

Interpretation of Comparative Analysis on Antibiotic Stewardship Pre and During COVID-19 in UK Secondary Care

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This comprehensive three-phase research project offers a detailed analysis of antimicrobial stewardship (AMS) and antibiotic prescribing practices before and during the COVID-19 pandemic at a secondary care setting. Phase 1, a systematic literature review, revealed critical insights into AMS implementation in acute care settings. The study, published in PMC Public Health Journal, reviewed data from over 63,921 patients and identified overuse and irrational use of antimicrobials as a significant healthcare issue, leading to negative impacts on patient safety, the emergence of antibiotic resistance, and increased economic burdens.

The review highlighted that respiratory tract infections, primarily viral in nature, were often inappropriately treated with antimicrobials. It emphasized the lack of strong evidence supporting AMS implementation, leading to confusion and disagreement about their effectiveness. The review also showcased various AMS interventions and strategies used in different countries, underscoring the importance of multidisciplinary teams, formulary restrictions, pre-authorization, and the effectiveness of antibiotic reviews.

Phase 2, a retrospective medical records review, focused on clinical and demographic characteristics of patients with respiratory tract infections (RTIs) admitted to Bedfordshire Hospitals NHS Foundation Trust. This phase, published in Frontier Microbiology and the Journal of Global Antimicrobial Resistance, showed that most clinical and demographic characteristics remained consistent between the pre-pandemic and pandemic periods, with slight variations in gender distribution and admission specialities.

Phase 3, a prospective survey study, assessed healthcare professionals' knowledge, attitudes, and perceptions regarding antibiotic prescribing, antibiotic resistance, and stewardship during the COVID-19 pandemic. The survey revealed a median knowledge score of 50.13% among healthcare professionals, highlighting a gap in effective AMS educational and training programs and the need for improved attitudes towards antibiotic prescribing, particularly during the pandemic.

Overall, this research project offers valuable insights into the complexities and challenges of AMS and antibiotic prescribing in the context of a global health crisis, emphasizing the need for ongoing education, effective implementation strategies, and multidisciplinary approaches to combat antimicrobial resistance and ensure patient safety.

The interpretation from this research project has been published in the Springer Nature Community, related to the United Nation Set Goals:

- Antimicrobial Stewardship Implementation Before and During the COVID-19 Pandemic in Acute-care settings: <https://communities.springernature.com/posts/antimicrobial-stewardship-implementation-before-and-during-the-covid-19-pandemic-in-acute-care-settings>
- Combating Antimicrobial Resistance: Insights from Antimicrobial Stewardship Research: <https://communities.springernature.com/posts/combating-antimicrobial-resistance-insights-from-antimicrobial-stewardship-research>
- NEW UK Research Reveals Critical Insights into Antibiotic Prescribing During COVID-19 Using WHO AWaRe Classification: <https://amrcommunityexchange.org/news/26601>

Combating Antimicrobial Resistance: Insights from Antimicrobial Stewardship Research

- The World Antibiotic Awareness Week (WAAW) highlights the importance of responsible antibiotic use and education on antimicrobial resistance and antimicrobial stewardship.
- The urgency to combat an AMR has never been greater. With projections of 10 million deaths annually by 2050 due to AMR, the importance of antibiotic awareness is paramount.
- My experience conducting AMR research at Bedfordshire Hospitals NHS Foundation Trust has been pivotal in understanding this crisis.
- I extend heartfelt thanks to the antimicrobial stewardship pharmacists at the Trust. Their collaboration in promoting AMR research has been invaluable.

Key takeaways from this sustainable research project include:

1. A multidisciplinary team is essential for a consistent, integrated research project.
2. Collaboration between academia and NHS trusts is crucial for evidence-based research to address AMR.
3. Future AMR research is vital for developing integrated tools and understanding the necessary elements for [effective AMS implementation](#).
4. Healthcare professionals are committed to proper antibiotic use, but clinical judgment and practice situations can be challenging.
5. Antimicrobial stewardship is more than judicious antibiotic use; it's a lifestyle in clinical practice.
6. The output of this research is a comprehensive roadmap for AMS implementation, including dynamic dashboards and educational programs.
7. The COVID-19 pandemic has highlighted the impact of AMR on mortality.
8. The loss due to antibiotic misuse highlights the urgent need for rational antibiotic use.

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References

Antimicrobial stewardship implementation before and during the COVID-19 pandemic in the acute care settings: a systematic review:

<https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-023-15072-5>

Antibiotic prescribing in an English secondary care setting before and during the COVID-19 pandemic:

<https://www.isrctn.com/ISRCTN14825813>

An Evaluation of the Five Rights Antibiotic Safety Before and During COVID-19 at an NHS Foundation Trust in the United Kingdom:

<https://www.sciencedirect.com/science/article/pii/S2213716523002369?via%3Dihub>

WHO AWaRe classification for antibiotic stewardship: tackling antimicrobial resistance – a descriptive study from an English NHS Foundation Trust prior to and during the COVID-19 pandemic:

<https://www.frontiersin.org/articles/10.3389/fmicb.2023.1298858/full>

Five Rights of Antibiotic Safety: Antimicrobial Stewardship at One NHS Foundation Trust in England Before and During the COVID-19 Pandemic:

https://academic.oup.com/ijpp/article/31/Supplement_2/ii2/7453117?login=false

Start Smart, Then Focus: Antimicrobial Stewardship Practice at One NHS Foundation Trust in England Before and During the COVID-19 Pandemic:

<https://www.medrxiv.org/content/10.1101/2023.06.09.23291146v1>

Parent publications

[Analysis in Comparative Study on Antimicrobial Stewardship and Antibiotic Prescribing: 2019 vs. 2020 COVID-19 Era](#)

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Conflict of interest

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