

Implementing and evaluating a multidisciplinary antimicrobial stewardship ward round in a rural hospital

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Background

Antimicrobial Stewardship (AMS) is a key component of the National Safety and Quality Health Service Standards – Standard 3: Preventing and Controlling Healthcare-Associated Infection (1).

Pre-implementation AMS measures at Atherton Hospital (57-bed rural hospital, part of the Cairns and Hinterland Health Service) included:

- Health Service wide AMS procedure and formulary (traffic light system – prescribers are required to call an ID physician for approval if antimicrobials are used outside of restrictions)
- Ad hoc review of antimicrobial orders by AMS pharmacist (1-4 times per month)



Methods

From April 2017, a monthly AMS ward round consisting of a Senior Medical Officer (SMO), AMS Pharmacist and Infection Control Clinical Nurse has taken place at Atherton Hospital.

- All patients charted antimicrobials on the day of the round are reviewed.
- Medication charts and progress notes are reviewed in conjunction with relevant observations and pathology results
- Antimicrobial orders are assessed against Therapeutic Guidelines: Antibiotic, microbiology reports or guidance from the ID team
- A progress note is written summarising each patient's treatment and any treatment recommendations.
- Recommendations are discussed with the treating team on the day

All information is documented after the ward round in an Excel spreadsheet. Charts are regularly reviewed to determine if recommendations made during the AMS ward round were followed.

The SMO and AMS pharmacist have no formal training in Infectious Diseases but both have a strong interest in AMS

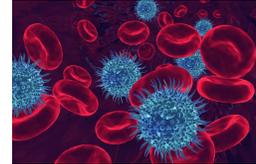
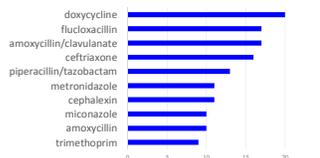
Conclusions/Implications for practice

- Overall appropriate antimicrobial prescribing has improved at Atherton Hospital
- SMO/AMS pharmacist are more frequently accessed as a resource regarding antimicrobial prescribing
- Improvements in antimicrobial prescribing have been achieved using existing staffing and resources and without on-site Infectious Disease staff
- The service is accepted by existing staff and changes to prescribing practice have occurred as a result

Results

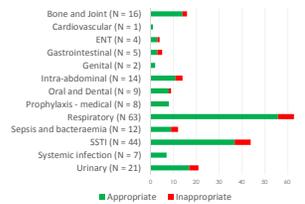
- 147 patients reviewed during 17 ward rounds (8.6 patients per round)
- 209 total antimicrobials prescribed

Top 10 Most Prescribed Antimicrobials



- Most common infections: Respiratory, Skin and Soft Tissue, Urinary

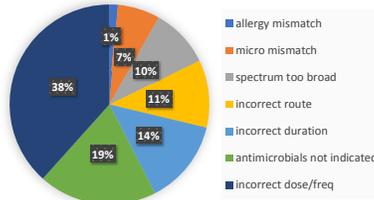
Antibiotic Use By Indication



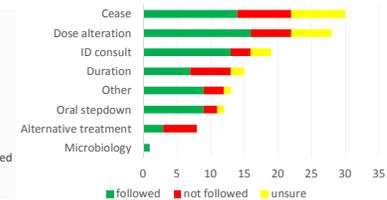
- 17/36 restricted antimicrobials had appropriate ID approvals prior to ward round

- 126 recommendations made by AMS ward round

Reasons for Inappropriate Prescribing

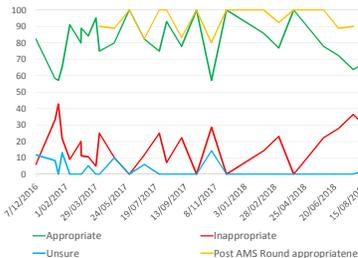


Recommendations

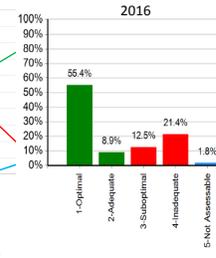


- Appropriate antimicrobial prescribing was found to be higher in the 24 hours after the AMS ward round (when charts were reviewed for medication changes as a result of AMS recommendation) than during each ward round (when data is collected)
- Appropriate antimicrobial prescribing improved across the hospital as a whole, as indicated by the increase in appropriate prescribing during the National Antimicrobial Prescribing Service audit from 2016 (prior to ward round implementation) to 2017

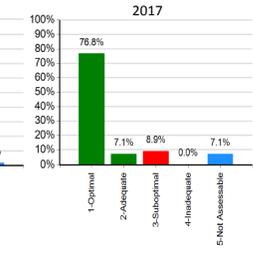
Antibiotic Prescribing Practice Over Time



Appropriateness of Antimicrobial 2016



Appropriateness of Antimicrobial 2017



- Feedback from prescribers at Atherton Hospital about the AMS ward round has been very positive, with all physicians surveyed knowing what the term 'AMS' means and agreeing that the advice provided is evidence-based and professional. Almost all prescribers have made changes to antimicrobial orders or to their antimicrobial prescribing practice overall as a result of feedback provided during the AMS round

Acknowledgments

- All Atherton Hospital staff for their patience and co-operation during implementation of this service
- Dr Enzo Binotto, Dr Trent Yarwood and Xin Fang (AMS/ID team at Cairns Hospital)

References

1. Australian Commission on Safety and Quality in Health Care. National Safety and Quality Health Service Standards. 2nd ed. Sydney: ACSQHC; 2017.

