

# Growing mismatch between antibacterial innovation and global patient needs

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The recently published update of WHO's analyses of the global clinical antibacterial pipeline, now integrated within the Global AMR R&D Hub's Dynamic Dashboard, again highlights a major gap in the development of needed new innovative antibiotics to address growing public health needs globally.

According to recent estimates antimicrobial resistance (AMR) is directly associated with over 1.2 million deaths per year. Considering that the AMR burden is higher in low and middle income countries (LMICs) with limited data, this figure is likely an underestimation of the real problem. Antibacterials, and antibiotics in particular, are at the heart of modern medicine, used to treat infectious diseases and ensuring many medical procedures are possible, including cancer treatment, hip replacements, organ transplants and C-sections. However, the growing and increasingly rapid emergence and spread of drug resistance threatens the incredible health benefits of these life-saving drugs. Serious investment is now urgently needed to ensure a sustainable supply of new and innovative products entering the market in the next years. Over the last three decades very few ground-breaking antibacterial treatments addressing the most critical pathogens have reached the market. The majority of newly approved agents have limited clinical benefit over existing treatments, with 10 of the 12 new antibiotics that have been approved since 2017, belonging to existing antibiotic classes for which resistance mechanisms are established.

The World Health Organization (WHO) has been tracking the antibacterial development pipeline against bacterial priority pathogens since 2017 and has just released its latest analysis of the global pipeline of antibacterial agents in clinical and preclinical development. The most recent report describes the pipeline as stagnant and again highlights that it is insufficient to meet growing public health needs and the mounting threat of antibiotic resistance, with only 27 new antibiotics in clinical development against [priority pathogens](#), down from 31 products in 2017.



*The Dynamic Dashboard's Pipeline Gallery provides a useful evidence base and tool to aid policy makers and funders in their decision making processes on the development of products that address key public health needs"*

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and development (R&D) of antibacterial treatments)*

The most recent WHO analyses of the clinical antibacterial pipeline have been integrated within the [Global AMR R&D Hub's Pipeline Gallery](#), providing policy makers and decision makers a platform to explore progress, identify gaps and in combination with the Investments and Incentives galleries, gain a comprehensive overview of the funding and legislative landscape for antibacterial development. The Pipeline Gallery integrates information and analyses from both the WHO and The [PEW Charitable Trusts analyses](#) of the traditional and non-traditional agents in clinical development. The PEW Charitable Trusts discontinued its tracking of the pipeline in December 2021.

We are seeing some progress by governments and policy makers globally in their support of initiatives to accelerate the development and market entry of needed new antimicrobials (e.g., [CARB-X](#), [GARDP](#)), as well as encouraging innovation and securing access in the form of post market incentives (so called pull incentives), e.g. the [UK's Subscription model for antibiotics](#) and the submission of the [PASTEUR Act](#) in the US. However, as highlighted in the [joint progress report submitted to the G7 ministers in May, 2022](#) by the Global AMR R&D Hub and WHO, [the latest 2021 WHO report](#) and the consolidated data within the [Dynamic Dashboard](#) reiterate that these efforts are still not sufficient to address current patient needs. Overcoming the numerous challenges associated with development of and access to new antibacterials urgently requires policies that adequately reward their successful development and promote a sustainable and innovative ecosystem - [we need more bold and collaborative action now](#).

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**The Global AMR R&D Hub** collects and presents information on AMR R&D investments across the One Health continuum as well as information on antibacterial products in the clinical development pipeline and market interventions. This information is intended for countries, foundations, organizations and initiatives to help set priorities and maximize the impact of resources invested in R&D to mitigate the AMR threat.