

GLOBAL CHALLENGES

AMR AND HEALTH SECURITY



CLIMATE CHANGE

Rising temperatures and extreme weather **expand the range of drug-resistant pathogens.**



CONFLICT

Armed conflict **disrupts healthcare systems and sanitation, accelerating the spread of drug-resistant infections.**



HUMAN MIGRATION

Global movement **carries resistant bacteria across borders** with unprecedented ease and speed.

AMR: A BORDERLESS THREAT TO HEALTH SECURITY

Global security and health are intrinsically linked, because protecting borders and maintaining sovereignty is ultimately about keeping people safe from all kinds of threats. Pandemics, conflict, climate change and migration can all threaten health security. But there is another profound and often overlooked risk that links all these others: the rise and spread of antimicrobial resistance (AMR).

Drug-resistant infections erode the effectiveness of antibiotics, one of the core foundations of modern medicine. As resistance grows among a population, collective resilience is weakened, which in turn undermines economies and whole societies.

With the global burden of antibiotic resistance already high and increasing, AMR is a challenge that affects all countries, regardless of income level. It is inherently cross-border in nature, spreading rapidly through travel, trade and the environment—meaning no country can solve it alone. Failing to act could reverse decades of medical progress and leave every nation less safe.

THE VICIOUS CYCLE OF INSECURITY AND RESISTANCE

The causes of global insecurity, such as conflict, can cost lives while diverting resources, weakening cooperation and undermining the health systems designed to protect people. At the same time, global insecurity is becoming more volatile, driven by other interconnected global trends, such as climate change, pandemics and migration. At the intersection of these dynamics lies the escalating AMR crisis.

These pressures actively fuel drug resistance. In fragile and crisis-affected settings, breakdowns in health systems and infrastructure accelerate both the emergence and spread of resistant infections. Climate change contributes through extreme weather events that facilitate transmission, rising temperatures that drive microbial adaptation, and increased antibiotic use during health crises. Meanwhile, mass migration and displacement leave populations more vulnerable to infection while limiting access to appropriate treatment. With over a billion people crossing borders each year, drug-resistant pathogens can spread globally with unprecedented ease.

There is a growing body of evidence to support this. The number of potentially lethal drug-resistant infections in Ukraine is now ten times higher than in neighbouring countries, and in Gaza and other conflict zones it is a similar story.¹ A 1°C increase in air temperature in China has been associated with a 14 percent increase in drug-resistant pathogens.² Genes responsible for resistance have also been tracked moving across the globe at alarming speed.

GARDP'S RESPONSE

GARDP addresses AMR through a public-private partnership model that bridges innovation and access, focusing on public health priorities. By convening governments, industry, researchers, manufacturers, regulators and procurement agencies, it ensures that efforts to combat

¹ <https://www.science.org/content/article/war-torn-ukraine-has-become-breeding-ground-lethal-drug-resistant-bacteria>

² <https://pubmed.ncbi.nlm.nih.gov/36406382/>

AMR are coordinated, sustainable and globally aligned. Operating across the full value chain—from research and clinical development to manufacturing support, regulatory readiness and responsible introduction into health systems—its model is designed to deliver impact at scale.

First, GARDP develops urgently needed treatments targeting priority pathogens where resistance is highest and options are limited. This helps rebuild the neglected pipeline, expand equitable access to treatments and strengthen countries' preparedness for infectious disease threats.

Second, GARDP improves access through an integrated approach that extends beyond research and development (R&D). It supports antibiotic stewardship and generates evidence for responsible use, working with countries to implement national AMR action plans and contributing to stronger, more resilient health systems that promote equitable access and responsible use.

The GARDP model is designed to strengthen supply security and industrial resilience by supporting sustainable manufacturing and more reliable supply chains. Through market-shaping approaches—including non-exclusive licensing, pooled procurement and revenue guarantees—it aims to help stabilize markets and ensure the long-term availability of essential antibiotics – advancing both health security and economic resilience.

This approach depends on sustained, strategic investment in antibiotic R&D, access and resilient manufacturing. Without coordinated long-term investment, the pipeline of new and effective treatments will remain fragile and access uneven.

Recognizing that risks are greatest in fragile and conflict-affected settings, GARDP is also exploring ways to improve access to antibiotics in some of the most challenging environments. By combining innovation, access, stewardship and supply resilience, GARDP aims to support health security for all, reducing the risks posed by AMR in an increasingly interconnected and unstable world.

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