

Healthcare Acquired Infection Surveillance in the SHA

“If a tree falls in a forest and nobody is around to hear it, how can we ensure it makes a sound?”

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Land Acknowledgement

I would like to acknowledge that we are gathering on Treaty 4 territory and the Homeland of the Métis, Lakota, and Dakota. Recognizing this history is important to our future and our efforts to close the gap in health outcomes between Indigenous and non-Indigenous peoples by knowing what the land and the traditional people of the land offer us.

Epidemiologists



What my friends think I do



What my parents think I do



What society thinks I do



What grandma thinks I do



What I think I do



What I really do

HAI Surveillance and Health Outcomes

- Why does it matter?
- To whom does it matter?
- How can we make sure it matters?

Why perform HAI surveillance?

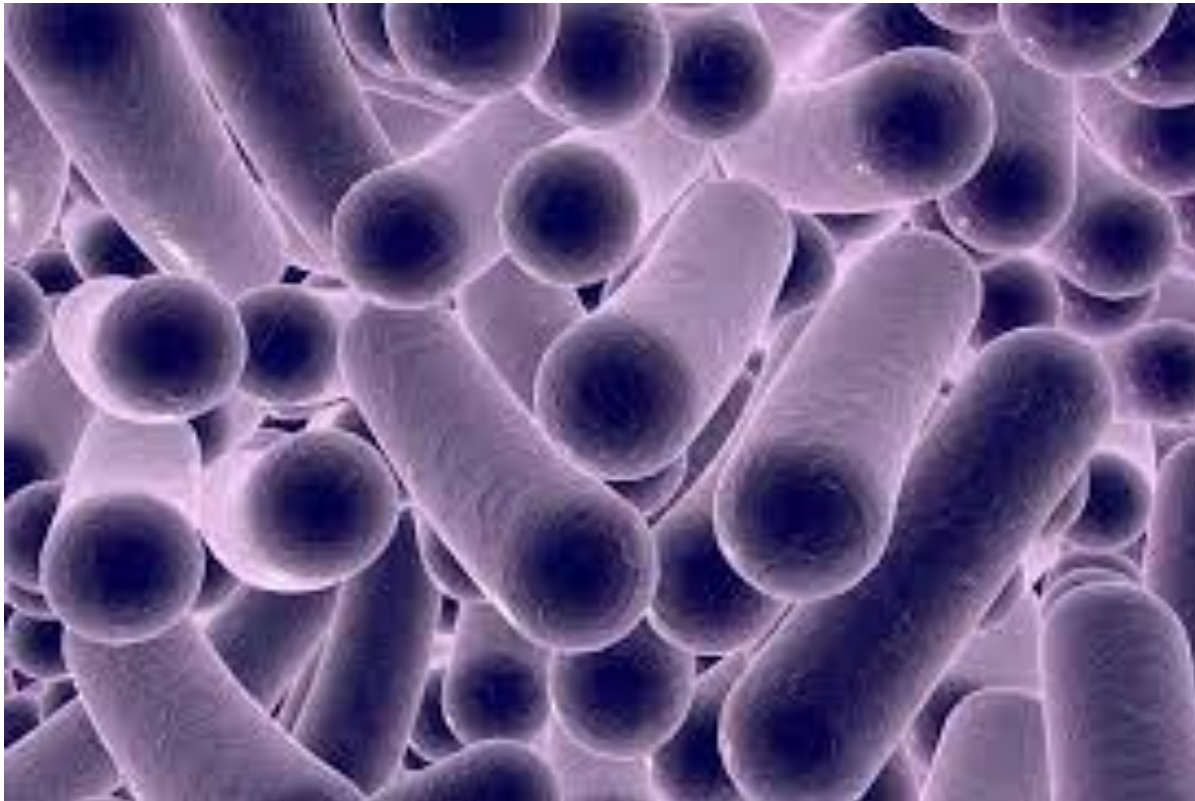
3,063 hours = ~25%





To whom does it matter?

