2023 ORAL AND POSTER PRESENTATIONS
ABSTRACT SUMMARIES

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AWARDS

1. One Best First-Time Abstract as chosen by the Abstract Review Committee. This is an abstract whose lead author has never before submitted an abstract to IPAC Canada or CHICA-Canada. Award winner(s) will be acknowledged at the Closing Ceremonies on May 31. In the event of unavoidable delays, the award will be announced post-conference. The award of $500 will be sent to the lead author for further distribution to the abstract authors.

2. One oral presentation will be announced as Best Oral Presentation and receive an award of $500. The award will be announced at the Closing Ceremonies on May 31. In the event of unavoidable delays, the award will be announced post-conference.

3. Best Poster Presentation as chosen by attendees will receive an award of $500. The award will be announced at the Closing Ceremonies on May 31. In the event of unavoidable delays, the award will be announced post-conference.

CONFERENCE ATTENDEES WILL VOTE FOR BEST ORAL PRESENTATION AND BEST POSTER PRESENTATION THROUGH THE CONFERENCE PLATFORM.

DEADLINE FOR SUBMISSION:
5 p.m. (Pacific), Tuesday, May 30
Background/Objectives: *Clostridioides difficile* infection (CDI) poses a burden on patients and healthcare facilities. CDI is regarded as a hospital-based infection, but community-associated CDI is of increasing importance. This study examined the risk of death for healthcare-associated *C. difficile* infections (HCA-CDI) compared to community-acquired infections (CA-CDI).

Methods: This study was a retrospective analysis of all CDI cases between January 1, 2018 and November 11, 2021 among patients admitted to acute care in Fraser Health, a regional health authority in British Columbia, Canada. Case definition required polymerase chain reaction (PCR) confirmed *C. difficile*, and acute onset of diarrhea with no other identified cause. Cases were classified as HCA-CDI when symptom-onset or positive specimen collection occurred 72 hours or more after admission, or within four weeks of discharge from an admission which lasted at least 24 hours. Case information, including demographics, epidemiological source and death attributed, partially or in full, to CDI, was extracted from the Infection Prevention and Control surveillance database. Comorbidities and proton pump inhibitor (PPI) use were extracted from administrative data and linked by unique patient identifier. Descriptive analysis was performed for all variables, and crude analysis (using simple logistic regression) was used to establish uncontrolled relationships between all exposure and outcome measures. Models were constructed using multinomial logistic regression, which were controlled for confounding variables (year, geographic region, gender, age).

Results: A total of 2,336 CDI cases were included in the analysis. HCA-CDI patients were 1.7 (95% CI: 1.28, 2.20, p<0.001) times as likely to die within 30 days compared to patients who had CA-CDI, a relationship that was retained after controlling for patient comorbidities. Increased comorbidities were a risk factor for death, patients having three or more comorbidities were 4.8 times (95% CI: 2.86, 7.96, p<0.001) as likely to die as those without. In the subset of patients who were on PPIs, there was no statistically significant difference in likelihood of death between HCA-CDI and CA-CDI patients. Additionally, there was no statistically significant difference in PPI use in HCA-CDI cases compared to CA-CDI cases.

Conclusion: Healthcare-associated CDI was associated with increased risk of death compared to community-acquired CDI, even when controlling for comorbidities and other covariates. There was no statistically significant difference in PPI use between HCA-CDI and CA-CDI, however this may be due to the sample size. These results highlight the increased risk of severe patient outcomes from healthcare-associated CDI and the importance of infection control measures to prevent transmission.
The overall regional incidence rate for MRSA was 0.65 per 10,000 resident days, 0.05 per 10,000 resident days for VRE and 0.14 per 10,000 resident days for CDI. Regional SIRs for MRSA for FQ2 and FQ3 were 2.57 (95% CI 1.43 to 4.28; p<0.001) and 1.99 (95% CI 1.01 to 3.55; p=0.04). No significant differences were observed in the regional SIR for CDI for FQ2 and FQ3.

**Conclusion:** Although passive, the ongoing structured surveillance program identified significantly more LTC-associated MRSA cases in FQ2 and FQ3 than expected in comparison to its initial launch in FQ1. These are likely underestimations due to the limitations associated with passive surveillance. To understand the true burden of such pathogens in LTC, surveillance programs in these settings require active surveillance of organisms of epidemiological significance. Finally, the findings are not generalizable to residents admitted to privately-operated LTCFs, suggesting an opportunity to expand surveillance to these settings.

**ORAL PRESENTATIONS**

### IPAC PATIENT SAFETY SURVEILLANCE DASHBOARDS

**Sean Bradley¹, Lisa Hope, Nicholas Scholey, Heather Candon, Gerald Evans, Natasha Salt**

¹Kingston Health Sciences Centre

**Issue:** The IPAC team at Kingston Health Sciences Centre collects patient safety data which is routinely published and disseminated to senior leaders and committees, but no formal process was in place to engage frontline healthcare staff in discussions related to this data. Hand hygiene compliance and the incidence of Methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridioides difficile* infection (CDI) were identified as priority indicators that needed to be discussed at team huddles during safety talks. A systematic approach to sorting and distributing this data needed to be developed.

**Project:** A unit specific patient safety surveillance dashboard utilizing excel was created by IPAC that provides information to unit staff and management regarding key infection control patient safety metrics. Dashboards first introduced data on MRSA, CDI and hand hygiene where unit specific rates were included alongside corporate rates for the same period. COVID-19 case counts were also included. In September 2022, the dashboard was updated to remove COVID-19 case counts and include MRSA admission screening compliance, in response to an increase in nosocomial transmission of MRSA at our centre.

**Results:** Leveraging existing quality boards on units, the dashboards provided IPAC practitioners a platform and visual aid to routinely communicate key patient safety data engaging both unit leadership and frontline staff. Discussions are informative and opportunities for improvement are supported. The dashboards offer transparency and promote learning from high-performing units. Increasing communication to frontline staff on units allows for staff to have an improved understanding of how their unit is doing regarding IPAC patient safety metrics and their role in supporting improvements. The dashboards are also modular and can be tailored to address new or other relevant unit-based data.

**Lessons Learned:** Engaging healthcare staff is a first step in creating platform for the discussion of rates and other IPAC safety indicators. It allows staff to own their results and think about strategies to improve outcomes. Future direction may include planning study-act activities and formal quality improvement projects that benefit unit, the organization and external partners or area specific data such as surgical site infection rates. Patient engagement will also be considered as we move forward.

### SURVEILLANCE IN LONG-TERM CARE FACILITIES: A NINE-MONTH STUDY

**Tamara Duncombe¹, Katy Short¹**

¹Fraser Health, British Columbia

**Background/Objectives:** COVID-19 has identified the importance of Infection Prevention and Control (IPC) programs within Long-term care facilities (LTCFs). Subsequently, many health agencies have increased infection prevention and control resources in LTCFs to improve surveillance efforts for healthcare-associated pathogens and infections. This study describes the epidemiology of healthcare-associated pathogens under surveillance in LTCFs and compares the incidence rates after nine months of surveillance.

**Methods:** On April 1, 2022, surveillance for Methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridioides difficile* infections (CDI), Vancomycin-resistant *Enterococci* (VRE), Carbapenemase-producing organisms (CPOs) and *Candida auris* was implemented in 14 publicly funded LTCFs operated by a regional health authority in British Columbia, Canada. Surveillance was limited to positive clinical isolates and screening isolates from acute care admissions testing. IPC professionals assessed cases to determine whether they were LTC-associated by applying standardized surveillance definitions. The data was entered into an electronic software using standardized data collection forms. Incidence rates were calculated for each fiscal quarter (FQ). To determine the excess number of cases observed during each FQ, Standardized Infection Ratios (SIR), 95% Confidence Interval (95% CI) and p-values were estimated using the pooled regional incidence rate for FQ1 as the baseline. A p-value of less than 0.05 was considered statistically significant.

**Results:** Between April 1 and December 7, 2022, 36 LTC-associated cases were identified, of which 78% were MRSA, 17% CDI and 5% VRE. In this population, 56% were females, and the average age was 75 years (SD +14 years). Facilities ranged in size from 50 to 262 beds, and the total resident days was 432,887 days. The overall regional incidence rate for MRSA was 0.65 per 10,000 resident days, 0.05 per 10,000 resident days for VRE and 0.14 per 10,000 resident days for CDI. Regional SIRs for MRSA for FQ2 and FQ3 were 2.57 (95% CI 1.43 to 4.28; p<0.001) and 1.99 (95% CI 1.01 to 3.55; p=0.04). No significant differences were observed in the regional SIR for CDI for FQ2 and FQ3.

**Conclusion:** Although passive, the ongoing structured surveillance program identified significantly more LTC-associated MRSA cases in FQ2 and FQ3 than expected in comparison to its initial launch in FQ1. These are likely underestimations due to the limitations associated with passive surveillance. To understand the true burden of such pathogens in LTC, surveillance programs in these settings require active surveillance of organisms of epidemiological significance. Finally, the findings are not generalizable to residents admitted to privately-operated LTCFs, suggesting an opportunity to expand surveillance to these settings.
In an effort to help ease the demands on the laboratory, routine antibiotic-resistant organism (ARO) point prevalence screens were paused. This temporary measure started March 2020 and spanned over two years, though admission screening continued.

**Project:** At Mount Sinai Hospital (MSH), an acute care hospital in Toronto, Ontario, all patients admitted through the emergency department to most services are screened for AROs, including methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant Enterococcus (VRE), and carbapenemase-producing Enterobacteriaceae (CPE). The remaining patients are screened based on a risk assessment. Before the COVID-19 pandemic, regular ARO point prevalence screens of the medical, surgical, and critical care units were conducted. The rate of healthcare-associated (HA) ARO colonization and infection per 1000 patient days in the 3 fiscal years prior to the pandemic ranged from 0.27-0.39 for MRSA, 0.12-0.27 for VRE, and 0.01-0.02 for CPE. Prior to resuming the regular ARO point prevalence screening program in July 2022, an ARO point prevalence screen of the medical, surgical, and critical care units was conducted in May 2021 and June 2022. This work examines the number of HA cases found from the two-point prevalence screens performed during the period when routine ARO point prevalence screens were not being conducted.

**Results:** The first point prevalence screen, which included 101 patients, was conducted in May 2021; the length-of-stay (LOS) ranged from two to 123 days, with a median of 12 days. Two patients (LOS = 8 and 44 days) were identified as having HA MRSA colonization and resulted in five exposures. One patient (LOS = 10 days) with HA VRE colonization was identified and one patient was exposed. One patient (LOS = 153 days) was identified with HA CPE colonization, resulting in five exposures. The rate of HA colonization and infection per 1000 patient days in the 12 months prior to the point prevalence screen was 0.19 for MRSA, 0.06 for VRE, and 0.00 for CPE. The second point prevalence screen, which included 104 patients, was conducted in July 2022; the LOS ranged from 2-196 days, with a median of 12 days. One patient (LOS = 80 days), was identified as having HA VRE colonization. Eleven exposed roommates were identified. The rate of HA colonization and infection per 1000 patient days in the 12 months prior to the point prevalence screen was 0.10 for MRSA, 0.12 for VRE, and 0.00 for CPE.

**Lessons Learned:** Results from the two-point prevalence screens performed during the COVID-19 pandemic, while routine ARO point prevalence screening was paused, revealed patients with HA AROs and their close contacts who would have otherwise gone undetected. These findings support the practice of conducting routine ARO point prevalence screening, which MSH has since resumed.

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**EAST MEETING ROOM 8/15, SECOND LEVEL**

2:00 pm – 3:30 pm (Pacific)

**ADMISSION STRATEGIES DURING COVID-19 OUTBREAKS AT WILLIAM OSLER HEALTH SYSTEM – A HIGHLY IMPACTED ONTARIO COMMUNITY HOSPITAL SYSTEM**

Donna Moore¹, Janine Domingos¹, Adenike Rowaye⁠¹

¹William Osler Health System, Ontario

**Issue:** We highlight practical approaches taken at William Osler Health System (Osler) that balanced patient and healthcare worker (HCW) safety with patient access, efficient patient flow and capacity management in light of COVID-19 Variants of Concern (VOC) challenges during COVID-19 Outbreaks. Strategies include current Ontario testing and isolation requirement guidelines during the Omicron sub-variant surges.

**Project:** The overall project goal was to develop an Outbreak Management Framework (OMF) to support new admissions during COVID-19 Outbreaks in collaboration with the Outbreak Management Team (OMT). Criteria included: 1) outbreak evolution, 2) patient population, 3) rapid and PCR COVID-19 testing and utilization of CT Values and 4) level of hospital capacity constraints in alignment with the Greater Toronto Area (GTA) Incident Management System (IMS) guidance document and IPAC best practice. The OMF provided specific admission guidance based upon the level of Osler’s hospital capacity constraint (involving physical and/or healthcare human resources constraints) and applied at the level of the individual hospital site and unit, as there were disparities in COVID-19 volumes and patient acuity within Osler. Internal triggers (red/yellow/green) were utilized to reflect progressive organizational capacity constraints and were considered in conjunction with the external environmental conditions to calibrate outbreak management admission guidelines during COVID-19 outbreaks. Of note: the green/yellow/red designation was made at the level of clinical programs and/or clinical roles within Osler, depending on the criticality of healthcare human resources and other capacity levels at the time of an outbreak.

**Results:** A new COVID-19 OMF was developed by the IPAC Team in May 2022, which was aligned with the GTA IMS and level of hospital capacity constraints to guide new admissions during COVID-19 outbreaks. Osler’s new OMF demonstrated that new admissions could be admitted safely to outbreak units when the appropriate IPAC measures are implemented and clear direction and communication is provided to frontline staff, patient flow and bed allocation partners to ensure a seamless and safe transition of care. The COVID-19 admission OMF was created and operationalized for units experiencing COVID-19 outbreaks, patient flow partners, and bed allocators at the onset of a COVID-19 outbreak to support units on outbreak to safely accept new admissions during COVID-19 outbreaks. In addition to facilitating patient flow and mitigating CR capacity challenges, this strategy shortened the duration of COVID-19 outbreaks from an average of 19 days before OMF implementation (April 2020 to April 2022) to 13 days post implementation (May 2022 to date) and maintained an attack rate about 22% in the phase of the more highly transmissible Omicron sub-variant surges.

2:15 - 2:28 p.m.

**ADAPTATION AND IMPLEMENTATION OF AN IPAC AUDIT TOOL OF THE PHYSICAL ENVIRONMENT ON IN-PATIENT MEDICAL AND SURGICAL UNITS**

Tavia Caplan¹, Andrea Morillo¹, Liz McCreight¹, Angele Seguban¹, Bianca Fung¹, Michael Rafiœ¹, Hannah Lam¹, Emily Dunham¹, Frank Quinn¹, Jeremiah Conceños¹, Lauren Parsons¹, Scott Pharan¹, Jennie Johnstone¹

¹Sinaí Health, Toronto, Ontario

**Issue:** Continuous IPAC assessment of the physical environment on in-patient units is critical to help minimize the risk that the physical environment will contribute to healthcare associated infections. Rounding on in-patient units by Infection Control Practitioners (ICPs) is a common approach used to identify concerns and evaluate the implementation of IPAC recommendations, but may be subject to variability depending on the observer. Additionally, without a standardized format, it can be challenging to capture data in a manner that can be easily disseminated to stakeholders and collated to identify commonalities across units.

**Project:** We developed and implemented an audit tool of the physical environment on in-patient units to systematically assess the current state of the environment and adherence to IPAC best practices across seven in-patient medical and surgical units at Mount Sinai Hospital, an acute care hospital in Toronto, Ontario. Our audit tool assessed 179 indicators, and included auditing of the in-patient communication station, corridors, patients’ rooms, soiled utility room, clean supply room, environmental services room, hand hygiene sinks, kitchen, airborne infection isolation rooms, medical room, shower room, respiratory equipment, and lounge. Audits were conducted by a multidisciplinary team (MDT), which included participation from IPAC, Support Services, Building Services, Risk, Safety, Capital Projects, and clinical leadership. Deficiencies were communicated to relevant stakeholders and collated to identify themes across units and departments. A scoring system was developed and implemented to prioritize deficiencies for follow-up and to identify broader areas for quality improvement.

**Results:** Of the 179 indicators assessed on each unit, an average of 40 deficiencies were identified. Deficiency rates by unit ranged from 16-36%. Corridors, communication stations, environmental services rooms, and patient rooms had the highest deficiency rates of all locations audited. A scoring system was designed to quantify priorities for follow-up based on the perceived infectious risk to the patient and the frequency that the indicator was found to be deficient. The identified priorities were integrated into unit program activities and quality improvement project planning. Finally, the audit tool was adapted into ICP rounding tools for daily, weekly, monthly, and annual auditing.

**Lessons Learned:** This work highlights the utility of a standardized tool and risk analysis to identify and prioritize areas for IPAC improvement in the physical environment on in-patient units. The design of the audit tool is critical to enable data collation and analysis. Specifically, audit tool indicators should assess a single process or item to ensure that a binomial response can be assigned and applied to the indicator in its entirety. Broad MDT engagement was helpful for identifying lapses in discipline-specific processes that may have otherwise been missed.

Michael Badour¹, Hannah Lam¹, Emily Dunham¹, Frank Quinn¹, Jeremiah Conceños¹, Lauren Parsons¹, Scott Pharan¹, Jennie Johnstone¹
Conclusion:

Content to engage a broader range of multidisciplinary professions. Opportunities for improvement were identified including modifying session content to engage a broader range of multidisciplinary professions.

2:30 - 2:43 p.m.

IPAC SAFETY COACHES – AN INNOVATIVE APPROACH IN KNOWLEDGE TRANSFER

Shirin Amiri Veyghan, Colleen Le, Stefanie Sawy, Yuka Hutton, Satifysa Khamis, Maya Sino, Danny Chen

†Mackenzie Health – Cortellucci Vaughan Hospital

Background/Objectives: The COVID-19 pandemic placed great demands on existing Infection Prevention and Control (IPAC) teams. There was a critical need for ongoing staff education regarding IPAC best practices, especially as scientific knowledge about SARS-CoV-2 evolved. In the face of staff shortages, recruitment of experienced IPAC team members was a challenge. Therefore, an IPAC Safety Coaches Program was initiated with the goal of optimizing the frontline staff IPAC practices.

Methods: In March 2021, the program was introduced to the organization, led by two Infection Control Practitioners and supported by the IPAC Program Director. Healthcare workers were asked to volunteer to become IPAC Safety coaches via an “expression of interest” letter or were designated by their managers to participate. Forty-five frontline staff joined the IPAC Safety Coaches Program starting in April 2021. The inaugural IPAC Safety Coaches Program lasted six months with a structured series of weekly sessions. These were comprised of a core educational curriculum targeting specific IPAC topics, discussion and feedback regarding frontline IPAC related experiences, and action items by which participants were tasked to share what they learned from each session with their colleagues at unit huddles. At the program’s end, a ceremony was conducted to recognize the participation and accomplishments of each IPAC Safety Coach.

Results: We saw growth in the IPAC Safety Coaches’ capacity as liaisons between the IPAC Team and the frontline staff. They were able to think critically as problem solvers when identifying potential IPAC concerns. The following two indicators were used to further evaluate the program (pre & post): Hand Hygiene Compliance Personal Protective Equipment (PPE) donning and doffing compliance Hand Hygiene compliance rates and the PPE donning and doffing indicators have continuously improved since the commencement of the program. At the program’s end, an anonymous evaluation feedback survey was conducted to identify opportunities for improvement. 72% of survey participants rated the program as excellent or very good. Opportunities for improvement were identified including modifying session content to engage a broader range of multidisciplinary professions.

Conclusion: The IPAC Safety Coaches Program was successful in expanding IPACs reach and embedding a new pool of HCWs with additional IPAC training and knowledge in the front lines. This resulted in improved adherence to IPAC best practices. The IPAC Safety Coaches Program leverages the effectiveness of peer-peer education and may be part of a culture change where frontline daily work is also viewed through an IPAC lens. Periodic check-in meetings continue with the pioneer group of IPAC Safety Coaches to provide continuous support and to encourage their progressive growth as leaders within our organization.

2:45 - 2:58 p.m.

IPAC IMPLEMENTATION IN A NEW ELECTRONIC MEDICAL RECORD SYSTEM DURING A PANDEMIC AT SCARBOROUGH HEALTH NETWORK

Jennifer Lema, Vydia Nankosinski, Jayvee Guererro

†Scarbrough Health Network, Ontario

Issue: Scarborough Health Network (SHN) underwent implementation of a new electronic medical record (EMR) in December 2021. This presented many challenges to the Infection Prevention and Control (IPAC) Department. Since transitioning, every aspect of how IPAC completed patient assessments, charting, surveillance, reporting and even communicating with the healthcare team changed. This transition allowed opportunities to remodel and optimize our workflow.

Project: IPAC and the analysts worked together to identify improvement opportunities to enhance the IPAC workflow. The IPAC admission symptom screening tool was customized to identify symptoms of concern, high-risk exposures to COVID-19, recent travel history, and previous hospitalizations. The EMR was customized to prompt the isolation precautions based on responses to screening questions. The flagging of patients with a specific infection, such as MRSA and CPO were automated. When a laboratory report was finalized, the patient’s infection status was automatically updated in the chart. This allows the appropriate isolation precautions to be initiated as early as possible. IPAC receives real-time notification of relevant laboratory reports to our mobile phones. IPAC can access, assess and triage the urgency of results and begin the investigation process if required. This allows the infection control practitioners (ICPs) the ability to be mobile throughout the hospital and office. The patient’s infection status in the chart is also automatically updated based on the test ordered. For example, if a tuberculosis (TB) culture was ordered, an infection status of “TB rule-out” would be populated and staff would be prompted to initiate airborne precautions.

Communicating with frontline healthcare providers via a secure chat has improved efficiencies compared to calling the units directly or waiting for the physician to respond to a page. Custom reports were created to improve the IPAC team’s efficiency. The team was able to utilize a review date to prioritize patients needing assessments and reassessments. IPAC was able to document surveillance details in the EMR. This has replaced the use of a separate excel spreadsheet. Reports can be pulled directly from the EMR and shared with key stakeholders.

