

## Antimicrobial Stewardship Profile: Quinte Health Care



Quinte Health Care is a multi-site facility providing primary and secondary care with 260 beds.

Patient services include medical care in:

- Ambulatory Care Clinics
- Children’s Treatment Center
- Community Mental Health Programs
- Complex Continuing Care
- Diagnostics
- Emergency Medicine
- Intensive Care
- Mental Health
- Obstetrics
- Paediatrics
- Rehabilitation
- Surgery

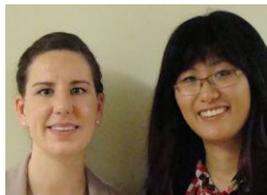
### Why an Antimicrobial Stewardship Program (ASP)?

Following a protracted *Clostridium difficile* infection (CDI) outbreak in 2007, Infectious Diseases (ID) Physician, Dr. Allison McGeer, who had been invited to provide consultation, recommended Quinte Health Care implement an ASP. Dr. de la Roche, Chair of Quinte Health Care’s Infection Control Committee and an Emergency Room administrator also recognized the need for a program and pushed the idea in the right direction.

Karen Smith, Director of Pharmacy, took the lead to research and create a proposal for an ASP. Potential impact on patient safety outcomes and cost savings convinced Quinte Health Care’s administration to support the proposal, and in March 2008 Smith began the search for two pharmacists to fill a 1.2 FTE position. It took time to find the right fit but in 2009 Sherrie Gao was hired and Vanessa Buchko followed in 2010. At last the program had “legs” with coverage five days a week.

Prior to implementation of the formal ASP, the pharmacists noted that fluoroquinolone drugs were used too often. Smith was also adamant that Quinte’s pharmacy support effective pharmacokinetic monitoring and dosing of vancomycin and gentamicin. As part of the current ASP, pharmacists conduct prospective audits, are involved in the development of draft order sets pertaining to their clinical areas, attend physician meetings, and assist with data retrieval, analysis and reporting.

### ASP Champion



**Champions** (clockwise): Karen Smith, Director of Pharmacy; Dorianne Chesterton, ICP; Vanessa Buchko and Sherrie Gao, ASP pharmacists; Robin Woolven, Microbiology Charge Technologist; Dr. Dick Zoutman, Chief of Staff, ID Physician and Clinical Consultant.



**“A change in antibiotic can result in immediate positive outcomes for the patient, and this is quite rewarding.” - Sherrie Gao, ASP Pharmacist**

## Collaboration

The key to their successful ASP is collaboration. Quinte Health Care's Pharmacy, Microbiology Lab and Infection Control work together for early identification of resistance patterns.

Chief of Staff, ID Physician and Clinical Consultant for the ASP, Dr. Dick Zoutman, is a veritable champion of the program. He stresses that quality improvement processes and patient safety are priorities as the ASP develops. Quinte Health Care has completed a formulary and hopes to look at ways to institute restrictions on targeted antimicrobials and to develop standard order sets for pneumonia, urinary tract infections and cellulitis. Dr. Zoutman feels these sets could be used more widely and acknowledges the importance of physician education. Presentations on community-acquired pneumonia (CAP) at Grand Rounds and meeting with the general surgeons regarding the antimicrobial treatment for intra-abdominal infections are examples of ways Quinte Health Care sustains physician engagement with the program.

Dr. Iris Noland, Medical Director of Emergency and Primary Care programs at the Trenton site, volunteers as co-chair of the ASP committee with Gao. Dr. Noland's interest in ASP was driven by her desire to assist with the development of optimal treatment guidelines for acute exacerbation of chronic obstructive pulmonary disease (COPD) and CAP. She was aware of high admission rates with these diagnoses and felt an order set targeting CAP was a good opportunity to effect change. "Data on emerging antibiotic resistant strains correlated with prescribing patterns can drive changes in clinical practice," Dr. Noland explains, "and collaborative teamwork helps resolve barriers."

Robin Woolven, Microbiology Charge Technologist, has been an ASP committee member since its inception. The lab's role is to provide timely and accurate reports to physicians and pharmacists. Antimicrobial susceptibilities are selectively reported based on provincial laboratory standards and guidelines and the hospital's formulary. Hospital antibiogram patterns are posted annually on the Quinte Health Care intranet site.

Dorianne Chesterton, an infection control practitioner (ICP) at Quinte Health Care for the past eight years and also an ASP committee member, has witnessed a shift in culture within her organization. Staff are engaged in infection prevention and control and have made positive contributions in finding solutions to enhance patient safety. Chesterton feels that the ICPs are well positioned to market ASP with frontline staff. Reports of vancomycin-resistant enterococci (VRE), methicillin-resistant *Staphylococcus aureus* (MRSA), CDI and hand hygiene compliance rates are visible on every unit and also shared with their hospital staff.

## Successes

- Ability to measure and report antimicrobial use as defined daily doses (DDD)
- Strategies to implement IV to PO conversion
- Standardizing orthopedic surgical prophylaxis
- Development of a pocket card outlining optimal treatment considerations for intra-abdominal infections
- Establishing a baseline on antimicrobial prescribing
- Uptake from the family physician groups on prescribing suggestions/changes in prescribing habits

## Challenges

- Developing infectious diseases expertise in recently graduated pharmacists
- Job shadowing for ASP pharmacists
- Finding an effective and efficient method to communicate with physicians

## Horizon

- Establish a model of antimicrobial stewardship of prospective audit and feedback with initial focus in the intensive care unit and move this model onto another unit using a variety of physician engagement strategies, including a web portal to support easy access to relevant information and blogs
- Start regular ASP rounds throughout the hospital
- ID mentorship for the ASP and clinical pharmacists, internists and other physicians
- Implementation of electronic physician order entry with decision support algorithms and automatic alerts
- Conduct more antimicrobial reviews

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## For further information

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