

Grading antimicrobial susceptibility data quality: room for improvement – Authors' reply

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We concur with Elizabeth Ashley and colleagues' pertinent point identifying the shortage of robust scientific schemes for assessing the quality of microbiology data, and the failure of Grading of Recommendations Assessment, Development, and Evaluation (GRADE) analysis to necessarily concur with the quality of other important analyses within a scientific paper (or, as in the case of our Review,¹ the quality of microbiology results).

Although the GRADE approach ensures the systematic assessment of evidence within systematic reviews,² Ashley and colleagues have indeed highlighted the limitations of this ubiquitous methodology in its application to the interpretation of microbiology results, highlighting that so-called good-quality evidence is not necessarily always strong evidence.

As mentioned by Ashley and colleagues, scaling up microbiology capacity (and its links to clinical care) is of utmost importance if progress against antimicrobial resistance is to be made in low-income and middle-income countries (LMICs), regions where collaborative surveillance for antimicrobial resistance and external quality assurance of laboratory procedures is minimal, despite the morbidity and mortality burden antimicrobial resistance causes within these populations.^{3,4}

Alongside concern regarding the quality of methodological data in the published literature, we would also underscore the lack of delineation between hospital-acquired and community-acquired infections within published data and other important biases often not considered in data analysis, such as failure to account for pre-treatment with antibiotics.

We support Ashley and colleagues' proposal for additional guidelines to provide quality assurance of microbiological data before publication and strengthening of the external quality assurance of laboratories in LMICs, as well as the recommendation that enhancing the role of microbiologists in the review of research before publication would improve the quality of published data.

Antimicrobial resistance continues to be an evolving and increasing threat to global health and requires action from many stakeholders—from the laboratory, where a resistant culture might be revealed, through to the analysis of thousands of culture results within systematic reviews, from which regional conclusions regarding resistance patterns can be drawn. As highlighted by the WHO Global Antimicrobial Resistance Surveillance System recommendations, strengthening the evidence base—which must be collated via sound microbiological data—through enhanced global surveillance and research is the cornerstone of assessing the burden of antimicrobial resistance, and remains important for providing the necessary information for action in regional and international strategies.⁵

We declare no competing interests.

References

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