

Public Health Ontario | Santé publique Ontario

Surveillance of Antimicrobial Resistant Organisms and Antibiotic Use in Central South Ontario

Bois Marufov, MD, MSc, CIC
Team Lead, IPAC Regional Support – Central West, Public Health Ontario

Camille Achonu
Epidemiologist Lead, IPAC Research, Public Health Ontario

IFIC/IPAC Canada Conference, May 26-29, 2019, Québec City

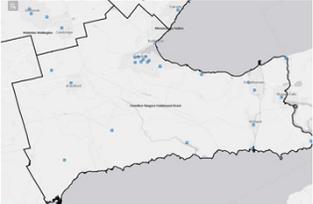
Objectives

- How this initiative started?
- Describe implementation process of health care-acquired infections (HAI)/antimicrobial use (AMU) surveillance pilot in Central South Ontario
- Share successes and challenges in implementation
- Discuss lessons learned from the project
- Next steps

PublicHealthOntario.ca 2

History of Regional Initiatives

- Hospitals in Central South Ontario met regularly to share and compare antimicrobial resistant organisms (AROs) surveillance data and rates since 2005
- 8 hospital corporations with 17 hospital sites
- Surveillance protocol, data sharing agreement and quarterly reports



PublicHealthOntario.ca 3

Slide 3

A5 spelled out first occurrence of ARO
Author, 15/05/2019

Regional Surveillance Pilot Project Launched June 2018

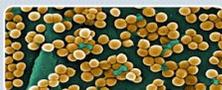


To establish and strengthen regional surveillance of antimicrobial resistance and use to support monitoring, evaluation and decision-making processes amongst participating hospitals and PHO.

- Improve process of data collection, analysis and reporting

What is Being Collected?

Antibiotic-Resistant Organisms



Aggregate CDI, MRSA, VRE, CPE, ESBL colonizations and infections

1. Attributed to hospital site
2. Not attributed to hospital site

Case definitions same as in the Canadian Nosocomial Infection Surveillance Program (CNISP)

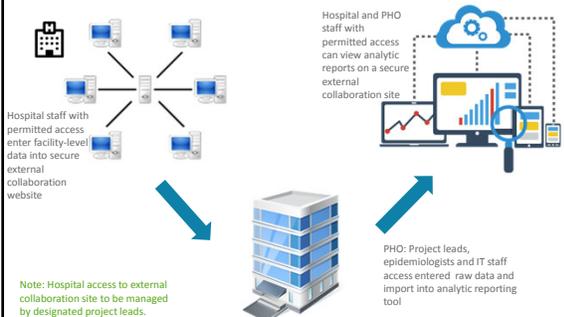
Antimicrobial Utilization



Daily Defined Dose (DDD) and/or Days of Therapy (DOT) for:

1. Total systemic antibiotics
2. Parenteral 3rd and higher generation cephalosporins
3. Carbapenems
4. Parenteral and oral (enteral) fluoroquinolones
5. Parenteral and oral (enteral) lincosamides

Data Flow



Early Pilot Evaluation – October 2018

What do we want to know?

Can it work?

What data is not being reported?

What are the specific challenges collecting and reporting this data?

What resources are required?

Is there perceived value in sharing data?

What types of supports do stakeholders need from us?

How?

1. Summarize incoming surveillance data
2. Administer an online stakeholder survey
3. Keeping track of issues, questions and requests for changes

