

KINGDOM OF CAMBODIA
NATION RELIGION KING



MINISTRY OF HEALTH

NATIONAL POLICY
TO
COMBAT ANTIMICROBIAL RESISTANCE

SEPTEMBER 2014

TABLE OF CONTENTS

ABBREVIATIONS	III
PREFACE	IV
ACKNOWLEDGEMENTS	V
GUIDING PRINCIPLES	1
PURPOSE	1
VISION	1
MISSION	1
SCOPE	1
OBJECTIVES	2
GENERAL OBJECTIVES OF THE POLICY	2
SPECIFIC OBJECTIVES OF THE POLICY	2
STRATEGIC FRAMEWORK	3
1. DEVELOP A COMPREHENSIVE NATIONAL PLAN	3
A. COORDINATION OF THE NATIONAL PROGRAM TO COMBAT AMR BY THE GOVERNMENT	3
B. COSTING PLANS AND MOBILIZING RESOURCES	4
C. BUILD PARTNERSHIPS WITH CIVIL SOCIETY	5
2. STRENGTHEN LABORATORY CAPACITY FOR AMR	5
A. BUILD LABORATORY CAPACITY FOR RAPID AND RELIABLE DIAGNOSTIC TESTING	5
3. STRENGTHEN AMR SURVEILLANCE	6
A. ESTABLISH AMR SURVEILLANCE AND MONITORING SYSTEMS	6
4. ENSURE UNINTERRUPTED ACCESS TO ANTIMICROBIAL MEDICINES OF ASSURED QUALITY	7
A. STRENGTHEN THE SYSTEM FOR SUPPLY OF ESSENTIAL ANTIMICROBIAL MEDICINES	7
B. ASSURE THE QUALITY OF DRUGS ACCORDING TO ACCEPTABLE STANDARDS	7
5. REGULATE AND PROMOTE RATIONAL USE OF MEDICINES	8
A. PROMOTE AND ENFORCE STANDARD TREATMENT GUIDELINES	8

B. INSTITUTIONALIZE FORMAL ANTIMICROBIAL STEWARDSHIP PROGRAMMES IN HEALTH CARE FACILITIES	9
C. PROMOTE EDUCATION ON ANTIMICROBIAL MEDICINES AND THEIR PROPER USE	9
D. REDUCE FINANCIAL INCENTIVES THAT ENCOURAGE IRRATIONAL USE OF MEDICINES	9
E. REDUCE ANTIMICROBIAL USE IN FOOD-PRODUCING ANIMALS	10
6. ENHANCE INFECTION PREVENTION AND CONTROL	11
A. ENSURE AVAILABILITY OF IPC PROGRAMS ACROSS THE SPECTRUM OF HEALTH CARE	11
B. PROMOTE AND ASSESS ADOPTION OF IPC STANDARDS	12
7. FOSTER INNOVATIONS AND RESEARCH AND DEVELOPMENT FOR NEW TOOLS	12
IMPLEMENTATION FRAMEWORK	13
I. OVERALL RESPONSIBILITY	13
II. ROLES AND RESPONSIBILITIES OF OTHER PARTNERS	13
III. OPERATIONAL FRAMEWORK	14
IV. REVIEW AND EVALUATION	14



ABBREVIATIONS

AMR	Antimicrobial Resistance
AMR CSA	Antimicrobial Resistance Country Situation Analysis
AMR WG	Antimicrobial Resistance Working Group
AST	Antibiotic Susceptibility Testing
CPG	Clinical Practice Guidelines
DDF	Department of Drugs, Food, and Cosmetics
IPC	Infection Prevention and Control
MoH	Ministry of Health
NPCAR	National Policy to Combat Antimicrobial Resistance
OIE	World Organization for Animal Health
TRIPS	Trade-Related Aspects of Intellectual Property Rights
VAT	Value-added Tax
WHO	World Health Organization
WTO	World Trade Organization



PREFACE

Antimicrobial resistance (AMR) is resistance of a microorganism to an antimicrobial drug to which it was previously sensitive. Bacteria, viruses, fungi and parasites that became resistant are able to withstand the effects of antimicrobials (e.g. antibiotics, antivirals, antimalarials, antifungals). This makes standard treatments ineffective and the community vulnerable as drug resistance infections can spread.