Rosie's story - <https://www.youtube.com/watch?v=BQeC04q9Iis>



Surveillance in Action: SCH SSI Surveillance Process

- Elective Total Hip and Knee surgeries done at SCH
- Breast implant/tissue expander surgeries done at SCH
- Look for SSI occurring within 90 day after operative procedure
- Passive Surveillance (lab reports, admission diagnoses, reports from ICPs)

Increased Hip/Knee SSI Rates

- Hip SSIs

	Apr – Aug 2019	Apr – Aug 2023
Infections	2	3
Total Procedures	423	554
Rate	0.47	0.54

- Knee SSIs

	Apr – Aug 2019	Apr – Aug 2023
Infections	2	13
Total Procedures	488	890
Rate	0.41	1.46

Increased SSIs with *S. aureus*

- Skin organism = person-person not environment transmission
- 3/3 hip infections grew *S. aureus*
- 7/13 knee infections grew *S. aureus*



Common Denominator

- OR Theatre? No
- Surgeon? No
- Assistant Surgeon? No
- Anaesthesiologist? No
- Nurse? Yes
 - Manager confirmed a common nurse in 7/10 of the SSIs where *S. aureus* was identified
 - Manager disclosed that nurse had a hand hygiene accommodation

Pandora's Box – Gaps Identified

- Hand hygiene accommodations
 - Are there other staff with hand hygiene accommodations?
- Privacy
 - IPAC was not made aware when staff had a hand hygiene accommodation
- Staff Swabbing
 - No identified process when need to swab staff during SSI investigations

Closing the Gaps

- Met with Accommodations, OR Manager, and OHS:
 - Need for working group
 - Need for IPAC algorithm for accommodations

What can we do with surveillance data?



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Why?

- Vancomycin-resistant *Enterococcus* (VRE) outbreak
 - Regina General Hospital, 2013
 - Medical inpatient unit
 - 8 months duration
 - Environmental sampling
 - Extensive contamination
 - Patient charts, hand rails, pyxis machine, nursing station, storage room, staff kitchen

Improvements Projects 2015-17

- Standardized cleaning practices, updating WS/Job Duties and assisting clinical partner with their practices
- Updating cleaning products
- Incorporating technological tools and updated cleaning supplies
- Sticky note exercises
- Seasonal Cleaning – room closed for 24 hours
- Vinyl Curtains
- Acute Care EPI, standardized surveillance and reports
- Auditing program – UV and Visual
- LTC support with 4 ICPs.
- IPAC walk through with EVS, facilities and unit staff

Improvement Projects

“Sticky Note” Exercise



- Colour coded
- Patient rooms, exam rooms, nursing stations, equipment
- Outcomes:
 - Cleaning locations
 - Schedules
 - Areas and equipment not being cleaned

