

Use of an Online Learning Module to Enhance Clinical Pharmacist Contributions to Antimicrobial Stewardship

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Background

For health services without access to electronic approval systems for restricted antimicrobials, clinical pharmacists can be utilised to notify Antimicrobial Stewardship (AMS) teams of restricted antimicrobial prescribing (Figure 1). To facilitate effective AMS team triage of patients, notifications should include the drug, indication, and an assessment of appropriateness of therapy (based on recommendations in the Therapeutic Guidelines: Antibiotic), however the latter relies on the clinical knowledge of the pharmacist.

Description

At a regional health service using the aforementioned pharmacist notification system, concordance between the AMS and clinical pharmacists' assessment of appropriateness of antimicrobial therapy for respiratory tract infections (RTIs) was estimated to be below 50 percent. Didactic teaching sessions failed to increase agreement between the AMS and clinical pharmacists' assessments.

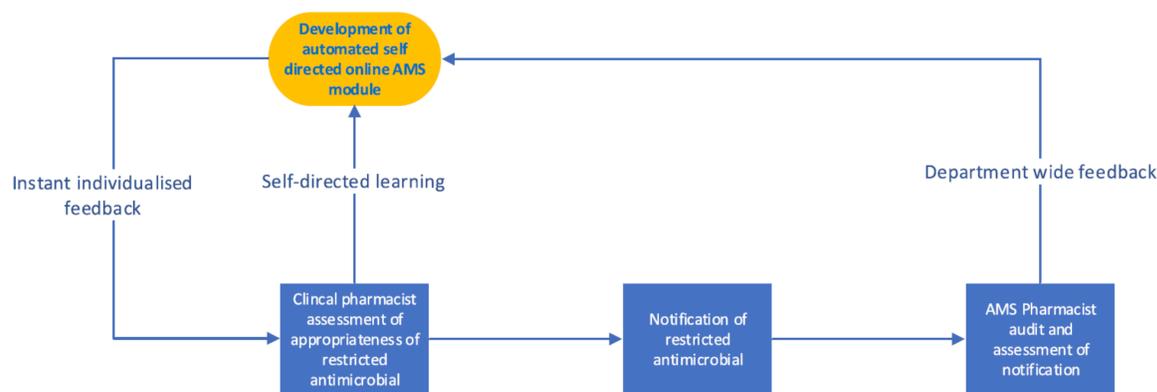


Figure 1: Process of clinical pharmacists' notification to AMS team, highlighting the role of the online module

Action

An anonymous, self-paced, online learning module was developed using case studies incorporating RTIs commonly associated with incorrect pharmacist assessments of antimicrobial therapy. Automated and instant assessment and feedback was provided to the responses submitted. Responses are databased and available for audit by the AMS pharmacist. To investigate the modules effectiveness, a random sample of 30 notifications for RTIs submitted in the three months pre- and post-intervention were reviewed by the AMS pharmacist (using the National Antimicrobial Prescribing Survey criteria¹).

Evaluation

55% of clinical pharmacy staff completed the module (n=11). The percentage of correct responses per case ranged from 33 to 91%, consistent with the diversity of clinical experience within the department. Prior to introduction of the module, concordance between the AMS and clinical pharmacist assessment of appropriateness was 43.3%, increasing to 73.3% (p<0.05) in the post-intervention period (Figure 2). The proportion of patients notified to the AMS team suffering from RTIs included in the case studies in each three month period was not statistically significant (Figure 3). This demonstrated improved clinical knowledge through the module, rather than increased exposure to specific RTI cases.

