**Antimicrobial Resistance in Slums: A Call for Global Action**

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Every year, around 7.7 million deaths are linked to bacterial infections. Out of these, 4.95 million deaths are related to drug-resistant pathogens, while 1.27 million deaths are due to bacterial pathogens that are resistant to available life-saving antibiotics [1]. This reifies the grave threat posed by Antimicrobial Resistance (AMR), which disproportionately affects vulnerable and marginalized populations [2], including people living in slums. These resistant microorganisms, often referred to as "superbugs," continue to proliferate, making infections harder to treat and increasing the risk of disease spread, severe illness, and death.

Population settlement patterns, particularly in slums, play a significant role in the spread of AMR. This is especially concerning as the global population of slum dwellers is rising rapidly and is expected to triple from 1 to 3 billion by 2050 [3]. Poor living conditions and limited access to basic necessities expose residents to increased health risks. For instance, individuals in slums face a high risk of contracting diseases such as diarrhea due to poor sanitation [4]. According to a 2023 United Nations World Water Development Report, 2 billion people worldwide lack access to safely managed drinking water, and 3.6 billion lack safely managed sanitation services [5]. This lack of clean water and proper sewage systems disproportionately affects people living in slums, facilitating the spread of infectious diseases like cholera, typhoid, and hepatitis A, thereby creating hotspots for spread of AMR. Furthermore, overcrowded housing, poverty, unsafe waste disposal, and polluted environments in slums exacerbate the spread of infectious diseases. For example, regular outbreaks of infectious diseases such as diarrheal diseases, leptospirosis, malaria, tuberculosis, and dengue are not uncommon in rural and urban slums [6]. This emphasizes the need to strengthen infection prevention and control measures, as the higher spread of infections reflects the potential risk of the spread of drug-resistant infections.

The high burden of non-communicable diseases in slums [7], which can predispose residents to drug-resistant infections, is another significant concern. These chronic illnesses often weaken the immune system, making individuals more susceptible to infections and complicating treatment options, thereby increasing the likelihood of developing and spreading resistant pathogens. Furthermore, slum residents often misuse antibiotics due to inadequate healthcare infrastructure and lack of access to medical care [8]. This misuse is compounded by a lack of awareness about infection prevention, control, and antimicrobial resistance. AMR awareness initiatives rarely reach slum residents, further exacerbating the problem. Additionally, most people living in slums are impoverished and not included in health insurance schemes, so any additional healthcare costs can lead to financial disaster. Addressing AMR at its root, particularly in slums, is therefore imperative.

Socioeconomic factors such as poverty and low levels of education significantly contribute to the misuse of antimicrobials [9]. The lack of access to medical laboratories and diagnostic tools in slums also hinders effective antimicrobial stewardship. Poor infrastructure and sanitation services not only increase the transmission of infectious diseases but also encourage the misuse of antibiotics, as residents turn to unregulated, sub-standard, and counterfeit medications due to inadequate healthcare access. Without addressing these underlying issues, AMR is likely to disproportionately affect these populations.

Importantly, the potential for drug-resistant infections to spread from slums to broader communities through water bodies, agricultural produce, and human interaction emphasizes the risk beyond these settlements. This is particularly worrisome as AMR has been projected to cause 10 million annual deaths by 2050 [10]. If this trend continues, the already alarming prediction of AMR costing over $100 trillion globally each year after 2030 could become a reality [10].

Addressing AMR in slums requires a comprehensive approach: transforming slums into habitable communities, providing access to quality healthcare services, expanding health insurance coverage, implementing social empowerment programs to alleviate poverty, ensuring access to education, and regularly sensitizing the population about AMR. Governments, non-governmental organizations, AMR activists, and healthcare professionals must unite efforts to effectively address AMR in slums. The time to act is now; our collective global action can turn the tide against this silent pandemic, securing a healthier future for all.

**AUTHOR CONTRIBUTIONS**

The article was conceptualized by Kenneth Chukwuebuka Egwu. Kenneth Chukwuebuka Egwu and Maryam Abdulkarim wrote the first draft. Yusuff Adebayo Adebisi and Maria Fay Nenette Cariaga revised the first draft critically for important intellectual content.

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