Results

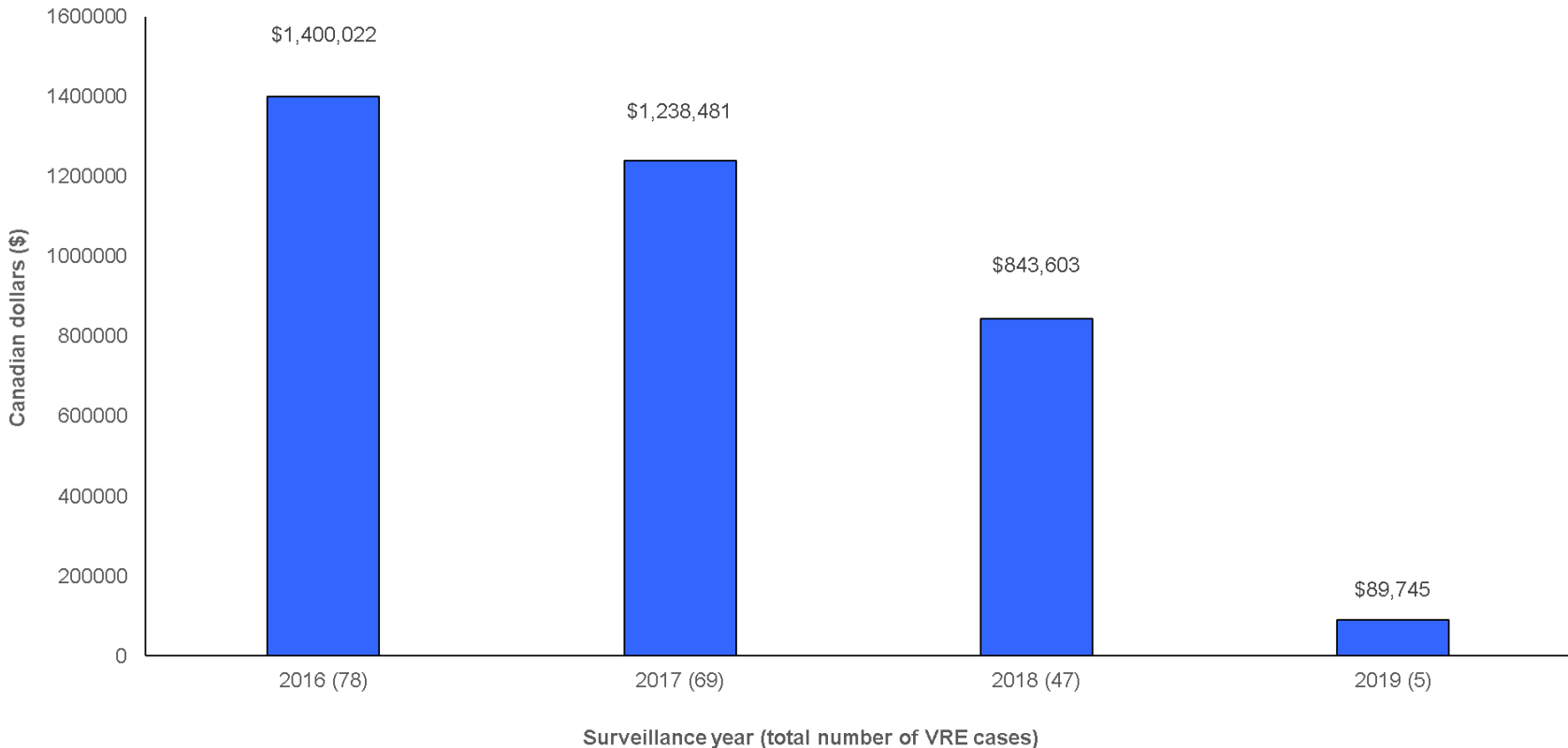
Through this work we established strong collaborative working relationships with RQHR's support services; as these healthcare providers play a vital and integral role in the operation of the IPAC Department. We assisted the Environmental Services Department in analyzing the current state of their practices, procedures and products for cleaning and disinfection at the Regina General Hospital and Pasqua Hospital in addition to identifying improvement projects. This significant work resulted in improving patient and healthcare worker safety. Between 2015 and 2018, the healthcare-associated infections and colonization rate in the RQHR decreased by:

- 62% for methicillin-resistant *Staphylococcus aureus*,
- 74% for extended-spectrum beta-lactamases, and
- 44% for vancomycin-resistant *Enterococcus* (VRE)

Furthermore, the total number of outbreaks at Regina General Hospital and Pasqua Hospital decreased by 67%; and the total number of outbreak days for VRE decreased by 95%. Overall, through Senior Leadership investing in IPAC activities and the IPAC Department working in partnership with multifunctional groups, this work has resulted in significant savings to the health region of more than 1.5 million dollars.