Results: Implementation of IPAC into the new EMR presented many challenges especially in the setting of a pandemic. Although this work required tremendous resources, tools such as symptom screening, flagging of patient charts, automatic infection status, custom reports, real-time notification of laboratory reports and secure chats have all contributed to a more efficient system that has allowed us to remodel and optimize our workflow. November 2022, Accreditation Canada recognized IPAC for the utilization of our new EMR which has contributed to a more robust management of COVID-19.

3:00 - 3:13 p.m.

A SIMPLIFIED DEFINITION FOR PERSONAL PROTECTIVE EQUIPMENT DONNING AND DOFFING COMPLIANCE TO FACILITATE HOSPITAL-WIDE AUDITING AND REPORTING

Lisa Wong, Noor Kim, Lauren Cooper, Andrea Morillo, Liz McCreight, Jennie Johnstone

†Sunny Health, Toronto, Ontario

Issue: Since the start of the COVID-19 pandemic, Mount Sinai Hospital has issued multiple updates to its personal protective equipment (PPE) selection and guidance documents. The constant changes led hospital leadership to inquire whether staff were donning and doffing PPE effectively. Existing PPE audit tools calculate compliance as the number of elements performed divided by the total number of elements monitored. When multiple audits are conducted and collated, this method of determining compliance produces a score that is difficult to interpret and act upon.

Project: We sought to develop a PPE audit tool and definition of compliance that would more closely meet the auditing and reporting needs of our facility, an acute care teaching hospital in Toronto Ontario. An environmental scan of existing PPE and IPAC audit tools was conducted. In our revised audit tool, donning compliance was defined as performing hand hygiene prior to donning PPE, and donning the required PPE. Doffing order is noted but does not count towards compliance. Doffing compliance was defined as doffing PPE in the correct order, including hand hygiene, and in an appropriate location. To facilitate a faster roll out, we modelled our PPE audit tool to be visually similar to our existing hand hygiene audit tool.

Results: Simplified definitions made the reported compliance score more logical: it now summarized the number of donning or doffing events that were compliant out of the total number of events observed. 16 PPE audit sessions conducted across our medicine and surgical units showed 70% donning compliance and 69% doffing compliance. Hand hygiene was missed in 78% (18/23) of non-compliant donning observations and doffing order was incorrect in 29% (27/93) of observations. Nine PPE audit sessions conducted in the Emergency Department showed 43% donning compliance and 27% doffing compliance. Doffing order was incorrect in 73% (19/26) of observations. Proper use of face shields was highlighted as a particular area for improvement as face shields were not doffed in 58% (14/24) of observations, and were observed being reused between patient rooms. Our simplified definitions did not allow us to pinpoint specific elements leading to non-compliance, but did provide us and hospital leadership with a general idea of which PPE donning and doffing steps needed further education and support. Feedback from auditors was that the PPE audit tool was intuitive to use, and the compact layout allowed for multiple healthcare workers to be audited simultaneously.

Lessons Learned: Our revised PPE audit tool provided our hospital with a straightforward way to examine and report on PPE compliance. Simplifying the definition of compliance was necessary to facilitate unit-level reporting, and to return an audit result that was actionable.
Infection Prevention and Control Program Expansion and Improvement

EAST MEETING ROOM 11/12, SECOND LEVEL
2:00 – 3:30 pm (Pacific)

Objectives:
- To determine the gross burden of microorganisms on the dispenser manual wheel before cleaning, immediately after cleaning, and several hours after cleaning, to conclude if the present cleaning protocol is adequate, and to determine if a simple swab-culture-count process is adequate to assess changes in microorganism burden.

Hypothesis:
We predicted there would be a high microorganism count on the manual spin wheel despite the cleaning practices in place. Sample Collection: Samples were collected at two acute care sites using sterile, pre-moistened swabs in Amies media. The entire surface of the manual was swabbed, including the front-facing surface and the crevasses surrounding the rotating wheel, which has a diameter of 5 cm (surface area of 15.7 cm²). Samples were labelled using a swab stick.

Cleaning:
The manual wheel on hands-free paper-towel dispensers is a potential site for bacterial growth and transmission. Cleaning of the wheel has a diameter of 5 cm, which is 15.7 cm². Samples were collected from two acute care sites. Swabs were collected at three time points: before cleaning, 30 minutes after and four to six hours after cleaning. Pre-cleaning, the mean number of CFU cultured from the manual wheel was 59.0 (3.76 CFU/cm²). At 30 minutes post-cleaning, the mean CFU was 4.93 (0.31 CFU/cm²), and at four to six hours post-cleaning, the mean CFU was 7.38 (0.47 CFU/cm²). Conclusion:
The manual wheel on hands-free paper-towel dispensers is a potential site for bacterial growth and transmission. Cleaning of the wheel has a diameter of 5 cm (surface area of 15.7 cm²). Samples were collected from two acute care sites. Swabs were collected at three time points: before cleaning, 30 minutes after and four to six hours after cleaning. Pre-cleaning, the mean number of CFU cultured from the manual wheel was 59.0 (3.76 CFU/cm²). At 30 minutes post-cleaning, the mean CFU was 4.93 (0.31 CFU/cm²), and at four to six hours post-cleaning, the mean CFU was 7.38 (0.47 CFU/cm²).

Infection Prevention and Control Program Expansion and Improvement

EAST MEETING ROOM 11/12, SECOND LEVEL
2:00 – 3:30 pm (Pacific)

The Hospital Hub: Interdisciplinary Team Approach Leads to Program Diversity

Stephanie Fedor, Chantal Williams, Carly Rebelo, Leah Gitterman, Susy Hota
University Health Network, Toronto, Ontario

Issue:
In response to infection prevention and control (IPC) challenges faced by long-term care homes (LTCs) during the COVID-19 pandemic, the Ontario Ministry of Health introduced the hub-and-spoke model. In this model, hospitals or local public health units teams were strategically selected as Hubs to deliver IPC support to the leadership and frontline staff of various LTCs and retirement homes within their region. Due to the rapid implementation of this program, there was no standardised Hub model which resulted in a variety of Hub structures across Ontario. We describe how our Hub, consisting of personnel with diverse skills and qualifications, shaped IPC program development in LTC. Project The University Health Network (UHN) Hub team is composed of an interdisciplinary team which is unique from other Hubs to the best of the team’s knowledge. The team consists of a CIC certified IPC Lead with expertise in epidemiology and change management, a Nurse Practitioner specialising in infectious diseases and an Infection Control Practitioner (ICP) with advanced training in epidemiology and biostatistics. Additionally, it is supported by an Infectious Disease physician and Medical Director of IPC and ICP manager. The team complement was chosen with a lens to maximise facilitation of new IPC program implementation within the Hub spokes, addressing angles of surveillance, diagnosis and control of communicable diseases, including behaviour change in order to address sustainability of interventions.

Results:
The unique complement of team members has allowed for comprehensive IPC programming. The IPC Hub Lead has been successful in effecting change using a frontline ownership approach including liberating structures and safety tools, implementing safety huddles and enhancing communication. Next, the nurse practitioner role bridges the gap between IPC practices and clinical management. The role supported clinical IPC work such as vaccination hesitancy, education on nasopharyngeal swab collection technique, dissemination of COVID-19 management guidelines to local clinicians, and education on judicious use of UTI testing. These areas are of importance in IPC, but targeted interventions require the expertise of registered medical professionals. Lastly, the ICP epidemiologist role is essential to providing routine IPC guidance and education, in addition to accumulating and interpreting, summarising and reporting data. This member conducts educational program evaluation and areas of need which directs other hub activities. They also have lab experience and liaise between the LTCs and the hub microbiology department to facilitate testing, troubleshoot, and find results in a timely manner. In summary, the programs the UHN Hub is leading demonstrates that an interdisciplinary approach broadens the scope of the hub and spoke model and provides LTC with valuable support to help optimise care for residents.

2:15 - 2:28 p.m.

Infection Prevention and Control Challenges in Long-term Care and Retirement Homes during COVID-19 Pandemic in Ontario, Canada

Tanya Drenth¹, Jacqueline Quirk¹, Catherine Richard¹, Bois Marsden¹
Public Health Ontario

Background:
Residents in Long-term Care and Retirement Homes were highly impacted by the COVID-19 pandemic. Public Health Ontario (PHO) Infection Prevention and Control (IPC) Specialists provided support by conducting on-site and virtual (IPC) Assessments to Long-term Care and Retirement Homes (LTC/RHs) in April 2020 and June 2021. Reports from these IPC Assessments were analyzed and the most common challenges were identified.

Methods:
Infection Prevention and Control (IPC) Specialists in collaboration with local Public Health Units (PHUs) conducted 139 on-site and 33 virtual visits in LTC/RH in Ontario. PHO’s IPC Team supported LTC/RHs by offering IPC Assessments to promote COVID-19 pandemic preparedness and outbreak response using a tool developed by PHO. LTC/RHs were prioritized for assessments based on pre-visit questionnaires completed in cooperation with local PHUs. Following the assessments, a report with findings and recommendations were shared with the Health Unit and home. A thematic analysis of the reports found common challenges in several areas.

Results:
A total of 415 recommendations were made to LTC/RHs. Recommendation topics included personal protective equipment (PPE) (67% of homes), screening (52%), physical distancing (58%), environmental cleaning (57%), hand hygiene (26%), cohorting (15%), and other (5%). Incorrect use and reuse of PPE were observed such as wearing full droplet and contact PPE for all residents and not just for those on additional precautions. Double masking was another common observation. Other common themes included incorrect screening questions asked at entrances as well as improper screening area set up. Deficiencies on how to practice physical distancing with residents and staff were observed as well. Hand hygiene technique was affected due to alcohol-based hand rub (ABHR) being unavailable or low alcohol concentration. Other observations noted were incorrect selection of the disinfecting wipes and cleaning products, as well as incorrect use of these products. In many of the LTC/RH observed there was no defined process for cleaning high-touch surfaces or tracking when cleaning had occurred and deficiencies in the auditing process. Insufficient training, auditing and follow-up is likely affecting most of the challenges observed.
Conclusion: These findings highlighted existing IPAC challenges and identified new issues in LTC/RHs. The data in this report may be useful in identifying additional actions to support the needs of LTC/RHs. Comprehensive support through coaching/mentorship, and the creation of resources to implement IPAC programs and capacity building interventions with LTC/RH IPAC Leads are needed.

2:30 - 2:43 p.m.
AN ETHICAL FRAMEWORK FOR INFECTION PREVENTION AND CONTROL
Mariana Olnes¹, Heather Candon¹, Charlie Tan¹, Kevin Reel¹, Sally Bean¹, Christina Chan¹, Neethu Rose Thomas¹, Jaclyn O’Brien¹, Adrienne Chan¹, Jerome Levi¹
¹Sunnybrook Health Science Centre, Toronto, Ontario

Background: The ethical implications of infection prevention and control (IPAC) are recognized, yet a framework to guide the application of ethical principles is lacking. Ethical frameworks are tools to work through complex ethical problems and establish the most appropriate courses of action using the information available. They can be particularly helpful in circumstances where a values conflict or moral tension exists, where you have to choose the least bad option, where there is uncertainty in what to do or how to proceed, or where options exist that could pose a risk of harm to relevant parties and institutions.

Project: In response to a new provincial legislation for long-term care in Ontario, we set out to develop an ethical framework to guide IPAC-related decision-making in long-term care. We partnered with practicing healthcare ethicists to create a practical decision-making tool that could be adopted across long-term care facilities. Following an environmental scan of existing ethical decision-making tools, we adapted an ethical framework for IPAC purposes. A preliminary version was shared widely among partner facilities in our region and further refinements were made based on end-user experiential feedback.

Results: The Ethical Infection Prevention and Control (EIPAC) framework is comprised of four steps (mnemonic is IDEIA): 1. Identify the facts, where the ethical problem is clarified and relevant considerations are ascertained; 2. Determine the relevant ethical principles, wherein pertinent ethical principles are considered and brought forward for deliberation; 3. Explore the options, where possible solutions for addressing the ethical problem are brainstormed and their alignment with the previously identified ethical principles is considered; and 4. Act, where the most ethically sound option is identified and brought forward for implementation. The framework also includes 11 guiding ethical principles and five process-based conditions to ensure the decision-making process is viewed as fair and transparent by all involved parties. This framework has been used by our North Toronto IPAC Hub supporting 14 congregate care facilities, and was presented on a provincial platform to other hospitals and facilities across Ontario.

Lesson Learned: While most decision-making in IPAC is well served by informal decision-making, we have found that complex situations benefit from a more structured approach to ensure necessary considerations are identified, all relevant parties are engaged, and the decision-making process is impartial, transparent, and documented when required. The EIPAC framework fulfills this need, and can be used by IPAC programs across the continuum of care, and is not exclusive to LTC.

2:45 - 2:58 p.m.
WHERE ARE THE CHAMPIONS? BUILDING IPAC CAPACITY IN LONG-TERM CARE AND RETIREMENT HOMES
Christina Critelli¹, Magdalena Krawczyk¹, Oluwatosin Ezra¹, Madeleine Ashcroft¹, Chris Okeahialam²
¹Trillium Health Partners, Ontario

Objective: To build Infection Prevention and Control (IPAC) capacity in long-term care homes (LTC) and retirement homes (RH) in the Mississauga/South Etobicoke region of Ontario, through a champions training program. This IPAC Hub course aimed to enhance healthcare workers’ knowledge, refine their IPAC understanding and beliefs beyond COVID-19, facilitate their development as effective role models and create additional support for the facility IPAC lead.

Methods: IPAC leads in LTC/RHs facilities were requested to select multidisciplinary staff interested in IPAC and willing to be trained and serve as champions. A one-hour virtual education session was delivered to the participants over seven weeks in November and December 2022. Topics were selected to include key requirements for IPAC leads and consider how IPAC champions might assist, this included IPAC basics, review of core competencies, IPAC program and role of IPAC lead, surveillance and outbreaks, environmental cleaning, construction, renovation, maintenance design, occupational health, and auditing and feedback. A weekly quiz was disseminated to solidify learnings, with answers reviewed at the following session. At the end of the course an evaluation survey was distributed to capture participants’ perspectives of overall value of the course, preferred topics, areas for improvement, and how they are applying what they learned within their facilities. The quality improvement Plan-Do-Study-Act (PDSA) cycle was the framework for this process.

Results: Participants indicated in the post-course evaluation survey that the course had a positive impact on their role as champions. Themes include greater confidence with their own practice as well as assisting the IPAC lead with audits, surveillance, and unit education; increased comfort providing and receiving feedback, and greater recognition from managers and peers. There was a progressive increase in participation, consistent with their growing knowledge and self-assurance.

Conclusions: By engaging in the Hub IPAC course, participants identified that they feel better equipped to support the IPAC lead within their home through recognized opportunities. When IPAC leads and champions complete the course together, both confirm greater empowerment and mutual support, and can tailor the champion role to best meet facility needs. By establishing supportive IPAC champions within the home, each IPAC lead will be better able to meet growing role requirements. As IPAC champions are established on units, IPAC becomes increasingly integrated into the organizational culture, positively impacting adoption of IPAC best practice and safer patient care. These positive results support the ongoing development of this course with regular follow-up sessions to maintain sustainability.

3:00 - 3:13 p.m.
SAFETY HUDDLES! A STRONG BRIDGE! AN EXCELLENT APPROACH TOWARDS BUILDING A VIBRANT IPAC CULTURE – ALL TOGETHER!
Shlok Naidi¹, Sobolanda Vanda¹
¹Runnymede Healthcare Centre, Ontario

Background: Runnymede Healthcare Centre (RHC) is 206 bed Rehab/CCC Hospital located in Southern Ontario. While the entire world faced the COVID-19 Pandemic, RHC was extremely diligent in successfully managing several outbreaks in collaboration with internal and external stakeholders. Enhanced Infection Prevention and Control (IPAC) measures were implemented, most importantly education to staff and patients/families. Safety Huddles (SH) are commonplace on units, IPAC becomes the largest and an integral component of the SH, at times meeting with staff even more than twice throughout any specific day.

Methods: SHs involve a multidisciplinary team. Personnel from the IPAC team interact with staff to provide important IPAC updates, education and addressing questions and concerns staff may have. Ongoing IPAC presence in the SH has consistently proven to be a great opportunity for staff to be stakeholders in the outbreak and improve practice during outbreaks. Discussion, questions pertaining to N95 vs surgical masks, emerging of various strains and communicability, vaccination hesitancy, new conservation strategies of PPE and donning/doffing were addressed. Additional SHs were used as a platform for providing staff with ongoing emphasis on hand-hygiene, cleaning of equipment, universal masking, social distancing, avoiding gathering at nursing stations, staff lounges and cafeteria self-screening, offering mask to a patient if tolerated, limited number of staff in staff lounges and cafeterias as well as real-time updates on the progress of the outbreak.

Results: SHs were a great platform for facilitation of dialogue and communication, leading staff participating, and more questions being asked relating to COVID-19 outbreaks. It was observed that there was an elevated sense of fear or apprehension during the Outbreaks. Having an open forum significantly calmed nerves and the environment was fostered where colleagues were incentivized to speak up and participate. Staff felt they were always encouraged with positive yet constructive feedback over audits. Staff were made to feel as becoming part of the infection control team and SHs helped to reinforce best IPAC practices.

Conclusion: SHs were a platform where staff, voiced their concerns or shared experiences. This way not only were staff open and transparent with one another about the practices being followed, IPAC was also privy to the day-to-day routines and practices being followed by staff. IPAC was able to use this information to identify and pinpoint specific areas of feedback to be given to staff. Qualitative feedback from staff helped to inform how specific IPAC resources could be improved and modified. SHs proved to be the common ground where IPAC was able to provide real-time and just-in-time critical information. Staff felt encouraged and heard. Stronger and ongoing bonds and trust were established. SHs reinforced vital values among staff which helped manage outbreaks successfully.
3:15 – 3:28 p.m.

BUILDING CAPACITY WITHIN NOVICE INFECTION PREVENTION AND CONTROL LEADS IN THE LONG-TERM CARE AND RETIREMENT HOMES SECTORS

Maelyn Bondoc¹, Urmila Sharma¹, Stephen Saleman¹, Joan Osborne Townsend¹, Lillian Kanko Braithwaite¹, Ian Braig¹
¹Humber River Hospital, Ontario

Issue: The emerging pandemic of novel SARS-CoV-2 drastically affected the operations of long-term care homes (LTCHs) and retirement homes (RHs), including the residents’ mental, physical and social well-being. Consequently, the need for resilient infection prevention and control (IPAC) programs, standards and designated IPAC Leads in the LTCH and RH sectors became more urgent. With little knowledge and experience, team members rose to the occasion to become IPAC Leads and IPAC supports within their homes.

Project: The Ministry of Health and Ministry of Long-Term Care collaborated to initiate IPAC Hub and Speak programs to support congruent living settings (LTCHs, RHs, etc.). The Humber River Hospital (HRH) IPAC Hub developed tools to assist IPAC Leads to implement LTC IPAC Standards and reinforce the RH IPAC Program. These tools (checklists) allowed IPAC Leads to identify areas of improvement for their own professional development in IPAC and their homes’ overall IPAC Programs and generate tangible documents that validate the home’s compliance with respective legislation requirements. A weekly Community of Practice was developed by the HRH Hub. This allowed IPAC Leads to share how they transform challenges into successes, which led to the dissemination of these IPAC best practices in other homes. Problems were brought to the Community of Practice in order to troubleshoot together.

Results: Feedback was received from nine LTCHs and nine RHs. Of the 18 IPAC Leads, 89% had an extremely clear understanding and 11% had a moderately clear understanding of the role and responsibilities of an IPAC Lead. The IPAC Leads scored >80% in their level of confidence with IPAC practices; >80% knowledge and technical skills; and >80% confidence in implementing quality improvement strategies. 87% of IPAC Leads reported an understanding of the relevant IPAC Standards/IPAC Program. Of the 18 homes, 72% had connected with other homes and IPAC Leads, and 83% agreed that networking was beneficial. For the HRH created IPAC checklists, 94% of homes agreed that this was beneficial.

Lessons Learned: In an effort to address staff turnover in LTCHs, RHs and hospitals and set standardized expectations across all homes and between Hospital Hub IPAC Team, an IPAC Lead Orientation booklet with resources would be beneficial. Development is now in progress and its completion will allow consistency throughout the Hub and provide easy-to-understand materials for wider distribution in the homes.

TUESDAY, MAY 30, 2023 – CLUSTERS, OUTBREAKS, BUGS OH MY! EAST MEETING ROOM 11/12, SECOND LEVEL
2:30 pm – 3:30 pm (Pacific)

CLUSTERS OF KLEBSIELLA PNEUMONIAE CARBAPENEMASE WITH POTENTIAL LINKS TO HAND HYGIENE SINK DRAINS IN INTENSIVE CARE UNIT

Dina Badawy¹, Samar Tahhan¹, Gabriel Rebick¹, Lorne Small¹, Clayton MacDonald¹
¹Trillium Health Partners, Credit Valley Hospital, Oakville, Ontario

Background: Between January and September 2022, Carbapenemase-producing Enterobacteriaceae (CPE) strains were recovered from 10 patients after being admitted to the ICU. Charts were reviewed; no epidemiological link between patients was identified and none reported travel or receiving healthcare outside of Canada in the 12 months prior. This study was conducted to investigate sink drains as a possible reservoir of CPE.

Methods: Credit Valley Hospital is a regional acute-care hospital with a catchment area of a high concentration of new Canadians from the Indian subcontinent. The ICU has a total of 24 beds. Environmental cultures were collected from drains of the ICU room’s hand hygiene (HH) sink and washroom sink. Carbapenemase genes were detected by enzyme immunoassay.

