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Drug resistance in developing nations: An overlooked crisis.

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Introduction

Drug resistance, particularly antimicrobial resistance (AMR), is one of the most pressing global health threats of the 21st century. While it affects all nations, developing countries bear a disproportionate burden due to fragile healthcare systems, limited regulatory oversight, and widespread misuse of medications. Despite its devastating impact, drug resistance in these regions remains under-addressed, posing a silent but escalating crisis. Antimicrobial resistance occurs when pathogens—bacteria, viruses, fungi, and parasites—evolve to withstand drugs that once killed them. In 2019 alone, AMR was directly responsible for 1.27 million deaths globally and contributed to nearly 5 million deaths. Developing nations, particularly in Africa and South Asia, report the highest mortality rates from drug-resistant infections [1, 2].

The World Health Organization (WHO) warns that AMR threatens to reverse decades of medical progress, making routine surgeries, childbirth, and cancer treatments increasingly risky. Several interlinked factors contribute to the rise of drug resistance in low- and middle-income countries: Antibiotics and other antimicrobials are often sold over the counter without prescriptions. Limited access to labs leads to empirical treatment, increasing inappropriate drug use. Weak regulatory systems allow circulation of ineffective or counterfeit medications. Rampant use in agriculture and animal husbandry accelerates resistance. Patients often discontinue treatment prematurely or use leftover drugs [3, 4].

Moreover, healthcare providers in these regions face immense pressure to prescribe broad-spectrum antibiotics due to diagnostic uncertainty and patient expectations. The economic toll of AMR is staggering. The World Bank estimates that AMR could cost the global economy up to $100 trillion by 2050. Developing countries are especially vulnerable, with projections of a 1.1–3.8% reduction in GDP due to drug-resistant infections [5, 6].

Beyond economics, AMR exacerbates poverty, increases healthcare costs, and undermines trust in medical systems. It also disproportionately affects marginalized populations with limited access to quality care. With high rates of self-medication and poor sanitation, Nigeria faces a growing AMR crisis. The country recently launched its second national action plan to combat resistance. Overuse of antibiotics in both human and veterinary medicine has led to widespread resistance, including to last-resort drugs like carbapenems. Studies show high resistance rates in pathogens causing urinary tract and respiratory infections, driven by unregulated pharmacies and poor hygiene [6, 7].

While the WHO adopted a Global Action Plan on AMR in 2015, implementation in developing nations remains uneven. The lack of political will, funding, and technical expertise hampers progress. The “One Health” approach—integrating human, animal, and environmental health—is gaining traction but requires stronger coordination and investment. Despite challenges, there are promising developments: New tools can help clinicians distinguish bacterial from viral infections, reducing unnecessary antibiotic use. Artificial intelligence is being used to identify novel compounds that can bypass resistance mechanisms. Initiatives like the AMR Action Fund and GARDP aim to accelerate antibiotic development and ensure equitable access [7, 8].

Developing nations often lack robust surveillance systems to monitor AMR trends. According to WHO’s GLASS report, only 67% of countries with national action plans are actively

implementing them, and just 29% have budgeted and monitored their progress [9, 10].

Conclusion

Drug resistance in developing nations is not just a medical issue it's a socio-economic and ethical crisis. Ignoring it risks undoing decades of progress in global health. By prioritizing equitable access to diagnostics, enforcing regulations, and fostering innovation, the world can turn the tide against this overlooked threat.

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