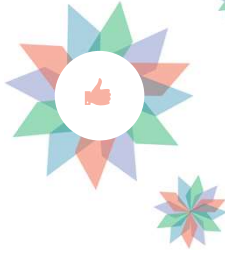


Monitoring Transmission of Carbapenemase-Producing Organisms From Known Positive Cases in Acute Care: Assessment of Our Ring Screening Approach

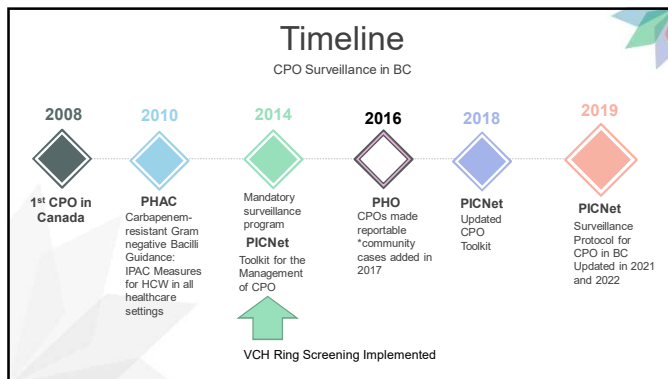
Presented by: Katherine Yu RN BSN, Sidney Austin RN BSN
 Authors: Sidney Austin, Aleksandra Gara, Mokka Lin, Katherine Yu

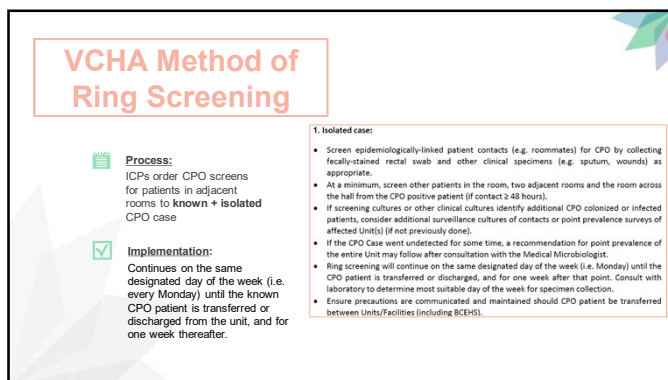


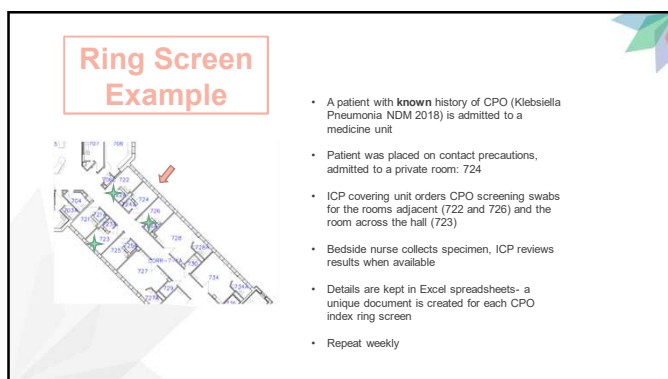
No Disclosures

Overview

- Background and Introduction to our Ring-Screen Surveillance Method
- Project: Assessment and Analysis
 - Case Reviews
- Lessons Learned







PICNet (BC)

Surveillance Protocol for Carbapenemase Producing Organisms (CPOs) in British Columbia

- Other screening swabs
 - Anyone who was transferred from a care unit or care facility which is under investigation for ongoing CPO transmission
 - Anyone who was deemed high risk for CPO acquisition by the health authority, such as the roommates or close contact of a known CPO-positive individual
- Serial screening swabs

Health Authorities may consider serial screening swabs over a period of 21 days for patients with recent high risk exposure but negative for CPO upon admission swabs after consultation with medical microbiologists or infection control practitioners (ICPs) in the facility.

Close Contact

PICNet Definitions

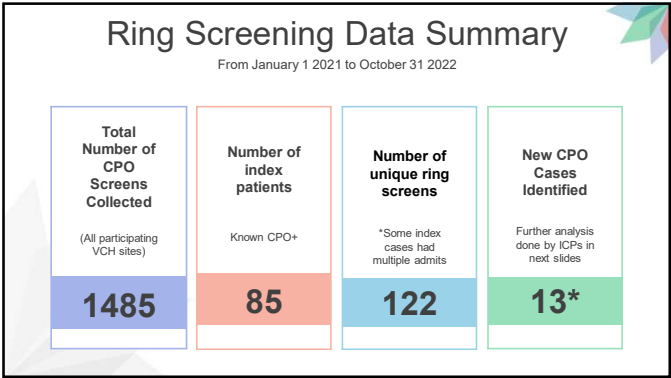
Anyone who had close contact with a known CPO patient within the past 12 months (Close contact is defined as: household member, roommate in hospital or shared nursing staff and physicians. In high risk units, such as transplant units, ICU etc., close contact may constitute all patients on the entire unit.)