Results: During the surveillance period, 15 non-duplicate CPE isolates were recovered from 14 patients. One patient, who had moved from India three months prior, had two CPE isolates harbouring NDM and OXA-48 like. Of the 14 patients, 10 had a stay in the ICU with a median length of stay of 28.5 days (4 to 84) before testing positive for CPE. Of those 10, seven (70%) were identified on screening and three (30%) were clinical isolates. KPC was identified in five (50%): three had C. freundii KPC, one had K. Oxytoca KPC and one had Enterobacter cloacae KPC. NDM was isolated from three (30%): two had E.coli NDM and one had K. pneumoniae NDM. Whereas OXA-48 like was isolated from two E.coli as well as K. aerogenes (20%) as one patient had two different species with the same carbapenemase isolated from separate specimens. A total of 33 drains in the ICU were sampled: 24 HH sink drains and nine patient washroom sink drains. All washroom sink drains tested negative. None of 24 HH sink drains (37.5%) were positive for CPE. One of these nine was also found to be contaminated with VIM-producing Acinetobacter species. KPC was identified in eight (88.9%) of the contaminated HH sinks: seven had C. freundii KPC, one had Enterobacter cloacae KPC. NDM was isolated from two C. freundii as one drain contained C. freundii with both KPC and NDM gene. The contaminated HH sinks underwent several remediation, including flushing drains with sodium hypochlorite and replacing P-traps, tailpipes and drain surface pieces. This process was successful in eliminating CPE from seven sink drains. Interventions are underway for the remaining two sink drains that remain positive for C. freundii KPC. Observation of nursing practices revealed erroneous discarding of patients’ body fluids, bath water, continuous renal replacement therapy solutions, and medications into HH sinks.

Conclusion: These findings pose an opportunity for optimizing CPE control measures in high-risk settings with a focus on HH sinks. The decision was made to increase surveillance of CPE by having all patients admitted to the ICU screened, and continued support for staff education and training on infection prevention and control measures was put into action.

2:45 – 2:58 p.m.

METHICILLIN-RESISTANT H. A. MRSA OUTBREAK IN A BURN INTENSIVE CARE UNIT

Melisa Avaness¹, Heather Candon¹, Lorraine Maze dit Meusement⁴, Victoria Williams¹, Charlie Tan¹, Robert Kozak¹, Jerome Leis¹
¹Sunnybrook Health Sciences Centre, Toronto, Ontario

Issue: Methicillin-resistant Staphylococcus aureus (MRSA) has the potential to cause increased morbidity and mortality among hospitalized patients. An extended outbreak of MRSA occurred in a 14-bed burn intensive care unit (ICU) in Toronto, Ontario from May 30, 2022 to October 24, 2022. An outbreak investigation was initiated, which led to a series of quality improvement changes.

Project: The outbreak investigation included environmental and infection prevention and control (IPAC) practice audits. Screening included unit-wide weekly prevalence screens and screening at patient admission, transfer and discharge, with collection of anterior nares and perianal swabs. Whole genome sequencing (WGS) was performed on all MRSA specimens.

Results: In total between May and October 2022, there were 17 outbreak-related MRSA transmissions confirmed to be sequence-type 8 of which nine resulted in infection. The IPAC practice audits confirmed that staff were generally compliant with personal protective equipment (PPE) donning and doffing protocols but there was opportunity for cross-contamination with patients who were MRSA-negative due to lack of dedicated PPE storage carts. Hand hygiene compliance, measured through direct observation, was lower before patient contact compared to after patient contact. There were initial challenges of cohorting staff to MRSA-positive patients due to staffing shortages, but cohorting was ultimately established by prioritizing deployment of staff to support this unit. Environmental audits of the unit resulted in several quality improvement changes, which included switching disinfectant wipes to a hydrogen-peroxide-based product with a one-minute rather than three-minute contact time, installation of cleanable keyboard skins on all laptops, decentralization of PPE donning stations to room-specific stations, and establishing a hydrocollator cleaning protocol in partnership with environmental services.

Lessons Learned: Our experience demonstrates the challenges of managing MRSA outbreaks in burn ICUs especially in the context of staffing shortages. Ultimately, this investigation resulted in quality improvement changes that can reduce the risk of outbreak moving forward.
3:00 - 3:13 p.m.

CLUSTER INVESTIGATION AND MANAGEMENT OF PSEUDOMONAS AERUGINOSA INFECTION AND COLONIZATION IN A NEONATAL INTENSIVE CARE UNIT

Christopher Yuan¹, Mavis Chan¹, Carole Rodger¹, Vladlena Abed², Julie de Salaberry¹, Pascal Lavioie³, Jocelyn Singlet³, Peter Tilley³, David Goldfarb⁴, Lynne Li⁴, Matthew Kennedy³, Maryam Karami³, Rachel Jones³, Farhana Ali³, James Callahan², Brigitte Pascual², Charlie Tan¹, Marianna Ofner¹, Leonardo Gomez Navas², Elizabeth Bryce¹

Project: After detection of the first cluster, extensive interdisciplinary collaboration led to additional interventions, including tracking of respiratory equipment and incubators to monitor movement, cleaning and disinfection, ongoing education and reinforcement for staff and family members on hand hygiene and avoidance of washing breastmilk pumps in sinks. An initial regimen of semi-annual then annual commercial quaternary ammonium-based compound (QAC) application was also implemented for unit sinks to reduce bioburden within proximal sink pipes and P-traps. Following these initial interventions, no cases were detected until ten months later. The Infection Prevention and Control team and NICU collaborated with facility management and initiated several additional engineering interventions. In addition, clinical screening of all neonates in NICU and environmental sampling of the drains and faucets were used to monitor the effectiveness of the interventions.

Results: The first cluster of cases involved a dominant P. aeruginosa strain, which was also recovered from sinks in the patient rooms. Ten months later, despite introduction of multifocal interventions, a second cluster of cases occurred with the same P. aeruginosa strain. This strain was found to persist in environmental sink cultures – suggesting that the sinks in the patient rooms might have served as a reservoir, contributing to later infections. Interventions were deployed in response to the second cluster, including faucet flow restriction, QAC cleaning and disinfection, bi-weekly targeted clinical screening of the most affected area, and monthly screening in the rest of NICU. No further infection cases or colonization neonates were reported during the follow-up period. Key learnings from this investigation were that persistence of a predominant P. aeruginosa strain in the NICU environment led to further infections. Administrative controls with equipment tracking and sporadic drain treatment alone were not sufficient to stop transmissions, but environmental controls targeting preventing transmission from sinks temporally appeared imperative to stop further infections. NICU-wide monthly colonization screening is ongoing.

3:15 - 3:30 p.m.

INFLUENZA OUTBREAK MANAGEMENT TABLETOP EXERCISE FOR LONG-TERM CARE AND RETIREMENT HOMES

Christina Chan¹, Heather Candori¹, Neebu Thomas¹, Jaclyn O’Brien¹, James Callahan¹, Brigitte Pascual², Charlie Tan¹, Mariana Oliver¹, Matthew Kennedy¹, Maryam Karami¹, Rachel Jones¹, Farhana Ali¹, Fatima Fazulullah¹, Adrienne Chan¹, Jeff Pows¹, Jerome Leis¹

Project: After detection of the first cluster, extensive interdisciplinary collaboration led to additional interventions, including tracking of respiratory equipment and incubators to monitor movement, cleaning and disinfection, ongoing education and reinforcement for staff and family members on hand hygiene and avoidance of washing breastmilk pumps in sinks. An initial regimen of semi-annual then annual commercial quaternary ammonium-based compound (QAC) application was also implemented for unit sinks to reduce bioburden within proximal sink pipes and P-traps. Following these initial interventions, no cases were detected until ten months later. The Infection Prevention and Control team and NICU collaborated with facility management and initiated several additional engineering interventions. In addition, clinical screening of all neonates in NICU and environmental sampling of the drains and faucets were used to monitor the effectiveness of the interventions.

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TUESDAY, MAY 30, 2023 – COVID-19 – Lessons Learned

2:30 – 3:30 p.m. (Pacific)

VALIDATION OF COVID-19 CANINES SCENT DETECTION TEAM AND DEPLOYMENT IN A LONG-TERM CARE FACILITY

Marthe Charles¹, Teresa Zurberg¹, Tracey Woznow¹, Lake Ask¹, Ray Pescador¹, Leonardo Gomez Navas², Elizabeth Bryce¹

Background: Long-term care (LTC) residents have been over represented in terms of morbidity and mortality associated with COVID-19. The use of dogs for the detection of COVID-19 has been very successful in laboratory settings. Canine COVID-detection has the potential to provide rapid, non-invasive screening in congregate settings. However, the ability to assess whether laboratory-trained canines can transfer their scent detection skills to the clinical setting has had limited evaluation.

Methods: Two dogs at VCH have been trained to work a scent stand-up using breath, sweat and gargle clinical samples from COVID-19-positive and negative PCR samples. A pillowcase acts as a substrate as it contains the three elements that the dogs were trained and validated on in a laboratory setting. In collaboration with a local LTC, blind screening of symptomatic patients has been conducted during the Omicron wave.

Results: Overall, after third-party, double-blind validation on pillow case the overall sensitivity was 100% and the specificity was of 87.5% for the first dog and 100% for both sensitivity and specificity for the second dog. A screening program successfully took place for six weeks in the LTC.

Conclusion: The power of our program is the ability to train and test dogs on a target pathogen, critically evaluate them, and then shift the team from the laboratory into a clinical/operational setting. This pilot project supports that deploying canine detections teams to triage a clinical setting is possible and could, in future, be used for in congregate living settings.
CHARACTERISTICS OF ACUTE CARE OUTBREAKS CAUSED BY THE SARS-CoV-2 OMICRON VARIANT IN A TEACHING HOSPITAL

Xuetao Wang¹, Shannon RoseB, James Zosnak¹, John Tyson¹, Linda Hoang¹, Natalie Pryjmachuk², Sandy Short²
¹Fraser Health Authority
²British Columbia Center for Disease Control

Background: The SARS-CoV-2 Omicron variant has been the predominant circulating variant globally since December 2021. Understanding the characteristics of acute care outbreaks caused by the Omicron variant can help inform infection prevention and control (IPC) practices in hospitals.

Methods: This descriptive analysis included all COVID-19 outbreaks declared between December 15, 2021 and December 14, 2022 in a teaching hospital in British Columbia, Canada. During the analysis period, a healthcare-associated (HCA) case was defined as PCR-positive with symptom onset or specimen collection seven or more days after admission. Outbreaks were declared in real-time by site IPC when three or more HCA patient cases were identified from the same unit during one incubation period, without known epidemiologic link to any positive roommate case. In addition to symptomatic testing, unit-wide patient point prevalence testing was conducted at least once after each outbreak was declared. All symptomatic and/or positive patients were placed on droplet precautions. Epidemiological investigation and whole genome sequencing was conducted for all patient cases associated with the outbreaks.

Results: A total of 15 outbreaks, impacting eight units in the hospital, were included in the analysis. Of the 15 outbreaks, six occurred in general medicine, four in behavioural medicine, two in mental health and substance use, two in rehabilitation, and one in oncology. A total of 161 patient cases were associated with the outbreaks, with 11% (n=18) 30-day all-cause mortality. Total patient cases associated with each outbreak ranged from five to 20. Over one-third of patient cases (39%, n=63) were asymptomatic and identified through patient point prevalence screen (n=55), direct contact screen (n=5), transfer screen (n=2), or pre-surgical screen (n=1). The majority (93%, n=149) of patient cases met the HCA case definition, and one percent (n=2) of HCA cases had no known epidemiologic link with a known case. Eleven outbreaks had a single sub-varariant of Omicron circulating on the unit at the time of the outbreak, and four outbreaks had two sub-variants co-circulating at the same time. A total of seven outliers, genetically unrelated to the main circulating outbreak sub-variants, were identified, and all seven met the HCA case definition with no known epidemiologic links.

Conclusion: Acute care COVID-19 outbreaks caused by the Omicron variant occurred most often in medicine units, as well as in areas of the hospital where patients were at high risk of acquiring SARS-CoV-2 due to their care needs or immunocompetency status. The highly transmissible nature of the Omicron variant within acute care settings is highlighted by the numerous HCA cases that were genetically related but had no identified epidemiologic link. To protect vulnerable patient populations and reduce the risk of further transmission, implementing asymptomatic screening may be considered as one COVID-19 outbreak measure during the Omicron wave.

COVID-19 INFECTION PREVENTION AND CONTROL MANAGEMENT IN A CANADIAN REMAND FACILITY

Sauleha Farooq¹, Caohong Lin¹, Bo Pan, Yazid Al Hamameh, Ben Vandermeer, Rabia Ahmed¹
¹Student, University of Alberta
²University of Alberta

Infection prevention and control (IPAC) efforts in correctional settings are fraught with unique challenges due to high staff and inmate turnover, limited hand-hygiene and personal protective equipment (PPE), overcrowding, poor ventilation and a high prevalence of infectious and chronic diseases. These vulnerabilities are amplified with the emergence of the COVID-19 pandemic, where the fragile correctional health system in addition to the above factors increases the risk of transmission within facilities. Additionally, the high volume of inmate movement between correctional facilities and the community upon release, poses an increased risk of spread of COVID-19 to external populations. Thus, it is imperative to evaluate IPAC initiatives for efficacy in this setting. To our knowledge in Canada, there are no national guidelines for COVID-19 management within short-term correctional facilities (remand or sentences of two years or less). We describe the practical application of adapted regional guidelines in the control of COVID-19 transmission in a large remand facility. The steps outlined could be useful to others having to manage COVID-19 cases and/or outbreaks in such non-traditional settings. This retrospective chart review was conducted in a large, maximum security remand center in Alberta, Canada with up to 2,000 inmates, 700 correctional staff and 200 healthcare staff. IPAC measures implemented between March and December 2020 included screening and testing, quarantine units and isolation cohorts, symptom monitoring, PPE and increased hand hygiene. In total, during this time there were 621 positive COVID-19 cases. Of the inmates, 157 (25%) had community acquired infections while 464 (75%) infections were facility acquired and two cases had an unknown mode of transmission. This stemmed from a total of 53 facility acquired outbreaks with the rest being community related. There were four admissions to the emergency department and no hospitalizations or deaths in our cohort. Interestingly, 413 (67%) inmates denied any signs or symptoms of COVID-19. Additionally, 150 inmates who tested positive had no fixed address, and were part of communities where isolation would be impossible. Based on our findings, we concluded that despite the difficulty of managing a droplet-spread infection in this setting, the utilization of screening, frequent testing and isolation units allowed for a low mortality rate. However, decision makers must be cognizant of the mental burden that isolation units place on inmates and the possibility of underreporting severe symptoms for this reason. Due to the nature of remand centres, we also understand that this study represents a snapshot during a short period of time and may not reflect transmission or severity of illness once inmates are released back into the community. This remains a further area of study to elucidate to help protect vulnerable populations and to help prevent further health disparities.

A RETROSPECTIVE LOOK AT COVID-19 OUTBREAKS WITHIN WILLIAM OSLER HEALTH SYSTEM FROM APRIL 2020 TO JANUARY 2023

Adenike Rowoye¹, Janine Domingo², Donna Moore¹
¹William Osler Health System, Ontario

Background/Objectives: William Osler Health system (Osler) is a large tertiary care multi-campus hospital. Osler’s catchment area contains a proportion of marginalized, vulnerable and new Canadians whose essential occupations made non-pharmaceutical interventions more difficult than comparable affluent regions. The aim of this study was to provide a detailed review of all COVID-19 outbreaks experienced during each wave of the pandemic in order to determine sources of transmission, evaluate processes and interventions implemented.

Methods: We undertook a retrospective descriptive study of all COVID-19 outbreaks that occurred between April 2020 and January 2023. Outbreak summaries from both Osler and local Public Health Units were reviewed and cross-referenced to determine 1. outbreak source; 2. susceptible units; and, 3. how COVID-19 surges (waves) and public health measures affected outbreak trajectory and frequency.

Results: Sixty-eight COVID-19 outbreaks were reviewed resulting in 427 COVID-19 positive cases linked to hospital acquisition and line listed as part of an active outbreak. 34% of outbreaks were attributed to an unidentified patient, 24% from an unknown source, 19% linked to a sick visitor and 18% were attributed to staff-to-patient transmission (symptomatic and asymptomatic). Staff-to-patient transmission risk declined during the course of the pandemic with the introduction of mandatory staff vaccination as evidenced by the decrease in the median attack rate from 2.4% to 1.0%.

It was determined that COVID-19 surges and public health measures directly affected the number of outbreaks and attack rates. The highest number of outbreaks (40%) were reported in Wave 7 (June 19, 2022 to December 31, 2022), in comparison to 19% in Wave 2 (September 1, 2021 to February 28, 2022). The least number of outbreaks experienced (3%) was documented in Wave 3 (March 1, 2021 to July 31, 2021).

Conclusions: The cardiology units had the highest number of outbreaks. One theory that may explain this finding is that cardiac symptoms can often mask symptoms of COVID-19, as they can both have similar clinical presentations. In Wave 2, in alignment with Public Health measures, Osler implemented mandatory mask use for patients. This measure helped mitigate transmission on inpatient
units and decreased the number of outbreaks. In Wave 3, COVID-19 vaccine became available to all Osher staff, volunteers and physicians, which had a positive outcome on the number of staff-to-staff and staff-to-patient transmission/outbreaks. Surges in community cases also affected hospital outbreak frequency. Rapid PCR testing for all admitted patients was implemented in Wave 3. This control measure helped manage COVID-19 surges by identifying asymptomatic patient cases in the emergency department before patients were assigned beds, thus decreasing patient-to-patient transmission. In Wave 7, after mandatory visitor vaccination and active screening were lifted across the province, an increase in visitor-propagated outbreaks was identified. Lastly, the proportion of patients in outbreaks requiring therapeutic intervention has been decreasing as we move through the pandemic largely due to higher vaccination rates and less severe strains of the virus.

TUESDAY, MAY 30, 2023 – Healthcare Environments: Cleaning, Disinfection and Construction

2:30 pm - 3:30 pm (Pacific)

2:30 - 2:43 p.m.

SINK DECONTAMINATION OF CARBAPENAMASE-PRODUCING ENTEROBACTERIALES (CPE) USING STEAM CLEANING TECHNOLOGY (SCT)

Connie Patterson¹, France Paquet², Charles Frenette³, Fernanda Tomas³, Joe Derocher¹
¹MUHC-Royal Victoria Hospital, Montreal

Background: Hand hygiene sinks are known to be a reservoir for CPE and there is a lack of evidence concerning decontamination/maintenance options. The McGill University Healthcare Center (MUHC), a tertiary hospital, opened a new facility in 2015. In July 2019, a CPE outbreak was declared in the 35 single-room ICU setting. Hand hygiene sinks, which are situated in the patients’ rooms, were cultured and four sink drains tested positive for the Klebsiella Pneumoniae Carbapenemase (KPC) gene. It was suspected that the hand hygiene sinks were linked to the ongoing transmission of CPE in the ICU. From 2019-2022, there were four additional CPE outbreaks declared in the ICU. Cultures of the sink drains were performed intermittently, at least once a month. Before beginning the project, 18 out of 35 hand hygiene sinks had tested positive for CPE at least once (17 sinks never tested positive). Various interventions, such as changing of the p-trap, periodic bleach and hydrogen peroxide foam were trialed and proved to be ineffective.

Objective: Steam cleaning technology (SCT) was introduced as an alternate intervention to decontaminate the sink drain. We studied SCT in its ability to decontaminate sinks colonized with CPE and prevent emergence of CPE in non-contaminated sink drains.

Methods: Between September 26, 2022 and January 17, 2023, the SCT machine (Steam temperature: 95° Celsius) was used to treat half of the sink drains on the unit. The treatment lasted one minute and 30 seconds and was performed every second day. All 35 hand hygiene sink drains were cultured every two weeks to monitor for the presence of CPE. We compared the rate of the sinks treated with steam (918 sink days) vs those not treated with steam (2002 sink days) in previously contaminated sinks and in previously uncontaminated sinks.

Results: Over four-month period, we cultured CPE 12 times in seven sinks. Five of these sinks were previously identified with CPE. In the SCT treated sink group, two sinks tested positive at least once for CPE, for a rate of 1.04 /1000 sink days. Of the sinks which did not receive SCT treatment, five sinks tested positive at least once for a rate of 2.5/1000 sink days. Out of the 17 sinks that had never tested positive for CPE 0/9 SCT treated sinks converted positive (total sink days: 840, rate = 0) compared to 2/8 in the no SCT treatment group (total sink days: 1,064 days, rate = 1.88/1000 sink days).

Conclusion: The introduction of a maintenance program using SCT seems to have contributed to a reduction of positive cultures for CPE in hand hygiene sinks and may prevent sinks from becoming positive. The optimal frequency of treatment to decontaminate and maintain sink free of CPE remains to be determined.

3:00 - 3:13 p.m.

RENOVATION OF AN OCCUPIED PAEDIATRIC BONE MARROW TRANSPLANT UNIT

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Issue: The Hospital for Sick Children (SickKids) is Canada’s largest centre dedicated to improving child health, with a focus on child and family-centred care. The Bone Marrow Transplant (BMT)/Cellular Therapy (CT) Unit is the provincial center for paediatric BMT/CT, performing an average of 105 transplants annually, nearly half of all paediatric transplants in Canada. It provides care to patients with very compromised immune systems, who currently require isolation to their rooms for weeks to months at a time. The technology on the unit is outdated, the rooms are small, the rehabilitative process is slow with insufﬁcient exercise, and there are no bathrooms in the rooms. Renovation is overdue.

Objective: We sought to improve the existing patient environment by renovating the unit in an occupied state. This project was designed to improve the quality of life for patients, parents, and staff.

Method: The renovation consisted of a comprehensive design that addressed all aspects of the patient environment. The project included the replacement of existing furnishings, the addition of new furniture, and the installation of new technology. The renovation also included the addition of new bathrooms, which were designed to meet the needs of patients with compromised immune systems.

Results: The renovation was completed in phases over a period of six months. The first phase focused on the patient rooms, while the second phase addressed the staff and visitors areas. The renovation was completed in August 2020, and the unit was readied for use.

Conclusion: The renovation project was successful in improving the patient environment, and it was completed in an occupied state. The renovation resulted in a significant improvement in the quality of life for patients, parents, and staff.
reliable and consistent than those done by the guards, and a decision was made to eliminate the role and increase audits by staff. As we move into the second phase of the project, we will be able to analyze the use of the hoist.

Lessons Learned: Renovation in such a high-risk area can require additional measures to help mitigate risk. Active engagement of unit staff, equipped with the proper knowledge and tools, leads to an increased number of eyes on the site, allowing for early detection and reporting of breaches. Issues are then addressed in a timely manner. Staff were eager to be involved in keeping their patients and families safe.