The Ministry of Health is committed to exercising stewardship in the provision of services in all areas across the health sector. In line with its policy directions outlined in the Health Strategic Plan (2008-2015), this National Policy to Combat Antimicrobial Resistance is anchored on the following key principles:

- Access to quality health care is a basic human right for which the government is primarily responsible.
- Quality health care includes measures and interventions to prevent and contain AMR.
- AMR is a significant public health threat with major negative health and economic consequences.
- A successful program for combating AMR requires a comprehensive, integrated, and intersectoral approach cutting across many disciplines and involving a variety of stakeholders.

This is the first National Policy to Combat Antimicrobial Resistance in Cambodia. It was developed based on the conclusions and recommendations of a country situation analysis of AMR performed in 2013 and provides a regulatory framework to establish and strengthen measures to contain the emergence and spread of AMR in the country. Implementation of this policy and its associated strategic plan will require substantial funding and high-level political commitment. Because AMR is a multidisciplinary and intersectoral issue, successful implementation of this policy will require effective coordination and collaboration among different sectors.

The development of this policy has involved the collaborative efforts of many stakeholders, including the Ministry of Health, Ministry of Agriculture Forestries and Fisheries, professional associations, international organizations and NGOs, academic and research institutions, and health care professionals. I wish to acknowledge the invaluable contributions of the following organizations: AMR Working Group, Communicable Diseases Control Department in the Ministry of Health, and the World Health Organization which provided material and technical support in the development and finalization of this policy document.

ACKNOWLEDGEMENTS

On behalf of the Ministry of Health, we wish to acknowledge the following contributors for their invaluable support for development and finalization of this Strategic Plan to Combat AMR.

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INTRODUCTION

In the 1940s, the introduction of antimicrobials into medical practice revolutionized our ability to treat infectious diseases. However, only a few decades later, health practitioners across the globe could no longer expect that antimicrobial agents would work due to the emergence of drug resistance. AMR has now become common in clinical and community settings, and poses a serious threat to global health that requires immediate and urgent action.

AMR is simply the ability of microbes to grow in the presence of a drug that would normally kill it or inhibit its growth. While it is a natural evolutionary phenomenon that happens as microbes adapt to naturally produced antimicrobials, it was the indiscriminate use of antimicrobial drugs that accelerated its progress. AMR increases morbidity, mortality, and health care costs, threatens health security, and damages trade and economies. AMR hampers the control of infectious diseases which increasingly leads to death by diseases that have become incurable.

On World Health Day 2011, WHO urged Member States to commit to a comprehensive national plan to combat AMR, and released a policy package to combat AMR¹ covering the following six key areas, which were adopted in the development of this policy:

- Commit to a comprehensive financed national plan with accountability and civil society engagement.
- Strengthen surveillance and laboratory capacity.
- Ensure uninterrupted access to essential medicines of assured quality.
- Regulate and promote rational use of medicines, including in animal husbandry, and ensure proper patient care.
- Enhance infection prevention and control.
- Foster innovations and research & development for new tools.

Inappropriate use of antimicrobials in Cambodia is very common and is believed to have contributed to the emergence of resistance against a variety of antimicrobial drugs. Resistance to antimalarials has chronically emerged along the Thai-Cambodian border three times in the past², later spreading through SEA and Africa, and contributing to a global resurgence of malaria in the last three decades of the 20th century. Resistance to Artemisinin has emerged more recently and it was declared a global health emergency, as there is currently no replacement drug to combat a disease that kills 1 million people annually around the world. The incidence of Multi-Drug Resistant TB (MDR-TB) has been increasing among previously treated patients in Cambodia and was estimated at 11% (2011)³ compared to 10.3% in 2007⁴ and 3.1% in 2001⁵. Laboratory data indicate

¹ <http://www.who.int/world-health-day/2011/policybriefs/en/index.html>

² <http://www.warn.org/resistance/malaria/history>

³ https://extranet.who.int/sree/Reports?op=Replet&name=/WHO_HQ_Reports/G2/PROD/EXT/TBCountryProfile&ISO2=KH&outtype=html

⁴ National Tuberculosis Drug Resistance Survey 2006-2007, CENAT, May 2011:

<http://www.cenat.gov.kh/sites/default/files/files/documents/files/Report%20National%20Tuberculosis%20D.R.S%202006-2007.pdf>

that resistance against the most commonly used antibiotics in Cambodia is significantly high among many species of bacteria⁶. The absence of a comprehensive national plan and strategy to combat AMR, weak surveillance and laboratory capacity, irrational use of antimicrobial agents during treatment of human infections, overuse of antibiotics as growth promoters in animal husbandry, and limited infection prevention and control measures in hospitals are among the factors that contribute to AMR in Cambodia.

