



PAHO



Fighting Antimicrobial Resistance in the Americas

AMR Special Programme 2018-2020



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A Global Threat to Human Health

What is Antimicrobial Resistance?

Antimicrobial resistance (AMR) occurs when microorganisms (such as bacteria and viruses) change after being exposed to antimicrobial drugs, and become resistant to the drugs used to treat them. Persistent overuse and misuse of antimicrobial drugs, such as antibiotics, antivirals or antifungals, accelerates the development of resistant microorganisms. AMR represents a major global threat across human, animal, plant food and environmental sectors, threatening the effective treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi, resulting in prolonged illness and increased mortality, often felt hardest by the most vulnerable populations.

50%

Worldwide, over 50% of antibiotics are prescribed, distributed, or sold inappropriately

**80%**

Antibiotics can be purchased without prescription in 80% of the countries in the Americas

Taking action in different fields, can improve the use of antimicrobial drugs by 63% & decrease prescriptions by 23%

AMR & COVID-19

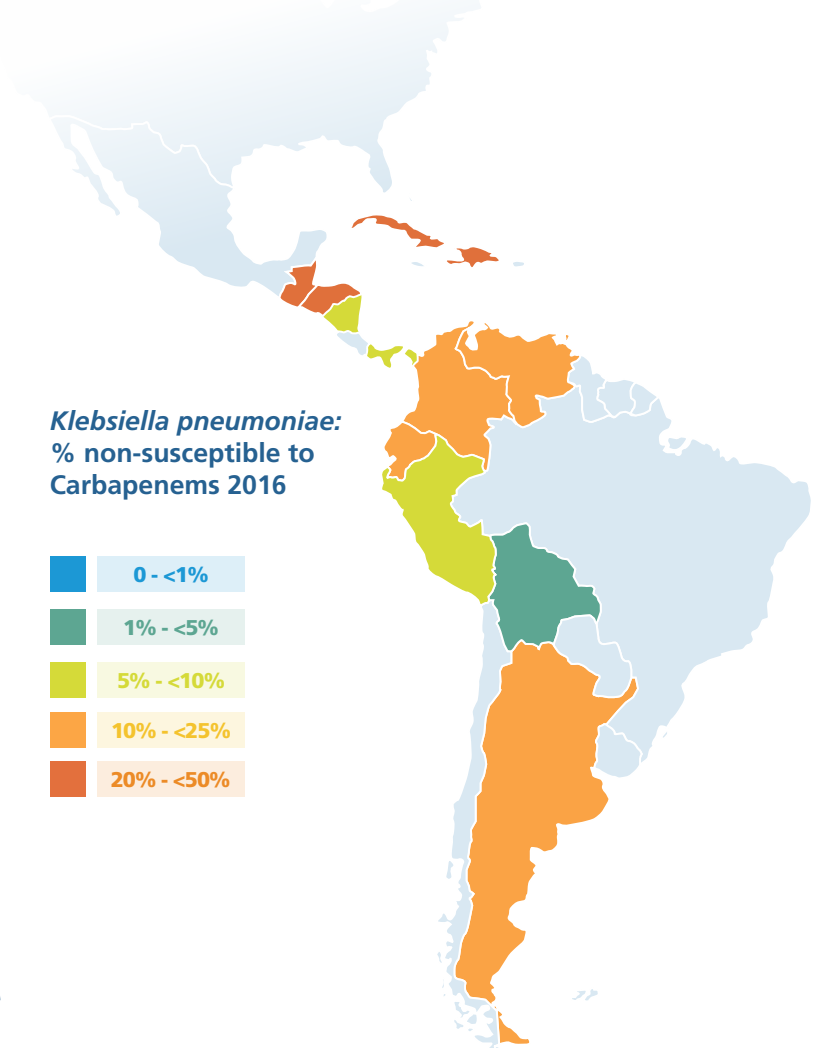
Antimicrobial resistance (AMR) **could lead to more COVID-19 deaths**, as secondary bacterial infections can endanger the outcome of severe and critical COVID-19 patients. At the same time, the current COVID-19 pandemic threatens to further weaken the already endangered antimicrobials as the spike in antibiotic use can lead to more resistant bacterial infections.