3:15 - 3:28 p.m.

BEST FIRST TIME ABSTRACT

THE USE OF 5S METHODOLOGY IN DECLUTTERING ACTIVITIES IN A LONG-TERM CARE FACILITY

Tarcia Portela Correia¹, Surjit Rosode¹, Imaan Toor¹
¹Fraser Health Authority, British Columbia

Issue: Clutter can impact the ability of clinical and housekeeping teams to perform tasks efficiently. Additionally, clutter can decrease productivity, increase safety hazards, increase inventory costs and lead to suboptimal workflows. Audit tools have been developed to assess infection control practices, including the presence of clutter; however, there are limited resources to support systematic decluttering after a problem has been identified.

Project: Infection Prevention and Control (IPC) in Fraser Health, a regional health authority in British Columbia, partnered with a long-term care facility to develop and implement a sustainable solution for ongoing concerns regarding clutter. The 5S methodology was identified as a resource aligned with the goals of the project. Widely utilized in manufacturing environments, 5S is a standardized process consisting of five steps (sort, set in order, shine, standardize, sustain) that assists with organizing and visually managing spaces, improving workplace efficiency and reducing waste. Following a literature review of the application of 5S in healthcare, a toolkit was developed to provide hands-on, experiential training on the 5S methodology for facility staff. The toolkit was piloted at the long-term care site and adjustments were made following a series of Plan-Do-Study-Act cycles.

Results: The decluttering toolkit introduces 5S principles through five steps. The first step involves facility staff identifying project team members and an area to declutter, with guidance from IPC. The second step involves an education session on the 5S methodology delivered by IPC to facility staff, with a strong focus on real-world scenarios, gamification and hands-on activities. Step three involves a walk-through of the space with participants and documentation of the current state with pictures. In step four, staff implement the 5S principles in the space over an agreed-upon period of time, with check-ins and follow-ups from IPC staff. The final step involves a final walk-through of the space with staff, documenting the changes with additional pictures, and debriefing on the process and results with the participants.

Lessons Learned: Before and after visual documentation was impactful and highlighted the value of the project. 5S methodology application provided staff with a clear process and led to the removal of broken, outdated and forgotten items that had no use or values. Engaging with other teams in the facility that interact with the space can help participants understand the impact of the improvements. Implementation of the complete process required an investment of staff time, and therefore facility leadership support was critical to the success of the project.
Background: On April 11, 2022, the fixing Long-Term Care Act (“the Act”) was enacted to assess, regulate, and strengthen Ontario’s long-term care (LTC) home sector and their pandemic response. Requirements outlined in the Act include a designated Infection Prevention and Control (IPAC) lead with certification in infection control (CIC) working a minimum number of hours per week.

Objective: Assess readiness across the Peterborough Regional Hub, including LTC facilities in Central Eastern Ontario (“the region”), and identify potential barriers.

Methods: A Google Forms survey was distributed by email to IPAC leads at LTC facilities and acute care settings in the region. Responses were collected and analyzed in Microsoft Excel.

Results: 83% of LTC leads (n=30) reported no CIC certification with the remaining reporting certification in progress. 56% (n=16) of IPAC staff at acute care facilities who responded were certified already or in the process. 3% of LTC leads and 0% of acute care staff had not completed an educational program meeting CIC exam eligibility criterion. Staff in acute care were significantly more likely [Fisher’s exact, 2-tailed, p=0.01] to have occupied an IPAC position for three years or greater [38%, n=16] compared to LTC leads [7%, n=30]. 79% (n=28) of LTC facilities reported weekly IPAC program hours meeting the minimum requirement based on capacity as outlined in the Act.

Conclusion: Several challenges stand in the way of meeting the standard outlined in the Act for licensed and publicly funded facilities. Staff turnover remains high and appointing and retaining a qualified IPAC lead is often a challenge. Eligibility criteria to write the CIC exam includes completion of post-secondary education in a health-related field, as well as responsibility for IPAC activities within the candidate’s facility, and therefore must be planned for in advance. We can infer that within the Peterborough Regional Hub catchment area, most facilities are on track to meet standards. It would be worthwhile to compare the data to other regions of Ontario to evaluate strategic direction and priorities for LTC IPAC programs.

POSTER #5: DOING VIRTUALLY EVERYTHING IN WEB BASED IPAC 101 – TRANSFORMING LIVES, INSPIRING FUTURES
Kornelija Delibasic¹, Arshad Mahmood¹, Leonard Banting¹
¹Bay River College, Calgary, Alberta

Issue: The worldwide COVID-19 pandemic declared on March 11, 2020, by the World Health Organization (WHO) has revealed gaps across the continuum of healthcare in Canada. Severe Acute Respiratory Syndrome (SARS) in 2003 highlighted the need for professional expertise in Infection Prevention and Control (IPAC) and has had positive outcomes on the development and investments in IPAC Programs, in acute care settings. However, the response was limited to acute care settings, widening the gap in expertise between acute care and other components of the healthcare system in Canada. The COVID-19 pandemic highlighted the need for increased infection control training for healthcare workers (HCWs) in other sectors, including long-term care, retirement homes and community settings. The COVID-19 pandemic has forced the world to engage in the ubiquitous use of virtual learning and while online and distance learning has been used before to maintain continuity of healthcare, the scale and urgency to respond to the need for IPAC training in the current crisis is unprecedented.

Project: An IPAC Program designed for frontline healthcare workers, and health professionals who are looking to enter the field of IPAC were developed on principles of adult learning. Recognizing the immediate need for IPAC Practitioners to ensure flexibility the program has been customized and tailored to students’ needs. This synchronous 100-hour program consists of 14 units for a total duration of 16 weeks. Additionally, students are expected to spend at least three or more hours of individual learning each week. The ultimate learning goals for this course are to increase students’ theoretical knowledge and to establish practical skills to prevent infections and diseases and solve real healthcare problems.

Results: The availability of the internet and virtual/online trainings/learnings has produced numerous educational benefits. Many adult learners enjoy flexibility when they have to balance work, study, and family responsibilities. The wide range of various technological advancements used by the college and instructors/ professors enhances the interaction between students and instructors, and among students. Since May 2021, the course was offered six times, and just under 200 students have completed the course. Students acquired information to help inform IPAC programs at their current and prospective facilities/settings and report to have enjoyed the online delivery.

Lesson Learned: The success of this education program was confirmed by the high rate of students who successfully completed course, expended IPAC knowledge, and demonstrated immediate retention and competence. Most of the students found the program to be helpful to their current and future IPAC practice.

POSTER #6: IMPLEMENTATION AND (RE) EVALUATION OF IPAC PROGRAM IN SHELTERS DURING COVID-19 PANDEMIC
Kornelija Delibasic¹, Dishanth彼得dias², Mauricio Urtecho¹
¹Bay River College
²Toronto Housing and Homeless Supports, The Salvation Army

Issue: Toronto Housing & Homeless Supports (THHS) serve a vulnerable population with complex needs. COVID-19 has identified challenges within the systems leading to increased pressures on the staff and clients. There have been many outbreaks reported over the course of the pandemic. Shelters have been disproportionately affected by COVID-19, Public Health Ontario (PHO) reports 812 outbreaks since the beginning of the pandemic March 11, 2020 to January 7, 2023. Out of the 812 outbreaks, 363 outbreaks were reported by Toronto Public Health. Further, in 2022 PHO reports 426 outbreaks with 2,231 outbreak-related cases in shelters in Ontario. During three pandemic waves, PHO reported 220 hospitalizations among shelter residents, with 21 admissions to the intensive care unit (ICU) and 13 deaths related to COVID-19. Similarly, the City of Toronto reported an increase in death among the homeless population from 101 in 2017 to 140 in 2020, (72%-80%) male, with median age 56. The frontline staff was tasked with the implementation of IPAC best practices. Since April 2022, two IPAC Managers were hired to overview three IPAC Programs at six permanent shelter sites and three hotel programs opened in response to COVID-19, with over 715 beds in total.

Project: The shelters were in dire need of IPAC Program Managers. Since May 2023.
2022 two IPAC Managers were hired to oversee the 6 permanent shelters and three hotel programs. Since May 2022, IPAC team has managed over 20 investigations and nine confirmed COVID-19 outbreaks. Since the inception of IPAC team, the managers developed and are continuously working on multi-interventional strategies intended to mitigate further viral transmission and prevent outbreaks. IPAC team developed IPAC educational materials for delivery to the frontline staff, organized upwards of 20 vaccination clinics with external partners, on monthly basis bringing vaccines to shelters and making vaccines accessible to the residents and staff.

**Results:** To date, with hired key staff, the THHS systems have seen significant improvement in timely communication with the external stakeholders, educational materials were designed with unique shelter needs in mind, criteria set by the both community partners, such as reduction of transmission of communicable diseases, including COVID-19, increased knowledge and adherence to IPAC best practices have been and continue to be met.

**Lessons Learned:** An accessible IPAC team with demonstrated expertise and experience in the IPAC field has been proven to be essential resource in managing COVID-19-related outbreaks, with a standardized approach to outbreak management, education, and program management. IPAC team continues working on IPAC best practices implementation utilizing project management expertise; enhancing support for frontline staff and residents; considering involvement of shelter residents; and ensuring senior management support evaluation is in place before proceeding with implementation.

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**POSTER #8: STANDARDIZATION OF CLEANING AND DISINFECTING MATTRESSES ACROSS FRASER HEALTH**

Harneet Bains¹, Viviane Franson¹, Faud Ibrahimov¹, Jody MillerBhot¹, Tarcia Portela¹
¹Fraser Health, British Columbia

**Issue:** Cleaning and disinfecting hospital equipment is essential in preventing nosocomial infections. Healthcare facilities often have a variety of product types with different cleaning instructions from manufacturers, which may result in improper cleaning and disinfection due to uncertainty or a lack of clarity. Fraser Health is a regional health authority that provides hospital and community-based healthcare to over 1.9 million people in 20 communities in British Columbia. The variety of different mattresses within facilities required staff to spend time identifying mattress manufacturers, locate cleaning instructions and source various cleaning products. A standardized mattress cleaning guideline was identified as an opportunity to improve current processes.

**Project:** Fraser Health Infection Prevention and Control (IPAC) collaborated with Housekeeping Services to develop a guideline that aligned with IPC best practices and available evidence from literature. In addition to stakeholders within IPC and Housekeeping, mattress manufacturers were also consulted for warranty and product instructions. A review of available cleaning and disinfection products, as well as, activation times, effectiveness and residue, also informed the guideline.

**Results:** A regional mattress cleaning and disinfection guideline was developed by IPC, in collaboration with Housekeeping. The guideline addressed all standard mattresses in use across facilities with the exception of specialty mattresses cleaned by vendors. All recommendations aligned with IPC best practices and included the use of 0.5% Hydrogen Peroxide for cleaning and disinfecting patient rooms on routine precautions and using bleach (5000 parts per million) for rooms on additional precautions. Cleaning frequency, roles and responsibilities, and instructions for each step of the cleaning, disinfection, drying, labelling and storage of mattresses are also outlined. A checklist and an associated reference document support the inspection of mattress integrity and timely replacement of damaged mattresses. IPC is collaborating with stakeholders to implement the guideline in pilot sites before regional uptake.

**Lesson Learned:** The variety of mattresses across the health authority contributed to the challenge of establishing efficient and effective cleaning and disinfection practices. Collaboration between IPC and Housekeeping supported the development of simple and clear instructions that comply with IPC best practices. Standardized protocols supported by operational groups and IPC can help inform purchasing decisions as well as support patient safety and infection prevention efforts.

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**POSTER #10: MANAGEMENT OF PATIENTS WITH ANTIBIOTIC-RESISTANT ORGANISMS IN SURGICAL SERVICES AREAS**

Kaethe Deckert¹
¹Alberta Health Services

**Issue:** Infection Prevention and Control (IPAC) along with Surgical Services at Chinook Regional Hospital decided on a change in practice for management of specific patients in surgical services areas known to be colonized with an antibiotic-resistant organism (ARO). This approach to managing patients aimed to facilitate a better patient experience and improve patient flow in Surgical Services areas while maintaining a safe environment for patients and healthcare providers.

Prior to this initiative these patients were managed using Contact Precautions which was deemed to be unnecessarily impacting patient flow and surgical booking. Once the change was implemented these patients were managed following a Routine Practices model, including use of a Risk Assessment and application of additional measures as required based on symptom presentation.

**Project:** In order to effectively communicate this change in practice, as well as ensure its’ sustainability, tools were developed to support this initiative and education was provided to healthcare providers by IPC. These tools included an algorithm to describe patient management decisions, a risk assessment worksheet and communication pathway. Staff from three units involved in this project; daily surgery, the operating room and the post-anesthetic care unit were trained on the, the Routine Practices model, and the tools that were created. These staff also completed a survey prior to this training to assess their knowledge of the Routine Practices model before training had occurred.

**Results:** Three months following the training and implementation there was an evaluation which determined sustained knowledge retention and appropriate use of routine practices, based on a comparison to the survey completed by staff prior to receiving training. Though success was sustained in this project after three months, the project was only somewhat sustained following that due to the COVID-19 pandemic and cancellations of surgeries. In order to revisit this project and ensure that it is sustainable, a new approach will be used based on experiences from other areas in Alberta, applying lessons learned during the COVID-19 pandemic, as well as utilizing evidence-based approaches.
Lesson Learned: Failure to recognize IPAC compliance issues leads to significant risk to patients and team members. Identification of clinic sources of non-compliance can inform clinical practice and decision making, allowing for change in practice, and ultimately safer care. 100% of the assessed clinics who remedied their identified CR were able to achieve a COE. Barriers to achieving a COE included staff turnover, old equipment, time constraints, and lack of focus on IPAC or IPAC expertise. Annual external IPAC assessment is critical to identifying practice compliance issues, translating best practice to clinical application, and being well-informed on all aspects of a robust dental IPAC program.

POSTER #17: QUALITY IN OUR SURVEILLANCE SYSTEM: COMPREHENSIVE VALIDATION OF OUR CLOSTRODIODES DIFFICILE INFECTION SURVEILLANCE DATA

Alekandra Cara¹, Elisa Lloyd-Smith³, Allynson Hanks¹, Kelsi Rivers¹
¹Vancouver Coastal Health

Issue: High quality and reliable surveillance data are important for setting healthcare priorities, measuring progress in quality improvement as well as understanding healthcare associated infection burden in our hospitals. In the past three years, given the pandemic related strains on infection prevention and control, there were changes to case review for inclusion in our surveillance system. We set out to evaluate the impact of this change by reviewing whether case definitions were applied accurately and consistently, through an addition to our validation process for surveillance. Our validation process checks for inconsistent, incomplete, and illogical data entries but does not incorporate secondary clinical review to check for case definition application, so a review process was incorporated.

Project: A blinded retrospective case review was introduced to validate the surveillance case definition of healthcare associated Clostridiodes difficile (CDI). Through this process, infection, prevention and control practitioners (ICPs) who did not carry out the initial case review were assigned cases that were randomly sampled from our surveillance system from January 1, 2020 to August 31, 2022, for review. ICPs were blinded to original inclusion details of the cases however, they were aware that the cases had been included in the surveillance database as healthcare associated cases historically.

Results: 130 CDI cases were retrospectively reviewed and ICP reviewers agreed on 75% (97/130) of the cases with the original case definition, suggesting substantial agreement. In 21% (26/124) of the cases, there was disagreement or uncertainty on healthcare attribution of the case. There was also disagreement in 5% (n = 7130) of the cases reviewed on whether the case was part of the population under surveillance. Discord on meeting case definition for acute onset of diarrhea was frequent (17%) with limited access to nursing notes at sites that use paper charts.

Lessons Learned: The blinded review of our recent CDI surveillance data proved to be a valuable step in our validation process, helping us understand discrepancy in case definition application. Although the agreement between reported and retrospectively reviewed cases was satisfactory, it highlights several gaps in case classification validity and inclusion. Opportunities for further education as well as sharing of expertise among ICPs were noted. In addition, an opportunity was identified to have case adjudication by a senior ICP as a final quality step and means to gain deeper insights into the discrepancies. To ensure we are capturing a valid population, a next step would be to sample from microbiology records to identify potentially missed cases and to understand sensitivity and specificity of our CDI surveillance.

POSTER #19: INITIATING A PROVINCIAL VIRAL RESPIRATORY ILLNESS SURVEILLANCE SYSTEM

Katherine Sundersland¹, Tara Donovan¹, Yosaf Khalw¹, Titus Wong¹, Ka Wai Leung¹, Linda Hoang¹
¹Provincial Health Services Authority, British Columbia

Issue: In British Columbia (BC) health authorities (PHAs) monitor viral respiratory illness (VRI) for acute care facilities, but there is a need to create a standardized provincial-level, electronic VRI surveillance system for acute care facilities in BC when population-level VRI testing is not performed.

Project: The Provincial Infection Control Network of BC (PICNet) identified their interest to contribute to Provincial VRI Surveillance and undertook the initiative to plan and implement a provincial program for VRI surveillance of respiratory syncytial virus (RSV), COVID-19, and Influenza A and B for Emergency Department visits and hospitalizations, including critical care admissions. Selected indicators focus on the patient journey and monitor patients presenting to ED who report viral respiratory symptoms, are tested and positive for VRI, and admitted to hospital and/or critical care, providing a lens into VRI circulating in the community that results in severe illness. Leveraging the infection prevention and control (IPAC) network to implement this initiative was instrumental to success. Collaboration among partners, which included PICNet and our HA IPAC partners, the BC Centre for Disease Control Data and Analytics Services, the Provincial Health Services Authority’s (PHSA) Data and Analytics Reporting and Evaluation, and the Ministry of Health (MOH) has been essential.

Results: The VRI surveillance program produces provincial, acute care based VRI surveillance to inform strategy and provide timely situational awareness of respiratory infection burden, provide data to inform the implementation of IPAC measures, and inform operational decisions and the allocation of resources. Creation and delivery of surveillance reports target IPAC and public health professionals, the MOH, and the public. Phase I defined indicators and primary data sources. Using these, HAs provide extracts of aggregated data to PICNet for a weekly internal report on the number and proportion of patients positive with RSV and Influenza A/B and admitted to hospital and/or critical care, by HA. Phase II strengthened partnerships to collect electronic data from HAs, stored on a secure, shared platform. These data will enhance publically available reports and be used to create an automated electronic dashboard for COVID, RSV and Influenza A/B, which will replace the internal, aggregate reports. Phase III will involve further collaboration for expansion of key indicators.

Lessons Learned: While PICNet emphasized IPAC partner engagement and collaboration at the outset of the initiative, we soon recognized that collaboration with additional PHSA surveillance partners was vital. As such, PICNet implemented weekly meetings with partners and regular internal planning meetings. The improved communication and shared purpose among partners have accelerated progress through phases I and II, permitting timely sharing of important VRI surveillance information.

POSTER PRESENTATIONS
were then shortly observed, mirroring the acclimatation of NTM to NH2Cl.

Conclusion: Findings show that onsite dosage of NH2Cl provides immediate (Lp) and rapid (Lsp and NTM) reductions across most sampling locations. Long-term steady reductions were observed for Lp and Lsp while NTM rebounded to pre-disinfection levels. Hospital managers can use this evidence to implement lasting engineering controls and monitoring strategies in their water safety plans for the mitigation of major ODWPs in hospital water systems.

POSTER #23: TRANSMISSION OF COVID-19 FROM HEALTHCARE WORKER TO PATIENTS IN THE PRESENCE OF UNIVERSAL MASKING

Carla Corpus¹, Safiya Khamis¹, Maya Sinno¹, Danny Chen¹
¹Mackenzie Health, Ontario

Background/Objectives: COVID-19 is predominantly transmitted during close contact through the respiratory particles of an infected person and occurs even in the absence of symptoms. Studies have indicated that wearing masks reduces the risk of transmission of COVID-19 in hospital settings. In our 600-bed community hospital, patients were deemed to have had a low-risk exposure (LRE) if they were cared for by a COVID-19 positive healthcare worker (HCW) who practiced universal masking during their period of communicability (POC). Patients with LRE were placed on N95/droplet/contact precautions and swabbed for COVID-19 upon notification and on 8th day post exposure or earlier if symptomatic. Additional precautions were discontinued if their day eight swab was negative and the patient remained asymptomatic. A retrospective review of patients with LRE between May 1, 2021 to October 2022 was conducted to determine the risk of secondary transmission of COVID-19 from an infected HCW practicing universal masking.

Methods: Patients with LRE were identified from the electronic patient care record and an in-depth chart review was conducted for patients who tested positive for COVID-19 within 11 days of LRE. The COVID-19 positivity rates following LRE were determined for time periods pre-omicron (May 1, 2021 to December 18, 2021) and omicron (December 19, 2021 to October 31, 2022) and whether risks have increased during the circulation of BA. Four and five variants by looking at patients who became positive post LRE between June 1 to October 31, 2022.

Results: A total of 746 patients were identified to have had a LRE and completed their 8 days post exposure follow up, contributing to 5,888 isolation days. Thirteen of the 746 (1.6%) patients were found to have acute COVID-19 infection after their LRE. All positive patients were identified during the omicron period. None of the patients who had a LRE during the pre-omicron timeline came back positive for COVID-19 during the follow up period. There was no change in COVID-19 positivity rate post LRE before and during the circulation of BA. Four and five variants (8/492 (1.6%) and 4/244 (1.6%), respectively).

Conclusion: Patient risk of acute COVID-19 infection after an exposure to a masked COVID-19 positive healthcare worker is low. Patient positivity rate post LRE remained the same and low throughout the circulation of more transmissible omicron variants. Given current stresses on hospital resources including patient flow, additional precautions and patient placement in private rooms following LRE may not be warranted. This study, however, does not account for the type of mask used by the positive HCW during their POC and all other higher exposures (e.g., visitor exposure) cannot be excluded. Patients identified through an outbreak scenario were not captured in this data.