To address these shortcomings, a country situation analysis was performed in early 2013. The results of the AMR CSA have guided the development of this National Policy to Combat Antimicrobial Resistance in Cambodia and its associated National Strategy to Combat Antimicrobial Resistance in Cambodia.

⁵ The national tuberculosis drug resistance survey in Cambodia, 2000-2001 Yamada N, Saorith K, Yamakami K, Onozaki I, Boran S, Fujiki A, Eang MT, Mori T. *Int J Tuberc Lung Dis.* 2007 Dec;11(12):1321-7.

⁶ See Annex C, Country Situation Analysis of Antimicrobial Resistance in Cambodia, 2013.



GUIDING PRINCIPLES

Purpose

The National Policy for Combating Antimicrobial Resistance (NPCAR) is a political commitment and guide for action that details how the government and other stakeholders should work together to address the growing problem of AMR in the country. AMR is a complex problem driven by many interconnected factors and whose containment will require coordination among stakeholders. The NPCAR defines the roles and responsibilities of the public/private sector and civil society, and provides a general framework to guide coordination of actions by all relevant stakeholders, including public and private sectors, non-governmental, academic and research organizations, professional societies, and aid agencies.

Vision

A healthy nation with adequate access to quality medical services and effective medicines aimed at preventing the emergence and spread of drug resistant infections among the Cambodian people.

Mission

To ensure the country has the essential components to combat AMR, including laboratory capacity and surveillance, quality of and access to essential antimicrobial drugs, rational and responsible use of antimicrobial drugs, infection prevention and control, and research and development of new tools for the diagnosis and treatment of infectious diseases.

Scope

The NPCAR builds on the existing structures and policies in the country that are directly or indirectly related to AMR. Since AMR is a crosscutting issue, the policy applies to various stakeholders, which include but are not limited to the following: policy-makers and planners; public, private and non-governmental sectors; aid agencies; educational organizations and professional societies; animal and human health sectors; prescribers, practitioners and patients; pharmacists and dispensers; and the pharmaceutical industry.

OBJECTIVES

General Objectives of the Policy

The NPCAR provides the general directions and framework for combating AMR at all levels of health care system. As such, it emphasizes the roles and responsibilities of all stakeholders and articulates the values and principles to address the drivers that cause AMR in Cambodia.

Specific Objectives of the Policy

1. Advocate and mobilize resources to support activities to combat AMR.
2. Educate key stakeholders and the public about the emergence and spread of AMR, the factors driving it and its costs.
3. Define the roles and responsibilities of different stakeholders in combating AMR.
4. Improve laboratory capacity for detecting AMR and the surveillance system for AMR monitoring.
5. Ensure uninterrupted availability of essential medicines of assured quality to adequately manage diseases in health care facilities and in communities.
6. Rationalize the use of essential medicines by health care providers and patients through the provision of information for improved drug use and AMR surveillance data.
7. Strengthen infection prevention and control in healthcare facilities and in communities.
8. Promote research and development in the field of antimicrobials and diagnostics.
9. Strengthen coordination at the national and sub-national levels to support implementation of activities and knowledge-sharing to combat AMR.
10. Promote good governance and accountability to support the actions prioritized in this policy.



STRATEGIC FRAMEWORK

The strategic framework encompasses the six components of the policy package to combat AMR published by WHO in 2011. The NPCAR offers possible solutions to the AMR problem grounded on what is practical, feasible, effective, inclusive and acceptable to patients, institutions and communities.

