

Stronger commitment and faster action against antimicrobial resistance



As the United Nations convenes its second High-Level Meeting on antimicrobial resistance, urgent global action is needed. This Focus issue draws attention to pressing challenges of bacterial antimicrobial resistance and underscores the need for fast and coordinated international efforts.

Antimicrobial resistance (AMR) poses a tremendous threat to global health, economies and security. The continued emergence and evolution of antimicrobial-resistant microorganisms puts modern medicine and public health responses at risk, as we will not be able to treat common infections. Treatment of specific diseases will also become challenging, including cancer treatment, transplants and other surgeries, leading to substantial increases in mortality. In 2022, a study assessed the global burden associated with drug-resistant infections and reported that an estimated 4.95 million deaths were associated with bacterial AMR, of which 1.27 million deaths were directly attributable to drug resistance¹. This global survey revealed that in 2019, drug-resistant infections killed more individuals than HIV/AIDS or malaria. Worryingly, it was estimated that by 2050, AMR could cause up to 10 million deaths², which is comparable with the number of deaths caused by cancer in 2020. As if these staggering numbers were not frightening enough, the study also highlighted inequalities in the AMR crisis, as the highest burdens are carried in the low-resource settings, in countries that have the least means, resources or infrastructure to tackle the problem. The overuse and misuse of antibiotics in many countries contrasts with the lack of access to effective antibiotics in other regions. Effective surveillance and diagnostics are urgently needed, but they are lacking or limited in low-resource regions. The urgent need for the development of new antibiotics or novel treatment strategies is far outpaced by rising AMR, and no clear clinical leads have progressed to shelves yet.

The impact of AMR cannot be overstated, as it threatens food security, economic stability and the achievement of the 2030 Agenda for Sustainable Development adopted by all United Nations member states in 2015. There is an imbalance between the tremendous threat of AMR and effective action taken to date. Similar to climate change, AMR should be made a priority and more political leadership is needed to take effective action. The AMR crisis should be included in policymaking to emphasize the importance of antibiotic stewardship for human, animal and environmental health,

and to ensure equitable access to both existing and novel antibiotics. Innovative funding strategies are needed to incentivize research and development of new antimicrobials and diagnostics, as well as to improve access to antimicrobials and vaccines. In addition, emphasis should be placed on infection prevention, hygiene, and access to clean water and sanitation, as these measures will have a great impact on decreasing infection burden.

The second High-Level Meeting on AMR is convened by the United Nations General Assembly (UNGA) and will take place in September 2024. During this meeting, world leaders and experts from various sectors will assemble to set clear new targets and devise practical strategies to combat AMR. The objective of the 2024 UNGA High-Level Meeting on AMR is to adopt a second political declaration that goes beyond the 2016 declaration, with the aim to “accelerate progress in addressing AMR”³. Indeed, a policy brief provided ahead of the UNGA High-Level Meeting on AMR by the ReAct group, which is a multidisciplinary team of experts, including public health and policy experts, microbiologists, physicians and veterinarians, states that “Action taken since the last UNGA High-Level meeting in 2016 to address AMR has been too little and too slow”⁴. To mark this important meeting and to highlight the latest developments in the field, *Nature Reviews Microbiology* has put together this [Focus issue](#) on bacterial AMR, featuring Reviews on drug-resistant tuberculosis, ESKAPE pathogens, health care-associated AMR and the evolutionary emergence of bacterial AMR within patients, as well as Comments on the importance of improving access to antibiotics and the challenges faced by low- and middle-income countries in combating AMR.

The threat that AMR poses to future human health is immense if this crisis is not tackled fast and appropriately at the global level, with unified efforts. Time is of the essence, and a global, committed action plan involving international and multisectoral collaboration needs to be implemented at a much faster pace to avoid catastrophic outcomes. Public health experts, researchers, clinicians, politicians and the industrial sector have highlighted these points in the ReAct briefing, stressing the urgency of tackling the AMR crisis and calling for accelerated and more effective action and collaboration. The UNGA High-Level Meeting provides the opportunity to secure strong commitments from world leaders and to establish a clear, fast-paced plan for action. *Nature Reviews Microbiology* urges global leaders to take decisive, immediate steps to address the escalating AMR crisis.

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References

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2. O'Neill, J. *Tackling Drug-Resistant Infections Globally: Final Report and Recommendations* (Review on Antimicrobial Resistance, 2016).
3. *Get ready for the 2024 United Nations General Assembly High-Level Meeting in AMR* (FAO, UN, WHO & WOAHA, 2024).
4. *ReAct's Briefing for the UN HLM AMR 2024* (ReAct, 2024).