



ANTIMICROBIAL RESISTANCE

Prevention & containment

Antimicrobials, including antibiotics, have saved millions of lives, substantially reduced the burden of diseases in people and animals, improved quality of life, contributed to improved food production and safety, and helped increase life expectancy. However, the emergence and spread of resistance (antimicrobial resistance, AMR) to these medicines in several microorganisms is complicating the management of many infectious diseases. AMR is found in all microorganisms, whether bacteria, fungi, or parasites, but the implications for health are greatest from resistant bacteria.

The consequences of AMR are serious: resistant microbes fail to respond to standard treatment, resulting in prolonged illness, infectiousness, increased spread of disease, extended hospital stays, and greater risk of death. AMR also adversely affects the functioning of both human and

animal health systems and economies. Developing countries, with their greater burden of infectious diseases and limited resources, will suffer more than developed ones.

Modern human and veterinary medicine is built on access to effective antimicrobials. AMR is decreasing the usefulness of modern medical technologies and jeopardizes both common and complex surgical procedures. AMR is a major threat to human development and the fight against infectious diseases. It also endangers animal health and welfare, as well as food production. In recognition of the importance of AMR, the UN Declaration on Sustainable Development Goals has issued a call to address this growing global threat.¹

AMR requires a collective and practical response. Accordingly, a Global Action Plan to guide countries in developing and implementing national action plans was endorsed by WHO, FAO and OIE in 2015.

GUIDING PRINCIPLES

- Improve awareness and understanding of AMR
- Strengthen knowledge through surveillance and research
- Reduce the incidence of infection
- Optimize the use of antimicrobial agents
- Develop the economic case for sustainable investment to address the needs of all countries, and increase investment in new medicines, diagnostic tools, vaccines and other interventions.

¹ Paragraph 26 of UN Declaration on Sustainable Development Goals reads: “we will equally accelerate the pace of progress made in fighting malaria, HIV/AIDS, tuberculosis, hepatitis, Ebola and other communicable diseases and epidemics, including by addressing growing antimicrobial resistance and the problem of unattended diseases affecting developing countries”.

AIDE-MEMOIRE

✓ Checklist

- ✓ Establish national antimicrobial multi-sectoral alliances to provide policy guidance and a strategic framework
- ✓ Allocate adequate resources to launch whole-of-society activities
- ✓ Establish specific technical advisory groups on various aspects of AMR in both human and animal health to support draft national action plans
- ✓ Develop comprehensive national action plans for AMR and ensure implementation that can be monitored
- ✓ Strengthen surveillance for situation analyses, monitoring trends in AMR and use of antimicrobials through quality laboratories and a well-organized national network
- ✓ Fortify national regulatory mechanisms to ensure quality (efficacy and safety) of antimicrobials and ensure availability of antimicrobials only by prescription
- ✓ Promote appropriate therapeutic use of antimicrobials in humans and animals under the oversight of health professionals
- ✓ Discourage misuse and overuse of antimicrobials, including for inappropriate non-therapeutic purposes in humans, in food animals and for crop protection
- ✓ Engage communities and farmers on a sustainable basis for strict compliance with prescribed antimicrobials and avoiding self-medication
- ✓ Support national R&D for innovations on medicines, diagnostics and related interventions and to understand drivers of resistance; participate in global collaborative research activities including alternatives; undertake local operational research
- ✓ Encourage best practices for infection prevention and control
- ✓ Collaborate with all stakeholders, including private sector and international development partners
- ✓ Reduce burden of infectious diseases through vaccines, safe water and hygienic environment



Key elements

Improve awareness and understanding of antimicrobial resistance

- Increase national awareness on AMR through public communication programmes and engaging mass media to reinforce key messages
- Ensure engagement with whole of society
- Establish AMR as a core component of professional education and human resource development; include topic in medical and veterinary school curricula
- Recognize AMR as a priority need for action across all government ministries through inclusion in national risk registers or other effective mechanisms for cross-government commitment
- Promote and support establishment of multisectoral (“One Health”) coalitions to address AMR at local or national level, and participate in such coalitions at regional and global levels

Strengthen knowledge through surveillance and research

- Develop a national surveillance system for AMR and link it with regional and global surveillance systems
- Collect and report data on use of antimicrobial agents in human and animal health and agriculture, monitor trends and assess impact
- Implement an agreed global public health research agenda on innovations in AMR through intercountry collaboration

Reduce the incidence of infection

- Strengthen hygiene and infection prevention and control infrastructure, training, education
- Develop national policies and standards of practice for infection prevention and control activities in health facilities and monitor implementation
- Include within national surveillance of antimicrobial resistance the collection and reporting of data on antimicrobial susceptibility of microorganisms that cause health care-associated infections
- Promote immunization, safe water, safe food and other measures
- Strengthen animal health and agricultural practices through implementation of OIE and Codex standards
- Promote vaccination and good husbandry practices in food animals

Optimize the use of antimicrobial agents

- Implement effective and enforceable regulation for licensing, distribution, and use of antimicrobial medicines in human and animal health and crop agriculture
- Ensure that distribution, prescription, and dispensing of antimicrobials is carried out only by accredited health or veterinary professionals in public and private sectors
- Identify and eliminate economic incentives that encourage inappropriate use of antimicrobial agents
- Give marketing authorization only to antimicrobial agents that are quality assured, safe and efficacious;
- Strengthen laboratory capacity to identify pathogens and their antimicrobial susceptibility to guide optimal use of antimicrobial medicines in clinical practice
- Improve diagnostic capacity and management through use of treatment guidelines
- Develop and implement policies on use of antimicrobial agents in terrestrial and aquatic animals and agriculture in line with OIE and other international standards
- Move away from the use of antimicrobial agents for animal growth promotion and crop production

Increase investment in new medicines, diagnostics, vaccines and other tools

- Secure and sustain adequate financing to combat AMR
- Pilot innovative ideas for financing R&D and for the adoption of new market models
- Participate in international collaborative research to support the development of new medicines, diagnostic tools and vaccines based on fair and equitable benefit sharing, as mutually agreed
- Strengthen existing and create new public-private partnerships for R&D of new antimicrobial agents and diagnostics