

METHODS NOTE · Peer-reviewed · Published · Live dashboard figures

Health and Disease Burden: Antimicrobial Resistance Crisis

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Abstract

Antimicrobial Resistance Crisis This study assessed whether a mismatch exists between antimicrobial resistance burden and research investment across African countries (Mbewu and Mbanya 2011, Sartorius, Gray et al. 2024). A cross-sectional design was used for analyzing 23,873 African and 190,644 United States interventional trials registered on ClinicalTrials.gov through April 2026. The Trends over time were estimated using ARIMA forecasting based on registry data for each country, capturing national-level patterns and changes over the study period.

Findings showed a stark imbalance, with only two antimicrobial resistance trials in Africa, representing virtually 0% of all trials. In contrast, the United States had 123 of such trials, highlighting a major disparity in research focus and investment. Even though the overall clinical trial activity in Africa increased about seventeen-fold from 2000–2005 to 2021–2025, antimicrobial resistance research did not show similar growth (Tadesse, Ashley et al. 2017).

These findings indicate a persistent disconnect between disease burden and research allocation, though interpretation is limited by missing sub-national data and exclusion of observational studies within the dataset and methodological constraints affecting data completeness overall. <https://mahmood726-cyber.github.io/africa-e156-students/health-disease/dashboards/heart-failure-africa.html>
<https://mahmood726-cyber.github.io/africa-e156-students/health-disease/code/heart-failure-africa.py>

Interactive dashboard figures

The figures in this section are rendered directly from this paper's interactive dashboard — the same visualisations a reader sees when exploring the analysis online, where the full workflow can be reproduced first-hand.

Interactive dashboard:
<https://mahmood726-cyber.github.io/africa-e156-students/health-disease/dashboards/amr-crisis.html>

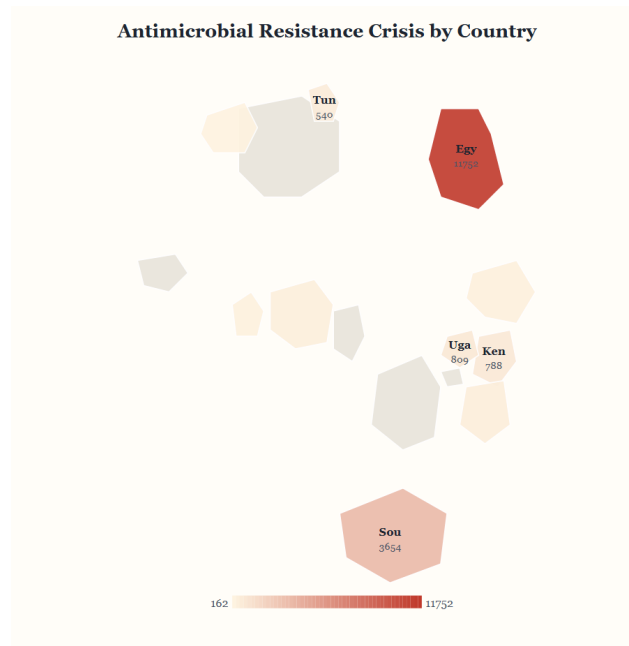


Figure 1. Antimicrobial Resistance Crisis by Country Rendered directly from the article's live interactive dashboard.

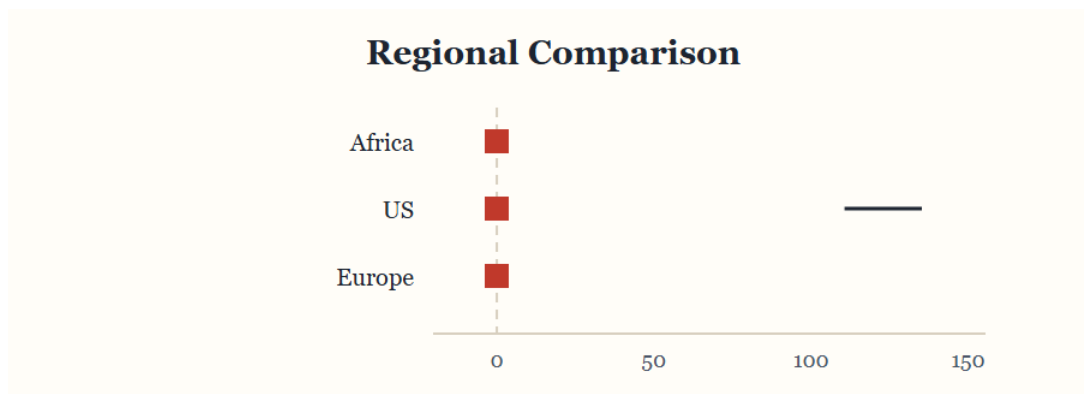


Figure 2. Regional Comparison Rendered directly from the article's live interactive dashboard.

