Growing antimicrobial resistance poses a significant threat to addressing this global burden of disease. While STIs are a recognized public health problem in Zambia, resistance remains largely an unknown entity. This is particularly true of rural areas where there is no local resistance data available and very few microbiology labs. In this setting, the WHO syndromic approach to STI management is recommended.

National guidelines and WHO recommended alternatives were used as the standard. Data collection and analysis was approved by the Zambian Ministry of Health. The WHO granted permission to use and adapt its materials (ID:202300108). The intervention consisted of collaborative teaching structured around the implementation of simple flow charts based on the WHO syndromic approach and national Zambian guidelines. One-to-one mentoring was delivered over a period of three weeks.

This highlights the significance of addressing supply chains and ordering processes, particularly to rural areas. It is likely that improvements in appropriate prescribing rates will depend on parallel improvements in local antimicrobial availability. No educational intervention can overcome an empty drug cupboard, but education can be used to conserve the limited stock through more selective use. Improved access to either laboratories or point of care testing would make the decision to prescribe easier. However, in their absence, increasing adherence to the WHO syndromic approach has the potential to limit unnecessary prescriptions in low-resource rural settings, improving resource conservation and antimicrobial stewardship.
Results: The case studies are as follows: (i) the influence of the NRDC in accelerated antimicrobial development; (ii) the introduction of the β-lactamase inhibitor—the influence of short-term clinical and financial benefit on prescribing behaviour; (iii) the ‘golden era’ of antibiotics—cephalosporin development and the consequences of short-term market forces; (iv) knowledge of MBL resistance prior to introduction of carbapenems in clinical settings; (v) consequences of controlled manufacturing for the global supply of piperacillin/tazobactam; and (vi) early surveillance studies and the beginning of the antimicrobial stewardship agenda.

Conclusions: In each case study we provide insight into how key stakeholders can improve practices by learning from past experiences, to inform the future stewardship agenda. We built a case for the need to incorporate evolutionary microbiology into policy and industrial decision-making in order to improve the mitigation of antimicrobial resistance.