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Antimicrobial resistance at a crossroads: the cost of inaction

Michael Craig,
Daniel Jernigan,
Kayla Laserson,
Stefanie McBride,
Jessica Fairbanks,
Dawn Sievert,
Paige A Armstrong,
Heather Ewing Ogle,
Howard Zucker

Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, Atlanta, GA 30333, USA (MC, DJ, SM, DS, PAA, HEO); CDC Global Health Center, Atlanta, GA, USA (KL, JF); CDC Immediate Office of the Director, Atlanta, GA, USA (HZ)

Effective antimicrobials are an essential resource, and the spread of antimicrobial resistance (AMR) threatens individual lives, the wellbeing of communities, and the national security of all countries. AMR could reverse the life expectancy gains provided by antibiotics over the past century[1] and worsen future pandemics; it already impacts treatments and outcomes in patients with chronic diseases and cancer.[2–4] AMR also has economic implications and is draining resources from economies, including the health-care, agriculture, and food production sectors. Estimates indicate there could be global gross domestic product loss of more than US$1 trillion annually beyond 2030 due to AMR.[5] The September, 2024 UN General Assembly (UNGA) High-Level Meeting on AMR is an important opportunity for global leaders to commit to shared action against this threat.

Controlling AMR is a challenge of unrivalled complexity. Unlike other infectious disease concerns, AMR is not limited to a single pathogen; rather, it affects many pathogens that harm people, animals, and plants. An antimicrobial-resistant threat in one country can quickly spread across borders, making collective action imperative. The COVID-19 pandemic exacerbated the global burden of AMR, reversing progress in mitigating AMR even in high-income countries.[2] And the burden of AMR continues to increase not only because of inappropriate use of antimicrobials, insufficient new effective drugs, and poor infection control practices, but also due to the impacts of war, humanitarian crises, and intensifying heat.[6,7]

bez7@cdc.gov .

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The size and scope of the challenge is daunting. But there are evidence-based strategies and interventions that prevent infections and protect people. Now is the time for coordinated efforts across sectors to implement these interventions worldwide. Investing now in cost-effective interventions can help all countries combat AMR threats. These interventions include policy and regulatory frameworks to increase access to, the effectiveness and quality of, and appropriate use of diagnostics and antimicrobials; health-care infection prevention and control measures; providing access to clean water, sanitation, infection prevention and control supplies, and waste management; vaccination campaigns; and adoption of sound antimicrobial manufacturing practices.[8–14]

Collective innovation—a need that goes far beyond the development of new antimicrobials—can help keep pace with pathogens as they evolve. This strategy includes the development of new diagnostics, treatments, vaccines, and infection prevention approaches, including pathogen reduction (eg, decolonisation) products to help address the high levels of colonisation with antimicrobial-resistant pathogens seen globally and reduce the number of infections that are difficult or impossible to treat due to AMR.[15]

Success against AMR requires accountability of both governmental and non-governmental actors through the use of shared metrics and monitoring of progress globally, among other actions. For example, continuing to strengthen every country's ability to implement AMR surveillance using data standards and interoperable systems enables more precise estimates of infections and deaths due to antimicrobial-resistant pathogens. By setting a goal and

adopting a measure (eg, a 10% reduction in deaths due to AMR globally, as proposed in the 2024 *Lancet* Series on AMR),[16] global leaders can focus on the true impact of AMR and attune One Health policies across human health, animal care, and agriculture to support progress.[16]

Sustainable financing and policy action must also be commensurate to the challenges. AMR is estimated to kill at least 1·27 million people globally each year, not including deaths due to resistant fungal pathogens such as *Candida auris*.[17] The number of deaths attributable to AMR outpaces the annual global burden of HIV or malaria that are estimated to kill 630 000 and 600 000 people, respectively.[18,19] However, resources and attention to AMR lag far behind. In 2023 alone, contributions to the Global Fund to Fight AIDS, Tuberculosis and Malaria exceeded $6 billion, whereas total contributions to the Antimicrobial Resistance Multi-Partner Trust Fund for all years have barely exceeded $30 million.[20,21]

The already complex global AMR problem is even more challenging because there is no one-size-fits-all solution. Every country's human health, animal health, agriculture, and environmental systems are different, and each is starting from a different level of capacity. In many countries, policy makers still need to be convinced of the financial benefit of addressing AMR. Investments made to combat AMR, including in data, surveillance, laboratory, and workforce infrastructure and capacity, will also strengthen health-care systems and defend populations from future health emergencies, including pandemics. There is a need to increase awareness and understanding of AMR globally, including among the public, policy makers, and health-care providers. Individuals need to understand how AMR can impact their lives and livelihoods and what actions they can take to protect themselves and their communities.

Commitments from all countries to strengthen domestic efforts against AMR can help maximise global action and progress. High-income countries can support low-income and middle-income countries by building laboratory capacities through sharing technical expertise and experience; providing financial resources to strengthen public health and health-care systems; and collaborating to expand access to antimicrobials, diagnostics, and innovative new products. Each country can advance multisectoral coordination by developing, financing, and implementing AMR National Action Plans that take a One Health approach to addressing AMR. Investment through global health financing bodies towards tackling AMR would help ensure every country can implement a minimum set of core actions—including the proven, cost-effective prevention approaches described above—to prevent antimicrobial-resistant infections, preserve the effectiveness of antimicrobials, and strengthen the preparedness of health-care systems. These investments keep people and animals healthier, contribute to food security, protect the environment, and help safeguard economies. This year's UNGA High-level Meeting on AMR will be pivotal in harnessing political momentum to enable all countries to accelerate implementation of AMR interventions. We do not want to look back on this moment and ask why we did not do more.

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