and hygiene (WASH), vaccination, access to diagnostics, farm biosecurity and animal husbandry and welfare measures;

- 3** Propose, develop and implement laws and policies, guidelines, standard operating procedures and standards to effectively treat and/or manage waste discharge from terrestrial and aquatic food-producing animal farms and crop fields; and

- 4** Incorporate the CODEX [guidelines on integrated monitoring and surveillance of foodborne antimicrobial resistance](#) and [Code of Practice to minimize and contain foodborne antimicrobial resistance](#) into the design and implementation of national measures and programmes to mitigate and monitor the risk of foodborne AMR.



WHAT CAN A MINISTER OF ENVIRONMENT AND/OR WATER DO TO RESPOND TO AMR?

- 1** Develop and implement regulatory frameworks, guidelines, standard operating procedures and standards to ensure the reduction of chemicals and other pollutants that are increasing the risk of resistance to antimicrobials. Minimize, better control and monitor the distribution and release of antimicrobials, antimicrobial resistant microbes and AMR determinants (e.g., certain metals, biocides, disinfectant chemicals) from agri-food systems, chemical and pharmaceutical manufacturing facilities, community settings and human health systems into the environment;

- 2** Plan and invest in pollution control and waste management infrastructure. Develop, implement, and monitor systems for reduction, proper segregation, treatment and/or disposal of antimicrobials and antimicrobial-containing substances in all sectors (including antimicrobial feed and human, animal and plant waste); and

- 3** Include risk assessments, and policies and/or regulations for prevention and management measures in national action plans on AMR to minimize the impact of environmental discharges of chemical and biological pollutants containing antimicrobial residues or resistant microbes.



WHAT CAN A MINISTER OF FINANCE DO TO RESPOND TO AMR?

- 1** Support and include sustainable funding for national AMR action plans implementation and research in national budgets across all sectors, including in national pandemic prevention, preparedness and response plans and ensure that finance and other ministries responsible for national resource allocation recognize and support the urgency of addressing AMR across sectors;

- 2** Ensure sustained and scaled-up investment in infection prevention and control, biosecurity interventions and water, sanitation and hygiene (WASH), and pollution prevention across all sectors; and

- 3** Include and integrate interventions to address AMR in external funding requests through all financing institutions and mechanisms, including the World Bank and the International Monetary Fund, to achieve the SDGs, including funding to catalyse an effective One Health response.



WHAT CAN A MINISTER OF TRADE AND INDUSTRY DO TO RESPOND TO AMR?

- 1** Implement standards to prevent pollution from antimicrobial manufacturing and consider environmental aspects of manufacturing for the prevention of antimicrobial resistance⁵ for manufacturers and inspectors; and
- 2** Ensure that trade and industry policies facilitate access and national production of quality antimicrobials while mitigating import/export and marketing of substandard and falsified antimicrobials.

⁵ TRS 1025 Annex 6: Points to consider for manufacturers and inspectors: environmental aspects of manufacturing for the prevention of antimicrobial resistance. Available [here](#)



WHAT CAN A MINISTER OF EDUCATION OR RESEARCH AND INNOVATION DO TO RESPOND TO AMR?


- 1** Ensure that AMR and AMR-related topics are included in school curricula, relevant professional education, training, certification and development programmes for human health, animal health, agriculture, food systems and environment;


- 2** Ensure that sustainable funds are allocated to support research and development across public and private sectors into new and affordable antimicrobials (particularly antibiotics), vaccines, diagnostic testing, disease prediction tools, waste management tools, safe and effective non-antimicrobial alternatives, appropriate nutrition for infection prevention, control and treatment in terrestrial and aquatic animals (and where applicable for plants), new technologies to reduce antimicrobial use and resistance, and the impacts of the climate crisis and biodiversity loss on antimicrobial resistance; and


- 3** Develop incentives and public-private partnerships to promote innovation and access in antimicrobial resistance-related research and development.





FURTHER RESOURCES FROM THE GLOBAL LEADERS GROUP ON ANTIMICROBIAL RESISTANCE


- Information note on Surveillance of Antimicrobial Resistance and Use 

- Information note on Financing to Address Antimicrobial Resistance 

- Information note on Antimicrobial Resistance and the Climate Crisis 

- Statement on Antimicrobial Use in Food Systems 

- Statement on Reducing Antimicrobial Discharges from Food Systems, Manufacturing Facilities and Human Health Systems into the Environment 

- Statement on Why AMR Must be a Substantive Element of the International Instrument on Pandemic Prevention, Preparedness and Response 

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The Quadripartite, consisting of the Food and Agriculture Organization of the UN, the UN Environment Programme, the World Health Organization and the World Organisation for Animal Health provides secretariat support to the Global Leaders Group on AMR.