

Prevention and containment of antimicrobial resistance



USE ANTIBIOTICS RATIONALLY

Communicable diseases continue to be a major public health problem in the WHO's South-East Asian region, where they account for 40% of the 14 million deaths reported annually and 42% of the total disability-adjusted life years (DALYs) being lost. Antimicrobial agents have saved millions of lives, substantially reduced the burden of diseases, improved the quality of life and helped increase life expectancy. But in the recent past, the emergence and spread of resistance to these medicines in several microorganisms has rendered the management of many communicable diseases difficult.

The consequences of resistance are severe. Infections caused by resistant microbes fail to respond to standard treatment, resulting in prolonged illness and infectiousness and greater risk of death. The development of resistance also has a negative impact on functioning of health systems and economy.

Modern medical care is built on access to effective antibiotics. Resistance is negating the impact of modern technologies and complex surgeries on human health. The presence of antimicrobial resistance is now perceived as a phenomenon that involves all types of pathogens, including bacteria, parasites, fungi or viruses.

Antimicrobial resistance is a major threat to humanity and its fight against communicable diseases. This vital issue requires an integrated and practical response with following guiding principles.

Guiding principles:

- Understand the emergence and spread of antimicrobial resistance and the factors influencing it
- Rationalize the use of available antimicrobials
- Reduce selection pressures by disease control measures
- Improve behaviour of prescribers of antimicrobial agents and communities to ensure rational use
- Implement nationally coordinated activities with well-defined and interlinked responsibilities of all stakeholders/sectors
- Promote discovery, development and delivery of new and effective antimicrobial agents and diagnostic tools

Checklist

- National antimicrobial alliance
- Government commitment and allocation of adequate resources
- National antimicrobial policy/strategic framework
- National antimicrobial and infection control cell
- National antimicrobial and infection control advisory body
- National regulatory mechanism for quality of antimicrobials and authorized sale
- Rational use of antimicrobials in veterinary, fishery and other sectors
- National antimicrobial use and resistance surveillance network
- Evidence-based national standard treatment guidelines
- National standards for infection control in health care facilities
- Enabling environment for infection control practices
- Strong disease control programmes
- Continuous education to professionals for rational use of medicines
- Awareness among communities of the need for compliance with recommended regimens and the dangers of self-medication
- Research to understand the drivers of resistance

Key elements

Establish a national alliance against antimicrobial resistance

- Establish government commitment and support for nation-wide coordinated activities against antimicrobial resistance (AMR) through a national multisectoral alliance comprising public, private and not-for-profit organizations
- Dedicate a unit and focal point within the Ministry of Health to coordinate activities of national alliance against AMR
- Form an intersectoral steering committee to be chaired by a high-level policy maker
- Establish national expert advisory committees
- Develop a national strategic approach to combat antimicrobial resistance
- Strengthen legislative and regulatory mechanisms for assuring access to quality medicines, authorized sale and their use through standard treatment guidelines
- Advocate to discourage non-therapeutic use of antimicrobials in the veterinary & fishery sectors and other industries
- Assure sustainability of the national alliance and allocate adequate resources for efficient implementation of strategy
- Launch educational campaigns for communities

Institute national surveillance system

- Map existing networks and assess their utilization
- Quantify resistance through efficient laboratory networks
- Identify trends, detect new events and assess impact of interventions
- Link with similar networks in the veterinary sector
- Monitor use of antimicrobials in health, veterinary and other sectors
- Appraise impact of commercial promotion of pharmaceuticals on drug resistance
- Determine impact of non-pharmaceutical factors on emergence of AMR
- Calculate economic losses due to resistance
- Disseminate data for policy and programme development

Promote rational use of antimicrobials

- Develop evidence-based national/local standard treatment guidelines (STGs)
- Train professionals to use STGs
- Promote use of STGs through hospital committees in both public and private hospitals at all levels
- Build laboratory capacity for accurate diagnosis, determination of resistance and utilization of data
- Collaborate with veterinary sector to discourage non-therapeutic use of antimicrobial agents and use of STGs for animal diseases
- Educate communities on proper compliance and self-medication

Strengthen infection control measures

- Orient pharmacists/chemists in appropriate prescription of antimicrobials
- Establish policy and standards for infection control in health-care facilities
- Build capacity of health professionals and staff to implement these standards
- Institute and empower hospital infection control committees
- Provide an enabling environment for infection control practices
- Promote hygiene in school curriculums
- Launch comprehensive health education campaigns
- Strengthen immunization programmes
- Collaborate with NGOs and mass media to create community awareness

Support research in prevention and containment of antimicrobial resistance

Promote basic research

- To ascertain the mechanisms, dynamics of spread and drivers of resistance
- To generate evidence on the impact on human health of use of antimicrobials in veterinary and fishery sectors

Support operational research

- To understand the impact of AMR in terms of illness, economics and low productivity
- To delineate factors that influence prescription habits, self-medication and poor compliance

Encourage development of new agents

- To transfer technology from academic institutes to manufacturing units
- To identify possible role of traditional medicines in treatment of communicable diseases