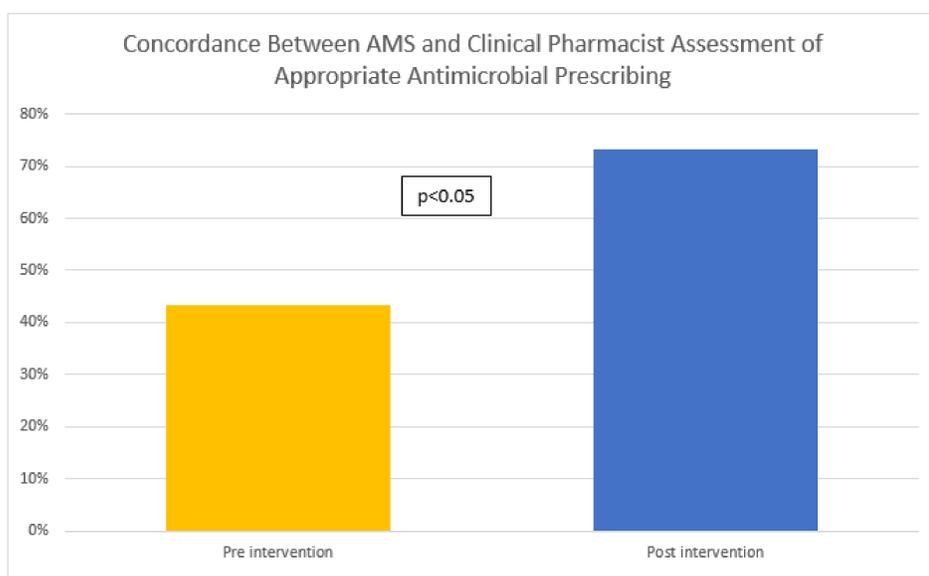


Figure 2: Concordance between AMS and Clinical Pharmacists assessment of appropriate antimicrobial prescribing pre- and post-intervention

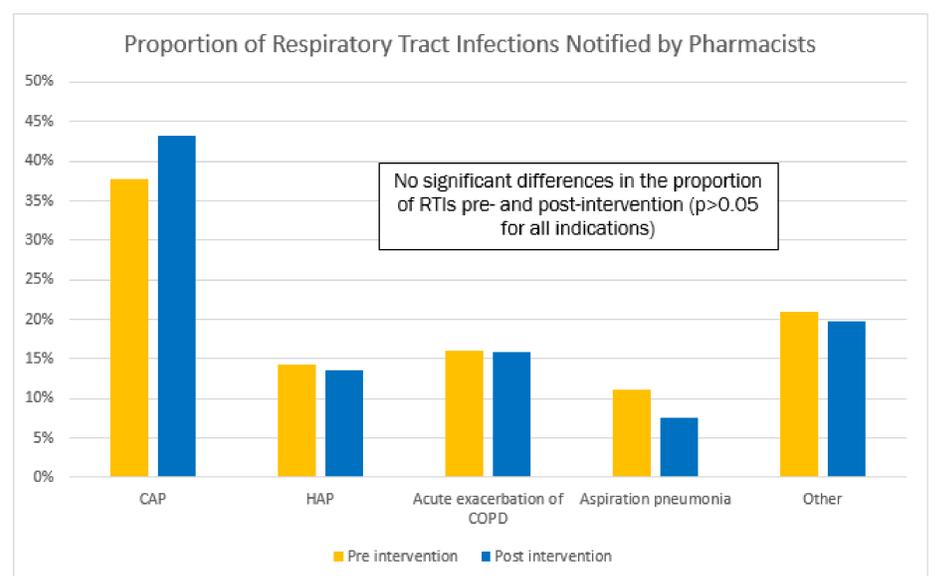


Figure 3: Indication for antimicrobial therapy notified by clinical pharmacists pre- and post- intervention

Implications

The described module is an effective method of improving clinical pharmacists' identification of appropriate antibiotic therapy for RTIs, regardless of baseline knowledge. Similar modules should be considered for other identified AMS gaps, to strengthen clinical pharmacists' knowledge and promote accurately targeted AMS team interventions.

Reference: 1. James R, Upjohn L, Cotta M, Luu S, Marshall C, Busing K, Thursky K. Measuring antimicrobial prescribing quality in Australian hospitals: development and evaluation of a national antimicrobial prescribing survey tool. *Journal of Antimicrobial Chemotherapy*. 2015 Feb 26;70(6):1912-8.

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