POSTER #25: ELEVATING BEST PRACTICES IN LTC (LONG TERM CARE) IN A CHANGING IPAC LANDSCAPE

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¹Extendicare Corporate
²Extendicare

Issue: Extendicare Canada is a large operator of long-term care homes across Ontario, Alberta and Manitoba. Across all our homes, the need for Infection Prevention and Control (IPAC) best practices and related education became the top priority through the pandemic that has impacted healthcare settings across the globe. Building IPAC capacity and practices through policies, tools and education was only the first part of the equation. Sustaining high levels of IPAC practice and knowledge amidst the unprecedented global healthcare staffing crisis has been another challenge. Creating an IPAC learning infrastructure is the goal we set for ourselves to mitigate the risk posed by staff turnover. The health and safety of our residents depended on our ability to achieve this goal.

Project: Critical IPAC knowledge for team members includes personal protective equipment (PPE), hand hygiene (HH), outbreak management, and cleaning and disinfecting guidance. With staff joining and leaving the sector at a record pace, gaps in knowledge and experience in LTC were more impactful than they had ever been historically. Our challenge hinged on elevating IPAC competency and expertise in this highly demanding era in healthcare. A one-stop shop approach to accessing and sharing IPAC guidance and best practice information was developed. PPE, C&I, HH and outbreak management handbooks were created providing best practice guidelines, public health guidance and policy in a centralized, printable location. Along with educating all IPAC leads across homes in a post-secondary IPAC certification course, the organization increased its capacity of centralized, specialized IPAC consultants four-fold. These IPAC specialists provided homes with expertise and coaching, reinforcement, and the ability to demonstrate skills and behaviours onsite. An IPAC Champion program was launched in Sept 2022 to establish local IPAC experts at the home level. IPAC champions were equipped with additional online and in-person education, recognized by champion pins for easy identification by other team members.

Lessons Learned: In a survey conducted with IPAC leads across our homes, 80% reported that the ease of information access has significantly improved with the advent of this project, making it easier for them to fulfill their role as IPAC educators within the home. If our new landscape has taught us anything, it is to go back to basics and create a more human interaction with respect to sharing learning.

POSTER #27: IS PERSONAL PROTECTIVE EQUIPMENT SPOTTER EFFECTIVE IN REDUCING NON-COMPLIANCE IN COVID-19 COMMUNITY CARE FACILITY?

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¹Woodlands Health
²Woodlands Health, National Centre for Infectious Diseases
³Woodlands Health, National Centre of Infectious Diseases, Tan Tock Seng Hospital, Yong Loo Lin School

Background: In 2020, a 6,000-bedded CCF was set up by Woodlands Health (WH) in collaboration with other healthcare and non-healthcare agencies to provide isolation and care for recovering COVID-19 patients in Singapore. One of the key objectives for the Infection Prevention and Control (IPAC) team in CCF was to reinforce PPE compliance among staff, especially for those without formal training in healthcare. Despite the ongoing PPE training, audit, and feedback efforts put in by the IPAC team, PPE non-compliance was still observed during the dofing process among staff in CCF. Since past studies showed promising effects of PPE spotter in a long-term care facility [1], a PPE spotter intervention was implemented in the CCF to address the non-compliance issue.

Methods: Between July 22 and August 15, 2020, a group of nursing and operation support staff was trained as PPE doffing spotters to monitor staff compliance and provide real-time feedback/guidance to staff during the dofing process, which included the removal of gown, gloves, and hairnet. PPE spotter sessions were scheduled six times per day, 20 minutes per session, to cover the common break slots among three main staff categories: clinical staff from the managing agent’s team (MA), and security. PPE spotters were allocated to the dofing zones of the CCF. The non-compliances observed by PPE spotters were categorized into 10 common groups of errors. Staff non-compliance to PPE doffing with more than five errors observed were called back for retraining. The weekly PPE non-compliance summary was shared with the respective team leaders during CCF IPAC Safety meeting for awareness and continuous improvement.

Results: A total of 2,402 staff were assessed over a three-week period. Among the 10 categories of errors, the three most frequent errors made were No hand rub during removal of each PPE (31%), Inappropriate gown removal (20%), and Removing hairnet first with gloved hand (15%). The PPE spotter intervention reduced the weekly doffing errors rate from 41% to 21% (p < .001) at the end of the three-week intervention period. The weekly error rate among the three staff categories was also reduced from 11% to 4% for MA staff, 10% to 6% for WH staff, and 20% to 9% for Security staff.

Conclusion: In the COVID-19 CCF setting with multi-agency staff, PPE spotter intervention with real-time feedback and education for staff demonstrated effectiveness in reducing PPE non-compliance. Though this intervention required a lot of manpower support and was challenging to implement during the early stage of a pandemic, its implementation in CCF significantly reduced non-compliance to the doffing steps and improved staff safety.
Background/Objectives: Outbreaks of vancomycin-resistant enterococci (VRE) in neonatal intensive care units (NICU) are uncommon. In June to July 2022, three cases of VRE colonization were acquired in a 42-bed tertiary neonatal intensive care unit (NICU) at a regional referral centre for high-risk pregnancy. The objective of this study was to describe the outbreak investigation and the steps taken to eliminate further transmission.

Methods: A VRE outbreak was declared in the NICU July 8, 2022 after one case of VRE colonization was detected in an infant transferred to another facility and subsequent screening detected an additional two cases in the same pod of the NICU. Colonized infants were placed on contact precautions. Exposed infants were cohorted and new admissions were only permitted in the unaffected pods of the unit. VRE screening was required for mothers of all infants admitted to the NICU. All infants were screened for VRE on weekly prevalence screening. Hand hygiene before every infant contact was reinforced. Environmental cleaning of the unit was reviewed. Whole genome sequencing (WGS) of the three VRE isolates was compared to VRE isolates from adult inpatients from the same time period.

Results: Following nine VRE prevalence screens, including two unit-wide and seven in the affected pod, no additional cases of VRE were detected. Mothers of two of the infants colonized with VRE tested negative. The mother of the third colonized infant was not screened. VRE was not detected in any additional mothers tested during the outbreak period. The outbreak was declared over August 17, 2022. WGS confirmed that all three NICU isolates were ST-80; the identical strain was identified in contemporaneous outbreaks in three adult inpatient units at the time. Although the NICU is physically separate from the remainder of the facility with distinct staffing, medical consultations and medical imaging services are shared.

Conclusion: Although a definitive source was not identified, our investigation, including use of WGS suggests that VRE was introduced into the NICU from another area of the facility, followed by transmission within the unit. Timely infection prevention and control interventions prevented further transmission and led to quick resolution of the outbreak.

POSTER #33: INFECTION PREVENTION AND CONTROL LEARNING: NEEDS ASSESSMENT OF HEALTHCARE PROVIDERS IN CARE FACILITIES

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Issue: In November 2022, a new Provincial Infection Prevention and Control (IPAC) program was developed in Prince Edward Island (PEI) to support privately owned and operated community and long-term care facilities. Prior to the new IPAC program, support offered to these care facilities focused mostly on outbreak management of notifiable diseases. As such, a priority was to develop a comprehensive and effective IPAC program that supports healthcare providers (HCPs) IPAC practices when caring for residents in care facilities. Research indicates that effective staff development programs begin with a needs assessment of the learners. However, little is known of current HCPs perceived IPAC learning needs. Considering the last known provincial IPAC learning needs assessment of HCPs in private care facilities was completed in 2014, it would seem most appropriate for the IPAC program to complete an IPAC learning needs assessment before any formal program development is started.

Project: A short electronic survey was created using the government approved program to identify general IPAC learning needs of HCPs in privately owned and operated care facilities. The survey content was guided by IPAC Canada’s set of core competencies that provide essential information that a healthcare worker involved in patient care requires to allow them to work safely and prevent transmission of organisms in their workplace. The survey was distributed to all contacts of privately owned and operated care facilities on January 4, 2023. The survey was open for one week to allow time for all care facilities to participate, and closed January 12, 2023.

Results: There were 27 responses to the survey (33% response rate). The priority learning need identified was routine practices and additional precautions (60%), followed by hand hygiene (27%) and personal protective equipment (13%). A slight majority of care facilities preferred formal learning methods (53%) compared to informal (47%). 67% of care facilities who responded to the survey indicated having an existing IPAC education program for staff, citing hand hygiene, and donning/doffing of PPE as most common in their respective IPAC programs.

Lessons Learned: This project will enhance staff engagement in IPAC education. Adults are interested and motivated to learn when education programs target the perceived needs they have identified. Using the results of the survey and referring to the updated consensus document for IPAC core competencies of HCPs, an education program will be tailored for HCPs on routine practices and additional precautions; using a hybrid approach to in person and virtual learning. Once completed, all privately owned and operated care facilities in PEI will have access to IPAC best practice information on routine practices and additional precautions.

POSTER #35: USING A NEW ELECTRONIC MEDICAL RECORD SYSTEM TO ENHANCE HEPATITIS B SURVEILLANCE IN HEMODIALYSIS PATIENTS AT SCARBOROUGH HEALTH NETWORK

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Issue: Scarborough Health Network’s (SHN) Hemodialysis (HD) program provides care for over 700 patients and is one of the largest regional Nephrology programs in North America. HD patients are at high risk of acquiring blood-borne pathogens, including Hepatitis B Virus (HBV). Preventing transmission of infections within this program requires robust surveillance protocols. Sustained surveillance for HBV while recently transitioning to a new electronic medical record (EMR) system has presented many challenges.

Project: In collaboration with the SHN HD program and the EMR Analysts, the Infection Prevention and Control (IPAC) Department designed and customized tools in the EMR to facilitate an enhanced, comprehensive and efficient surveillance system. Both the IPAC and HD program staff have access to these tools to ensure patients eligible for HBV immunization are identified, to conduct monthly testing for patients susceptible to HBV in accordance with best practice recommendations and to review hepatitis lab reports on HD patients. A new tool was added to the main patient profile for all HD patients which quickly tells the user if a patient is hepatitis B positive, immune, or susceptible. An infectious disease flowsheet was also added to provide a single location for documentation of HBV immunizations, antibody titres, and test results for other infections of concern such as hepatitis C and tuberculosis. Features of SHN’s former EMR system were utilized in this flowsheet to provide a familiar experience for users. Several reports were developed to pull and organize important real-time data such as hepatitis B lab results for patients within a selected time frame. Another report displaying which HD patients are eligible for HBV immunization was also developed to ensure timely immunization.

Results: IPAC has encountered successes and improvement opportunities since introducing these tools. A major challenge for implementation has been slow uptake of these tools by front line nurses and physicians. To encourage use of these tools, the program’s HBV policy has been updated to reflect the use of the EMR for decision making regarding isolation and immunization of HD patients. All frontline HD staff received initial training on locating and entering information on the EMR and program leaders were trained on how to use the available reports. A key success has been improved efficiency of collecting and organizing data through the EMR reports. Users no longer have to rely solely on receiving and reviewing individual HBV lab results through fax or an inbox system on the system and instead, can pull real-time data whenever it is needed. Use of these reports has the potential to enhance patient safety by ensuring rapid and accurate identification of susceptible patients and new cases of HBV infection.

POSTER #37: COMPARISON OF UVC LIGHT DISINFECTION VERSUS ENHANCED LIQUID DISINFECTION PRACTICES ON HIGH-TOUCH SURFACES IN PUBLIC AREAS DURING THE SARS-COV-2 PANDEMIC

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Philadelphia schools. Practical applications and the industrialization of UVC light occurred in the 1950s and 60s. Then from 1980 to the 2000s, there was a massive surge in UV disinfection implemented into the HVAC industry and water treatment plants. UVC germicidal lamps are now used for air handling, odor control, water purification, sewage treatment, food processing, and high-touch, nonporous surface disinfection. UVC (200 nm-280 nm) light inactivates microorganisms by degrading their genetic material and molecules, preventing them from replicating and making them no longer infectious. Natural ultraviolet light is produced by the sun, but almost all UV energy is blocked by the atmosphere. As a result, intentional UVC light needs to be produced artificially by plasma discharge lamps and light-emitting diodes (LEDs).

Methods: Between June 2020 and January 2021, a comparison of UVC disinfection versus enhanced liquid disinfection practices on high-touch surfaces was done. The settings included a sports stadium in Australia and five airports and six retail/pharmacy locations in the USA states and Canada. A total of 111 high-touch surfaces were sampled, and over 300 swabs were obtained to compare enhanced liquid disinfection practices to automated UVC disinfection on the same surfaces. Most areas continued with their enhanced liquid disinfection practices on the units with the UVC devices installed. Since UVC disinfection practices on high-touch surfaces have not garnered much awareness, the public-facing environments we were testing would not allow manual cleaning to stop. The impression that the high-touch surface was manually being disinfected was essential.

Results: The primary outcome measure was defined as the total reduction of aerobic bacterial growth, before and after installing the UVC device. Of the 113 high-touch surfaces sampled prior to the installation of the UVC unit, there was observed to be 6,830,189 Aerobic Colony Forming Units (CFU) isolated. After the installation and over 24 hours of operation of the UVC device, surfaces showed a 98.5% reduction in aerobic bacteria bioburden with 100,778 Aerobic Colony Forming Units (CFU) isolated.

Conclusions: In this study, we determined bacterial colonization of high-touch surfaces by microbial culture. The results from this study indicate that the use of an automated UVC device will significantly decrease bacterial colonization on high-touch surfaces in retail keypads and public touch screen devices.

Poster #39: Collaborating on IPAC Best Practices Assessments for Long-term Care and Community Mental Health and Substance Use Facilities During COVID-19

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Issue: Fraser Health (FH) is a regional health authority providing acute and community-based services to 20 communities in British Columbia. At the onset of the COVID-19 pandemic, FH identified the critical need to assess the current state of Infection Prevention and Control (IPAC) practices and competencies across facilities to effectively allocate resources with the goal of preventing transmission. Long-term Care (LTC) and Community Mental Health and Substance Use (MHSU) facilities faced unique challenges due to variations of facility types, sizes, ages and layout, in addition to the care required by residents and clients. Additionally, resources were limited due to the many competing demands of the pandemic response.

Project: IPAC collaborated with staff from regional LTC and MHSU, as well as Clinical Quality and Patient Safety (CQPS), to implement a series of assessments for facilities across the region. An IPAC Best Practices assessment tool was reviewed, key elements prioritized for assessment, and a data collection tool developed. IPAC provided training on performing the assessment, as well as reviewing available IPAC educational resources. CQPS staff visited the facilities and completed the assessments. A review of the tool and the process was conducted after an initial round of assessment, and revisions made based on feedback from auditors and the facilities. Assessment results were shared with the facility leadership. Additionally, analysis of regional data from the assessments was reported to IPAC, LTC and MHSU leadership.

Results: Between March and May of 2020, a total of 88 assessments were performed in LTC and community MHSU facilities. The assessments highlighted a number of strengths across facilities, such as appropriate IPAC signage, active screening, enhanced cleaning, availability of hand hygiene supplies and facility-specific initiatives that could be shared across the region. Assessments also assisted in identifying common staff questions and opportunities for further education, either through in-the-moment feedback or through structured guidelines and processes developed at the regional level.

Lessons Learned: The modified IPAC Best Practice assessments provided one lens to evaluate LTC and MHSU facilities’ current IPAC practices as reported by staff and observed by auditors. The collaboration between multiple stakeholders, including facility leadership and staff, was instrumental in gathering meaningful information to inform prevention activities amid a rapidly evolving pandemic. Feedback from auditors highlighted the importance of comprehensive training and ongoing support for staff assessing IPAC best practices. The project provided a model for further collaboration on a more extensive assessment tool that was employed by stakeholders throughout the next 18 months of pandemic response.

Poster #41: Diagnostic Accuracy of the COVID-19 Rapid Detection Assay and Identification of COVID-19 in Patients Requiring Admission at Scarborough Health Network

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Background: At Scarborough Health Network (SHN), we are challenged by a limited number of single patient rooms, with the majority of rooms being semi-private or wardrooms. The COVID-19 pandemic presented major challenges with COVID-19 patient management and patient flow. Rapid decisions based on accurate laboratory test results were needed in order to isolate patients with possible COVID-19 infection both in the emergency department (ED) and when admitted to acute care to minimize nosocomial spread, maintain patient flow and ensure appropriate treatment. Reverse transcription polymerase chain reaction (RT-PCR) assays are considered gold standard in diagnosis of COVID-19 but have a long turn around time (TAT) and are therefore too slow to make isolation decisions for patients requiring admission to acute care hospitals with limited isolation capacity. The Abbott ID Now COVID-19 assay is a simple, user-friendly test utilizing an isothermal nucleic acid amplification technology. This test provides the qualitative detection of nucleic acid from SARS-CoV-2 viral RNA, with a shorter TAT allowing point-of-care testing, thus helping in timely decision-making for patient isolation.

Objective: To assess the diagnostic performance of Abbott ID Now assay in comparison to FLUIDID COVID-19, Flu A/B and RSV multiplex RT-PCR assay as a COVID-19 diagnostic tool for isolating patients requiring admission from the ED of an acute care hospital.

Methods: Patients from all age groups requiring admission to SHN, both with and without COVID-19 symptoms were tested with both the ID Now assay and FLUIDID multiplex RT-PCR assay.

Results: From the total of 6209 samples collected from ED admissions, we observed a high concordance among the ID Now assay and FLUIDID multiplex RT-PCR assay, with 6008 (96.76%) tests concordant and 201 (3.24%) tests discordant.

Conclusion: Given the high concordance between the ID Now assay and the gold standard RT PCR assay, it can be concluded that the ID Now assay provides a rapid and reliable alternative for the faster identification of COVID-19 positive cases. With limited isolation capacity at SHN, this ensures appropriate COVID-19 patient management and provides earlier opportunities for cohorting of patients which improved patient flow.

Poster #43: Medical Device Reprocessing Department: Design Matters!

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Issue: Improper reprocessing of medical devices can contribute to infections during surgical/medical procedures. Adhering to best practices to achieve effective disinfection and sterilization is essential in ensuring that surgical/medical devices do not transmit infectious pathogens to patients or staff. After 10 years of outsourcing medical device reprocessing to a third-party company, our facility, Humber River Hospital decided to reinstate sterilization services i.e Medical Device Reprocessing Department (MDRD) in-house so that the hospital could better manage operational resources, and improve patient/staff safety and customer satisfaction.

Project: A multidisciplinary team came together to work collaboratively to finalize the best practice design as per Canadian Standards Association (CSA) standards and Provincial Infection Diseases Advisory Committee that could be accommodated within the existing footprint. Workflow processes were established to maintain the services and functionality for the medical device reprocessing by the third party, during the renovation and transition to an in-house MDRD. The design was driven not only by CSA standards, future growth opportunities,
but also by Occupational Health & Safety legislation to ensure a safer work environment for the MDRD staff. The Hospital along with the multidisciplinary team researched to find and acquire new technology; not only in the reprocessing equipment and supporting software, but as well within the infrastructure support that would allow the MDRD to grow with future demand, provide improved training tools for MDRD staff, accommodate utility redundancies and built in audits to ensure a sustainable service delivery. The team established a productive working rapport by establishing timelines, accountability measures which included buy not limited to infection prevention & control (IPAC)inspection of renovation site along with final completion inspections, redevelopment inspection of site, documents and submittals, review of vendor shop drawings and an ultimately adherence to customer vision.

**Results:** The project was successfully completed with the approved capital expenditure, and became operational in December 2022. The design and layout allow one-way flow from contaminated to sterile with state-of-the-art equipment and exemplary ventilation system. Quality improvement is embedded is the day-to-day operation of MDRD. Reinstating the service in-house not only allowed the hospital to improve quality control, reduce re-tray turnaround time (third party vendor reprocessed off site) and provide more transparency, but it also eliminated the financial risk exposure. Staff satisfaction with the ergonomic design and work flow was demonstrated with the positive staff survey conducted after the establishment of the in house MDRD.

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**POSTER #45: AVOIDING ISOLATION DURING THE PANDEMIC: NOT JUST MORSE CODE AND CARRIER PIGEONS!**

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¹West Park Healthcare Centre

**Background:** Infection Prevention and Control (IPAC) Canada supports members in local chapters to meet and share their expertise, experience and resources. IPAC is not stagnant and ongoing education is necessary to keep up with the evolution of best practices, technology and novel organisms that can quickly travel the globe. This has never been more obvious than during the evolving COVID-19 pandemic. The beginning of the pandemic brought a frenzy of new information, misinformation, isolation, loneliness, and burn-out for those working in healthcare without time to consider one’s own well-being while throwing all one’s energy into work. Trying to keep up with the newest information, battling misinformation, interpreting the newest public health guidance, providing education and sometimes serving as therapists to frontline staff or being the scapegoat for uncertainty brought an immense mental health toll for many ICPS. In doing so, networking and socializing were among the first sacrifices.

**Project:** At the onset of the first wave in March 2020, the IPAC GTA (Greater Toronto Area) Networking Committee started offering a one-hour virtual educational session with a goal of at least 5 educational sessions by year-end, regardless of the pandemic burdens. These sessions were open to all members and provided an opportunity to pursue ongoing education while connecting with colleagues who were facing similar challenges, stress and fatigue.

**Results:** Simply connecting with others in a similar position provides a safety valve; a feeling one is not trying to save the world on one’s own. These sessions restored a feeling of camaraderie and especially supported individuals working in small IPAC teams. Based on high demand and positive feedback, more education sessions were added by the end of 2021. Over 500 members attended 13 educational sessions in 2020-2021. These chats provided a platform for ICPS to showcase their successes and supported members to keep up-to-date with best practices and receive Infection Prevention Units for CIC designation renewal. It was particularly valuable to have participation from diverse work settings, practices and receive Infection Prevention Units for CIC designation renewal.

**Lessons Learned:** The biggest lesson learned is a reminder of the importance of community and connection. We should prioritize mental health and member support during times of high workload and social and professional isolation. A simple scheduled opportunity to connect with our peers, even virtually, can prove to be just what the ICP ordered.

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**POSTER #47: THE IMPACT OF NASAL DECONTAMINATION BY PHOTO DISINFECTION IN SPINE SURGERY OUTCOMES**

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³The Ottawa Hospital, ⁴The Ottawa Hospital

**Background:** SSI following spinal surgery is a major source of postoperative morbidity. The Ottawa Hospital has been part of the NSQIP since 2010 and despite implementing an SSI bundle, the SSI rate continue to range between 4 to 6%. Previous studies which investigated the impact of nasal decontamination to SSI rate in spine surgery did not indicate big successes. A novel technology using photo-disinfection was considered in a pilot stage to be added to the current SSI prevention bundle. The aim of our study is to identify if addition of nasal photo-disinfection as the only changing factor will affect the SSI rate, use of antibiotics up to 30 days and length of stay.

