

Antimicrobial stewardship: exploring unintended consequences

Background

Antibiotics are used to treat bacterial infections, such as pneumonia; however over the last 5-10 years an increasing number of bacteria have become resistant to antibiotics. Antibiotic resistance is a serious issue for patients and healthcare systems, leading to prolonged hospital stays and is associated with higher death rates.

Bacteria often become resistant because antibiotics are used excessively and studies have shown that about half of the time, hospital physicians are not prescribing antibiotics properly. The purpose of antimicrobial stewardship is to increase the appropriate use of antimicrobials and reduce the associated harm. However a wide range of unintended outcomes has been identified; associated with antimicrobial stewardship activities.

Aim

The focus of this rapid review is to explore the use of measurement in antimicrobial stewardship improvement programmes by examining the types of consequence (process or outcome) that improvement researchers and improvement practitioners assess, and provide a framework for making those choices more systematic and rigorous.

Methods

This focused review builds on

- A Cochrane systematic review (2016) which aimed to evaluate the impact of antimicrobial stewardship interventions to improve antibiotic prescribing to hospital inpatients. (In press). A previous review (2013) is available at:
<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003543.pub3/abstract>
- Our recent mixed-methods study (paper in preparation) which draws on the Diffusion of innovations literature to explain the range of outcomes that improvement could have, based on differences in their desirability and predictability.

We have been commissioned to write an article on this work by the Journal of Antimicrobial Chemotherapy which is one of the main journals in that field.