

Background and Goals

Background

Antimicrobial Stewardship is the practice of using anti-infectives (antibiotics, antifungals, and antivirals) appropriately for treatment of infections. This involves selecting the best anti-infectives and using the right dose, route, frequency and duration for treatment.

ASPIRES is the Antimicrobial Stewardship Programme at Vancouver Coastal Health (VCH); Lions Gate Hospital (LGH) (268 beds), Richmond Hospital (RH) (175 beds), and Vancouver General Hospital (VGH) (950 beds). It is part of the Four Cornerstones programme to reduce healthcare-associated infections.

Since January 2013, ASPIRES has collaborated with physicians, pharmacists, and nurses to promote appropriate anti-infective use through multi-faceted initiatives.

We present an overview of our approach in developing stewardship strategies.

Goals

ASPIRES' aims to improve patient care through collaboration with healthcare providers to:

1. Successfully treat infections;
2. Reduce inappropriate anti-infective use;
3. Reduce adverse drug events and healthcare-associated infections;
4. Prevent antimicrobial resistance;
5. Support sustainable healthcare.

Overview

Approach

General approach in developing ASPIRES' initiatives:

1. Identifying priority areas for optimizing anti-infective use
 - a. Discussions with stakeholders to prioritize areas of concern;
 - b. Identification of common infections at VCH;
 - c. Extraction of anti-infective data to identify usage patterns
2. Collaborating with stakeholders to address areas for improvement
3. Developing comprehensive approaches to optimize prescribing
4. Implementing stewardship initiatives through education and hospital approval
5. Evaluating interventions for quality assurance.

ASPIRES Core Team

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ASPIRES' Initiatives

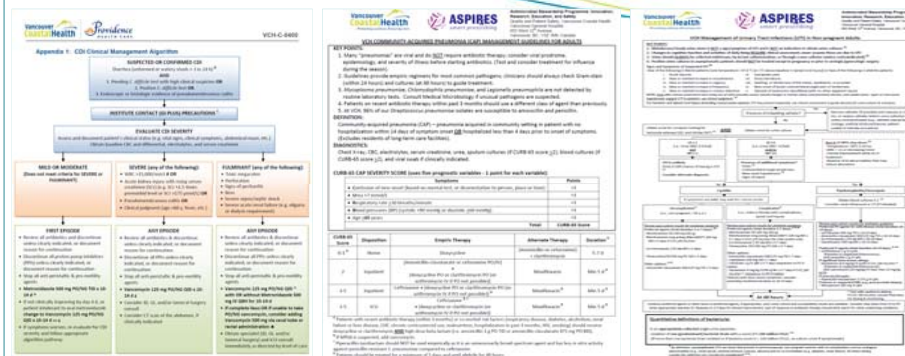


Figure 1. Clinical Practice Guidelines for *Clostridium difficile*, Community-acquired Pneumonia, and Urinary Tract Infection



Figure 2. Audit and Feedback Consultation Form, Anti-infective Comparison Card, and Common Infections Treatment Card

Evaluation and Results

Evaluation

Process Measures

1. Number and type of recommendations
2. Number and proportion of accepted and implemented recommendations

Outcome Measures

1. Total utilization of antibiotics
2. Utilization of targeted antibiotics

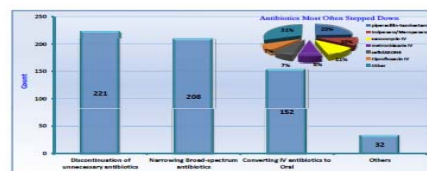


Figure 4. Types of Audit and Feedback Interventions at VGH (Mar 15, 2013 - Mar 31, 2014)

Measures	Number of Patients
Chart Audits	794
Total Number of Treatment Optimizations	515
Verbal Recommendations	87
Written Recommendations*	428
	Percentage
Accepted and Implemented Recommendations (by MDs)	77%

*In total, ASPIRES provided 613 written recommendations for these 428 patients
Figure 3. Audit and Feedback Interventions at VGH (Mar 15, 2013 - Mar 31, 2014)

Nursing Units	FY 2010/11	FY 2011/12	FY 2012/13	FY 2013/14
ICU	141.8	153.9	164.3	147.9
Acute Medicine Unit & Step-Down	90.6	87.2	83.5	78.4
General Surgery & Step-Down	57.0	74.4	69.1	67.3
Vascular Surgery & Step-Down	54.0	64.4	61.2	60.5

Figure 5. Antibiotic Utilization for Audit and Feedback Units at VGH (Mar 15, 2013 - Mar 31, 2014)

Results

ASPIRES implemented a series of complementary programmes to enhance anti-infective use across VCH.

1. **Clinical practice guidelines and standardized pre-printed orders**
In collaboration with physicians, nurses and pharmacists, community-acquired pneumonia, urinary tract infection, ventilator-associated pneumonia and surgical prophylaxis guidelines were developed and implemented across LGH, RH, and VGH.
2. **Audit and feedback of anti-infectives prescriptions**
Audit and feedback is an evidence-based practice of reviewing patients' anti-infective therapies with prescribers to optimize treatment. It started at VGH in March 2013, and expanded to RH and LGH.
3. **Clinical tools**
Anti-infective Comparison and Common Infections Treatment pocket-sized cards were developed to standardize and promote appropriate prescribing at LGH, RH, and VGH.
4. **Education**
ASPIRES and Professional Practice collaborated in educational sessions to nurses through the CAUTI initiative.
5. **Quality improvement projects**
In collaboration with Pharmacy and Infection Control, 483 *Clostridium difficile* positive patients had treatments optimized at LGH, RH, and VGH.

Summary and Conclusion

Since January 2013, ASPIRES has established multiple initiatives across VCH to improve patient care through optimization of anti-infective use. Collaboration with stakeholders has been essential for implementation of successful interventions.

Next Steps and Sustainability

Antimicrobial stewardship requires collaboration from all stakeholder groups. Results from our initiatives will be presented to respective stakeholder groups for discussion and educational purposes.

Acknowledgments

ASPIRES would like to thank the following for their help and support of our program:

Dr. William Bowie, Dr. Diane Roscoe, Dr. Nilu Partovi, Dr. Cesilia Nishi, Dr. Aleksandra Stefanovic, Rob McCollom, Dr. Jerry Vortel, Dr. Jane de Lemos, Dr. Sandra Chang, Dr. Gabriel Loh, Isla Drummond, Terri Betts, RH/LGH/VGH Clinical Pharmacists, Pharmacy, Infectious Diseases, Medical Microbiology and Infection Control, and Professional Practice.