The Alarming Increase of Antimicrobial Resistance (AMR) in the Americas

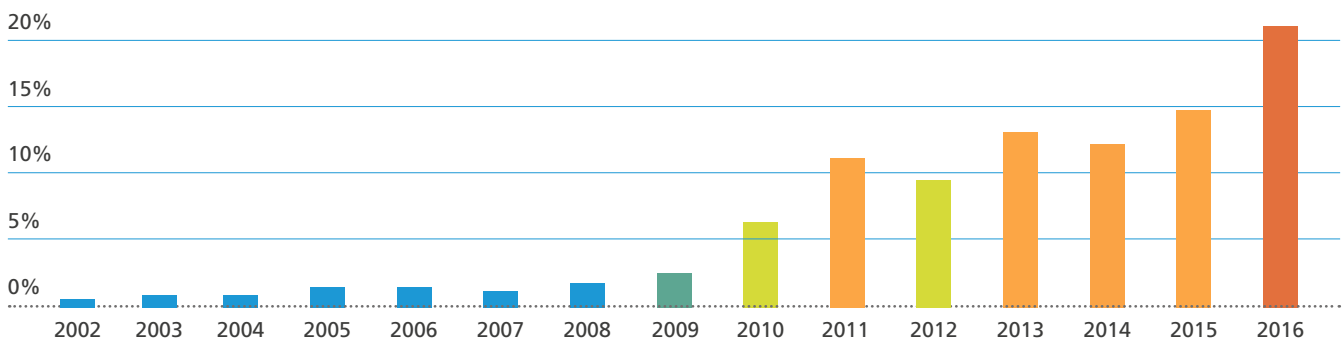
Since 1996, the Pan American Health Organization (PAHO) collects AMR data through the [Latin American Network for Antimicrobial Resistance Surveillance \(ReLAVRA\)](#), as its Spanish acronym). Each of the 19 participating countries is represented by a national reference laboratory.

Carbapenems are last resort drugs, there are no alternatives left.

Klebsiella pneumoniae causes pneumonia, urinary tract infections, bacteraemia and sepsis and is a common cause of infection in susceptible populations (the elderly, neonates, immunosuppressed and diabetic individuals). **Increased resistance to available antibiotics often leaves carbapenems as the only treatment option.** According to the ReLAVRA data, carbapenem non susceptibility in the region has significantly increased from 0.3% to 21% between 2002 and 2016.



Klebsiella pneumoniae (KPN): % non-susceptible (NS) to Carbapenems 2000-2016 in the Region



The data shown on this page provide an estimate of KPN non-susceptibility to Carbapenems in clinical settings in the countries. Representativeness of the data might vary between the countries and should be interpreted with care.



“Now more than ever, AMR should remain a priority on the political agenda and all means should be put towards reducing the burden of infectious diseases and the impact of the COVID-19 pandemic.”

Dr. Carissa F. Etienne
Director PAHO

Global Momentum

AMR has become a **global crisis** that endangers The Sustainable Development Goals and has mobilised a high level of **political commitment** within the G7, the G20 and the United Nations:

- **2015**
[Global Action Plan on AMR](#) – WHO/FAO/OIE at World Health Assembly
- **2015**
[PAHO AMR Plan of Action for Antimicrobial Resistance 2015-2020](#)
- **2016**
[Political declaration on AMR](#) at United Nations General Assembly
- **2017**
[UN International Agencies Coordination Group \(IACG\) on AMR](#)
- **2019**
[World Health Assembly Resolution 72.5 on AMR](#)
- **2019**
[AMR Multi-Partner Trust Fund](#) – FAO/OIE/WHO “One Health” Approach



PAHO's Commitment to Fighting AMR in the Americas

Through its **Plan of Action on Antimicrobial Resistance for the Region of the Americas (2015-2020)**, PAHO helps countries develop multisectoral approaches to prevent and contain the further development of antimicrobial resistance.

