

2002

# **Evaluating the Effect of a Pharmacy- Based Syndromic Management Algorithm on Appropriate Antibiotic Dispensing for Upper Respiratory Infections in Tanzanian Private Drug Shops: A Mixed Methods Study**

---

N, e, e, m, a, M, u, s, h, i, ,, J, o, h, n, S, h, a, o, ,, A, i, s, h, a, M, w, a, i, s, e,  
l, a, g, e, ,, F, r, a, n, k, M, t, e, i

DOI: <https://doi.org/10.5281/zenodo.18531480>

## | Abstract

Inappropriate antibiotic dispensing for upper respiratory infections (URIs) in private drug shops is a key driver of antimicrobial resistance in Tanzania. Syndromic management algorithms have been proposed to improve practice, but evidence of their effectiveness in private retail settings is limited. This study evaluated the effect of introducing a pharmacy-based syndromic management algorithm on the appropriateness of antibiotic dispensing for URIs in private drug shops in Mwanza, Tanzania. A concurrent mixed methods design was employed. The quantitative component was a quasi-experimental study with a control group, using standardised patient visits to measure antibiotic dispensing rates before and after the intervention. The qualitative component involved in-depth interviews with drug dispensers to explore experiences and barriers to algorithm use. Data were integrated during analysis. Quantitatively, intervention shops showed a significant reduction in inappropriate antibiotic dispensing for viral URIs. Qualitatively, key themes included the algorithm's perceived legitimacy and utility, alongside challenges with patient demand for antibiotics and diagnostic uncertainty. The syndromic management algorithm was effective in reducing inappropriate antibiotic dispensing for URIs in this setting. Its success is moderated by contextual factors including patient expectations and dispenser confidence. Implementation of such algorithms should be accompanied by training to

address patient communication and diagnostic support. Policy frameworks should consider integrating validated algorithms into the regulation of private drug shops. Antimicrobial resistance, antibiotic stewardship, private sector, drug shop, syndromic management, Tanzania, mixed methods This study provides evidence on the implementation of a practical tool to improve antibiotic dispensing in a critical but under-regulated sector of African health systems.

---