

Antimicrobial Stewardship: Translating Theory into Practice

D. Sherif Kamal

Advisor of the Chairman of EHA Board for Medication Management and Pharmacy Affairs

Abstract

Antimicrobial stewardship (AMS) is a critical strategy for combating antimicrobial resistance (AMR), optimizing patient outcomes, and preserving the effectiveness of existing antimicrobials. While AMS is well-supported by theoretical frameworks and evidence-based guidelines, translating these principles into practical, sustainable interventions remains a challenge. This review explores the key elements required to bridge the gap between AMS theory and real-world application, including stakeholder engagement, institutional support, behavior change strategies, and the integration of clinical decision support systems. Successful AMS programs rely on multidisciplinary collaboration, tailored interventions, and continuous quality improvement. Additionally, overcoming barriers such as prescriber inertia, resource limitations, and data accessibility is essential for impactful implementation. By examining case studies and best practices, we highlight practical solutions that can enhance AMS effectiveness across diverse healthcare settings. Ultimately, a pragmatic approach to AMS—grounded in both evidence and adaptability—is necessary to drive meaningful change in antimicrobial prescribing and resistance mitigation.