**PAHO supports Member States
by promoting:**



The development
and implementation
of **National Action
Plans on AMR**



**Sustainable
investment** in new
drugs, diagnostic tools
and vaccines

The **rational use of antimicrobial
drugs** and preventing
the sale of over-the-counter
antibiotics for human, animal and
agricultural purposes



Adequate **hospital
infrastructure** to
prevent infections

Effective **sanitation and
hygienic measures** to
prevent infections

Timely & high-quality
**microbiological
diagnosis**



Effective **water and waste
management** at health care
facilities, pharmaceutical plants,
and to **detect trends** and new
resistant strains



“We are committed to guarantee the most appropriate treatment for patients through early microbiology diagnostic. This will decrease the risk of AMR in the Americas.”

Alejandra Corso

Laboratory Head- National Reference Laboratory in Antimicrobial Resistance-
National Institute of Infectious Diseases- ANLIS “Dr. Carlos G. Malbrán” (Argentina)-
WHO Collaborating Center on Antimicrobial Resistance Surveillance

PAHO’s Multidisciplinary AMR Special Program

The **AMR Special Program** at PAHO’s Communicable Diseases and Environmental Determinants of Health (CDE) Department was set up to strengthen the continuous support to countries through the PAHO country offices in the Region and streamlining coordination with AMR teams at WHO headquarters and other regional offices. The AMR Special Program also promotes **interprogrammatic collaboration** between units and departments at PAHO through the **AMR Working Group**.

Medicines and Health Technologies Unit at the Health Systems and Services Department (HSS): *Fostering the prudent use of antibiotics*

Health Services and Access Unit at HSS: *Technical support to strengthen health systems*

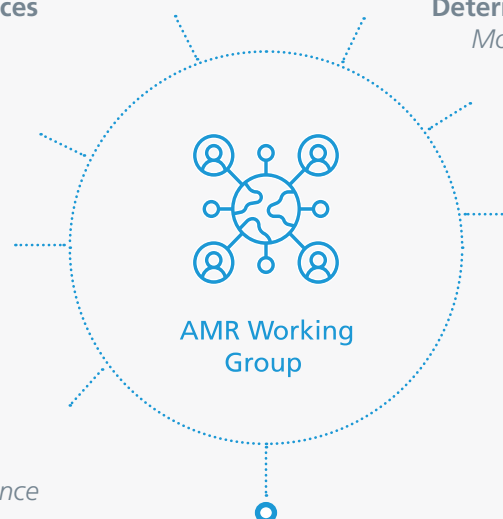
HIV, Hepatitis, Tuberculosis and STIs Unit at CDE: *Focusing on AMR in *Neisseria gonorrhoea*, HIV drug resistance and multidrug-resistant TB*

Neglected Tropical and Vector Borne Diseases Unit at CDE: *Preventing antimalarial drug resistance*

Climate Change and Environmental Determinants of Health Unit at CDE: *Monitoring AMR in the environment*

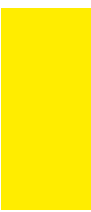
Health Emergencies Department: *Infection prevention and control; outbreak investigation*

Pan American Foot-and-Mouth Disease Center (PANAFTOSA): *Animal health as a component of the “One Health” approach to dealing with AMR*





Highlights of AMR activities in the Americas



World Antibiotic Awareness Week

World Antibiotic Awareness Week (WAAW), celebrated every year by governments, health facilities, schools and communities across the globe, highlights best practices among the general public, health workers and policy makers to help stop the further emergence and spread of antibiotic resistance.



The “One Health” Approach: Healthy People, Animals, Environment

Collective action

The PAHO/WHO, the Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (OIE) speak with one voice and take **collective action** to minimize the emergence and spread of resistant bacteria arising either in humans, animals or the environment.

The [global open-access tripartite antimicrobial resistance database](#) provides access to information on participating countries’ implementation of the global action plan and actions to address antimicrobial resistance across all sectors.

