BioSpectrum
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ASIA EDITION

Pharma's role in AMR mitigation is critical: Must procure and produce responsibly

November 10, 2022 | Opinion | By Valerio di Caprio, Global VP SSP and PEN, Centrient Pharmaceuticals

The human, animal, and environmental ecosystems are delicately interlinked with each other. When these interconnections are disturbed, various challenges, including the rise in zoonotic diseases, emerge.



The last decade witnessed several outbreaks of zoonotic diseases, including the eruption of foot and mouth disease in India, Ebola in Africa, Middle East respiratory syndrome coronavirus (MERS-CoV) in the Mediterranean region, and COVID-19 across the globe. Subsequently, zoonotic diseases now constitute 75% of all emerging infectious diseases and have far-reaching consequences on health.

Antibiotics have played a crucial role in treating these diseases since 1928 and have brought relief to millions of people suffering from them. This helped improve health outcomes and led to a fall in mortality rates and enhanced life expectancy. Post the antibiotic era, the leading cause of death in the United States shifted from communicable to non-communicable diseases. However, the rampant consumption of antibiotics by humans, imprudent usage in the animal husbandry industry, and unsustainable procurement and production practices by the pharmaceutical sector have led to the bacteria developing resistance to these antibiotics.

The looming threat of antimicrobial resistance (AMR) threatens the efficacy of antibiotics. In the absence of adequate measures to mitigate AMR, many widely spread antibiotics will be rendered useless, making them ineffective for treatments. Further, an unchecked rise in AMR could lead to a 5% fall in the Gross Domestic Product (GDP), push 28 million people into poverty, and cause 10 million deaths annually by 2050. Additionally, it would hamper the achievement of many of the United Nations Sustainable Development Goals (UN-SDGs), including SDG 1 (No Poverty), SDG 3 (Good Health and Well-being), SDG-6 (Clean Water and Sanitation), SDG-8 (Decent Work and Economic Growth) amongst others.

Multilateral organizations and national and sub-national governments have often pressed on adopting the One Health approach to address the array of threats AMR poses. The One Health Joint Plan of Action (2022-2026) developed by the global quadripartite also directs leaders toward implementing the approach while addressing its gaps and challenges. The plan seeks to strengthen collaboration, build capacity, and address multidimensional health risks using the principles of One Health. While the government can take the lead through adopting such policies, the pharmaceutical industry also needs to play a proactive role in arresting the spread of AMR.

The industry can play a pivotal role in mitigating AMR from the environment by adopting sustainable procurement and production practices. Many national governments have announced procurement policies to incentivize pharma manufacturers and nudge them toward sustainable practices. This includes the Norway government's 30% benefit given to manufacturers following environment-friendly practices, and the clause incentivizing efforts to prevent Active Pharmaceutical Ingredients (APIs) emissions in the environment by Sweden.

Additionally, many public sector healthcare systems across the globe such as the National Health Service in the United Kingdom and AOK (Allgemeine Ortskrankenkasse), the statutory health insurance company in Germany have started including adherence to environmental criteria by manufacturers in their antibiotic tenders to combat AMR.

Further, the United Nations also runs its Sustainable Health in Procurement Projects (SHiPP) in Low and Middle-Income Countries (LMICs) as a part of its Sustainable Procurement in the Health Sector initiative (UN-SPHS). Through SHiPP, it aims to strengthen the procurement, production, and disposal practices in the LMICs, which are also the hub of pharmaceutical production. Given the vast expanse of the Indian pharmaceutical industry, the government can take cues from some of these policies to incentivize manufacturers to adhere to responsible procurement practices.

Additionally, adequate emphasis needs to be laid on sustainable production practices, as reiterated by a study that found 43% of the world's rivers are contaminated with pharmaceutical products. In the absence of global standards governing the discharge of effluents from the pharmaceutical industry, the industry can self-regulate by adhering to the standards for antibiotic production as developed by the AMR Industry Alliance. The government can support the effort of the industry by facilitating the adoption of innovative technologies, implementation of Good Manufacturing and Distribution Practices (GMP and GDP), and investments in research and development.

To prevent a post-antibiotic era with health outcomes worse than the pre-antibiotic era, all stakeholders need to deploy strategies to prevent the spread of AMR. Implementing best practices, strengthening monitoring and surveillance, ensuring sound waste management practices, and governing the consumption of antibiotics are critical in minimizing the emergence and spread of AMR. Thus, during this seventh celebration of World Antimicrobial Awareness Week (18-24 November 2022), there is a need for the industry, academia, policymakers, and the government to take collaborative steps to prevent the efficacy of antibiotics from waning and for AMR from becoming an unmanageable global public health threat.

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