PublicHealthOntario.ca

External SharePoint Site

Regional Antibiotic Resistant Organisms Surveillance Pilot Project

Project Background	Resources
<p>International consensus is growing that countries should be more involved in a national and global priority antibiotic resistance program (AR) surveillance and monitoring of antibiotic resistance (AMR) and key components of antibiotic use at national and regional level. The goal of this pilot project is to establish and strengthen regional surveillance of antimicrobial resistance and use to support monitoring, evaluation and decision-making processes amongst participating hospitals and public health entities.</p> <p>For more information, please refer to the surveillance protocol and data sharing agreement.</p>	<p>Data Entry Protocol Data Sharing Governance Reports Meeting notes and updates</p>
Data Entry	
<p>Participating hospitals are required to submit data for each hospital site using the data entry forms below by the 15th of each month. For a brief overview of the project and guidance on data entry, please review the AR/CCO Orientation, AMR Orientation session. For more information, visit the Reference Guide - Data Entry User Manual and Technical Notes - Surveillance and Reporting Definitions.</p>	
<p>Click here to submit AR/CCO Form</p> <p style="font-size: x-small;">To add potential AR/CCO from patients, click here. Please note the Ontario AMR surveillance is required for all patients.</p>	<p>Click here to submit AMU Form</p> <p style="font-size: x-small;">To add potential AMU from patients, click here. Please note the Ontario AMR surveillance is required for a sub-set of the sites.</p>
Reports	
<p>Tracks is required AR/CCO surveillance and AMU monitoring data are summarized in quarterly reports provided in the month following the end of each fiscal quarter.</p>	
<p>AR/CCO Reports: The Regional Antibiotic Resistant Organisms Surveillance System facilitates surveillance of antibiotic resistance and use.</p>	<p>AMU Reports: Coming soon.</p>

PublicHealthOntario.ca

Key Findings from Pilot Evaluation: ARO

- All sites submitting ARO data on a monthly basis
- For some sites, some changes were needed to be able to report colonization versus infection
- Sites reported it was feasible to collect all data but some questions raised about:
 - Colonizations versus infections
 - Carbapenemase Producing Enterobacteriaceae (CPE)
 - *Clostridium Difficile* Infection (CDI) source of acquisition
- More time is required for surveillance activities related to this project

PublicHealthOntario.ca

Key Findings from Pilot Evaluation: AMU

- Data submitted by 50% of participating hospital corporations



- Participants report more time is required for surveillance activities
- Some concerns about the quality and usefulness of the AMU data

Feedback on Data Collection

- Feedback on the usability of the new site and forms indicate our data entry site is an acceptable platform
- We've noted:
 - Issues at the testing phase
 - Multiple steps to get access
 - Issues with establishing short cuts to the page
 - No confirmation that data has been successfully submitted.



Feedback on Use and Impact (ARO)

How has the data been used in the past?

- Shared with senior management and quality committees
- To develop interventions and work with our community partners on common issues
- Graphs that were easily accessible to answer questions about C. difficile rates in the community and other sites

How could the data be used in the future?

- To better understand the burden of AROs across the province
- To provide information when best practice guidelines are being updated
- Monthly reports preferred to compare and see trends (hospital or community wide)

Lessons Learned

- Overall feedback suggests this approach is a feasible method of collecting and reporting ARO and AMU data in Ontario
- Additional work is required with project pharmacists to improve the process for collecting and reporting AMU data
- Regional pilot provides a viable option for expansion across the province

Next Steps

- End of Pilot evaluation – May 2019
- Improve data submission (monthly)
- Promoting AMU data submission
- Develop sustainability plan
- Possible automation of data analysis and reporting
- Possible expansion in long term

Acknowledgements

PHO staff

- Camille Achonu
- Rebecca Maskevich
- Andrea Chaplin
- Brad Langford
- Chatura Prematunge
- Kasey Gambeta
- Eva Truong
- Virginia Tirilis (retired)
- Rachel Ackford (student)

All participating hospitals

- Niagara Health System
- Hamilton Health Sciences
- St. Joseph's Healthcare Hamilton
- Joseph Brant Hospital
- Hotel Dieu Shaver Health and Rehabilitation Centre
- Brant Community Healthcare System
- Norfolk General Hospital
- West Haldimand General Hospital
- Haldimand War Memorial Hospital

Questions?



For further information or questions, please contact us at:
ipacentralwest@oahpp.ca

PublicHealthOntario.ca