The strategic framework articulates the values and principles that all stakeholders must adopt in a participative and collaborative manner to address AMR in Cambodia. In this framework, the Ministry of Health outlines six major components for targeted and sustained action by the human and animal health sectors, non-governmental organizations, professional societies, aid partners, communities, patients and other relevant sectors. These include:

1. Develop a Comprehensive National Plan
2. Strengthen Surveillance and Laboratory Capacity
3. Ensure Uninterrupted Access to Essential Medicines of Assured Quality.
4. Regulate and Promoting Rational Use of Medicines.
5. Enhance Infection Prevention and Control.
6. Foster Innovations and Research and Development for New Tools.

1. Develop a Comprehensive National Plan

Since the factors that promote the emergence and spread of resistance in microbes as well the measures needed to combat AMR are well known, a comprehensive plan shall describe the roles and responsibilities of all stakeholders and sufficient resources to combat AMR.

A. Coordination of the national program to combat AMR by the Government

Structure and composition of the AMR Working Group

1. An AMR Working Group (AMR WG) has already been constituted and includes key stakeholders who are technically knowledgeable about AMR or whose work directly relates to AMR.
2. The AMR WG shall expand its representation to include different sectors whose activities are relevant to AMR. This includes, but is not be limited to public, private and non-governmental sectors; aid agencies; academic and research organizations; professional societies; animal and human health sectors; prescribers, practitioners and patients; pharmacists and dispensers; and the pharmaceutical industry.
3. The AMR WG shall be strengthened by terms of reference and a description of the roles and responsibilities of its members. Involvement of key government officials from different

sectors will ensure cross-sectoral coordination and will raise the profile of AMR in the government's agenda.

4. The AMR WG will be coordinated by the Ministry of Health with a Secretariat that has the resources, skills and authority required to coordinate actions across the Government.
5. The AMR WG shall actively engage donors and development partners to ensure that these agencies are informed about the urgency of the AMR problem, and to secure their support for implementation of AMR activities.
6. The AMR WG shall expand its membership to include the Ministry of Education and professional councils in order to ensure that all policies and programs aimed at combating AMR are fully disseminated through formal academic training programs, and health care professionals comply with regulations to combat AMR outlined in this policy.

Mandate of the AMR Working Group

1. Coordinate national efforts to combat AMR in Cambodia.
2. Develop a national strategic plan to combat AMR based on the AMR CSA and NPCAR.
3. Develop a monitoring framework with target outputs and measurable indicators to monitor implementation of the strategic plan to combat AMR. The AMR WG should report annually against these indicators.
4. Advocate for integration of priority activities to combat AMR into the national health sector plan and other relevant sectoral plans.
5. Ensure that adequate resources are earmarked for implementation of activities to combat AMR and capacity building at all levels of the health sector and other relevant sectors.
6. Raise awareness of AMR issues by supporting educational campaigns targeting the general public, health care professionals, development partners and other relevant stakeholders.

Operation of the AMR Working Group

1. The AMR WG shall meet regularly to facilitate discussions on issues related to its work on AMR.
2. The Secretariat shall record the minutes, distribute it among the members, and archive it for future reference.
3. The AMR WG shall establish a code of conduct that outlines the rules governing confidentiality, impartiality, and transparency in the decision-making process, and which includes a mechanism for resolving conflicts of interest among its members.
4. The AMR WG shall review its composition annually to ensure representation of all relevant sectors and stakeholders.

B. Costing Plans and Mobilizing Resources

Costing, budgeting and mobilizing resources

1. The AMR WG shall estimate the budget needed to implement the national strategic plan to combat AMR and advocate for national and external funding.

2. The AMR WG shall mobilize human and financial resources to support the plan through regular budget allocations, mainstreaming of activities within core programmatic areas, and within other priority health initiatives.

C. Build partnerships with civil society

Formal participation in AMR work

1. The AMR WG shall expand its membership to include representatives from the civil society.
2. Civil society representatives should be formally involved in AMR activities including the development of AMR policies and strategic plans, and in monitoring and evaluation of related programs and activities.

Empowerment towards more active involvement

1. The AMR WG shall organize regular public meetings to discuss AMR issues.
2. Consumer education about AMR and antimicrobial use shall be provided in cooperation with relevant stakeholders, with emphasis on the benefits of rational drug use and compliance with antimicrobial therapy guidelines and regulations.
3. Develop capacity of civil society organizations to contribute to implementation of activities outlined in the National Strategic Plan to Combat AMR.

