

Evaluating Antimicrobial Stewardship (AMS) Pharmacist Reviews in an Australian Multi-Site Teaching Hospital Network

J.Hughes¹, K. Horne², L. Upjohn², H.Abdullahi¹ and E. Roberts¹

1 Pharmacy department, Monash Health, Melbourne, Australia
2 Infectious Diseases department, Monash Health, Melbourne, Australia

Introduction

Increased antimicrobial use and misuse was anticipated with the rise of the COVID-19 pandemic¹. To address this, Antimicrobial Stewardship (AMS) pharmacist-only rounds (APOR) were introduced at a multi-site hospital network. These were run in addition to standard Infectious Diseases (ID) physician-led AMS rounds, which typically include either a physician alone or a physician and AMS pharmacist.

Previous studies have demonstrated the benefits of independent AMS pharmacist reviews, however few studies assess the appropriateness and acceptance of these reviews^{2,3}.

Objective

To evaluate AMS pharmacist reviews of inpatient antimicrobial orders compared to those led by ID physicians, and measure acceptance of AMS pharmacy recommendations by medical teams.

Methods

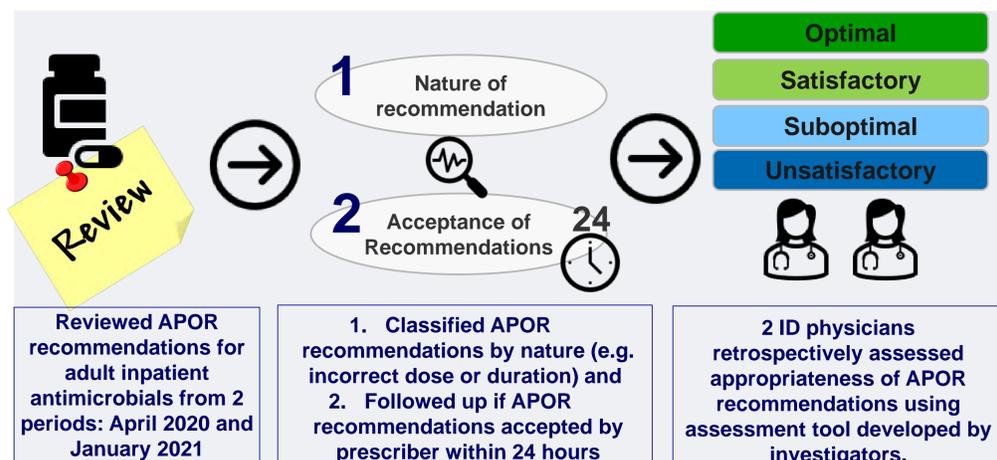


Figure 1: Methodology of retrospective evaluation of AMS pharmacist reviews by ID physicians.

Method is outlined in figure 1. Nature of pharmacist-only recommendations and their acceptance rates were compared with standard ID physician-led AMS reviews for the same time period.