Working Together to Fight AMR

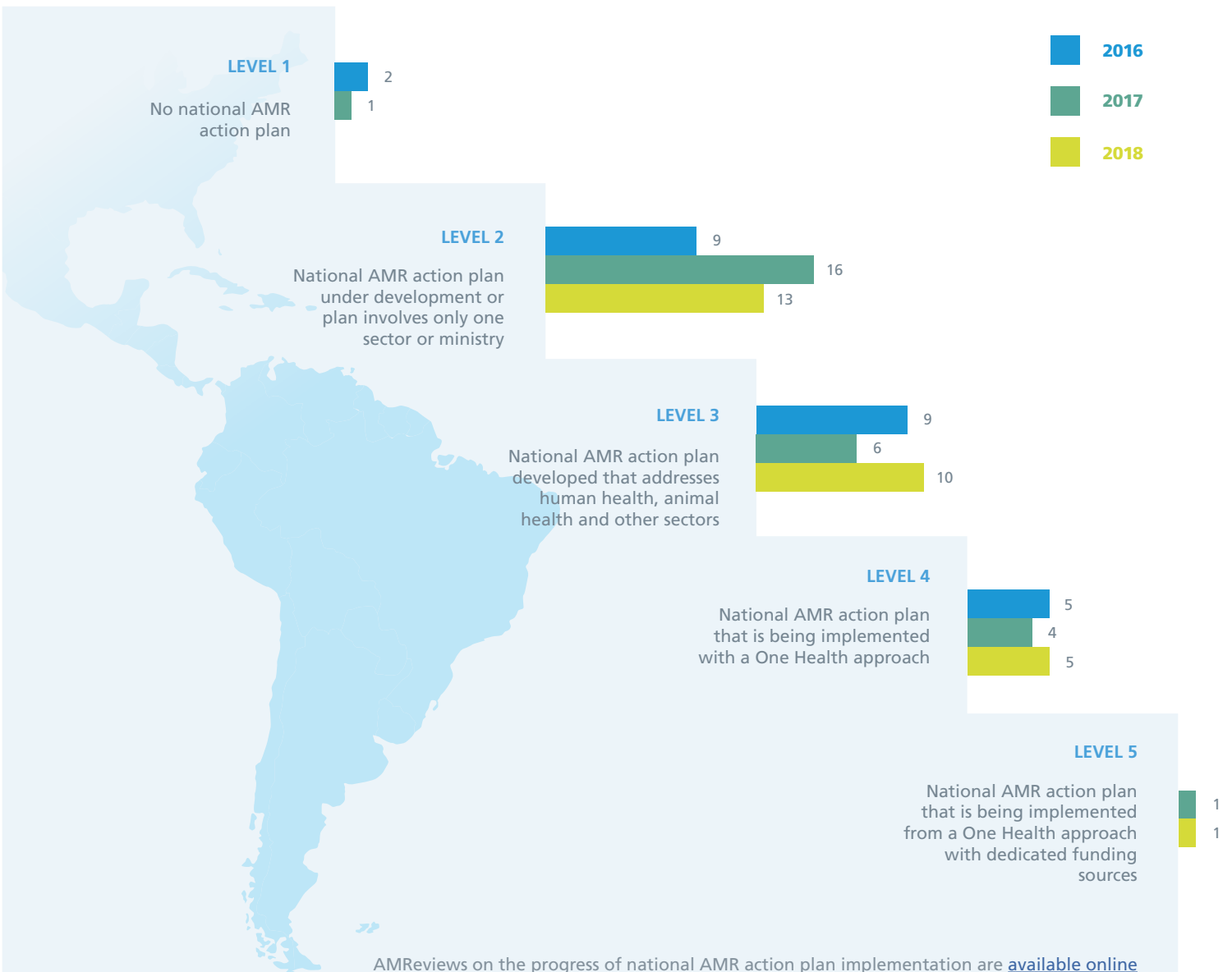
Starting November 2019, PAHO is the lead implementer of the 3 year project [Working Together to Fight Antimicrobial Resistance \(2020-2022\)](#) funded by the European Union and jointly coordinated with FAO and OIE. The project promotes the “One Health” approach to help countries better implement their AMR National Action Plans by sharing experiences, advocating best practices and stimulating collaborative action. The 7 countries that participate in the project are: Argentina, Brazil, Chile, Colombia, Paraguay, Peru and Uruguay.

Supporting National Action Plans on AMR

In total, 30 countries in the region have completed or are in the process of developing **national action plans**. PAHO supports Member States with **guidance, workshops and consultations** to implement their AMR National Action Plans from a One Health approach, and promotes sharing experiences, advocating best practices and stimulating collaborative action.