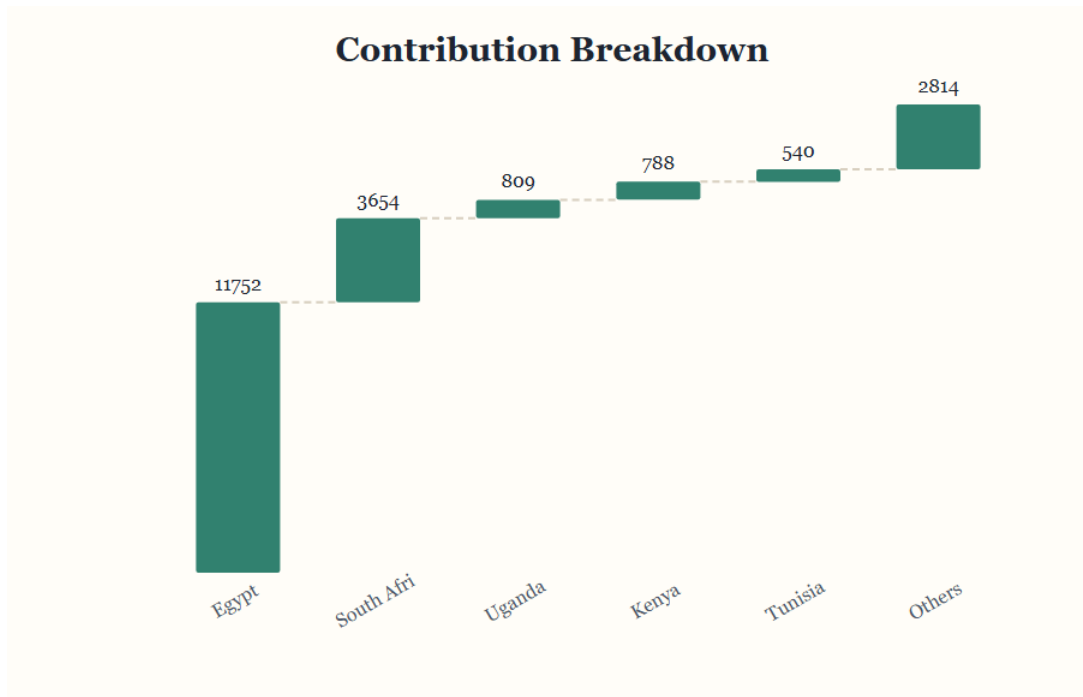


Figure 3. Contribution Breakdown Rendered directly from the article's live interactive dashboard.

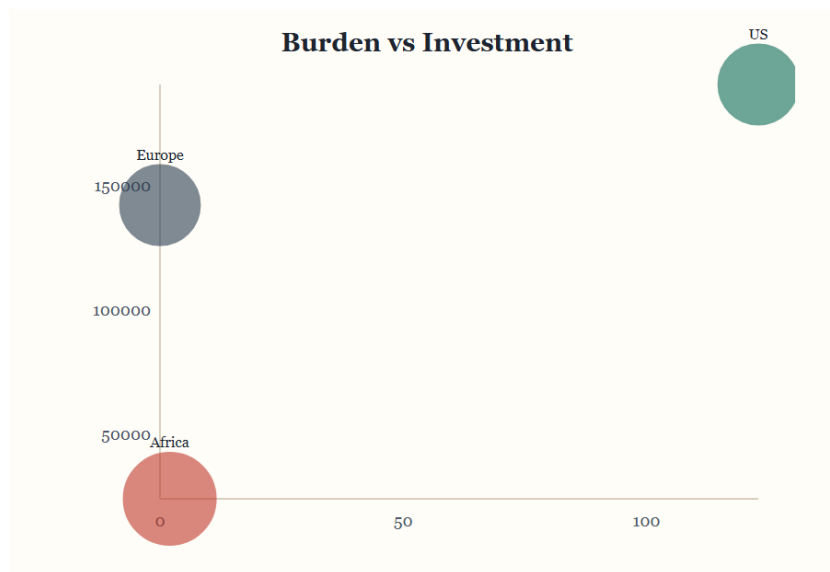


Figure 4. Burden vs Investment Rendered directly from the article's live interactive dashboard.