Results



Figure 2: Key statistics

Appropriateness of AMS Pharmacist Reviews

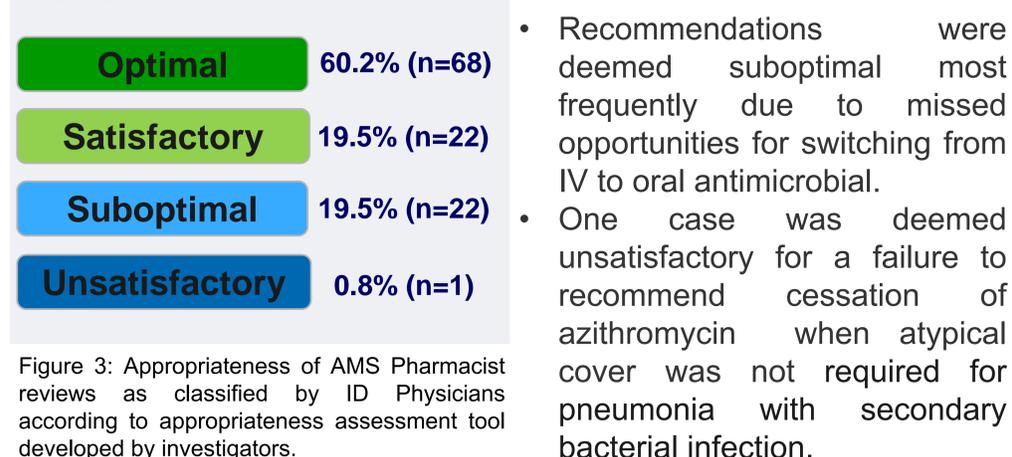


Figure 3: Appropriateness of AMS Pharmacist reviews as classified by ID Physicians according to appropriateness assessment tool developed by investigators.

Results continued

Acceptance rates and nature of recommendations for change

- APOR recommendations for change were accepted by prescribers 63% (44/70) of the time (figure 4), compared to 70% (285/406) of standard ID physician-led AMS rounds (p value=0.22 using chi square test).

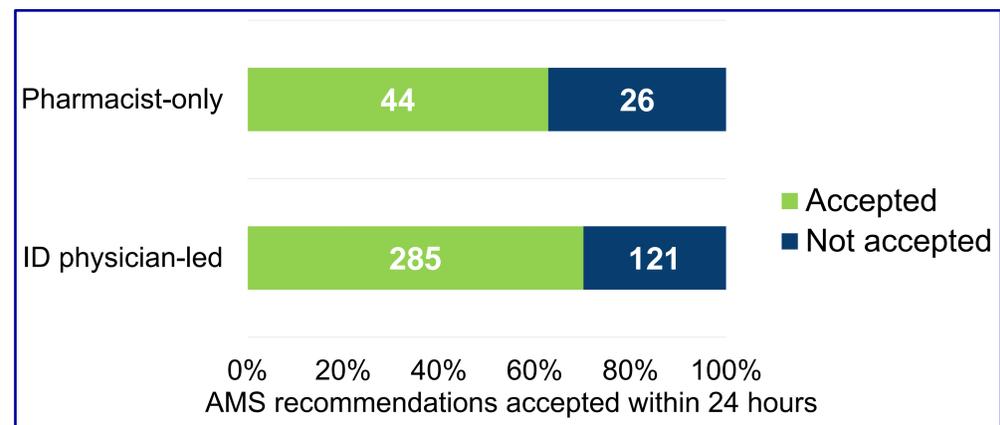


Figure 4: AMS recommendations for change accepted by prescribers within 24 hours compared for pharmacist-only and ID physician-led cases.

- Incorrect duration was the most frequent recommendation for change on APOR, and this type of recommendation was accepted by prescribers in 73% of cases (Table 1).
- Pharmacist recommendations to switch to oral route or cease an antibiotic were not as readily accepted as the same recommendations led by an ID physician (Table 1).

Table 1: Most frequent types of AMS pharmacist recommendations for change. Acceptance by prescribers within 24 hours for these types of recommendations were compared for pharmacist-only and ID physician-led AMS reviews.

Type of recommendation for change	% of Pharmacist recommendations for change	Acceptance within 24 hours (Pharmacist-only)	Acceptance within 24 hours (ID Physician-led)
Incorrect duration	21%	73%	72%
ID approval required	16%	73%	Not applicable
Incorrect dose	14%	70%	72%
Unnecessary antimicrobial	13%	33%	67%
IV to oral switch	13%	33%	61%

Discussion

This investigation of AMS pharmacist reviews demonstrated pharmacists make appropriate recommendations with overall comparable acceptance rates to ID physician-led AMS reviews. Improvements in identifying oral switch opportunities may develop the impact of AMS pharmacist rounds further. This investigation substantiates AMS pharmacist reviews as a useful addition to AMS programs.

References

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