2. Strengthen laboratory capacity for AMR

A. Build laboratory capacity for rapid and reliable diagnostic testing

Laboratory capacity and networking for AMR

1. The MoH shall strengthen laboratories in the public sector and ensure quality in private and NGO laboratories.
2. The MoH shall designate a microbiology laboratory for reference AMR testing and to which samples should be referred to by smaller laboratories seeking access to more specialized AMR diagnostic methods (e.g., molecular techniques).
3. The MoH shall establish a national network of microbiology laboratories that include public, private and NGO laboratories which contribute AMR data to a national database.
4. The MoH shall integrate AMR capacity as part of the national laboratory network.

Management and usefulness of laboratory data

1. Microbiology laboratories shall adopt standard laboratory methods for microbial identification and antimicrobial susceptibility testing (AST).
2. The MoH shall ensure uninterrupted supply of quality-assured reagents and other laboratory consumables.

3. Laboratories shall establish a quality management system to ensure the reliability of laboratory results.
4. Laboratories shall record and report AMR laboratory data promptly to prescribers, infection control programs, and regularly to national health authorities.
5. The MoH shall develop communication guidelines to improve the utilization of AMR laboratory results in clinical management.

3. Strengthen AMR surveillance

A. Establish AMR surveillance and monitoring systems

Processes and methods

1. Establish a standardized national protocol to assess the status of AMR consistently over time and across the country, and consolidate AMR surveillance with appropriate epidemiological methods.
2. Develop a system to transfer data from hospitals and other healthcare facilities to the national level in order to link laboratory results and clinical information.
3. Develop a system for recording the use of antimicrobial medicines in all healthcare facilities.
4. Establish a mechanism to integrate systems for AMR surveillance between public health services, veterinary services and food safety authorities.

Management of surveillance data

1. AMR surveillance data shall be collated, analyzed and reported on a regular basis by the CDC Department.
2. AMR surveillance reports shall be used to inform revisions of the Clinical Practice Guidelines and the Essential Medicines List.
3. A quality management system shall be established, which includes monitoring and supervision of microbiology laboratories reporting AMR data, continuing education for staff, and validation of AMR data collected.
4. Standardized reporting and dissemination mechanisms for AMR information shall be established and enforced.

Participation in international surveillance

1. The AMR WG shall share national surveillance data on AMR and antimicrobial use with WHO and other international agencies.
2. The MoH shall appoint a national AMR reference laboratory.
3. The AMR WG shall support the national AMR reference laboratory to participate in regional networks of laboratories involved in AMR surveillance.

4. Ensure Uninterrupted Access to Antimicrobial Medicines of Assured Quality

A. Strengthen the system for supply of essential antimicrobial medicines

Antimicrobial supply management

1. The National Essential Medicines Committee shall appoint a sub-committee to coordinate the development and regular updating of an Essential Antimicrobials List, as part of the Essential Medicines List.
2. The MoH shall establish forecasting mechanisms for antimicrobial drug utilization and expenditure.
3. The MoH shall strengthen the procurement and supply systems for antimicrobials.
4. The MoH shall develop and enforce mechanisms to assure the quality of antimicrobials along the supply chain.

Affordable price and sustainable financing

1. Articles from the World Trade Organization (WTO) Trade-Related Aspects of Intellectual Property Rights (TRIPS), including the compulsory licensing of drugs, shall be incorporated into national laws.
2. Pricing policies that would ensure better access to antimicrobials, including VAT exemption, shall be developed in collaboration with authorities involved in finance, trade and commerce, in order to ensure that cost is not a barrier to adherence to and completion of antimicrobial treatment.
3. Price monitoring mechanisms for antimicrobials should be developed with the active participation of consumers and relevant stakeholders.
4. Mechanisms shall be established to analyze antimicrobials financing and control expenditure to improve the efficiency in the use and supply of antimicrobials.
5. Health Equity Funds shall cover antimicrobial drugs.

