



# Addressing the Grand Pandemic of Antimicrobial Resistance

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# Antimicrobial resistance as a threat to global health security and global development

**Antimicrobial resistance (AMR) is a global health security and development challenge that poses a threat to public health and economic prosperity.** Antimicrobials are the cornerstone of modern medicine, critical for treating infections in humans and animals. They are widely used for health, industrial and agricultural purposes. They are a go-to medication for a variety of infections and have also become essential to agricultural and food systems, in crop and livestock management.

**Inappropriate use of antimicrobials has accelerated the emergence of resistant pathogens, undermining our ability to manage diseases effectively and affordably.** In 2019, an estimated 4.95 million deaths were associated with bacterial AMR, more than the number of deaths attributed to AIDS, HIV, and malaria—making AMR one of the world's biggest killers.<sup>1</sup> Addressing AMR is essential not only for maintaining global health but also for ensuring the sustainability of our food systems and protecting life as we know it today. AMR also stands to have a profound impact on the global economy.<sup>2</sup> In 2016, the World Bank estimated that, left unchecked, loss of life and productivity due to AMR could cost the global economy 3.8 percent of its annual gross domestic product by 2050. The impact of AMR will be more severe in low-income countries, potentially pushing an additional 28 million people into extreme poverty by 2050.

**That is why at the World Bank we are taking this issue seriously and have been at the forefront of building it into our work on health systems strengthening and pandemic preparedness and response (PPR).** Interventions to tackle AMR are among the most cost-effective investments in both health and agriculture sectors. AMR is not an issue that happens in a single sector or within the borders of a country. Recognizing the significant threat that AMR poses, the World Bank Group is building efforts to address AMR in projects and across sectors through the 2024 Framework for Action. This framework will guide our own work, support

countries, act as a playbook for other MDBs and agencies, and help us identify key intervention areas as entry points for action. These interventions include preventing infections, strengthening monitoring and surveillance of AMR and antimicrobial use (AMU), improving the rational use of antimicrobials, and strengthening coordination and governance. While AMR is a multisectoral issue, sector-specific entry points are important for mobilizing prompt action. Countries are at different states of readiness to address AMR, so a comprehensive approach may not always be feasible. However, global and regional actions can complement country efforts to sustain improvements in health outcomes.

**With this approach, the World Bank expects to expand its efforts significantly, bringing its global knowledge, financing capacity and convening power to support governments in safeguarding the future of antimicrobials.** The World Bank currently provides financing and technical assistance to address AMR through 56 operations across Health, Agriculture and Water sectors, which amount to roughly \$2 billion in financing. As part of its new Corporate Scorecard, the World Bank Group will measure countries' progress to prevent, prepare and respond to pandemics and health emergencies, and we will continue to support this agenda through our operations, policy dialogue, knowledge products, and convening. A new Global Challenge Program on health emergency, prevention, preparedness and response will help accelerate critical efforts at country and regional level to address the AMR crisis. This will include better capacities to prevent, detect and respond to health emergencies with a focus on strengthening health systems and working across sectors.<sup>3</sup> In addition, 95 percent of grants made in the first call of the Pandemic Fund, which is hosted by the World Bank, include efforts to address AMR. The World Bank joins forces with others in advocating for action to address AMR at the G7, G20 and ahead of the

1 Antimicrobial Resistance Collaborators. 2022. "Global Burden of Bacterial Antimicrobial Resistance in 2019: A Systematic Analysis." *Lancet* 399 (10325): 629–55. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02724-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext).

2 World Bank. 2017. *Drug-Resistant Infections: A Threat to Our Economic Future (Vol. 2): Final Report*. Washington, DC: World Bank Group. <http://documents.worldbank.org/curated/en/323311493396993758/final-report>.

3 Ending Poverty on a Livable Planet: Report to Governors on World Bank Evolution, Development Committee, September 2023 <https://www.devcommittee.org/content/dam/sites/devcommittee/doc/documents/2023/Final%20Updated%20Evolution%20Paper%20DC2023-0003.pdf>

High-Level Meeting on AMR during the United Nations General Assembly in 2024 and forges partnerships with other key players including international organizations such as the quadripartite FAO, UNEP, WHO and WOA, civil society organizations, research institutions and the private sector (e.g., pharmaceutical organizations, investor groups and insurers). The WBG aims to ensure that developing economies benefit from cutting-edge technologies and effective solutions to address AMR.

**In today's world, keeping AMR high on the global agenda is critical.** Investing in robust human and animal health systems, enhancing surveillance, promoting prudent antimicrobial use, and fostering international collaboration are essential steps to safeguarding our societies. The time to act is now, to preserve the effectiveness of antimicrobials for future generations and safeguard global health security.

