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## Peer-Review Report

# Peer Review of “Establishing Antimicrobial Resistance Surveillance in the Water and Environment Sector in a Resource-Limited Setting: Methodical Qualitative and Quantitative Description of Uganda’s Experience From 2021 to 2023”

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### Related Articles:

Preprint: <https://preprints.jmir.org/preprint/50588>

Authors' Response to Peer-Review Reports: <https://bio.jmirx.org/2024/1/e58949/>

Published Article: <https://bio.jmirx.org/2024/1/e50588/>

(*JMIRx Bio* 2024;2:e58903) doi: [10.2196/58903](https://doi.org/10.2196/58903)

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### KEYWORDS

antimicrobial resistance; surveillance system; water and environment sector

*This is a peer-review report submitted for the paper “Establishing Antimicrobial Resistance Surveillance in the Water and Environment Sector in a Resource-Limited Setting: Methodical Qualitative and Quantitative Description of Uganda’s Experience From 2021 to 2023”*

## Round 1 Review

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### General Comments

This paper [1] is timely and presents data on antimicrobial resistance (AMR) surveillance in the water and environment sector in a resource-limited setting.

### Specific Comments

#### Methodology

“A stepwise approach was employed. Governance structures were streamlined and sector-specific AMR surveillance guiding documents developed” -> “were developed”

“Conclusion” -> Check the spelling.

“CONFLICTS OF INTEREST” -> “CONFLICT OF INTEREST”

#### Antimicrobial Resistance Governance Establishment and Enhancement

“To streamline the AMR governance in the water and environment sector, a sector-specific AMR technical working group (TWG) was instituted with identified a focal person to coordinate the surveillance activities in the sector.” (Rewrite this.)

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### Conflicts of Interest

None declared.

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### Major Comments

#### Enhancement of the Microbiology Capacity of the National Water Quality Reference Laboratory

I would like to see a description of the testing platforms in this lab and plans for genomic surveillance of AMR since it reveals more about the complexity, evolution, and transmission of these pathogens as seen here.

### Minor Comments

#### AMR Data Generation

“The developed sector-specific AMR surveillance documents were pretested.” (How was this done?)

### Discussion

Figure 1: It would be important to share this data via a public dashboard like here [2]. “Liguori et al. have described the methods as fairly standardized, and an avenue for further analysis of the recovered isolates including sensitivity testing, sequence-based typing and whole genome sequencing, which aid in detecting and identifying antibiotic-resistant genes and genetic elements [3].” And virulence factors [4].

Authors should also discuss making a sentence on the contribution of environmental wastewater sequencing.

As a way forward, I wish to request the authors set up a public dashboard to share this important AMR surveillance data to stakeholders beyond the TWG as seen here [5].

**Editorial notice:** A peer reviewer conflict of interest was identified prior to publication: They work at the same institution or organization as an author. They have published with an author during the past 5 years.

## References

1. Katumba G, Mwanja H, Mayito J, Mbolanyi B, Isaasi F, Kibombo D, et al. Establishing antimicrobial resistance surveillance in the water and environment sector in a resource-limited setting: methodical qualitative and quantitative description of Uganda's experience from 2021 to 2023. JMIRx Bio. 2024. [doi: [10.2196/50588](https://doi.org/10.2196/50588)]
2. MAAP country reports. African Society for Laboratory Medicine. URL: <https://aslm.org/what-we-do/maap/maap-country-reports> [accessed 2024-04-22]
3. Liguori K, Keenum I, Davis BC, Calarco J, Milligan E, Harwood VJ, et al. Antimicrobial resistance monitoring of water environments: a framework for standardized methods and quality control. Environ Sci Technol. Jul 05, 2022;56(13):9149-9160. [doi: [10.1021/acs.est.1c08918](https://doi.org/10.1021/acs.est.1c08918)] [Medline: [35732277](https://pubmed.ncbi.nlm.nih.gov/35732277/)]
4. Kiyaga S, Kyany'a C, Muraya AW, Smith HJ, Mills EG, Kibet C, et al. Genetic diversity, distribution, and genomic characterization of antibiotic resistance and virulence of clinical strains in Kenya. Front Microbiol. 2022;13:835403. [doi: [10.3389/fmicb.2022.835403](https://doi.org/10.3389/fmicb.2022.835403)] [Medline: [35369511](https://pubmed.ncbi.nlm.nih.gov/35369511/)]
5. National situation of antimicrobial resistance and consumption analysis from 2016-2018. African Society for Laboratory Medicine. URL: [https://aslm.org/wp-content/uploads/2023/07/AMR\\_REPORT\\_UGANDA.pdf?x89467](https://aslm.org/wp-content/uploads/2023/07/AMR_REPORT_UGANDA.pdf?x89467) [accessed 2024-04-22]

## Abbreviations

**AMR:** antimicrobial resistance  
**TWG:** technical working group

*Edited by T Leung; this is a non-peer-reviewed article. Submitted 27.03.24; accepted 27.03.24; published 07.05.24.*

*Please cite as:*

*Mboowa G*

*Peer Review of "Establishing Antimicrobial Resistance Surveillance in the Water and Environment Sector in a Resource-Limited Setting: Methodical Qualitative and Quantitative Description of Uganda's Experience From 2021 to 2023"*

*JMIRx Bio 2024;2:e58903*

*URL: <https://bio.jmirx.org/2024/1/e58903>*

*doi: [10.2196/58903](https://doi.org/10.2196/58903)*

*PMID:*

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