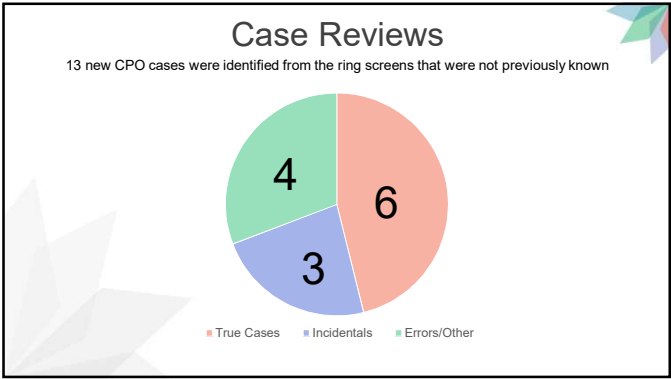
| | |
|--|--|
| 7 | Has the patient had contact with a known CPO case within the past 12 months? |
| <input type="checkbox"/> Yes, please specify the nature of contact: | |
| <input type="checkbox"/> Household, i.e., a family member with CPO | |
| <input type="checkbox"/> Non-household, i.e., a friend/acquaintance with CPO | |
| <input type="checkbox"/> Healthcare facility, i.e., stayed in the same care unit or long-term care facility with a patient/resident with CPO | |
| <input type="checkbox"/> Other, please specify _____ | |
| <input type="checkbox"/> No <input type="checkbox"/> Unknown | |

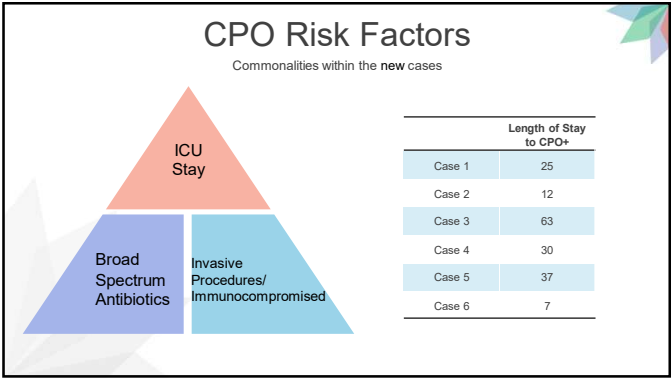
Project

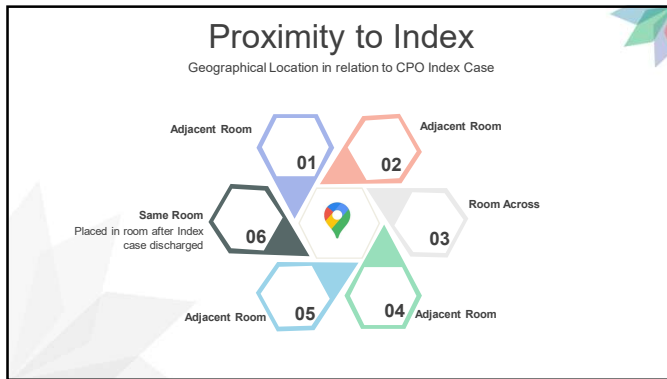
Assessment and Analysis of Our Ring Screening Method

- We set out to assess the value of our ring screening protocol in regards to monitoring and understanding transmission of CPO due to the many contributing factors from potential lapses in IPAC practices.
- Recent records of the ring screens were retrieved, collated and summarized by our Epi team
- Whole genome sequencing has also been requested through collaboration with BCCDC to further investigate our findings









Case 1 Review

- Case 1 was newly found to have *Citrobacter freundii* KPC+ from ring screen
- Admitted Jun 6-Aug 30, 2022 (between ICU, BTHA and BMT)
- BMT pt with lots of complications
- Adjacent room to index case starting in July 24
- 1st screen negative July 29, 2nd screen positive August 8, 2022
- Index case has *Phytobacter* sp. KPC+

Known CPO (Index) room

Case 1's room

Case 6 Review

- Case 6 was newly found to have *Citrobacter freundii* KPC & NDM from ring screen
- Admitted Sept 8-Oct 1, 2021, then Oct 17 to 27, 2021, then Nov 29-Dec 3, 2021
- Recent liver transplant pt
- Pt was admitted into T4D 650-1 from Sept 22-October 1, 2021
 - 1st screen October 18 neg, 2nd screen Nov 30 positive
 - Admitted into index case room after index discharged
- Index case had *E. coli* NDM
- Admitted Sept 12-22, 2021 to T4D 650-1

Same room as index and newly found CPO case

Value of CPO Ring Screens

Pros:

- Discovered new cases
- Earlier recognition & IPAC actions initiated
- Prevent potential further transmissions

Cons:

- Labor intensive (bedside nurses, ICP, lab technician)
- Amount of swabs sent, \$
- Not pleasant for patients

Lessons Learned & Next Steps

- VCHA will maintain the practice of ring screening given there were new cases found
- Early recognition of colonization allowed earlier introduction of IPC measures
- Need for standardized tracking tool for ring screens
- WGS will provide further insight

Thank you

Questions?

Acknowledgements

- Dr. Linda Hoang and Benjamin Hon from BCCDC
- Vancouver Coastal Health Infection Control Practitioners for conducting the ring screening on their units
- VCHA Medical Microbiologist Dr. Sean Ling

For More Information About This Presentation, Contact: Sidney.Austin@vch.ca

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