## Key Intervention Areas



### Health

- 1 Improving infection prevention and control in health care settings
- 2 Improving prescribing practices through guidelines for health care workers
- 3 Conducting public awareness campaigns
- 4 Increasing human health laboratory capacity and access to diagnostics
- 5 Strengthening surveillance of antimicrobial use (AMU) and AMR in human populations



### Agriculture and food

- 6 Increasing oversight of AMU by veterinarians
- 7 Monitoring AMU, surveillance of AMR, and increasing oversight in plant/crop production
- 8 Improving animal husbandry practice and biosecurity
- 9 Monitoring sales and use of antimicrobials and surveillance of AMR in animals
- 10 Promoting behavior change campaigns in animal production
- 11 Increasing veterinary laboratory capacity and access to diagnostics



### Water and environment

- 12 Improving infrastructure to provide access to water and sanitation in health care centers
- 13 Implementing effective treatment and disposal of sewage and wastewater
- 14 Improving waste management practices in agricultural and aquaculture production/processing
- 15 Improving safe disposal of unused antimicrobials
- 16 Monitoring presence of antimicrobial residues and antibiotic-resistant bacteria and genes in water and sanitation systems



### Multisectoral

- 17 Detecting and deterring substandard and falsified antimicrobials (customs/law enforcement/health/agriculture)
- 18 Improving human and animal nutrition (health/agriculture)
- 19 Expanding vaccination coverage in humans and animals (health/agriculture)
- 20 Using closed water systems in aquaculture (agriculture/environment)

# How the World Bank is supporting regions and countries in addressing AMR

## Southern Africa<sup>4</sup>, \$ 122 million

The World Bank supported 155 laboratories across Lesotho, Malawi, Mozambique and Zambia to operationalize regionally harmonized standard procedures for the surveillance of multi-drug resistant Tuberculosis. This, in turn, better enables the appropriate use of antimicrobials. The project drew on technical assistance from the African Union Development Agency- New Partnership for Africa's Development and the East, Central and Southern Africa Health Community.

## West and Central Africa<sup>7</sup>, \$657 million

The World Bank has supported the expansion of community-level surveillance systems and processes across the human and animal sectors in 16 countries. This has enabled the development of interoperable surveillance and reporting systems, the establishment and upgrading of laboratories, as well as strengthened surveillance and laboratory capacities to rapidly detect epidemics, amongst other outcomes.

## Serbia<sup>5</sup>, \$ 31 million

In Serbia, the World Bank supported the Ministry of Health to (1) establish an expert working group for the rational use of antibiotics; (2) develop a national program for the control of bacterial resistance to antibiotics; (3) implement public campaigns for the rational use of antibiotics; (4) establish partnerships with over 20 institutions and organizations; and (5) support training of 3,500 health professionals, with a focus on pediatricians. This helped to dramatically reduce the use of antibiotics.

## China<sup>8</sup>, \$ 600 million

This World Bank financed project introduced a program to reduce irrational use of antibiotics. It provided clear guidelines for their use, close monitoring, and withdrawal of prescribing rights if guidelines were not followed. As a result, the proportion of patients prescribed with antibiotics fell from 15.7 percent to 11 percent in Anhui Province, and from 10.8 percent to 10.3 percent in Fujian Province with the application of clinical pathway management, improving quality of care and reducing the risk of AMR.

## Ethiopia and Zambia<sup>6</sup>, \$ 250 million

Together with the Africa Center for Disease control, the World Bank is supporting the development and rollout of an AMR scorecard across Ethiopia and Zambia. The scorecard is intended to track and incentivize progress in addressing AMR. The project has also improved laboratory capabilities and trained more than 3,000 health workers and laboratory staff for timely and accurate disease detection.

## Burkina Faso<sup>9</sup>, \$365 million

The World Bank is supporting improvements to water and sanitation services in targeted areas and strengthening institutional capacity. This includes increasing access to water and sanitation, providing reliable water information, and improving healthcare facilities by financing infrastructure, equipment, and training. More than 400,000 people have benefitted from improved sanitation services, which helps to reduce the spread of infections and the need for antibiotics.

4 AFR RI-Southern Africa Tuberculosis and Health Systems Support Project, more details can be found here: <https://projects.worldbank.org/en/projects-operations/project-detail/P155658>

5 Second Serbia Health Project, more details can be found here: <https://projects.worldbank.org/en/projects-operations/project-detail/P129539>

6 Africa CDC Regional Investment Financing Project, more details can be found here: <https://projects.worldbank.org/en/projects-operations/project-detail/P167916>

7 Regional Disease Surveillance Systems Enhancement (REDISSE) Project, more details can be found here: <https://projects.worldbank.org/en/projects-operations/project-detail/P154807>

8 Yang, Fang; Han, Wei-000505642; Mandeville, Kate. Innovations Under the China Health Reform Program-for-Results: A Case Study Series (English). Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099740012062214762/P1652040e93d730560a56b09fab2fcd481e>

9 Burkina Faso Water Supply and Sanitation Program, more details can be found here: <https://projects.worldbank.org/en/projects-operations/project-detail/P164345>