B. Assure the quality of drugs according to acceptable standards

Regulatory environment and processes

1. The Department of Drugs, Food and Cosmetics (DDF), which serves as the national drug regulatory authority, shall be strengthened to be accountable for all aspects of drug regulation.
2. The Inter-ministerial Committee to combat illegal drug outlets and illegal sales of medicines shall be strengthened.
3. Mechanisms for systematic monitoring of the regulatory process shall be developed.
4. Post-marketing surveillance for antibiotics and antimicrobials shall be established and strengthened.
5. Advertising and promotion of Antimicrobials shall be controlled.

5. Regulate and Promote Rational Use of Medicines

A. Promote and enforce standard treatment guidelines

Clinical Practice Guidelines and Essential Medicines List

1. Clinical Practice Guidelines shall be developed in a multidisciplinary and transparent way, regularly updated based on local and international evidence, and widely disseminated in collaboration with professional organizations and teaching institutions to serve as a primary guide in the delivery of health services to patients.
2. Up to date Clinical Practice Guidelines shall be made part of the curriculum and professional training of students and healthcare workers.
3. The Essential Medicines List shall contain medicines that satisfy the health care needs of the population, and which are available at all times, in adequate amounts, and in appropriate dosage forms at a price the community can afford. For diseases where there are no national guidelines, a transparent evidence-based mechanism shall be established to include medicines into the Essential Medicines List.
4. The Clinical Practice Guidelines shall serve as the basis for the inclusion/exclusion of medicines in the Essential Medicines List.
5. The Essential Medicines List shall be reviewed and updated regularly. The current edition of the Essential Medicines List shall be the basis for selection and procurement of medicines in all public health facilities.

Drug Therapeutic Committees

1. All public hospitals shall establish and strengthen their drug therapeutic committees with clearly defined roles and functions.
2. Therapeutic committees, at a minimum, shall actively engage in:
 - a. Advocating for rational prescribing, dispensing and use of antimicrobial medicines by ensuring compliance of health providers and patients to standards and guidelines on the rational use of medicines.
 - b. Preparing hospital formulary in line with Clinical Practice Guidelines and Essential Medicines List.
 - c. Adjusting antimicrobial medicine orders to reflect prevailing morbidity/mortality profiles, including AMR patterns.
 - d. Monitoring and reporting of adverse antimicrobial drug events and ineffective counterfeit/substandard antimicrobial medicines.

Licensing and monitoring

1. A strict licensing and monitoring scheme for pharmacies and other drug outlets shall be implemented to ensure that antimicrobials are dispensed only with valid prescriptions.
2. The prescription and sale of single-drug treatments in cases where the recommended treatment is a combination of drugs shall be forbidden and enforced.

B. Institutionalize formal antimicrobial stewardship programmes in health care facilities

Antimicrobial stewardship activities

1. All hospitals shall put in place a multidisciplinary antimicrobial stewardship team composed of medical doctors, pharmacists, laboratory technologists, infectious disease specialists and nurses that will coordinate strategies to improve the use of antimicrobials within the facility.
2. Mechanisms for recommending the restriction of the hospital formulary to non-duplicative antimicrobials with demonstrated clinical need shall be put in place.
3. Empirical treatment for the management of common infection syndromes and antibiotic prophylaxis shall be developed based on local antibiograms and Clinical Practice Guidelines (CPG).
4. Mechanisms to measure and monitor antimicrobial use at the institutional level shall be established.
5. Regular distribution of antibiotic susceptibility rates of key pathogens in hospitals with microbiology laboratories shall guide clinical management.

C. Promote education on antimicrobial medicines and their proper use

Provision of medicines information

1. The MoH shall provide independent and unbiased information about medicines for health providers and consumers.
2. Targeted public education campaigns shall be conducted regularly.
3. The appropriate use of medicines shall be introduced in school curricula and adult education programs.
4. Patients and consumers shall be encouraged to be actively involved in educational efforts.
5. The media should be engaged in public awareness campaigns.

Continued professional development and education

1. Hospitals and other health care facilities shall be required to provide training and continuous education for their staff, especially in the areas of antimicrobials and AMR.
2. Professional licensing shall be linked to regular participation in continuing education activities.
3. Professional societies and teaching institutions shall provide problem-based training on rational use of medicines linked to Clinical Practice Guidelines and the Essential Medicines List.
4. Prescribers and dispensers shall be trained to educate patients on how to use antimicrobial medicines correctly and the importance of following exactly the prescribed treatment.

