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Implementation and Evaluation of an **Antimicrobial Stewardship Service** with Hospitalist Physicians at **Foothills Medical Centre** 

3 The most common type of suggestion was stop antibiotics (23%), change route of antibiotics (20%) and narrow spectrum of



4 ITS analysis

antibiotics (17%)

Why **Antimicrobial Stewardship** is important

- Antimicrobial Stewardship is central to patient safety and providing excellent care
- Antimicrobial resistance is a global health crisis. High intensity use of antimicrobials in hospitals creates an ecological environment that selects for resistant organisms<sup>2</sup>
- Antimicrobial Stewardship is a practice of ensuring appropriate utilization of antimicrobials to optimize clinical outcomes, decrease adverse effects, prevent development of resistant organisms, and minimize costs<sup>2,3</sup>

The Antimicrobial Stewardship (AS) Service Involved:

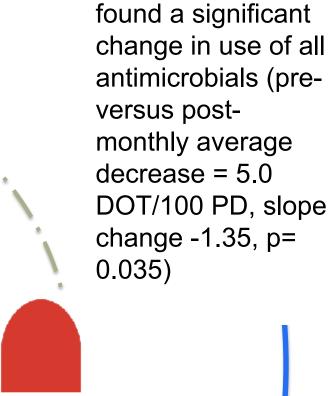
- Assessment of hospitalist patients by infectious diseases trained pharmacists
  - need for antimicrobials, specific agents used, route of administration, duration of therapy
- Assessments supported by phone consultation with on-call infectious diseases physician
- Suggestions tracked and assessment for acceptance conducted
  - partially, fully, or not accepted
- Use of antimicrobials assessed by monthly compilation of days of therapy per 100 patient days (DOT/100 PD)<sup>4</sup>
- Interrupted time series analysis (ITS)<sup>5</sup> to assess statistical significance of change 10 months post-implementation vs.12 month pre-implementation baseline period

**2** Overall 79.8% of patients tracked had suggestions wholly or partially accepted

Results

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1 At ten months post-implementation 678 suggestions involving 445 patients were made



5 ...and proportion of antibiotics given by parenteral route (preversus post- 45.2% vs 44.7%, slope change -0.013, p=0.011)

What we learned



- We observed a high suggestion acceptance rate and significant reduction in antimicrobial use
- The AS service will continue with ongoing evaluation of effectiveness and safety
- Experience from this project will be applied to a medical teaching unit AS service and other AS activities

**OPPORTUNITY** 

**IMPROVEMENT** 

**MEASUREMENT** 

**RESULTS** 

**SUSTAINABILITY** 

**LESSONS LEARNED** 

Improve antimicrobial prescribing on the hospitalist service at **Foothills Medical Centre** 

**Prospective audit and** feedback program was initiated May 2015

**Uncontrolled pre- and post**implementation evaluation conducted

**High suggestion** acceptance rate and significant reduction in antimicrobial use

AS service will continue; literature suggests change in prescribing behavior is sustainable with regular reinforcement

**Experience** will be applied to other AS activities