Statistics

Total cost* of healthcare-associated VRE colonization cases in the first three months (Jan - Mar),
Regina General Hospital and Pasqua Hospital, Regina, Saskatchewan, 2016 - 2019



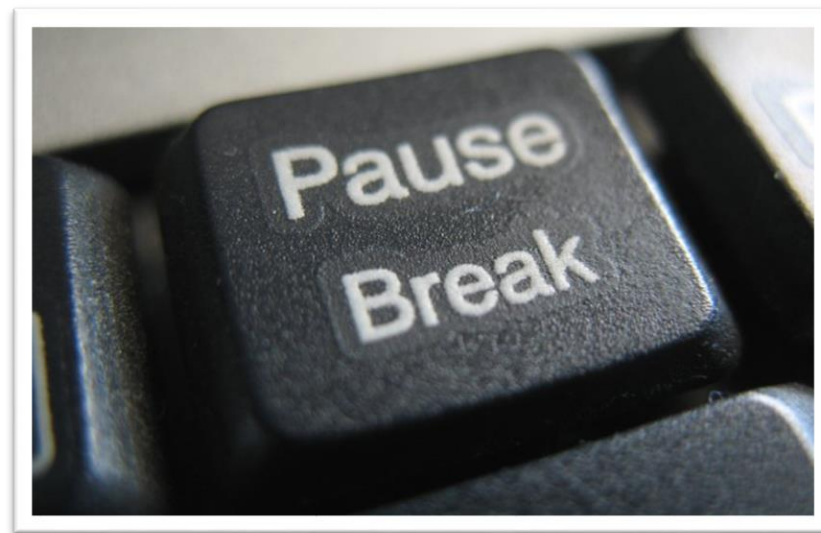
HAI Surveillance in Saskatchewan – Pre-SHA

HAI - CDI
2012

SSI
2015 (paused
in 2016)

HAI - CDI (V2)
2016

2017...



Current HAI surveillance – SHA (2023)

HAI-COVID
Jun 2022

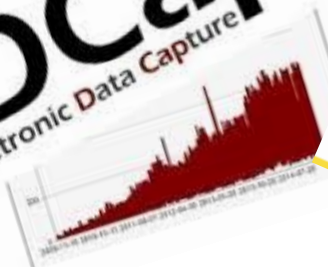
VRE – BSI
Nov 2022

CDI V3
2023

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Provincial HAI COVID
Surveillance Report
Saskatchewan Summary

 **REDCap**
Research Electronic Data Capture



2022
Infection Prevention and Control
Time period: Oct-Dec



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Future HAI surveillance goals

SSI (V2)

TBD

MRSA – BSI

TBD

CLABSI

TBD

CPO

TBD

- Streamlined quarterly and annual reports – [2023-05-16_Q2-Report.pdf \(picnet.ca\)](#)
- Explore data collection software with ADT and lab system interfaces
- Interactive HAI dashboard

Public Health Ontario | Santé publique Ontario

Login Search

Health Care-Associated Infection (HAI) Query

Health Care-Associated Infection (HAI) Query is a dynamic data exploration tool that allows users to drill down and explore data.

Content focuses on aggregated health care-associated infections data extracted from the Hospital Self Reporting Initiative (SRI) database since 2008. These reports include data for *Clostridioides difficile* infection (CDI), methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremias and vancomycin-resistant *enterococcus* (VRE) bacteremias.

The data are refreshed monthly for CDI and quarterly for MRSA and VRE. The reports focus on results at the public health unit, Local Health Integration Network (LHIN) and hospital levels.

Launch HAI Query

Influencing Change/Driving Improvement

- Relationships
- Leverage and lead through influence
- Communicate
- Small tests of change (PDCA cycle)
- Celebrate “wins”
- Share the learning

KEY MESSAGES

- Epidemiologists ≠ Foot Doctors
- Infection surveillance - core function of IPAC
- HAI surveillance processes can be used to inform practice and improve outcomes
- Surveillance is time and resource intensive, but advances in technology and automation have potential to decrease burden in time
- We all have the ability to influence change and to make improvements that will impact our patients
- The work you do matters!!

THANK YOU

For more information, visit
saskhealthauthority.ca.



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