D. Reduce financial incentives that encourage irrational use of medicines

Reducing financial incentives

1. An analysis of the incentive structures that exist locally shall be made to identify factors that influence prescribing and dispensing practices, and create policies to reduce financial incentives for providers.

2. Prescription and dispensing of drugs shall be separated and regularly monitored to ensure compliance.

Medicines promotion

1. Pharmaceutical companies shall ensure that all promotional activities will reflect only information that is truthful, evidence-based and compliant with existing (i.e., WHO, MoH) ethical guidelines on medicines promotion.
2. The MoH shall monitor and report false claims, misleading information, and activities that do not follow existing ethical guidelines for the promotion of medicines and other medical products.
3. Law enforcement shall be strengthened to investigate allegations and penalize infractions.
4. The MoH shall strengthen the process for approving materials used in the advertisement and dissemination of medicines.
5. The MoH shall ban the promotion antimicrobial drugs in hospitals.

E. Reduce antimicrobial use in food-producing animals

Intersectoral collaboration

1. A formal mechanism shall be established to improve the coordination between the Ministry of Health, Ministry of Agriculture, Fisheries and Forestry, universities, and CAMControl/Ministry of Commerce to address the issue of AMR in the agricultural sector.
2. The Department of Animal Health and Department of Fisheries shall be well represented in the AMR WG.

Enabling regulatory framework

1. A regulatory framework for authorization and control of the quality of veterinary medicines shall be established.
2. Pre-licensing safety evaluation of antimicrobials for veterinary use shall be introduced, with consideration of potential resistance to drugs used in human medicine.
3. The non-therapeutic use of antimicrobials, such as the use of antimicrobials as growth promoters, shall not be allowed.
4. The use in food-producing animals of antimicrobials identified as critically important in human medicine, especially fluoroquinolones, and third- and fourth-generation cephalosporins, shall be restricted and eliminated in a phased manner.
5. Prescriptions shall be required for all antimicrobials used for disease control in food-producing animals.

Surveillance and monitoring

1. A national system to monitor antimicrobial usage in food-producing animals shall be established and linked to the AMR surveillance system in humans.

2. An integrated surveillance program to monitor current and emerging AMR patterns, including quantitative susceptibility data for zoonotic pathogens and indicator bacteria, shall be established.
3. Surveillance in the animal health sector shall involve close collaboration between officials from public health, veterinary and food laboratories.
4. The AMR WG shall analyze surveillance data for trends, risk assessment, and to monitor the impact of interventions.
5. The AMR WG shall promote the development of standardized protocols to facilitate harmonization of AMR surveillance and antimicrobial use in humans and animals.

Prudent use of antimicrobials

1. National guidelines on prudent use of antimicrobials in food-producing animals, with multidisciplinary involvement, shall be developed and implemented.
2. Dissemination of these guidelines, and training for veterinarians and farmers on the use of these guidelines shall be provided.
3. Auditing and feedback mechanisms to veterinarians and farmers shall be developed to improve compliance to these guidelines.
4. Education strategies that emphasize the importance and benefits of prudent use of antimicrobials shall be designed and implemented.
5. Implementation of the Codex Alimentarius and OIE (World Organization for Animal Health) guidelines related to AMR should be encouraged.

Better animal health

1. Measures shall be introduced to improve animal health and reduce the need for antimicrobial treatment, which include application of effective vaccines.
2. Guidelines for health management of food-producing animals shall be developed and implemented to ensure compliance with good sanitation and farming practices.

6. Enhance Infection Prevention and Control

A. Ensure availability of IPC programs across the spectrum of health care

Infection prevention and control strategies

1. Health facilities shall implement the current IPC Guidelines to reduce nosocomial infection.
2. IPC guidelines shall be made available to communities and private health care facilities.
3. Information on good hygiene practices shall be made available to the public, in collaboration with public health personnel, civil society, and community organizations.

