

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

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**3** The most common type of suggestion was stop antibiotics (23%), change route of antibiotics (20%) and narrow spectrum of antibiotics (17%)

**4** ITS analysis found a significant change in use of all antimicrobials (pre-versus post-monthly average decrease = 5.0 DOT/100 PD, slope change -1.35, p=0.035)

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

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

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

## Why Antimicrobial Stewardship is important

- Antimicrobial Stewardship is central to patient safety and providing excellent care
- Antimicrobial resistance is a global health crisis.<sup>1</sup> 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

## 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