The FIP Global Roadmap 2030: Sustainable Pharmacy and Antimicrobial Stewardship with a Novel Antibiotic Dashboard

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1. Introduction

- The International Pharmaceutical Federation (FIP) is dedicated to advancing pharmacy practice, science, and education globally. The FIP Global Roadmap 2030 emphasises sustainable advancement, particularly in antimicrobial stewardship (AMS), aligned with the UN's 2030 Agenda for Sustainable Development. This roadmap, including FIP Development Goal 17 "Antimicrobial Stewardship," offers a strategic overview to combat antimicrobial resistance (AMR) (1).
- Effective AMS, supported by the "Start Smart, Then Focus" toolkit, is crucial. The COVID-19 pandemic has intensified the AMR crisis, necessitating an innovative antibiotic dashboard for effective management and mitigation (2).

2. Aim

- This research explored AMS and proposed the development of a novel antibiotic dashboard by examining antibiotic usage in two secondary care settings in the UK.

3. 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 and during-the-pandemic. Study two, a retrospective cross-sectional review, evaluated antibiotic prescribing among 640 medical records of hospitalised adults with respiratory infections in 2019 and 2020. 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 during the pandemic.
- This study was registered under ISRCTN number 14825813, receiving ethical approval from the University of Hertfordshire Ethics and Health Research Authority (HRA) (REC Reference number 22/EM/0161).
- The public and patient involvement included submitting the study protocol to the Citizens Senate, which provided valuable feedback and suggestions.

4. Results

- **Study One revealed the prevalent AMS strategies**: prospective audits (85%) and AMS quality improvement metrics (77%).
- **Study Two showed effective AMS interventions**, including stopping antibiotics (47%) 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 switches (67%).
- **This research introduces an 'Innovative Antibiotic Dashboard'** featuring two dynamic interactive sections:
    - ✓ **'Start Smart'** employs interactive filters and visualisations for initial empirical therapy, showing data such as patient demographics, antibiotic allergies, and AMS.
    - ✓ **'Then Focus'** supports pathogen-directed therapy with filters and charts detailing bacterial infections, antibiotic reviews, prescribing patterns at discharge, and AMS interventions such as IV-to-oral switch.

Figure 1. Antimicrobial Stewardship Dashboard.

5. Conclusion

- 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. Featuring dynamic sections for both initial and pathogen-directed therapies, 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, detect any AMR incidents, expand research scope, and uphold global health standards against AMR challenges.
- The study's limitations include its acute-care setting within a secondary-care hospital and a limited timeframe, which does not fully explore ongoing changes in AMR and antibiotic stewardship. Further research is needed to understand developments.

6. References

1. FIP. Global Roadmap 2030 [Internet]. FIP Development Goals. 2023. Available from: https://developmentgoals.fip.org/globalroadmap2030/.
2. Abdelsalam Elshenawy R, Umaru N, Aslanpour Z. Impact of COVID-19 on "Start Smart, Then Focus" Antimicrobial Stewardship at One NHS Foundation Trust in England Prior to and during the Pandemic. COVID [Internet]. 2024 Jan 1;4(1):102–16. Available from: https://www.mdpi.com/2673-8112/4/1/10.