Abdul-Ghani, UST J Med Sci 2025;3:1.
https://doi.org/10.59222/ustjms.3.1.E

UST JOURNAL FOR MEDICAL SCIENCES
Published by
University of Science and Technology, Sana'a, Yemen

EDITORIAL

Supporting OPEN-ACCESS Publishing

A National Antimicrobial Resistance Surveillance Network in Yemen: An Urgent Call for Action

Rashad Abdul-Ghani[1,2*]

[1] Department of Medical Parasitology, Faculty of Medicine and Health Sciences, Sana'a University, Sana'a, Yemen

[2] Tropical Disease Research Center, Faculty of Medicine and Health Sciences, University of Science and Technology (USTY), Sana'a, Yemen

*** Corresponding author: Email:** rashadqb@yahoo.com

ABSTRACT

Antimicrobial resistance (AMR) is a global health concern that requires well-coordinated surveillance systems. In Yemen, the lack of a surveillance network hampers efforts to combat AMR and make it difficult to collect and analyze AMR data for strategic interventions. To obtain reliable information about AMR emergence and patterns, an extensive surveillance system that includes hospitals, clinics and laboratories is crucial. The government's adoption of this system, along with the nomination of an AMR steering committee, can facilitate standardization of protocols and data integration related to AMR. Strengthening surveillance is key to combating AMR, and establishing a national AMR network can serve as an early warning system for the emergence and patterns of AMR.

Keywords: Antimicrobial resistance ▪ Surveillance ▪ Yemen

Addressing the global rise in antimicrobial resistance (AMR) requires immediate action to establish coordinated surveillance systems to effectively detect and respond to emerging resistance patterns.[1, 2] There is an urgent need to develop comprehensive strategies to address this public health threat, minimize the impact of AMR and ensure that antibiotics remain effective for future generations. In addition to global efforts, local collaborative initiatives are urgently needed to address the public health threat of AMR and ensure the effectiveness of antimicrobial treatments. A recent exploratory study highlighted a high level of awareness among Yemeni healthcare workers and pharmacists regarding the prevalence of AMR, with 96% recognizing it as a serious issue.[3] However, the study also revealed a concerning trend of inappropriate use of antibiotics by both prescribing physicians and dispensing pharmacists. It also highlighted suboptimal antimicrobial stewardship activities in Yemen, such as inconsistent antibiotic prescribing practices and limited access to antibiotic susceptibility testing, indicating a low prioritization of these crucial measures.[3]

In Yemen, the absence of a robust surveillance network makes it harder for healthcare professionals and policymakers to deal with AMR, hindering the collection and analysis of critical data that could help guide strategic interventions. Inadequate surveillance of antimicrobial resistance patterns in the country hinders the ability to identify emerging trends and hotspots of AMR effectively. A comprehensive and well-structured surveillance system is crucial for obtaining reliable and representative infor-

Online ISSN: 2959-4146
Print ISSN: 2959-4138

mation about the incidence of AMR. This system should encompass various sources, such as hospitals, clinics and laboratories, and employ standardized protocols for detecting and reporting AMR across all participating healthcare facilities. This network should be adopted by the government with a steering committee to translate the political commitment into action,[4] enabling standardization of protocols and data integration and facilitating effective monitoring of antimicrobial use and resistance patterns. Without comprehensive surveillance, healthcare providers may not be able to make informed decisions about prescribing antibiotics, leading to inappropriate use and further contributing to the problem of antibiotic resistance. It is crucial for the government to invest in improving surveillance systems to better understand and combat the growing threat of AMR.

The establishment of a national AMR network can serve as an early warning system for emerging resistance. Strengthening surveillance is key to addressing AMR.[5] A recent systematic review showed that some high-income countries have recently established national early warning systems for emerging AMR, mostly in both community and hospital settings, while these systems are yet to be developed in many countries,[6] which face challenges due to limited resources for AMR surveillance and monitoring. Establishing robust AMR surveillance networks is essential not only for monitoring emerging resistance patterns but also for formulating effective public health strategies, particularly in vulnerable regions like Yemen where healthcare systems might not be ready for such emergencies. The disruption of healthcare infrastructure in the country has critically undermined surveillance capabilities, leading to a significant lack of data regarding the patterns of AMR. In addition, several factors complicate the landscape of AMR in the country, including inadequate regulation of antibiotic dispensing, widespread self-medication, and limited access to quality diagnostics.

Conflict of Interest

The author declares no conflict of interest associated with this article.

Funding

None.

References

1. Bertagnolio S, Suthar AB, Tosas O, Van Weezenbeek K. Antimicrobial resistance: Strengthening surveillance for public health action. PLoS Med. 2023:20(7):e1004265. DOI ● PubMed ● Google Scholar
2. Karthikeyan V, Saini N, Nadarajan R, Gopimohan M, Roy P. Multidisciplinary collaboration in combatting antimicrobial resistance: Insights and outcomes from the National Alliance of Medical Professionals on Antimicrobial Resistance (NAMP-AMR) initiative. Cureus. 2024:16(9):e68932. DOI ● PubMed ● Google Scholar
3. Orubu ESF, Al-Dheeb N, Ching C, Bu Jawdeh S, Anderson J, Sheikh R, et al. Assessing antimicrobial resistance, utilization, and stewardship in Yemen: An exploratory mixed-methods study. Am J Trop Med Hyg. 2021:105(5):1404-12. DOI ● PubMed ● Google Scholar
4. Inoue H, Minghui R. Antimicrobial resistance: Translating political commitment into national action. Bull World Health Organ. 2017:95(4):242. DOI ● PubMed ● Google Scholar
5. Walia K, Ohri VC. Strengthening surveillance key to addressing antimicrobial resistance. Indian J Med Microbiol. 2016:34(4):413-15. DOI ● PubMed ● Google Scholar
6. Iera J, Isonne C, Seghieri C, Tavoschi L, Ceparano M, Sciurti A, et al. National early warning systems for emerging AMR in high-income countries: A systematic review. Eur J Public Health. 2024:34(Suppl 3):ckae144.136. DOI ● PubMed ● Google Scholar

To cite this article...

Abdul-Ghani R. A National Antimicrobial Resistance Surveillance Network in Yemen: An Urgent Call for Action. UST J Med Sci. 2025;3:1. https://doi.org/10.59222/ustjms.3.1.E

Online ISSN: 2959-4146
Print ISSN: 2959-4138