Country progress in the Americas with the implementation of national AMR action plans 2016-2018

Source: *Global Database for Antimicrobial Resistance Country Self Assessment*





Providing Laboratory Capacity Building

PAHO provides **laboratory workshops and virtual trainings** to build laboratory capacity in the region to **better detect and monitor AMR**. PAHO also provides assessments of laboratory capacity to identify strengths and weaknesses and provide recommendations through a stepwise approach.



Assesments and recommendations

PAHO has provided **laboratory AMR assessments and recommendations** to 17 Caribbean and 5 Latin American countries in the past 4 years.

Capacity building training activities

All Member States in the Americas have received between 1 and 5 **AMR capacity building training activities** from PAHO and partners in the past 3 years to improve the detection of AMR in health care settings.





Supporting AMR Surveillance

AMR surveillance provides essential information needed to guide medical practice, including therapeutics and disease control activities. It plays a major role in **improving the quality, safety, and costs of health care**, informing individual patient care, guiding empiric therapy and supporting infection prevention and control and antibiotic stewardship programs.

During the first joint **ReLAVRA and Caribbean AMR surveillance network meeting** (October 2019 in Brazil), countries agreed to implement a **new AMR surveillance methodology** combining laboratory and epidemiology (patient) data for action:

- Improving data quality, analysis and reporting of AMR in bacteria causing Blood Stream Infections

- Standardising methodology in Latin America and the Caribbean
- Enabling countries to provide data to the Global AMR Surveillance System, GLASS¹

Countries of the Americas are early implementers of the Global antifungal-resistance surveillance initiative². Although largely out of the public's view, fungi are also major causes of human disease and death, and resistance to antifungal medications is a growing problem, as it is for antibiotic drugs.

¹ [The Global Antimicrobial Resistance Surveillance System \(GLASS\)](#) aims to support the strengthening of standardized antimicrobial resistance (AMR) surveillance worldwide.

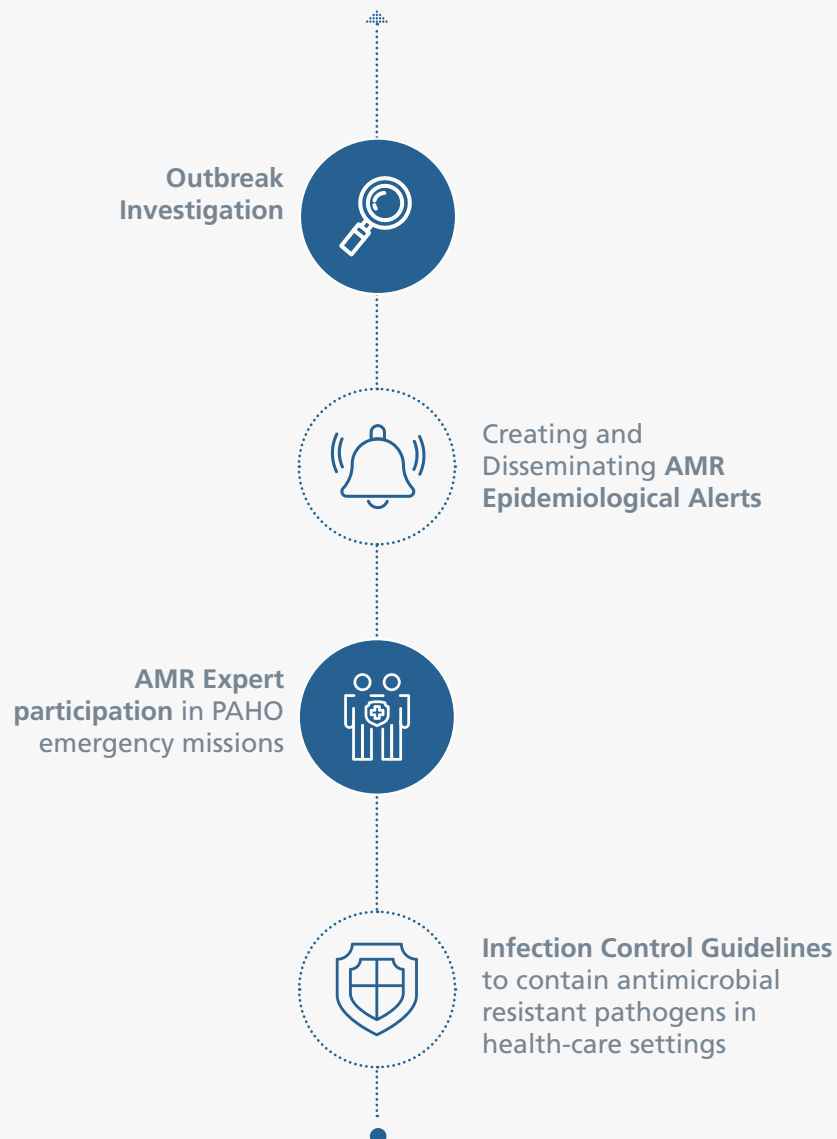
² [GLASS Early Implementation Protocol for the Inclusion of *Candida* spp.](#)

