

Trust Your Gut: Positive Impact of Weekly Pharmacist-led Multidisciplinary Review of Antimicrobials in Gastrointestinal Inpatients

Ms Jessica Bui, Ms Alice Ao- Royal North Shore Hospital, Northern Sydney Local Health District, NSW

Background

- Compliance with the local online antimicrobial stewardship (AMS) approval system is suboptimal, often resulting in antimicrobials bypassing AMS review.
- In response, the AMS team conducted weekly multidisciplinary meetings with colorectal and gastrointestinal (GI) surgical teams to review inpatient antimicrobials.
- These specialties were targeted due to prevalence of complex infections, multiple operations and prolonged antimicrobial duration.

Aims

- To optimise antimicrobial prescribing in gastrointestinal and colorectal surgery inpatients through regular multidisciplinary meetings.

Methods

- Weekly multidisciplinary meetings were implemented by the AMS pharmacist. Attendees included an infectious diseases (ID) registrar, surgical medical officers and ward pharmacists.
- Pre-meeting, inpatient antimicrobial prescriptions were compiled from electronic medication records. Microbiology, pathology, imaging and clinical progress were discussed and reviewed. Inpatients formally known to ID were excluded.
- Data was collected from 5 meetings in May-June 2019. Data on concordance to AMS recommendations within 24 hours of meeting, antimicrobial appropriateness according to Therapeutic Guidelines, reasons for inappropriateness, inpatient dispensing of antimicrobials and qualitative feedback from participating physicians was collected and compared to the month preceding intervention for analysis.

Results

- A total of 62 antimicrobials were reviewed for 37 inpatients over 5 weekly meetings, representing 26.5% increase in antimicrobials reviewed compared to pre-intervention.
- 59.6% (n=37) of antimicrobials were inappropriate according to guidelines
- The most common reason for inappropriateness was prolonged duration (35.1%; n=13), followed by spectrum too broad (18.9%; n=7) and spectrum too narrow (16.2%; n=6). **Figure 1.**
- 81.1% (n=30) of recommendations actioned within 24 hours
- The most common recommendation was antimicrobial cessation (40.5%; n=15).