**Methods:** The nasal photo-disinfection was implemented to all spine surgeries as part of a quality initiative (January 2022-December 2022). No other changes were made to the standard of care. A comparison cohort was represented by spine surgeries performed between October 2020 and October 2021. The variables of interest were unadjusted SSI rate, length of stay (LOS), readmission rates, return to emergency departments (ED) and % of antibiotics used within 72 hours after surgery and up to 30 days. Bivariate analysis was performed to compare the two cohorts.

**Results:** A total of 920 spine surgeries were performed from January to December 2022 and the cohort was compared with 1192 cases performed between October 2020 and October 2021. Photo disinfection was documented to be administered for 38.3% of the cases. The use of antibiotics 72 hours to 30 days after surgery was reduced by 1.4% (p=0.417), the postoperative LOS decreased from 7.34 to 7.11 days (p=0.703), returned to ED reduced by 3.3% (p=0.007), return to operating room within 30 days reduced with 1.8% and the readmission rate halved (from 7.0% to 3.3%) (p<0.001).

**Conclusion:** Preliminary results indicate that nasal decontamination by photo-disinfection technology has an impact on return to ED within 30 days, LOS and readmission rates.

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**POSTER #51: KEEPING SECRETS! CHALLENGES TO SHARING AUDIT DATA TRENDS WITH FRONTLINE HEALTHCARE WORKERS IN LONG-TERM CARE AND RETIREMENT HOMES**

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**Issue:** As novel infectious diseases and variants arise and pre-existing diseases continue to cause illness and outbreaks, monitoring compliance with infection prevention and control (IPAC) best practices in congregate living settings is crucial. In Ontario long-term care (LTC) and retirement homes (RH), regular audits of hand hygiene, staff donning and doffing of personal protective equipment (PPE), and environmental cleaning/disinfection are minimum requirements. However, the data trends are often not shared with stakeholders, thereby missing an important quality improvement opportunity.

**Project:** Trillium Health Partner’s (THP) IPAC Hub conducted a 12-month retrospective review of reports of 20 LTC and 26 RHs visited between January and December 2022. The aim was to identify factors cited by IPAC leads of these facilities as limitations to the sharing of audit data and trends, Public Health Ontario’s (PHO) COVID-19 Checklist for LTC and RHs, was used for capturing auditing practices under ‘Section 20 – Auditing’ as well as through dialogue with IPAC leads and Directors of Care from the facilities.

**Results:** Practices varied with only 46.9% consistently posting audit data in areas for staff, resident, and family access. Primary focus was on hand hygiene and personal protective equipment donning and doffing with less emphasis on environmental auditing. There was often inconsistent data collection and lack of monthly trend reports, and some facilities were unable to identify an appropriate location to display the data for easy accessibility. The lack of time and resources to collate audit data was also expressed. Some facilities reported sharing audit data only with their corporate office and leadership. The overall level of importance ascribed to regular feedback of audit results to frontline staff appeared quite low.

**Lessons Learned:** The observed gaps in regular feedback of audit findings to staff suggests that, in many congregate living settings, the perception of auditing primarily as an obligation persists. This misconception must be addressed. Open sharing of trends is key to highlighting gaps and supporting staff to address them, while celebrating positive changes that motivate continuous quality improvement.
OUTBREAK GUIDELINES FOR HEALTH-CARE FACILITIES IN BRITISH COLUMBIA ACCOUNTING FOR EQUITY OF INDIGENOUS PEOPLES AND PATIENT PERSPECTIVES

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Issue: The Provincial Respiratory Outbreak Prevention and Control Guidelines in British Columbia (B.C.) were last issued in 2018. Commencing in 2020, in order to address the COVID-19 pandemic in B.C., dozens of topic-specific guidelines and resources were created targeting SARS-CoV-2. In 2022, it was recognized that outbreaks of respiratory illnesses caused by multiple pathogens are anticipated to occur in healthcare facilities. A single, unified resource is needed for prevention and management of viral respiratory illness (VRI) outbreaks in inpatient and long-term care health-care facilities.

Project: The Provincial Infection Control Network of BC (PICNet) partnered with Public Health professionals to co-lead a working group. In collaboration with health authority infection prevention and control (IPAC) and workplace health and safety colleagues, revisions were made to the 2018 Provincial Respiratory Outbreak Prevention and Control Guidelines in BC.

Equity assessment: All BC health authorities, including First Nations Health Authority, worked together to inform development of the guidelines. The composition of the working group helped address equity considerations, including urban, rural and indigenous communities. Additionally, a patient/family representative was consulted during the guideline development process to provide this perspective and help mitigate negative impacts of control measures on residents and families.

PICNet team members reviewed current COVID-19 acute care and long-term care setting guidelines in BC, and a review of other jurisdictional VRI and COVID-19 guidance. Updates included: 1. Appropriate definitions for VRI cases, clusters and outbreaks; 2. Review and incorporation of current tools, resource materials, and organism-specific guidance; 3. New provincial practice resources such as aerosol-generating medical procedures (ACMP), personal protective equipment (PPE) recommendations, and the use of respirators; and, 4. Collective outbreak prevention and management learnings and practice recommendations from the COVID-19 pandemic. The IPAC guidelines are consistent across pathogens, with evidence-based recognition and the references thereof.

Results: Ideally a combined, all-inclusive viral respiratory outbreak guidance document will be accessible, affording the benefits of collective lessons learned from the pandemic and previous outbreaks.

A unified guideline provides a streamlined approach from outbreak preparation and investigation to outbreak declaration, regardless of causative pathogen, with consensus and standardization in approaches for prevention and management of VRI outbreaks across the province. The next step will be to create a communications strategy to best inform partners. The group is committed to updating the guidance within five years or sooner, as able or required.

Poster #55: Provincial Wastewater Testing Initiative during COVID-19 Pandemic: A Renewed Tool in the Surveillance Toolbox

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Background: Wastewater monitoring for the surveillance of aggregate public health disease burden is an evolving field. Testing wastewater for SARS-CoV-2 has emerged as a useful surveillance and early warning tool for monitoring COVID-19 activity in the community. Early detection could help identify a new emergence of infection in a community, including a possible outbreak, monitor trends in viral load levels, and provide timely information to inform response plans to curb transmission. People with COVID-19 can shed the SARS-CoV-2 virus in their stool and other body fluids whether they are asymptomatic, asymptomatic, had previous positive COVID-19 test, or never diagnosed. Wastewater monitoring consistently captures most of the population with COVID-19 given that everyone contributes to wastewater by means of human waste. The two overarching objectives of the surveillance program include the establishment of comprehensive population coverage and data interpretation/reporting plan.

Methods: Testing approaches and strategies continue to evolve as we learn more about how to interpret and communicate results and how they can inform public health action. Strategies used: Development of criteria for selecting geographic locations. Sample collection and testing methodology – Virus RNA quantification using PCR analysis and gene sequencing to identify variants. Establishment of partnerships. Training on safe wastewater sample collection. Interpret and communicate results internally and to the public. Identifying correlation of COVID-19 wastewater test results with cases. Trending in wastewater test results can inform public health action. Analysis of modelling trends for possible predictions purposes.

Results: Current established locations represent approximately 48% of the provincial population in total. In November 2021, wastewater surveillance was shown to be useful as an early warning system for detecting COVID-19 when wastewater in a small town suddenly showed a strong presence of SARS-CoV-2 RNA. Subsequent Public Health notification prompted symptomatic residents to seek testing which led to the identification and isolation of previously unknown cases. Wastewater surveillance was also used to help confirm the presence and spread of new variants beginning with the Alpha variant in the summer of 2021 up to Omicron BA.2 in February and March 2022. All SARS-CoV-2 wastewater results are made public on a dedicated website.

Conclusion: Changes to the province’s clinical testing strategy have made wastewater surveillance even more valuable as a way of maintaining ongoing monitoring of COVID-19 activity at the community level. Part of living with COVID-19 will likely include continued wastewater monitoring and public reporting to support both individual and Public Health decision making.

Poster #61: The Physicochemical Characteristics of Activated Hydrogen Peroxide Sterilization Systems Enabling Applications in Healthcare Settings

Atila Nozari, Sylvie Dufresne

Background: This project is based on data gathered from literature and hospital settings regarding factors affecting vaporized hydrogen peroxide systems and to improve the understanding of the impact of sterilization results of the physicochemical characteristics of vaporized hydrogen peroxide to optimize the sterilization process and monitoring tools in hospital settings.

Methods: Comprehensive literature review of the parameters required for an effective hydrogen peroxide sterilization, as well as a description of the physicochemical characteristics of vaporized hydrogen peroxide, including those related to hydrogen peroxide vapor-liquid equilibrium in a process, and their role in the current equipment design. Data analysis of the available designs and data captured from hospital sites using standardized tools.

Results: There are several factors affecting the sterilization process that need to be better understood, controlled and monitored for assuring effective sterilization process, particularly those involving complex loads and multiple materials within the same load (polymeric containers, sterile barriers and instruments). Several factors affect vapor-liquid equilibrium such as vacuum pressure, sterilant injection rate, load compositions, medical devices materials and geometry. There are debates around the necessity of condensation for microbial inactivation mechanism of hydrogen peroxide. Condensation phenomenon is influenced by the material surface characteristics (hydrophobicity and surface roughness). Condensation may limit the penetration of hydrogen peroxide into devices with long narrow lumens, which explains why it needs to be controlled. Other phenomena occur at the surface such as the adhesion of gas molecules on the surfaces, adsorption, which is influenced by the surface hydrophobicity and polarity of the adsorbent and gas molecules. Adsorption on hydrophobic surfaces is more compared to the hydrophobic surfaces due to dipole moment of hydrogen peroxide.

Conclusion: Understanding of the physicochemical characteristics is essential for optimizing the sterilization process and a key aspect of end-to-end sterilization assurance for vaporized hydrogen peroxide processes. In light of the available evidence and information gathered from hospital sites, it is necessary to develop new sterilization programs that follow the updated quality control approach, including load configuration, monitoring tools and assessment of cycle outcomes using both internal information (i.e., print out) and external indicators (chemical and biological indicators).
**POSTER #65: SHINING THE LIGHT ON INFECTION PREVENTION AND CONTROL: REFERENCE GUIDE FOR CONTRACTED PROVIDER AND NON-DESIGNATED SUPPORTIVE LIVING SITES**

_Betty Soanes, Lorinda Stubber_  
_UAlberta Health Services_

**Issue:** There are approximately eighty sites across central Alberta contracted to provide designated supportive living spaces. Sites may have a manager, educator, Director of Care, housekeeping, and dietary leads in addition to the point of care staff. Staff turnover in these settings is common, in both leadership positions and those responsible for resident care. Infection prevention and control (IPAC) information often is not passed on to the next generation. Educating new staff to the IPAC practices, protocols, and resources is important to create an awareness of the role of IPAC in resident safety and the prevention of healthcare-associated infections.

**Project:** We developed a reference guide as a tool for consistent messaging when orientating staff to the resources and services that IPAC provides. The zone IPAC Editing Working Group reviewed the information of the reference guide for relevancy and accuracy. Communications personnel applied appropriate branding tools to the guide. We are pursuing having an electronic version available on the Alberta Health Services public webpage and the provincial Continuing Care Connections zone website.

**Results:** Having a standardized guide is an opportunity for the infection control professional (ICP) to build connections with the staff, and to provide consistent messaging when orientating staff and site designates to IPC practices. Key information conveyed in the tool includes web links to zone and provincial information, IPC contact information, communicable disease management resources, posters, hand hygiene resources, position on personal protective equipment (PPE), PPE Safety Coach Program, and outbreak management. Manager Moment emails and zone Seniors’ Health Contracted-Provider meetings provide an opportunity to communicate revisions to the guide. ICPs recommend saving the guide on computer desktops for ready access to identified weblinks. The guide provides an opportunity for just-in-time education, directs staff to current IPC practice resources, and promotes resident safety.

**Lessons Learned:** Centralized online resource provides ease of access regardless of geographic location and ensures staff have current and consistent information that supports best practices that affect resident safety. The guide provides a standardized process and consistent messaging for ICPs when orientating staff and those responsible for resident safety, to the resources. Updates and revisions to the guide are easy to facilitate but there can be challenges for timely posting on the website. Site designate orientation to the resource is an opportunity for the ICP to enhance the professional relationship.

**POSTER #67: BEYOND THE STANDARD OUTBREAK TOOLKIT**

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_Kingston Health Sciences Centre_

**Issue:** Outbreak management at Kingston Health Sciences Centre involves many partnerships and processes that have evolved considerably during the course of the COVID-19 pandemic. Standardized tools were needed to provide a consistent application of control measures and support outbreak management for COVID-19. Despite the creation of templates to guide practice, it was recognized that outbreaks presented several challenges that made standard control measures difficult to implement. Novel approaches for outbreak management were required to address ongoing healthcare system pressures.

**Project:** Recognizing outbreak response is an evergreen process, a collection of improvements is highlighted which have strengthened our response over time. For each outbreak, an outbreak management team (OMT) meeting is scheduled and includes core membership with multidisciplinary representation from the affected unit, environmental services, laboratory services, dietary, occupational health and safety (OHS), facilities, communications, public health and infection prevention and control (IPAC). Additional members, may be added as needed, based on the needs of the outbreak. Unit huddles with the frontline teams are also organized to support communication, promote transparency and identify/address operational needs. In combination, these help to inform interval improvements for the best tools to support outbreaks.

**Results:** An evolution of the KHSC outbreak management toolbox is collated to summarize key successful elements to COVID-19 outbreak management. Standard tools are supported by a suite of considerations which include:

1. Staffing resources;
2. Patient exposure risk;
3. Patient behaviours and interactions;
4. Use of cycle threshold values and whole genome sequencing (WGS) to inform management and analyze outbreak dynamics;
5. Software to support case finding; 6. COVID-19 testing recommendations;
7. Dedicated units or cohorting of COVID-19 patients;
8. Novel approaches to cleaning and disinfection;
9. Quality improvement projects to inform practices changes; and,
10. Patient and family engagement for contact tracing and support. These IPAC tools present a collection of experiences and risk mitigation strategies that have had to adapt to the evolving challenges of a global pandemic and continue to develop to meet the needs of the healthcare system.

**Lesson Learned:** Timely engagement of internal and external stakeholders through standardized approaches is beneficial to creating structure, but it is recognized that each outbreak may have nuances which require further consideration and risk mitigation. Realistic control measures may need to be tailored to the staffing needs and the partnerships of the OMT and staff on the unit are vital to informing needs and offering suggestions to support. The future will build on IPAC outbreak summary reports, WGS and debrid trials for the frontline during quality improvement huddles.

**POSTER #69: IPAC HUBS BUILDING CAPACITY: COLLABORATION TO HELP PREVENT CONSTRUCTION RELATED INFECTIONS IN LONG-TERM CARE HOMES**

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1SHAIPC Consulting Group INC  
2Faith Manor  
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**Issue:** Faith Manor, a 120-bed long-term care home (LTCH) in Brampton, completed the build of a new wing in 2020. In 2021, major construction and renovation of the original building was undertaken to create additional office space. Construction in healthcare facilities poses a risk of serious and life-threatening healthcare associated infections in elderly and immune compromised resident/patient populations. Knowledge of construction related infection risks and the required prevention measures are often lacking in long-term care settings due to the absence of certified ICPs with construction experience. IPAC Hubs were created as part of the province’s comprehensive plan to prepare for the immediate challenges of the second wave of COVID-19 and other respiratory infections. An unintended benefit for this home was the construction knowledge and experience provided by the Central West Infection Prevention and Control (IPAC) Hub team. This knowledge resulted in action by the homes’ leadership to implement IPAC prevention measures identified in Canadian Standards Association (CSA): Infection control during construction, renovation, and maintenance of healthcare facilities Z317.13-17.

**Project:** On November 22, 2022, the IPAC Hub visited Faith Manor LTCH to support COVID-19 measures. The IPAC Hub team member had experience in construction and healthcare facility design and identified to the IPAC lead, the risk associated with a missing ceiling tile adjacent to the construction site. Upon closer inspection, the IPAC Hub ICP and IPAC lead for the home noticed they could see directly into the construction area above the acoustic ceiling tile, indicating the absence of the required upper barriers. Further investigation revealed the nearby kitchen was surrounded on both sides by construction. Both construction sites were open to the kitchen and the entrance to the kitchen was layered in drywall dust. HEPA filtered negative pressure construction air handling units, anterooms and negative pressure monitors were absent. The entrance to one construction site, located immediately inside the main entrance also showed signs of dust migration on constructor boots on the carpeted mat. The second site was adjacent to the hallway leading to the new resident unit.

**Results:** The IPAC Hub team reviewed the CSA standard for construction with the IPAC lead for the home and subsequently communicated the infections risks posed to residents. Feedback from the constructor identified a lack of knowledge of the CSA standard and its application to long-term care settings. The risk to residents was mitigated by subsequent actions of the Administrator to ensure implementation of IPAC prevention measures. Infections related to construction can be mitigated through education in the field by IPAC Hub teams, facilitated by positive built relationships.
POSTER #71: NEW NORMAL: RELAUNCHING BEST PRACTICE POST-PANDEMIC – HOW AN URBAN CANCER CENTRE IN ALBERTA REESTABLISHED THEIR HAND HYGIENE PROGRAM

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Issue: In the post-pandemic context, sites and programs have struggled to reintroduce required organizational practices (ROP) in care settings. The ROPs set out by Accreditation Canada and adopted by Alberta Health Services (AHS) are essential practices that enhance patient safety. Hand hygiene, among other evidence-based practices, are crucial in preventing adverse events such as hospital-acquired infections (HAI). AHS policies and guidelines acknowledge the value of Hand Hygiene (HH) compliance, education, and auditing.

Background: Hand hygiene compliance, education, and training are part of AHS ROPs. During the COVID-19 pandemic, the Infection Prevention and Control (IPC) team at the Cross Cancer Institute (CCI) identified a decrease in hand hygiene audits and committee meetings at our site. Issues with staffing and competing priorities such as an electronic charting roll out, contributed to a delay in relaunch of the program. Observation of areas that continued audits helped us to re-establish the formalized program to assist with meeting the HH ROPs.

Project: The goal of the project was to identify gaps in HH auditing and practice and gain critical learnings to help streamline the reviewing process in other areas, such as inpatient units, without burdening nursing staff or taking away resources from the units. With the support from IPC executive director, CCI Medical lead as well as CCI leadership, the IPC team and their student created a relaunch map that included a pilot project to resume hand hygiene audits and the Hand Hygiene Committee. The team presented the pilot project at meetings regularly attended by managers and leaders. The benefits of participating were that the IPC team was able to provide the support and resources needed to train staff in auditing at this time with their student. The diagnostic imaging department was enthusiastic about piloting the relaunch of HH reviews. The IPC team and their student met with two staff members, with the hope of having them trained and having a competency check performed under 30 days. As the modules are online, staff were directed and supported on how to access the modules and complete the competency check.

Results: The pilot continues underway, however early observations show success in reestablishing an HH Audit Program. The HH committee is meeting, and members have come up with ideas to assist with auditing such as training admin staff and volunteers. Historical data with HH rates are proving to be accurate. In the coming weeks we will have results and key learnings to present to leadership as well as directions on how to roll out seamlessly in other departments.

POSTER #75: CSA Z8004 LONG-TERM CARE HOME OPERATIONS AND INFECTION PREVENTION AND CONTROL

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1Canadian Standards Group

Issue: Long-term care (LTC) is a complex topic in Canada, receiving significant public attention. Significant gaps have been found in the quality and safety of care, and quality of life, for residents within long-term care homes (LTCHs). LTC is not publicly insured under the Canada Health Act and is governed by provincial and territorial legislation, resulting in differences in standards and range of services and pricing. LTCH residents are more vulnerable to infections and are at greater risk of experiencing severe symptoms, resulting in high rates of mortality due to congregate living circumstances. LTC residents are more vulnerable due to being older and frailer than the general population, as well as being more prone to pre-existing medical conditions. They are also more susceptible to infection because of shared spaces (e.g., bedrooms) and supplies, less mobility and in between different healthcare facilities, and visitation practices. Inadequate standards of practice can also contribute to transmission. As a result, staff at LTCHs are also at a higher risk of exposure.

Project: The Standards Council of Canada (SCC), Canadian Standards Association (CSA Group) and Health Standards Organization (HSO) worked collaboratively to develop two new National Standards of Canada for LTC that were shaped by the needs of residents, families, and Canada’s LTC workforce. CSA Group formed a Technical Subcommittee (TSC) consisting of experts in long-term care and infection prevention and control to create a new National Standard of Canada to address these concerns, while HSO’s national long-term care services standard was created to address the delivery of safe, reliable, and high-quality long-term care services. The development of the standards was funded by Standards Council of Canada (SCC) and enhanced engagement activities were funded by Health Canada. CSA Group also launched an Enhanced Engagement and Consultation project that supported the development of this standard. The main objective was to reach pan-Canadian stakeholders to gather input on what Canadians would like to have addressed in the standard. Enhanced engagement activities included consultations and surveys as a means to collect perspectives of technical experts and targeted audiences on different topics (e.g., Indigenous Peoples, gender, sexual orientation, ethnicity, social and economic background, disability). A Joint CSA Group/HSO Government Advisory Table was established to further support the development of the two new standards. The joint Government Advisory Table provided provincial, territorial, and federal level officials an opportunity to be engaged throughout the process. This Table enabled a helpful exchange of information to support the collective work in advancing LTC and particularly inform the CSA Group Technical Subcommittee for Long-Term Care Homes, and the HSO Technical Committee for long-term care services throughout their standards development processes.

Results: CSA Group published a National Standard of Canada, long-term care home operations and infection prevention and control (CSA Z8004) on December 1, 2022. The purpose of this standard is to provide guidance for the implementation of systems and processes for infection prevention and control in LTCHs. Topics including cleaning and disinfecting processes, waste removal, HVAC (heating, ventilation, and air conditioning), plumbing, medical gas systems, and use of technology are referenced and informed the standard. The standard is
The poster titled "Hey, Remember Measles: A Community Hospital’s Experience Identifying, Managing and Contact Tracing a Confirmed Case of Measles" discusses an outbreak of measles at a hospital in Toronto, Ontario. The case involved an index patient who presented to the Emergency Department with symptoms of measles. Contact tracing identified 130 contacts, including 11 inpatients and 99 outpatients. The patient was placed on airborne precautions for 2 hours and 50 minutes, and the index case was transferred to a pediatric hospital later that day.

