

objectives.⁷ Equally important is implementing effective supply-chain management for food and medical supplies, which is crucial for timely and efficient aid delivery. The availability of qualified health-care workers in Sudan is currently inadequate and sustainable investment in human-resources development and retention is needed to rebuild the health-care system in Sudan.

With more than half of the country's population affected by the worsening health and humanitarian crisis, urgent action is needed to avert the catastrophic consequences of the conflict in Sudan. Endeavours to address acute health-care needs should be aligned with long-term rehabilitation efforts after the conflict and viewed as a continuum to achieve recovery and future resilience.

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The time to address the antibiotic pipeline and access crisis is now



Drug-resistant infections kill 1.14 million people every year,¹ surpassing deaths caused by HIV/AIDS and malaria combined and making antimicrobial resistance

(AMR) a leading global killer. The September, 2024 UN General Assembly High-Level Meeting (HLM) on AMR² brings renewed attention to addressing

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Panel: Necessary steps to address the antibiotic pipeline and access crisis

The following steps are needed to ensure access to existing effective antibiotics and innovative new antibiotics in low-income and middle-income countries:

- Support for an international independent science panel that has strong political support from member states
- More financing and push-pull incentives for R&D and access
- Stronger requirements for research funders to promote approaches that ensure that access is integrated into R&D plans
- Reinforcing existing initiatives working in this space, such as the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator, AMR Action Fund, and Global Antibiotic Research & Development Partnership
- Stronger domestic and international support and funding for national action plans
- Implementation of regulatory harmonisation and strengthening of national and regional regulatory approaches that enhance R&D and accelerate access

this crisis. There are two key challenges: a paucity of new treatments to replace those lost to AMR and inadequate access to existing and new antibiotics. Despite progress in antibiotic innovation and access since the last UN General Assembly HLM on AMR in 2016, major gaps persist, especially in low-income and middle-income countries (LMICs),³ where most AMR-related deaths occur. The 2024 HLM is a chance to reinforce the need for all countries to recognise that effective solutions address innovation and access together.

In many countries with a high burden of drug-resistant infections, people have inadequate access to both effective older antibiotics and new antibiotics.⁴ Low capacity and inadequate disease surveillance and infrastructure can often make in-country delivery of antibiotics challenging, and new antibiotics are often only registered in a few wealthy nations or are too expensive for LMICs. Between 1999 and 2014, less than half of new antibiotics were registered in more than ten countries, mostly high-income countries.⁵ Even generic antibiotics face severe shortages. These problems highlight the need for market reforms, regulatory harmonisation, and regional regulatory approaches.⁴

Preventing infections before they occur is also essential for tackling AMR and could help reduce the

AMR burden by 10% by 2030.⁴ Interventions such as infection prevention and control, water, sanitation, and hygiene services, and vaccination greatly helped reduce infections in wealthier countries and, for LMICs, are an effective use of often constrained resources. However, prevention alone will not be enough to stop AMR. In low-income settings, access to effective antibiotics to treat drug-resistant infections is crucial. Yet ensuring access to innovative new antibiotics for these settings is rarely seen as a priority by governments, despite their potential to save lives and slow the spread of AMR.

Political commitment is needed from all UN member states to ensure that both innovation and access receive adequate resources and that the initiatives working on innovation and access complement and reinforce each other. Such commitments include prioritising AMR at a national level and increasing domestic and international funding for innovation and access from member states.

Providing LMICs with funding and support for their AMR national action plans⁶ will help them strengthen capacity, disease surveillance, and stewardship and enhance last-mile delivery, alongside improved antibiotics prioritisation and procurement. This approach could also serve to improve access to both existing and new antibiotics and help to identify the disease burden and antibiotic needs of each country, making it possible to generate predictable demand and ensure that global needs are properly reflected in research and development of new antibiotics.

At the same time, access will need to be factored into every stage of the drug development process, from scientific discovery and research and development (R&D), right through to the manufacturing, registration, and delivery of antibiotics. This approach is necessary to ensure that the right antibiotics are developed, which are clinically suitable for all populations and affordable for all countries. Thus, antibiotic candidates that have the greatest potential public health value must be selected, and trials should be conducted in the countries most affected, recruiting people most at risk, including women, children, and people living with HIV, who are often not prioritised in clinical trials.⁷ This approach also requires investment in manufacturing, including the use and support of technology transfers and licensing agreements, and in market shaping, such as through pooled procurement

and demand forecasting, to create regional supply security and affordability.

Historically, these measures have not been implemented because the development of antibiotics has been determined primarily by market forces. However, things are changing. Calls for push and pull incentives to help stimulate antibiotic R&D and support private sector efforts, respectively, are leading to change.⁸ There has also been notable progress towards embedding public health needs and access into antibiotics R&D—something our three organisations (the Global Antibiotic Research & Development Partnership [GARDP], the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator [CARB-X], and Wellcome) have helped lead on. By working with industry and global stakeholders, not-for-profit organisations such as ours are supporting the development of much-needed new antibiotics for underserved settings, with early investments made through CARB-X and GARDP that we hope will deliver benefits decades into the future.⁸

For such efforts to ultimately succeed, a change in mindset among policy makers is also needed. High-income countries need to see the value of global access to effective antibiotics and support such efforts while ensuring that LMICs are more positively engaged and recognise the need for the development of and access to new antibiotics (panel).⁹ The UN HLM on AMR is an opportunity to bring about these changes by uniting governments around the ideas that innovation is not just about getting promising R&D projects to market approval in more profitable markets and that access to antibiotics is not only about getting existing treatments to people in low-resource settings.

Addressing the antibiotic pipeline and access crisis effectively and concomitantly requires an R&D and innovation ecosystem that ensures the right antibiotics

are developed in the first place and reach the people who need them shortly after first market approval. Achieving this goal means treating innovation and access simultaneously and encouraging stronger public-private partnership approaches. With HIV, there was a strong push from the community for improving outcomes by giving people access to the most innovative and effective treatments. The ethos was innovation plus access. For antibiotics it should be no different.

MB is the Executive Director of GARDP. KO is the Executive Director of CARB-X. J-AR is the Chief Executive Officer of the Wellcome Trust. We declare no other competing interests.

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