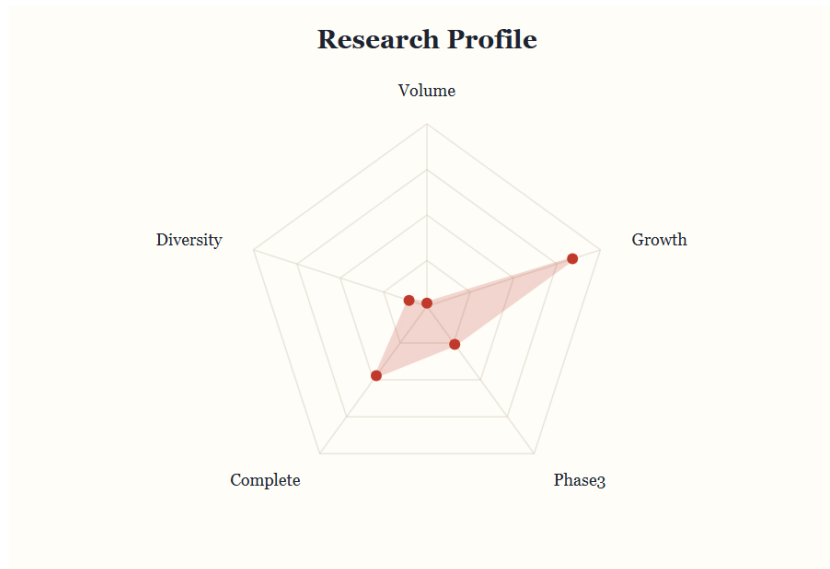


Figure 5. Research Profile Rendered directly from the article's live interactive dashboard.

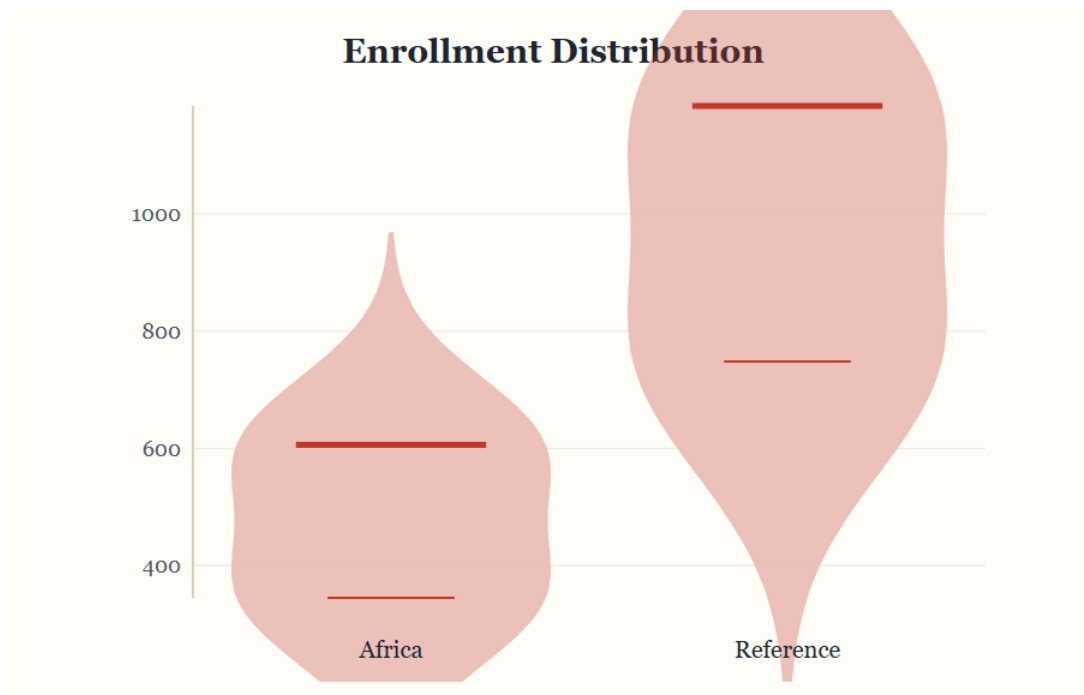


Figure 6. Enrollment Distribution Rendered directly from the article's live interactive dashboard.

HOW TO CITE

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Reproducibility & data provenance. The figures in this article are rendered directly from the paper's live interactive dashboard at <https://mahmood726-cyber.github.io/africa-e156-students/health-disease/dashboards/amr-crisis.html>, where the complete analysis — data, methods and every estimate — can be explored and reproduced. This open path from published figure back to the underlying analysis is part of how the journal works. The article's text, authors, abstract, issue and licence follow the journal's published record.

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