**Background:** The hospital had an active surveillance program to monitor C-section SSIs and had previously observed an increase in nosocomial transmission of COVID-19 in their acute care facility. This study aimed to evaluate the effect of nosocomial transmission on inpatient units across all nursing shifts from February 16 to April 16, 2021. Priority was given to initial visits with evidence of transmission of COVID-19. SOs were trained on IPAC competencies, including routine practices, auditing, and communicating effective feedback. SOs audited IPAC practices and provided feedback to unit staff when inappropriate practices were observed.

**Results:** In total, 4,185 misses were noted over 1,717 auditing hours. The overall rate of IPAC misses per hour decreased by 2.9%, 95% CI = [3.0% - 4.7%] per day of observation.

**Conclusion:** The results suggest that the safety observer program was associated with a decrease in errors in IPAC practices. The impact of SOs may be due to their in-time communication of IPAC training and guidance, which allowed for improvement of HCW understanding and application of IPAC practices, and mitigated barriers to best practices such as fatigue and peer non-compliance. The results of this study may also lend support to the importance of a collaborative approach when addressing HCW IPAC practices, as the involvement of department leadership may have contributed to successful reduction in IPAC errors. Further studies are required to strengthen these associations, including the use of a control group to compare outcomes.

**POSTER #2: IMPLICATION OF A SAFETY OBSERVER PROGRAM ON HEALTHCARE WORKERS’ IPAC PRACTICES**

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**Background:** Adherence to IPAC practices among healthcare workers (HCWs) can be variable, with identified barriers such as fatigue, inadequate personal protective equipment (PPE) training, observation and influence of non-compliance among colleagues, and an underestimation of the importance of best practices. During the COVID-19 pandemic, substandard IPAC practices had been identified as an occupational risk factor for HCW nosocomial acquisition of COVID-19. As a preventative measure, we initiated a safety observer pilot program as one intervention to reduce the incidence of nosocomial transmission in our acute care facility. This study aims to evaluate the impact of the safety observers (SOs) on HCW IPAC practices.
Lessons Learned: A multidisciplinary approach is paramount in addressing and improving HAIs. Ongoing adherence and monitoring of best practices helps to reduce the incidence of HAIs. Having an SSI prevention interest group would be beneficial for training and education across regions.

POSTER #9: DATA QUALITY INITIATIVES WERE NECESSARY FOR HEALTHCARE-ASSOCIATED INFECTION SURVEILLANCE DURING THE COVID-19 PANDEMIC
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Issue: Province-wide surveillance of healthcare associated infections and antimicrobial resistant organisms (ARO) in the Alberta Health Services? (AHS) Infection Prevention and Control (IPC) program includes a provincial electronic database and standardized provincial protocols. When the COVID-19 pandemic began, it was a priority to maintain this high-quality surveillance system, as the infection control professionals' (ICPs) workload and resources were taken up managing other pandemic priorities.

Project: To complement and validate the AHS IPC surveillance program, data quality projects were used during the COVID-19 pandemic, including 1. Orthopedic casefinding for surgical site infections (SSIs) using administrative data linkages; 2. Summer surveillance surveys of targeted surveillance case examples delivered to ICPS to support their learning; 3. Casefinding using linkages between laboratory data and line-days for central-line associated bloodstream infections (CLABSIS) in the intensive care units (ICU); 4. Casefinding using linkages between laboratory data and analytics for vancomycin-resistant enterococci (VRE) and bloodstream infection cases with an ARD (BSI with ARD); 5. Data quality surveillance error reporting; and, 6. Collaboration with designated ICPS through a data quality working group (DQWG) with updates to the IPC surveillance plan.

Results: 1. Over 2020/2021 and 2021/2022, 226 potential SSIs were back to ICPS for review, with 77 (34.1%) confirmed as complex SSIs; 2. The 2022 Summer case survey had eight cases from six surveillance initiatives, created from members of the DQWG. The average score was 64% and education was reinforced in the September DQF; 3. The CLABSI casefinding identified a further 43 CLABSI cases, increasing the CLABSI rate from 1.2 to 1.3 cases per 1,000 line days in 2020/2021 and 1 to 1.6 case per 1,000 line days in 2021/2022; 4. The VRE casefinding for 2020/2021 identified a further three VRE infections and BSI with ARD casefinding identified a further 65 new BSIs with an ARD in 2020 and 2021; 5. All records entered in the provincial surveillance system are reviewed through business and logic rules during initial data entry. In 2021/2022, the surveillance and standards team reviewed 30.5% (6,574 records) of all reportable surveillance cases. Data errors continued to remain low and like pre-pandemic levels; and, 6. A total of 17 DQF sessions were held over 2021 and 2022, with an average attendance of 78 (range 50-102) IPC program staff.

Lessons Learned: The COVID-19 pandemic placed increased demands on IPC programs. Active surveillance and data quality can be impacted when demand is high for IPC response. Within AHS, established administrative linkages and ongoing collaboration with IPC program members were strategies used to support high-quality surveillance data, protocol discussions and surveillance education.

POSTER #13: COLLABORATION BETWEEN NATIONAL AND TERRITORIAL INFECTION PREVENTION AND CONTROL PROGRAMS THROUGH COVID-19 RESPONSE: STRENGTHENS BOTH IPC PRACTICE AND PROFESSIONAL NETWORKS
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Background: The Public Health Agency of Canada (PHAC) Healthcare Associated Infection Prevention and Control programme (HAIPC) develops national infection prevention and control (IPC) guidelines for healthcare settings, and regularly provides IPC advice to jurisdictions and stakeholders. COVID-19 pandemic response provided an opportunity for PHAC HAIPC to directly collaborate with provinces and territories to provide on-site assistance in implementing IPC practices in healthcare settings. In 2021, PHAC received requests from the Northwest Territories Health and Social Services Authority (NTHSSA) for COVID-19 outbreak management and IPC support.

Project: In the fall of 2021, an initial virtual planning meeting was held between PHAC HAIPC and the NTHSSA to determine the scope of requested IPC needs. PHAC HAIPC deployed IPC specialists from October 2021 to February 2022 to work with the NTHSSA territorial IPC team. Together a rapid needs assessment was completed to identify IPC priorities. Co-joint observations and discussions were held to review and evaluate IPC practices.

Results: The collaborative IPC work included on-site visits to acute care and long-term care settings, COVID-19 testing and isolation sites, and a correctional facility. IPC priorities were identified through the rapid needs assessment. PHAC HAIPC and NTHSSA teams collaborated on IPC practice reviews in both the acute care and long-term care settings. Working together allowed both PHAC HAIPC and NTHSSA to learn from one another. Although the focus of the deployment was COVID-19 IPC support, the relationships established between PHAC HAIPC and NTHSSA led to ongoing IPC discussions, PHAC network connections and collaboration on HAI surveillance.

Lessons Learned: This deployment provided the PHAC HAIPC programme the unique opportunity to directly collaborate on-site with the NTHSSA territorial IPC team. Although virtual meetings have become standard work practice especially since the pandemic there are times when on-site, in-person collaborations are more productive and enhance working relationships. Further evaluation is needed to measure the impact of similar collaborations on IPC implementation at the national level in Canada.

POSTER #14: IS THERE SUFFICIENT EVIDENCE TO INFORM PERSONAL PROTECTIVE EQUIPMENT CHOICES FOR HEALTHCARE WORKERS CARING FOR PATIENTS WITH VIRAL HEMORRHAGIC FEVERS
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Background: Uganda health authorities declared an outbreak of Ebola virus disease, caused by Sudan virus, in September 2022. Given this evolving epidemiological situation, a rapid review was conducted to inform the update of the Public Health Agency of Canada’s (PHAC) guideline for infection prevention and control measures for Ebola Virus Disease in healthcare settings. This review summarizes the available evidence on personal protective equipment (PPE) use by healthcare workers (HCWs) to prevent exposure to and transmission of viral hemorrhagic fevers (VHFs), including Ebola virus.

Methods: Electronic databases were searched to identify peer-reviewed evidence published between July 2014 to October 2022. Eligibility criteria included peer-reviewed primary studies and literature reviews, in English or French languages reporting on PPE for VHFs and filoviruses in the healthcare context. Title and abstract screening, full-text review, critical appraisal and data extraction processes were duplicated by four reviewers using DistillerSR systematic review software. The quality of included studies was assessed using the PHAC Infection Prevention and Control Critical Appraisal Toolkit. An environmental scan of grey literature, including infection prevention and control guidelines, was also conducted to inform the rapid review.

Results: The database search yielded 417 citations and 29 of these studies were considered eligible for critical appraisal. An additional nine studies were rejected at the critical appraisal phase due to lack of relevance to the research question. In total, data extracted from 20 studies were included in the narrative synthesis of evidence. The identified evidence base was largely limited regarding comparative effectiveness of various types of PPE for the prevention of exposure to and transmission of VHFs to HCWs. Four studies reported on exposure to and transmission of a VHF, such as Ebola virus. Sixteen studies provided data on other relevant topics, such as simulated contamination and lab-based tests of PPE integrity. There was significant variability between studies due to differences in study designs, measured outcomes, and inconsistency in PPE design, types and ensembles across studies. This limited the ability to directly compare the effectiveness of individual PPE or PPE ensembles to prevent VHF exposure and transmission in a healthcare setting. No relevant studies were identified in the grey literature search sources.

Conclusion: From this review there was limited evidence to draw conclusions on the comparative effectiveness of PPE to prevent exposure to and transmission of VHFs, including Ebola virus, to healthcare workers. Additional research is required to determine the optimal PPE to protect HCWs from exposure to and transmission of VHFs. Current PPE recommendations based on established practice, expert opinion, and risk assessment will be further informed by additional research.
Background: Transmission of methicillin-resistant Staphylococcus aureus (MRSA) in neonatal intensive care units (NICU) is of concern due to the vulnerability of the population. We report on the transmission of MRSA in a NICU at a large tertiary hospital in British Columbia between December 2021 and July 2022. Methods: All NICU admissions were tested for MRSA with a subsequent test 14 days post-admission. Weekly prevalence testing was initiated along with comprehensive infection control measures. Positive specimens were submitted to the provincial reference laboratory for whole genome sequencing (WGS). WGS analysis consisted of multi-locus sequence typing (MLST) and core genome SNP profiling.

Results: In December 2021, five patients tested positive on subsequent tests, with point prevalence testing and contact tracing identifying five additional patient cases. Prevalence testing identified two patients in the week following initiation. Eight additional patient cases were identified between April and June 2022, for a total of 20 associated cases. Two of the samples could not be located and were not sequenced; the other 18 patient specimens were successfully sequenced. The WGS revealed two distinct genetic clusters of cases, which were distinguishable by MLST and differed by less than 17,000 SNPs; these two clusters are referred to as Cluster A and Cluster B. The patients associated with the cases in December 2021 were mainly associated with Cluster A, with the one Cluster B patient during this period having been a transfer from another region, whose mother was also MRSA-positive. This patient remained on the unit for many months, and overlapped in space and time with patient cases in April 2022, who were identified as belonging to Cluster B following WGS. The sequencing results suggest transmission occurred (likely through some intermediary) between the first Cluster B case and those cases detected later in 2022. Cases detected in May and June 2022 were found to be associated with Cluster A, although no patient overlap was identified between these two periods.

Conclusion: Whole genome sequencing can be a powerful tool when used in conjunction with epidemiology to understand the transmission patterns of different MRSA strains detected in the NICU. In this investigation, we were able to genetically and epidemiologically link cases that clustered within Cluster A and Cluster B, with the exception of Cluster A cases that were detected in May and June 2022, which have no clear epidemiological link. Further investigation into Cluster A is required to identify other potential sources of transmission. These data highlight the importance of enhanced Infection Prevention and Control practices in NICUs.
both safety and comfort through their experiences, and to include what matters to them in the pursuit of this balance when developing hand hygiene programs.

Project: This project is a collaboration between Infection Prevention and Control (IPAC) and Experience in Care (EIC), whose purpose is to engage residents, families, and healthcare workers to improve experience and quality of life by understanding what the process of care feels like. The EIC team measured resident and family experiences through surveys and interviews designed in plain language and accompanied by visual boards. Understanding the impacts of hand hygiene reminders and infrastructure specific to the needs of the people receiving care, such as LTC residents and their families, supports the development of effective hand hygiene strategies based on the needs, preferences, and values of the specific population they are intended to reach.

Results: The findings from this project suggest that residents and families support increased accessibility for hand hygiene infrastructure, including prioritizing access to soap and water; adding alcohol-based hand rub (ABHR) to resident rooms when appropriate; modelling good hand hygiene practices; and continuing hand hygiene reminders at entrances. Over 79% of residents and 85% of families felt that hand hygiene would help protect them or their loved one from getting sick. Almost half (45%) of residents reported needing help to clean their hands and expressed gratitude to staff for helping them. Overall, 77% of residents and 79% of families felt that the facility was doing a good job with hand hygiene, the facility is very good with reminders, and staff are marvellous, kind and understanding. The stories shared by residents and families were well-received, strengthened relationships between IPAC and facility staff, and provided a common understanding that hand hygiene infrastructure is welcomed and supported. The findings facilitated IPAC to garner support for LTC sites to enhance infrastructure to meet IPAC standards and recommendations. IPAC is keen to involve residents and families in future hand hygiene infrastructure placement initiatives and invite residents and families to participate in IPAC environmental walk-throughs to identify ideal placement for ABHR.

POSTER #22: GO SLOW...TO GO FAST: DECODING PATH TO SUCCESS

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It is not a secret that skilled use of project management methodologies works miracles in implementing new solutions while keeping costs and time balanced. However, public healthcare sector has been consistently a more challenging field to apply project management principles to bring forward seamless implementation of initiatives with high degree of stakeholder satisfaction. As part of the PHSA IPAC’s modernization journey, the project team looked into the complexities that lie beyond technical project management challenges and that critically impede implementation and sustain success.

Factors that affect successful project implementation:
• Organizational behaviour change – initiatives resulting in new processes, tools and systems that affect more than one team/department, require not only effective change management strategies but also support and sponsorship for necessary organizational behaviour change.
• Resourcing – post-pandemic healthcare environment is presented with very short staffed and burnt-out resourcing. Even the best designed project and change management plans remain to be relinquished due to staffing shortages and prioritization of heavy clinical workload.
• Complex governance structure and lack of singular accountability – healthcare projects are being dependent on political systems of government funding with no singular decision-maker which adds to complexity in supporting project work. Complex matrix of organizational and regulatory stakeholders, including unions, presents challenges with creating and applying realistic and practical RACI for timely and effective decisions and roadblock removal.
• Project-ready organizational environment and team’s skillset – recognizing that project management brings unique skillset and healthcare SMEs are amazing at what they do, upskilling is inherent benefit to the multidisciplinary teams. Using multidisciplinary approach, where healthcare staff are supported by skilled project management resources in learning of new tools and in obtaining new skills, results not only in development of better processes but also in sustenance of new practice.

The presentation will focus on lessons learned from the IPAC program modernization in British Columbia, Canada.

POSTER #24: CANDIDA AURIS OUTBREAK ON AN ONTARIO INTENSIVE CARE UNIT

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Issue: Candida auris is an emerging yeast pathogen that is often multi-drug resistant, with some strains described as resistant to all available classes of antifungals. It survives well in the environment and has been responsible for outbreaks in healthcare settings. The CDC has declared it an emerging global threat. On December 5, 2021 a patient was admitted to Trillium Health Partners (THP) hospital intensive care unit (ICU) with disseminated tuberculosis. They immigrated to Canada from the Philippines in 1989 and last visited in 2016. Their pneumonia ICU stay was complicated by stroke, with poor neurological recovery, renal failure requiring intermittent haemodialysis, and recurrent bacterial infections requiring extensive antimicrobial treatment. On September 1, 2022, C. auris was detected in a blood culture.

Project: All patients on the ICU were placed on contact precautions and enhanced cleaning with hydrogen peroxide was initiated. A point prevalence for C. auris was conducted on September 7, 2022: bilateral axilla and groin swabs were collected on all patients who had been admitted to the ICU up until August 31, 2022. Hospital patients identified as roommates within the last three months were also included. A validated screening method was not initially available at the THP microbiology lab, so specimens were tested in parallel by an external reference lab. A second case was identified from a patient with a prolonged ICU stay. These patients were in close proximity to one another. A potential epidemiologic link was identified between patients who received intermittent haemodialysis using the same portable unit. An outbreak on ICU was declared on September 20, 2022. Priority was made to establish the scope of the outbreak. Follow-up point prevalence testing was conducted weekly for three consecutive weeks. Nasal and rectal swabs were added to the screening. Sodium hypochlorite replaced hydrogen peroxide for daily clean of the ICU.

Results: All subsequent point prevalence results were negative and no additional cases of C. auris were identified. All environmental swabs from the hemodialysis machines were also negative. The outbreak was declared over on October 7, 2022 following three negative point prevalence screens; contact precautions and enhanced cleaning with sodium hypochlorite were discontinued. Further C. auris point prevalence screens were conducted on the ICU every four weeks for an additional three months.

Lessons Learned: The need to create and implement a C. auris screening policy that includes a readily available validated C. auris screening method. Determining the most sensitive body sites for screening. The importance of multidisciplinary collaboration and clear communication when providing education and direction to staff to prevent further transmission of C. auris in an outbreak setting.

POSTER #26: COLLABORATIVE, COLLEGIATE, CONSISTENT: EFFECTIVE MEDICAL DEVICE REPROCESSING REVIEWS IN ALBERTA

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Issue: Medical device reprocessing (MDR) is critical to prevent the spread of pathogenic microorganisms in healthcare settings. Monitoring MDR practices to verify that cleaning, disinfection, and sterilization of reusable medical devices in healthcare meets national and provincial standards is essential to patient safety, and involves many programs working together within healthcare facilities, including Infection Prevention and Control (IPC).

Project: Alberta Health Services (AHS) IPC conducts regular provincial quality reviews of MDR practices in healthcare facilities. This project has evolved over the past decade and highlights the importance of a collegial relationship between the IPC and MDR programs with shared responsibility for quality MDR practices, and a consistent approach to monitoring, data collection, and reporting. The latest reviews (Cycle 4, Summer 2020-2022) used an electronic data collection and reporting system, including a standardized review tool to measure compliance with Canadian Standards Association, Alberta Health, Accreditation Canada, and other applicable standards. Reports were generated for each MDR area, each zone, for the province, and for provincial programs involved with MDR practices. A follow-up process tracked corrective actions completed by MDR areas to resolve identified deficiencies.
Results: In Cycle 4, 100 reviews were performed in 68 facilities. Compliance was high, with an average of 95.8% across the province. Identified deficiencies largely related to incomplete documentation, reprocessing steps (especially storage), and facility infrastructure. The corrective actions follow-up process supported engagement and work toward addressing deficiencies. Improvements identified in previous cycles and the introduction of an electronic system streamlined review and reporting processes. The evolution of this MDR review process has led to development of a provincial committee structure consisting of a Provincial MDR Working Group and Quality Committee, with members from IPC, MDR, Capital Management, other programs, and includes representation from the Alberta Ministry of Health. Additionally, since fall 2021, the AHS IPC team has employed a Senior MDR Project Manager, who leads the MDR Working Group and ongoing quality improvement projects.

Lessons Learned: Systematic reviews are an important part of a quality management program and provide assurance of effective MDR practices. The creation and evolution of the review process in Alberta has resulted in strong relationships between IPC, MDR and other programs, informally through networking, and formally through structures such as the Provincial MDR Working Group and Quality Committee, and through partnership with Alberta Health. Working together, with the common goal of improving quality MDR practices, Alberta stands as a good example for other complex health systems.

POSTER #28: POST EXPOSURE MANAGEMENT OF CLINICAL SCABIES AND VARICELLA IN A COVID-19 COMMUNITY CARE FACILITY IN SINGAPORE
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Yong Loo Lin School

Issue: In the early days of COVID-19 pandemic, Singapore converted a large international exhibition centre named EXPO to a CCF with 8000 beds capacity to provide isolation and medical care for recovering COVID-19 patients. More than 320,000 migrant workers were managed in this facility by Woodlands Health (WH) with the support of healthcare and non-healthcare workers from multiple agencies. Besides the COVID-19 threat, Varicella and Clinical Scabies were also identified among the residents, given the shared living environment – shower and toilet facilities, with recirculating mechanical ventilation system in the facility. Once an infectious case was identified in the facility, WH Infection Prevention and Control (IPC) team would be notified immediately to conduct active post-exposure management accordingly. The infectious case would be transferred to the hospital for acute treatment as soon as possible.

Project: When the Varicella exposure was identified, WH IPC team conducted risk assessment and initiated post-exposure management for over 500 residents who lived in the same hall with the confirmed index case. As they were mainly healthy migrant workers with unknown Varicella immunity status, the decision was made to offer Varicella vaccinations for all exposed residents. Post-exposure, they were monitored closely for up to 21 days in CCF EXPO or given a memo with monitoring advice if discharged before the end of the incubation period. When a Clinical Scabies case was identified, WH IPC team-initiated contact tracing and post-exposure management swiftly. Contact tracing included all residents sharing the same cubicule as the confirmed case. Besides screening identified close contacts for any early signs and symptoms, post-exposure prophylaxis with Malathion was offered to all close contacts. Linens were changed after treatment and terminal cleaning were done for the affected cubicules. During this period, IPC team stepped up on their rounds to audit and reinforce on staff compliance with IPC measures, including hand rubbing and changing gloves in-between patients, cleaning of shared equipment and environment. All this helped to identify the gaps in IPC practices and allow active reinforcement to staff providing direct care to the affected residents.