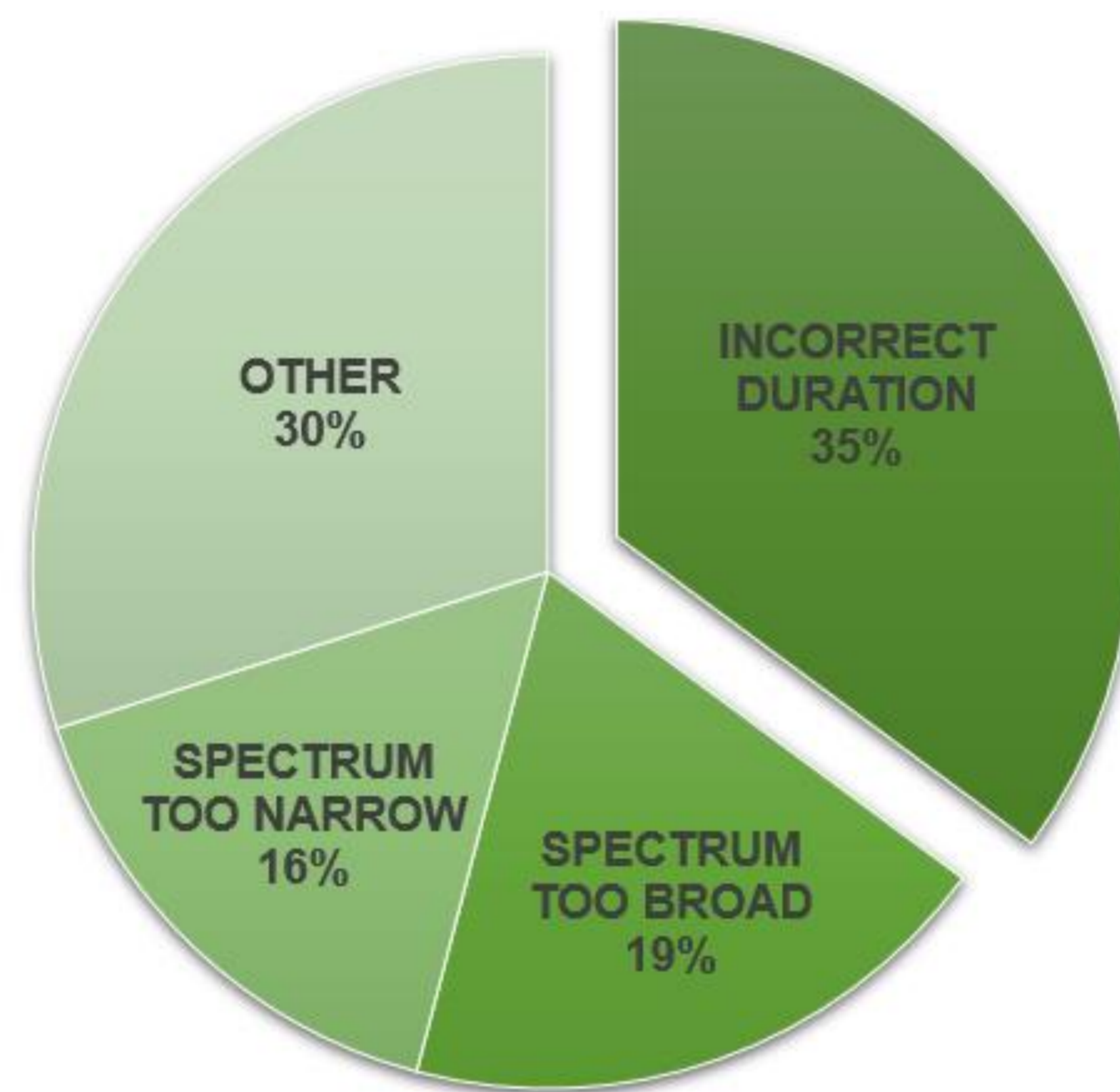


Figure 1: Reasons for inappropriate prescribing of antimicrobials (n=37)