B. Promote and assess adoption of IPC standards

Implementing IPC standards

1. All hospitals shall have an IPC team to support implementation of the National IPC Policy and IPC Guidelines for Health Care Facilities.
2. The MoH shall promote quality and safety in health care to improve safety for patients, health care workers, and the environment.
3. The MoH shall strengthen its capacity to help prevent the spread of infectious diseases in health care settings, and respond to public health threats.
4. The MoH shall assist health facilities in carrying out a risk assessment and implement appropriate IPC strategies.
5. Health facilities shall ensure an adequate environment for the application of good hygiene practices, appropriate ventilation, hand-washing facilities, and avoidance of overcrowding.
6. Timely identification of infected individuals and proper case management shall always be exercised.
7. Health care professionals shall be trained on IPC and vaccinated against prevalent diseases.

7. Foster Innovations and Research and Development for New Tools

Research Partnerships

1. A review of existing research guidelines that would protect patients' rights and the country's national interest shall be done to determine if there is a need to develop additional policies.
2. A research agenda that outlines priorities on AMR shall be developed.
3. The MoH shall encourage local research related to AMR through partnerships with academia and research organizations, industry, the animal sector and relevant stakeholders.
4. Incentives shall be established to encourage research activities among various stakeholders.

Research Outputs

1. Research activities shall translate into useful information to guide initiatives aimed at combating AMR.
2. Research activities shall emphasize the development and/or evaluation of new antimicrobials and rapid point-of-care diagnostic tests.
3. Research findings and products shall be disseminated to all stakeholders in Cambodia.

IMPLEMENTATION FRAMEWORK

I. Overall responsibility

The AMR WG shall be responsible for implementation of the National Policy for Combating Antimicrobial Resistance in Cambodia (NPCAR). The AMR WG shall lead the formulation of other technical guidelines and policies related to AMR. It shall also ensure close coordination with other stakeholders within the MoH, and between the MoH and the Ministry of Agriculture, Forestries, and Fisheries; non-governmental organizations; professional societies; healthcare facilities in public and private sectors; aid agencies; patients; consumers; and other stakeholders.

II. Roles and Responsibilities of Other Partners

Government Policy-makers and Planners

1. Develop a legal framework work to allow the enforcement of rules and regulations to effectively to combat AMR and its public health consequences.

Professional Councils

1. Ensure legal and ethical practice of health care professionals in collaboration with professional societies.
2. Develop and implement standards for licensing, registration and continuing education of health care professionals.

Health professionals

1. Provide quality care to patients aimed at optimizing health outcomes and minimizing costs.
2. Disseminate information and counsel patients on the rational and responsible use of medicines, especially antimicrobials.
3. Ensure that ethical principles of professional conduct are followed by all health workers.
4. Physicians shall combine appropriate prescription of antimicrobials with clear, accurate and understandable advice to patients.
5. Veterinarians shall interrupt the use antibiotics as growth promoters and for disease prevention in livestock.
6. Pharmacists and dispensers shall ensure that antimicrobials are obtained from an approved source, stored properly, and only supplied with prescriptions.
7. Laboratory personnel shall ensure the accuracy, reliability, and timeliness of results and effectively communicate with physicians on the selection of antimicrobials for patient treatment. The laboratories shall collate AMR data regularly to support clinical management.

Academic and Research Institutions

1. Promote the education and training of health professionals.
2. Implement initiatives to combat AMR through relevant research and development activities.

Providers, Institution Managers and Communities

1. Implement infection control measures to prevent the emergence and spread of AMR.

Civil Society, Consumers and Patients

1. Raise awareness of AMR issues, and demand action by policy-makers and other stakeholders.
2. Use medicines rationally and responsibly and actively seek drug information.
3. Partake in the responsibility of reporting issues involving antimicrobial medicines (e.g., adverse drug events, overpricing, counterfeit medicines).

Diagnostic and Pharmaceutical Industry

1. Research and develop the tools for better prevention and diagnosis of diseases, and early detection of AMR.

III. Operational Framework

Upon the official adoption of this NPCAR, the AMR WG shall develop a strategic plan that includes targets, monitoring, evaluation and NPCAR review process. Specific guidelines shall be created to support implementation of the NPCAR.

IV. Review and Evaluation

The NPCAR shall be reviewed every five years, or more frequently as necessary. The Ministry of Health may opt to create a National Committee for the review and evaluation of the NPCAR.