Infection Prevention & Control and Outbreak Investigation

Supporting the strengthening of infection prevention and control in the region



Stronger hygiene and infection prevention measures can limit the spread of resistant microorganisms and reduce antimicrobial misuse and overuse.



Examples of additional AMR activities sponsored by PAHO throughout the region

Together with WHO Headquarters, PAHO is building **sustainable research capacity** through the **Structured Operational Research and Training Initiative (SORT-IT)** in Colombia and Ecuador.



Point Prevalence Surveys on Antibiotic Use have been conducted in Barbados, Cuba, Costa Rica, El Salvador, Haiti, Guyana, Mexico, Nicaragua, Panama, Peru and St Lucia to launch **Antimicrobial Stewardship programs** in collaboration with the US Centers for Disease Control and Prevention. **Recommendations for Implementing Antimicrobial Stewardship Programs** in Latin America and the Caribbean was developed by PAHO in collaboration with the Florida International University.



For the past 20 years, PAHO has run an **External Quality Assessment Programme** for antimicrobial susceptibility testing in national reference laboratories throughout the region, organised by the Malbrán Institute in Argentina.



A notable example that illustrates PAHO's work with countries, is the ban on the use of colistine as a growth promoter and therapeutic agent in veterinary medicine in Argentina, Ecuador, Paraguay and Uruguay. This progress happened after documenting the impact of colistine resistance on human health and hospital infections.





Building on Partnerships

PAHO works together with partners and WHO collaborating centres in providing technical support to Member States:

- WHO Collaborating Centre for Surveillance, Epidemiology and Control of Foodborne Diseases and other Enteric Pathogens, at the Centres for Disease Control and Prevention (CDC), Atlanta, USA
- WHO Collaborating Centre for Surveillance of Antimicrobial Resistance Boston at the Brigham & Women's Hospital, Boston, USA
- WHO Collaborating Center on Antimicrobial Resistance Surveillance at the Administración Nacional de Laboratorios e Institutos de Salud "Dr Carlos Malbrán" (ANLIS), Buenos Aires, Argentina

PAHO is thankful for the financial contributions for the implementation of the Action Plan of AMR in the Region from the European Union, the Centers for Disease Control and Prevention (CDC), USA, the Florida International University, Miami, USA, the Ministry of Health, Welfare and Sport of the Netherlands, the Federal Ministry of Health of Germany and the Ministry of Health of Spain.



“Antimicrobial resistance is a global phenomenon that has worsened in recent decades. It constitutes a priority that requires interventions in different areas: improving the use of antimicrobials, controlling their quality, strengthening laboratory surveillance of resistance, containing transmission of resistant microorganisms and promote research to develop new antimicrobials.”

Daniel Salas
Costa Rica Ministry of Health

Crucial Steps to Secure the Future

As PAHO prepares its Plan of Action on AMR for the Region, for the 2020-2025 period, it will focus on the following areas of its AMR programme:

- Continue to support Member States with the development and implementation of national action plans using a **“One Health”** approach
- **Reduce over-the-counter availability** of antibiotics in the region
- Implement **antimicrobial stewardship programs** at primary health care level and in hospitals
- Monitor and evaluate the **rational use of antibiotics in humans and animals** at a national level
- Further develop existing surveillance systems in line with GLASS through the **Enhanced Surveillance Initiative**
- Implement intervention strategies to **control health care associated infections**
- Scale-up **collaboration with partners** across all relevant sectors.





PAHO