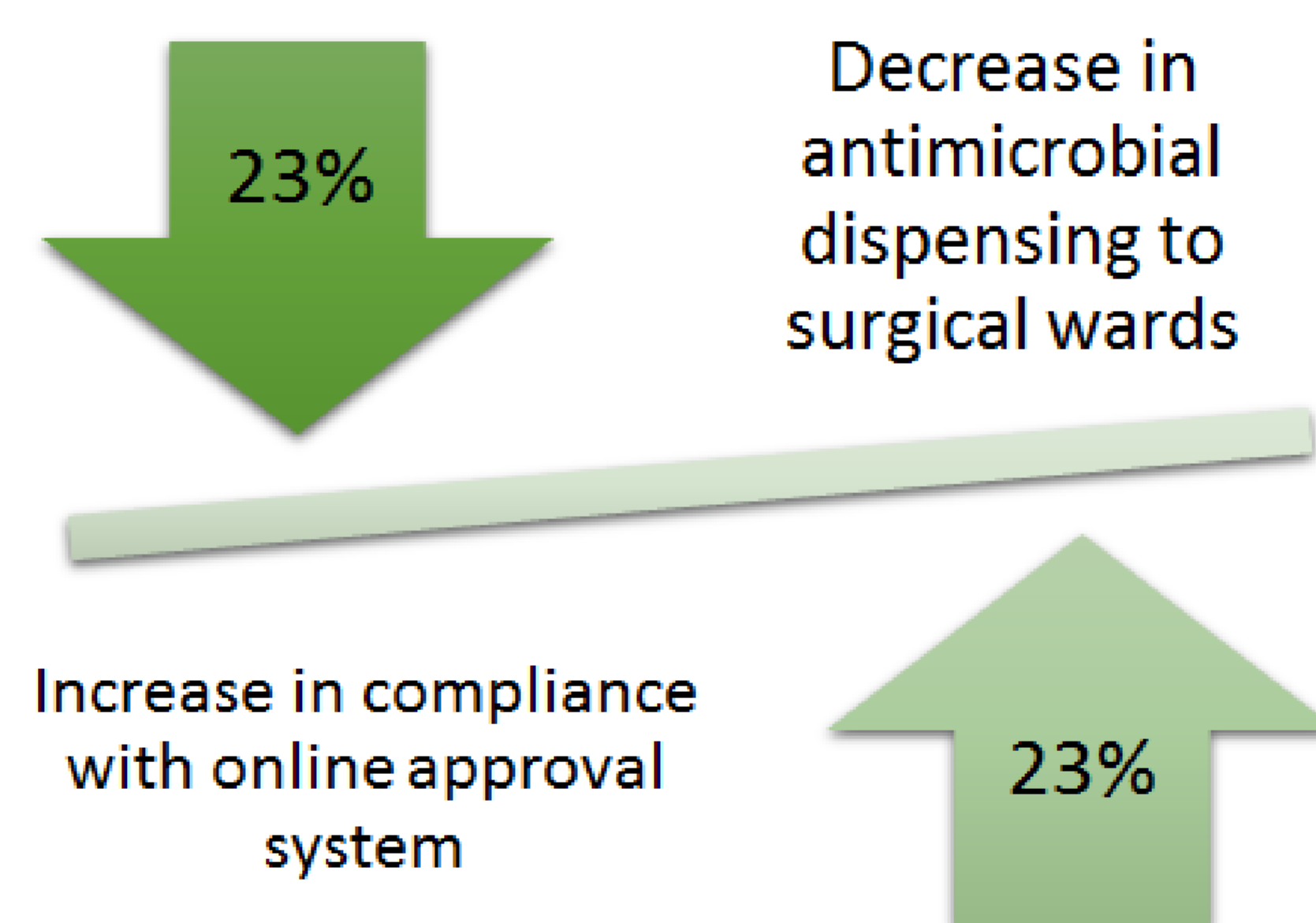


Figure 2: Positive outcomes post-intervention

"[The meetings] were very helpful in guiding antibiotic treatment and understanding the reasons behind choices."

"I feel more confident prescribing and making decisions about antibiotics now."

"I wish there was an ID/AMS meeting for all my surgical terms."



Formal feedback from junior medical officers

Results

- Rates of compliance with the online AMS approval system improved by 23% (from 57% (16/28) to 80% (20/25))
- 24-hours post-meeting, 88.7% of antimicrobials reviewed were deemed appropriate, compared to 75.5% in April 2019.
- 100% (n=6) of participating surgical clinicians reported improved confidence in antimicrobial prescribing and rationalisation post-intervention.
- Antimicrobial units dispensed per occupied bed days to affected surgical wards reduced by 22.5% compared to April 2019

Discussion

- Our results showed a high proportion (59.6%) of antimicrobial prescriptions in surgical patients were inappropriate, requiring AMS intervention
- Routine AMS rounds have demonstrated reduction of broad-spectrum antimicrobial usage and improved appropriateness in ICU (1) and are recommended in clinical areas with high antimicrobial use.
- Our meetings demonstrated similar positive outcomes with timely acceptance of AMS recommendations
- Conflicting views between ID and surgeons were cited as barriers to appropriate antimicrobial prescribing. Doctors expressed a desire for similar meetings for other rotations and greater attendance by consultant/senior fellows, who were often occupied in theatre.

Conclusion

- AMS engagement with surgical teams in regular face-to-face multidisciplinary meetings improved antimicrobial appropriateness, increased confidence in antimicrobial prescribing and reduced antimicrobial usage compared to traditional prospective audit and feedback via online approval system.
- Positive outcomes from this intervention support potential roll-out of similar meetings for other specialties

Acknowledgements

Royal North Shore Hospital Pharmacy Research Group
Infectious Diseases and Microbiology Department, Royal North Shore

References

1. Cairns KA, Jenney AW, Abbott IJ, Skinner MJ, Doyle JS, Dooley M, et al. Prescribing trends before and after implementation of an antimicrobial stewardship program. *Med J Aust.* 2013;198(5):262-6.



Health
Northern Sydney
Local Health District