MeetingsPremium
MP Journal of Medical Research
Journal of poster communications · ISSN 3144-8402 (Online)
Vol. 1 · 2026-0031
OPEN ACCESS

TYPE
Poster communication

SPECIALTY
Infectious Diseases

PRESENTED AT
Research Dissemination Conference

PUBLISHED
14 October 2026

DOI
10.5281/zenodo.23371600

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KEYWORDS
antimicrobial resistance · economic costing · low- and middle-income countries · drug-resistant bacterial infections

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POSTER COMMUNICATION · INFECTIOUS DISEASES

Economic costing methodologies for drug-resistant bacterial infections in humans in low- and middle-income countries: a systematic review

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KEY MESSAGES

1. La majorité des études utilisent une approche micro-costing pour estimer les coûts économiques des infections bactériennes résistantes aux médicaments en pays à revenu faible et intermédiaire.
2. Les études descriptives sont fréquentes mais ne permettent pas de saisir la complexité complète du fardeau économique lié à la résistance aux antimicrobiens.
3. Les méthodes basées sur la régression, bien que peu utilisées, pourraient fournir des estimations plus plausibles mais nécessitent des données et ressources importantes.

ABSTRACT

Introduction. Accurate and robust estimates of the economic burden of antimicrobial resistance (AMR) are necessary to develop reliable and actionable policies. Extensive research exists on the clinical burden of AMR in low- and middle-income countries (LMICs), but comprehensive economic cost estimates are limited partly due to a lack of standard methodologies. The study aims to identify relevant cost variables for economic costing in AMR-related infections and to investigate the level of costing and types of infections widely researched in LMICs.

Materials and methods. A systematic review was conducted including quantitative papers on economic costing methodologies of drug-resistant bacterial infections in humans in LMICs. Data sources included PubMed, CINAHL, Embase, Cochrane library, and other global databases. Studies were screened and assessed for quality using a modified JBI tool and data extraction was done using a modified Covidence template. Reviews and commentaries were excluded.

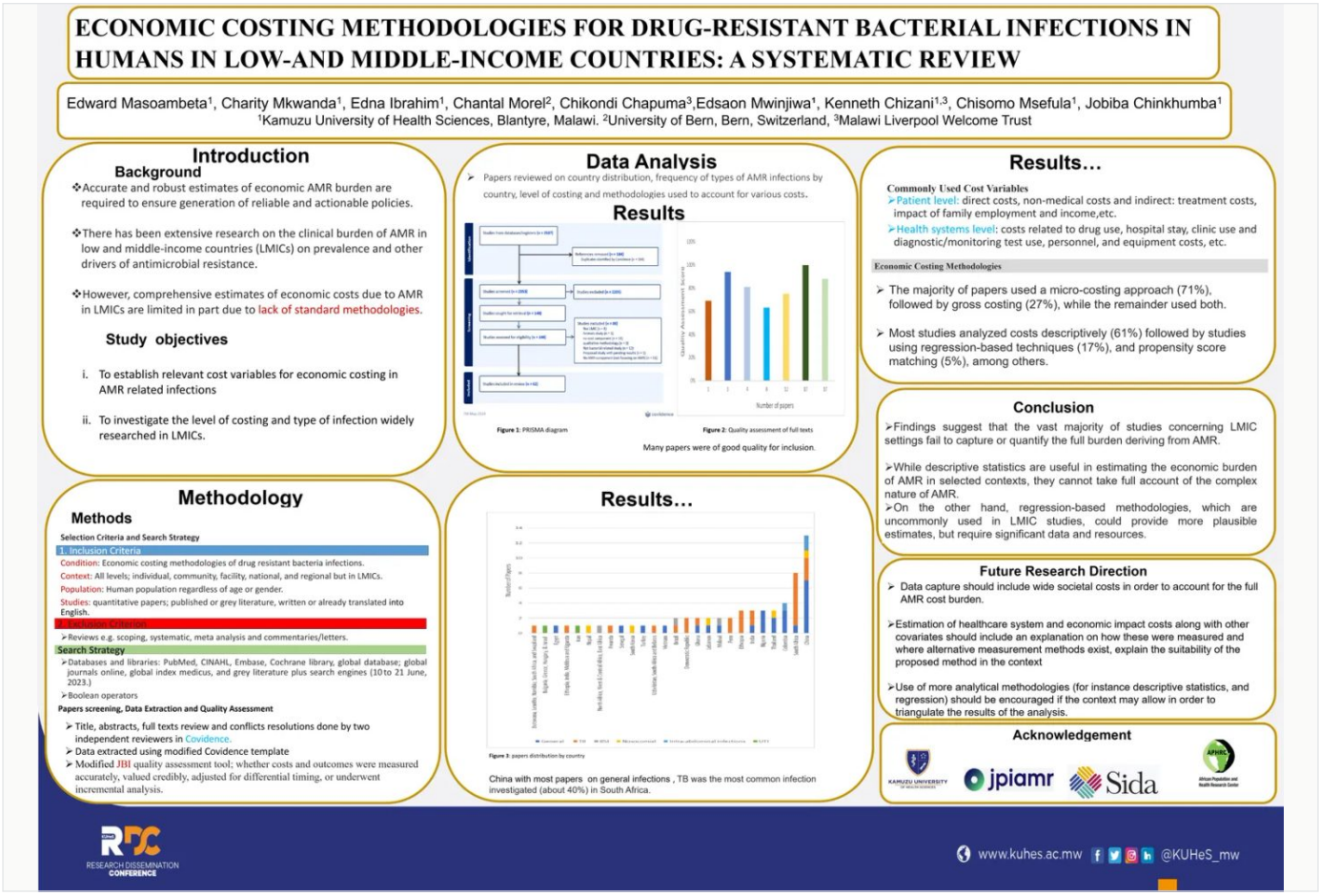
Results. The majority of papers used a micro-costing approach, followed by gross costing, with some using both. Most studies analyzed costs descriptively, while fewer used regression-based techniques or propensity score matching. Cost variables were identified at the patient level (direct, non-medical, and indirect costs) and health system level (drug use, hospital stay, personnel, equipment). China had the most papers on general infections, and tuberculosis was the most common infection studied in South Africa. Many papers were of good quality for inclusion.

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ABSTRACT (CONTINUED)

Conclusion. Most studies in LMIC settings fail to fully capture or quantify the economic burden of AMR. Descriptive statistics are useful but insufficient to account for the complex nature of AMR. Regression-based methodologies, though less commonly used, could provide more plausible estimates but require significant data and resources. Future research should include wide societal costs and detailed healthcare system impacts, and encourage use of more analytical methodologies to triangulate results.

POSTER



CITE THIS PUBLICATION

Masoambeta E, Mkwanda C, Ibrahim E, Morel C, Chapuma C, Mwinjiwa E, et al. Economic costing methodologies for drug-resistant bacterial infections in humans in low-and middle-income countries: a systematic review [Poster]. MP J Med Res. 2026;1:2026-0031. doi:10.5281/zenodo.23371600

Vancouver format · APA, BibTeX and RIS on the online record

Original poster in high definition on the online record.

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