

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDGS): FIGHTING ANTIMICROBIAL RESISTANCE (AMR) BY INNOVATIVE ANTIBIOTIC DASHBOARD

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Introduction:

AMR poses a significant global health threat, undermining progress on the United Nations (UN) Sustainable Development Goals (SDGs); SDG 3 demands urgent measures to ensure worldwide health and well-being (United Nations, 2020). Effective antimicrobial stewardship (AMS), facilitated by the "Start Smart, Then Focus" toolkit, is crucial for optimising antibiotic use (UK.Gov, 2023). The COVID-19 pandemic has intensified the AMR crisis, necessitating an antibiotic dashboard for responsible management and effective AMR mitigation (WHO, 2022). This research explored AMS and proposed the antibiotic dashboard, developed by examining antibiotic usage in an acute care setting in the UK.

Methods:

This research project included three sequential studies: Study one involved conducting a systematic literature review to investigate the AMS implementation in acute care settings over the past two decades, both prior-to-pandemic (PP) and during-the-pandemic (DP). Study two, a retrospective cross-sectional review, evaluated antibiotic prescribing among 640 medical records of hospitalised adults with respiratory infections PP and DP. Study three was a cross-sectional, prospective survey involving 240 healthcare professionals to explore their knowledge, attitudes, and perceptions towards antibiotic prescribing and AMS practices DP.

Results:

This research project explored AMS through three studies during the COVID-19 pandemic. Study One revealed the prevalent AMS strategies: prospective audits (85%) and quality metrics (77%). Study Two showed effective AMS interventions, including stopping antibiotics (47% of cases) and de-escalation to narrow-spectrum antibiotics (37%). Study Three highlighted the pandemic impact on AMS practices, disrupting antibiotic reviews (81%), audits (70%), and IV-to-oral switch (67%) (Figure 1).

Figure 1. Antimicrobial Stewardship Dashboard.



Conclusions:

This research highlights the critical need for enhanced AMS to combat the escalating threat of AMR, which is aligned with UN development goals. The innovative Antibiotic Dashboard introduced by this study provides essential metrics that significantly improve antibiotic management and patient care. It facilitates real-time decision-making, which is crucial during health crises like the COVID-19 pandemic. Such an innovative dashboard is imperative to sustain effective AMS practices, expand research scope, and uphold global health standards against AMR challenges.

References:

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