Results: During the seven months operation in CCF EXPO, one Varicella with approximately 500 contacts and seven clinical scabies cases with eight contacts were identified episodically and managed safely. Hence, there was no secondary transmission. Despite the challenges posed by the improvised facility, the post-exposure management and control measures successfully prevented onward transmission of Varicella and Clinical Scabies in CCF EXPO. Implementing and ensuring strict compliance to IPC measures among multiple agencies involving many non-healthcare workers was extremely challenging but crucial to prevent the spread of Infectious Diseases.

POSTER #30: EPIDEMIOLOGY OF HOSPITAL ACQUIRED BLOODSTREAM INFECTIONS IN HEMATOLOGIC ONCOLOGY INPATIENTS OVER FIVE YEARS
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Background: The University of Alberta Hospital (UAH) Infection Prevention and Control (IPC) staff conducts hospital-wide, prospective hospital acquired (HA) bloodstream infection (BSI) surveillance. All positive blood cultures collected from inpatients determined to be HA are assessed using Alberta Health Services (AHS) surveillance protocols and standardized infection definitions from the National Healthcare Safety Network (NHSN) to identify the source of BSI. The UAH has an 18-bed inpatient unit that provides active treatment for patients with hematologic malignancies. A broad review of five years (2018-2022) of BSI data occurring in this patient population was undertaken to evaluate overall trends over time and identify factors that could be modified to reduce infections.

Methods: A list was extracted from the AHS provincial data system of all hematology oncology patients on unit 5SF4 who had an HA BSI with culture date between January 1, 2018 to December 31, 2022. All 161 cases were included in this review. The extracted data included patient demographic information, infection date, BSI type, and pathogens which allowed for evaluation of these factors for all cases over the five years. Additionally patient diagnosis, chemotherapy, antimicrobial treatment and 30-day outcome review is underway and initial summary for the last three years has been completed.

Results: A total of 126 hematology patients had 161 HA BSIs between 2018-2022 for a five-year BSI rate of 53/10,000 patient days (pd). There was a significant decrease in BSI rate to 27/10,000 pd in 2020 and a rebound to 69/10,000 pd in 2022. The majority of cases (63%) were in males with about half (52%) of the cases being in the 50-69 age group. Primary mucosal barrier injury was the most common BSI type (54%). Most (88%) of the infections were monomicrobial. There was a similar number of gram positive (48%) and gram negative (43%) organisms with yeast occurring in only 3% cases. Additional assessment of factors in 2020-2022 cases revealed that leukemia was the diagnosis in 90% of cases, with acute myeloid leukemia (AML) increasing over time. Over these three years, three antimicrobial groups were used most often for BSI treatment: carbapenems (26%), glycopeptides (23%) and piperacillin/tazobactam (22%). At the time of the positive blood culture, 90% of cases in 2020-2022 had neutropenia. Thirty-day outcome showed 19% had died and 34% remained in hospital.

Conclusion: Despite a decrease in 2020, the rate of HA BSI in the hematologic oncology population has increased. This increase appears to be associated with higher-risk patients as evidenced by increasing numbers of AML patients and increasing numbers of patients with neutropenia at the time of BSI diagnosis over time.

POSTER #31: NO MOTION FOR LOTION
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¹Alberta Health Services

Issue: The World Health Organization, Public Health Agency of Canada and the Center for Disease Control all recommend the routine use of lotions in the healthcare setting to maintain and improve skin integrity. A site audit was initiated to review the lotion provided. The audit determined the approximate quantity of lotion product that has exceeded the recommended shelf-life, discussed optimal placement and provided recommendations for the disposal of expired product. Having the proper amount of product and optimized location will lead to less waste, increased utilization and therefore improved skin integrity among healthcare staff.

Project: A sample of in-patient and out-patient areas at Rockyview General Hospital in Calgary, Alberta was selected for auditing. An audit included an examination of the physical location to identify and record placement and expiry status of the lotion dispensers as well as a brief qualitative exploration of the lotion utilization culture.

Results: Nine separate areas were audited for this project, including six in-patient units; two out-patient areas; and one support area. The manufacturing dates for the product ranged from 2004-2018. A total of 155 lotion dispensers were audited; 87% (n=135) of the product was either expired (past recommended shelf-life) or indeterminate (not appropriately labelled with manufacturing date). Areas that had a high number of dispensers also had a high proportion of expired product. It was also noted that some housekeeping closets and unit supply cabinets had expired lotion. In discussion with the end-users and area managers, the foremost conclusion was underutilization due to product dissatisfaction,
including the smell, texture and prolonged wet time. Instead, staff are using alternative lotion products often brought in from home. Only 13% (n=20) of the lotion dispensers had not exceeded the recommended shelf-life. The locations in which the lotion had not exceeded the recommended shelf-life included hallway sinks, nursing desk sinks and other staff only locations. A site wide decision was made to discard all expired product and deactivate and remove all underutilized lotion dispensers.

Lesson Learned: This project revealed limited use of lotion throughout areas in the hospital resulting in excessive amounts of expired product being available for use. Healthcare facilities should ensure lotion is properly placed to maximize use and check product expiry dates on a regular basis. Likewise, it is important to have an accountability framework in place to monitor environmental service protocols for cleaning and replenishing dispenses. Staff have been encouraged to share their feedback on the current lotion product through an internal provincial product feedback program. Infection control staff should work to improve compliance with approved products otherwise staff may bring in products that do not adhere to local policy.

POSTER #32: SAVING GREEN $$$ BY GOING GREEN

Kathryn Linton¹, Corinne Pidbohony², Shanthi Anchan³, Laurie Harding⁴, Michelle Biegler⁵, James Ramsden⁶
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Issue: In the spring of 2019, a multidisciplinary team, including members from Site management, Centralized Procurement Supply Management (CPSM), and Infection Prevention and Control (IPC) explored the potential benefits of adjusting the distribution of the most frequently used low level disinfectant (LLD) wipes used at the site. As per past practice, the most commonly used LLD was an ammonium chloride and isopropanol wipe. The hydrogen peroxide wipe offered additional microbial coverage and equipment compatibility while having lower toxicity and cost per wipe than the ammonium chloride and isopropanol counterpart.

Project: A site-wide changeover was scheduled to increase the usage of hydrogen peroxide wipes and decrease the usage of ammonium chloride and isopropanol wipes respectively. As such the warehouse and unit managers were notified of the supply change six weeks in advance. IPC provided education regarding chemical and equipment compatibilities and worked with clinical areas to interpret Manufacturers Instructions for Use (MIIFU). Clinical areas were encouraged to share feedback on the current lotion product through a provincial product feedback program. Infection control staff should work to improve compliance with approved products otherwise staff may bring in products that do not adhere to local policy.

Results: As anticipated, the site has seen substantial and cascading benefits from this initiative. A six-month retrospective comparison indicates that since the roll-out the site has seen a reduction of 571 tubs of wipes per month. The total number of wipes used per month has actually increased by approximately 44% due to the smaller size and number of wipes in each hydrogen peroxide tub. This change has resulted in $5,071.31 cost savings per month. This extrapolates to annual savings of over $6800 and $60,855 respectively. Unlike the ammonium chloride and isopropanol wipe, the hydrogen peroxide wipe has a lower toxicity and does not require routine glove use. Therefore, there has been an incidental decrease in glove use. The site is using 44 less boxes (over 11,000 gloves) per month; resulting in a cost savings of $472.56 per month (over $5,670 annually). Other advantages include a decrease in recycling, disposal and plumbing costs. During this time the clinical areas have reported good integration and usage compliance. There have been no adverse events and only a few temporary off-gassing complaints. This analysis does not take into consideration the utilization and cost of the other LLD wipes on site.

Lesson Learned: The success of this project was maximized by stakeholder engagement prior to the implementation; knowing contractual obligations; and site preparation. This result indicates that challenging past practice can be a worthwhile cost savings measure while maintaining compatibility and compliance in cleaning non-critical equipment. With the continual political and cultural movement towards environmentally conscious practice, it is important to have progressive discussions.
Finally, all new staff, whether novice or experienced, were required to complete the IPAC Canada Self-appraisal tool to have an inventory of skills and to guide future learning goals. Once the onboarding process is complete, the new recruits completed a survey which was used to identify areas for process improvement.

**Results:** Survey results showed that majority of participants found that the onboarding process prepared them in their new role as an ICP. They expressed satisfaction in the process while highlighting that they never had this type of onboarding experience and extend of support before. Participants also highlighted that completing the IPAC Canada Self-appraisal tool has opened up a new level of desire that includes future career planning, learning and skill development.

**Conclusion:** Having an organized onboarding process that is tailored to each recruit is crucial to their success in the workplace, especially in the context of the increased need for IPAC staffing due to the pandemic. While our new onboarding process has proven to be successful, we continue to seek feedback to ensure we are meeting the needs of our new staff members.

**POSTER #38: ASSESSING THE USE OF COPPER ON HIGH-TOUCH SURFACES IN A GERIATRIC CARE ENVIRONMENT**

Steve Reinecke¹

¹Canadian Coalition for Community and Healthcare Acquired Infection Reduction

**Issue:** The cleaning and disinfection of high-touch surfaces like door knobs and drawer handles can only occur a few times during a 24-hour period. Can any engineered technology like copper be used in a long-term care facility, in addition to existing cleaning practices, to enhance the disinfection and cleanliness of these high-touch surfaces?

**Project:** In 2021 and 2022, a study occurred at Yee Hong Centre for Geriatric Care in Toronto. This five-stage project assessed and reported the microbial efficacy of products containing copper on high-touch surfaces in a long-term care setting. The goal of the evaluation was also to determine whether the products are durable and operationally feasible for use in a long-term care setting. We will present the challenges and issues we encountered in the project, along with the results. Approximately 700 surfaces were either replaced with new copper-coated hardware, or a copper coating was applied to a surface. These surfaces included cabinet/drawer pull handle doors, sliding door handles, large door pulls, elevator handles, toilet seats, push bars, large and small grab bars, bathroom stall door latches, bathroom stall door handle door panel push plates accessibility push plates door exit plates.

**Results:**
- All surfaces – 99.9% reduction in bioburden; all hand touch surfaces (without the toilet seats) – 99.9% reduction in bioburden; all hand touch surfaces without public bathroom surfaces – 99.9% reduction in bioburden; all hand touch surfaces on the resident floor – 99.9% reduction in bioburden; all hand touch surfaces taking out two large data outliers – 91.1% reduction in bioburden copper is well known and proven to help inhibit the buildup and growth of bacteria.
- Adding copper on high-touch surfaces or replacing copper hardware significantly enhanced the already excellent cleaning and disinfection regimen. However, there were many challenges in implementing and the educating about the solutions.

**POSTER #40: CCRT (CONTINUING CARE RESOURCE TEAM): A MULTIDISCIPLINARY PARTNERSHIP SUPPORTING LTC HOMES IN OUTBREAK MANAGEMENT**

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**Issue:** The Continuing Care Resource Team was created in May 2020 in response to the impact of SARS-CoV-2 on LTC homes located in the former Saskatoon Health Region. The team consists of health-care professionals from different departments: Continuing Care (CC), IPAC, OH&S, Public Health, and, Patient and Family Centred Care. The team was originally tasked to create COVID-19 simulations for LTC homes. From these simulations, the team’s work evolved on to other projects, including Safety Walk, POCT strategy, updating the N95 registry, and, the CCRT email to name a few.

**Project:** Simulations The purpose of the simulations was to assess a LTC home’s preparedness and response to a COVID-19 Outbreak. These were used early on in the pandemic to evaluate an LTC home’s pandemic preparedness plan. Four simulation working groups were created to focus on different processes in LTC: 1. Move-in from community; 2. COVID-19 Watch: One ill staff member or resident pending lab results; 3. COVID-19 Outbreak: Greater than or equal to one COVID-19-positive staff member or resident; and, 4. LTC to LTC Home Transfer Safety Walk and Deficiency Tracker A triad of members from CC, IPAC, and, OH&S meet with a LTC home’s leadership team to perform a Safety Walk. During these sessions, the CCRT assesses what a LTC home is doing well, what a home can improve on, and what dates the recommended changes need to be completed by. A provincial deficiency tracker was developed by the Saskatchewan Health Authority as a database to keep track of assessments made by the CCRT. POCT Strategy A testing strategy using a rapid antigen test was implemented for early detection of asymptomatic COVID-19 positive cases. LTC residents were tested weekly. N95 registry In Saskatchewan, a fit-testing registry exists that lists the respiratory protection status of HCWs. CCRT worked with homes to schedule fit-testing for their staff. CCRT also increased the home’s capacity to do their own fit-testing by sending staff to fit-testing trainer, CCRT email multiple pandemic guidelines and policy changes were developed by the province. To keep homes updated, a weekly email that summarized key updates, new processes and changes to provincial guidelines, is sent by CCRT to all LTC homes.

**Results:** CCRT has become a turnkey operation for LTC homes to ask questions and has become a way for homes to elevate concerns to the leadership level. There has been positive feedback from homes about the work of the CCRT. The simulations helped homes identify gaps in their pandemic plans. Findings from a Safety Walk enabled homes to redistribute resources to ensure they are up to date with CCRT recommendations. The POCT strategy allowed for early detection of asymptomatic cases ensuring a prompt start of outbreak protocols. Percentage of staff fit-tested to an N95 increased from <60% prior to the pandemic to 85%. Work of CCRT continues beyond the pandemic and can be a model for other jurisdictions to support LTC homes in a multidisciplinary approach.

**POSTER PRESENTATIONS**
POSTER #44: IPAC ORIENTATION PROGRAM: ONE-STOP SHOP
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¹Trillium Health Partners

Issue: When implementing orientation procedures, Infection Prevention and Control (IPAC) teams are faced with a myriad of challenges. These challenges include inconsistent practices related to infection control professional (ICP) experience, and frequent decision-making tasks, compounded by operational inefficiencies. This raised concern regarding the effectiveness of new hire orientation processes at a multi-site tertiary hospital, in Ontario. As a result, a more efficient, sustainable, and collaborative orientation for onboarding new ICPs was necessary.

Project: An electronic orientation checklist was created. The checklist provides comprehensive and streamlined training. The tool also offers new hires the necessary guidance and structure for quality control and performance, in accordance with hospital policies, procedures, and best practices.

Result: Delivery of ICP roles and responsibilities are standardized and easily adopted during the orientation phase. The evolution of this electronic orientation tool has proven valuable for enhancing knowledge transfer, processing and streamlining information, while reducing the chances of redundancies and errors. As a result of continuous feedback from ICPs, the device has been improved and sustained. By incorporating an accessible and convenient training tool, both experienced, and new ICPs are better able to integrate and maintain consistent delivery of infection prevention and control standards and practices across the organization.

POSTER #50: THE BUMPY PATH TO RECOVERY IN LONG-TERM CARE AND RETIREMENT HOMES: TOP FIVE AREAS FOR IPAC IMPROVEMENT
Madeleine Ashcroft¹, Magdalena Krawczyk¹, Christina Critelli¹, Christopher Okeahialum¹
¹Trillium Health Partners

Issue: Over the course of the COVID-19 pandemic, Ontario long-term care homes (LTCHs) and retirement homes (RHs) have been visited by individuals trained to assess infection prevention and control (IPAC) practices and to provide tailored feedback and support for improvement. In 2020, five top issues warranting urgent action for improvement were identified: personal protective equipment (PPE), screening, physical distancing, environmental cleaning, and hand hygiene. Since then, despite more than two years of IPAC education and support, ongoing assessments by an active IPAC Hub in Mississauga and South Etobicoke, Ontario, continue to identify very similar issues. Why do these challenges persist? What has changed and what can we do about it?

Project: In preparation for the 2022-23 fall/winter outbreak season, five IPAC Hub staff visited 20 LTCHs and 28 RHs from July to November to complete a standard Public Health Ontario (PHO) checklist for IPAC preparedness, covering key areas of risk. Hub staff found many consistent IPAC challenges across all homes, which had persisted despite reinforcement and reiteration of best practices and advocacy for action. The numerous individual issues and recommendations were analyzed and grouped to determine the top five areas for improvement, and this information was provided back to the IPAC Leads at a special community of practice online meeting in December 2022. Participants engaged in small group discussions, exploring reasons why these challenges continue and sharing ways to better address them with the larger group.

Results: Analysis of the issues and recommendations found the top five in LTCHs were PPE, screening, hand hygiene, auditing, and environmental cleaning and in RHs, screening/signage, PPE, hand hygiene, auditing, and environmental cleaning. These results align with the 2020 PHO findings, except for physical distancing which appears more consistently adhered to as the pandemic evolves, and auditing which is progressively more emphasized. IPAC Leads confirmed that these challenges have persisted due to several factors including confusion from rapidly changing recommendations, staffing shortages and turnover, training gaps, facility and corporate policies, and the desire to return to normal has been especially evident in RHs.

Lessons Learned: Following IPAC best practices is front and centre in preparedness and prevention of outbreaks and hundreds of hours have been spent by Hub staff and LTCH and RH IPAC Leads assessing, training, coaching, and providing audits with feedback. Bringing IPAC Leads together to consider why these five identified areas of program vulnerability continue, has helped them to understand that they can be addressed and must be prioritized for sustained improvement.

POSTER #52: PROVINCIAL HEALTH-CARE WORKER INFECTION PREVENTION AND CONTROL EDUCATION ACROSS THE CONTINUUM OF CARE
Noorsallah Esmail¹, Ben Shaw¹, Stephanie Burniston¹, Titus Wong¹, Tara Donovan¹, Linda Hoang¹, Kai Wai Leung¹
¹Provincial Health Services Authority

Issue: The Provincial Infection Control Network of BC (PICNet) provides two cost-free on-line infection and control (IPC) education courses for health-care workers (HCWs) that are widely used for orientation and continuing competence training curricula. Course updates were required based on a five-year review cycle, the evolution and emergence of new content (e.g., COVID-19 pandemic), and HCW evaluation survey responses.

Project: PICNet team members reviewed past course evaluation responses, other organizational courses, and existing course content, to determine areas of improvement and address content gaps. In addition, PICNet led a working group of IPC, workplace health and safety professionals, and clinical educators from across BC health authorities. Collectively, they informed revisions to course materials through various stages of development. Guiding principles of adult learning, diversity, equity, and inclusion as well as providing a mix of visual and auditory sensory methods of learnings were incorporated. Two IPC basics courses are separated by target audience and include: 1. HCWs who primarily work in patient care areas and direct-care roles; and, 2. HCWs in non-direct care roles. The courses consist of four modules, incorporates practice scenarios (based on learner selected practice setting), knowledge checks, and a competency assessment resulting in a certification of completion. Frontline HCWs trialled and tested the courses before final publication in August 2022. A communication strategy included transitioning learners and announcing the revised course launch. A continued evaluation via a feedback survey questionnaire is administered for learners after course completion to assess their experience and inform future updates.

Results: Two updated IPC basics courses for multidisciplinary HCWs across the continuum of care incorporates learning from the COVID-19 pandemic. The courses improve the learner experience by using multimedia presentations and optimizing the practical application of IPC knowledge using gender-neutral language and incorporating diversity of HCWs and settings. Survey responses indicate majority of the learners (>75%) found the course directions, vocabulary, level of difficulty, knowledge checks and quiz questions to be suitable. Additionally, learners appreciate the new content, multimedia format, and case scenarios that facilitate practical and relevant knowledge application to their practice.

Lessons Learned: Feedback since publication indicates learners desire a shortened refresher courses and the addition of case scenarios for pre-hospital and community outreach settings. Next steps will include continued, periodic modification to course content and delivery based on feedback received and evolving knowledge.

POSTER #54: LESSONS AND REFLECTIONS ON THE PERSONAL PROTECTIVE EQUIPMENT PRACTICES AMONG ACUTE HEALTHCARE PROVIDERS CARING FOR PATIENTS ON COVID-19 MEDICAL AND CRITICAL CARE UNITS
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Background: Studies evidencing the effectiveness of personal protective equipment (PPE) in reducing the risk of SARS-CoV-2 infection among healthcare providers (HCPs) began emerging in the early stages of the pandemic. HCPs had to reprogram their PPE practices given the incurred risk. PPE behaviour patterns emerge as the result of larger contextual and human factors. However, literature exploring these phenomena in the pandemic context remains scarce. We aimed to explore the behaviours and the associated factors underlying HCPs’ use of PPE. By understanding their narratives, we aimed to gain insights on how they established a sense of safety using PPE while working on COVID-19 inpatient units.

Methods: We conducted 22 semi-structured interviews with HCPs who provided direct care to patients with COVID-19 on medical and critical care units at Vancouver General Hospital since March 2020. We employed an interpretive approach to understand staff narratives.

Results: Staff reported high confidence in their PPE practices since the beginning of the pandemic, both in patient care and non-patient care areas. In-person staff education facilitated by nurse educators and infection control practitioners, PPE accessibility, and environmental cues served as consistent facilitators of PPE practices. Our findings highlight human factors, including staff education, PPE accessibility, environmental cues, occupational experience, organizational culture,
and patient acuity/workload, that can be leveraged to build staff’s capacity to stay safe at work. Half of the participants reported experiencing PPE fatigue. Individual factors, including vaccination status and risk tolerance mediated PPE use. PPE behaviours were also modulated by the larger societal context throughout the pandemic. This had significant implications for PPE availability, and thereby guidance from Infection Prevention and Control (IPAC). Systemic mistrust associated with consistently evolving IPAC guidance emerged as a motif amongst staff narratives.

**Conclusion:** Overall, our findings provide insight into how IPAC plays a key role in ensuring that both patients and HCPs stay safe. By facilitating opportunities for HCPs to debrief on their PPE practices, IPAC can act as a link between the frontline staff and organisational leadership. The undercurrent of systemic mistrust requires a relational approach involving developing trust as a grounding principle for staff engagement, meeting them where they are, and providing realistic and scalable PPE guidelines. By identifying the human and contextual factors that contribute to PPE behaviour, IPAC teams and healthcare organizations can design interventions that are responsive to the needs raised by frontline staff to promote good PPE practice patterns.

**POSTER #56: LIFE-PRESERVING PROCESSES – SURVIVING IN A SEA OF COVID-19 RESOURCES**

Sara Callenger¹, Abbie Cetkovic², Cheryl Epp⁰, Emlyn Ghann¹, Janet Barclay¹, Karin Hue⁰, Kathryn Bush⁰, A. Uma Chandran¹

**¹AHS**

**Issue:** On January 23, 2020, the Alberta Health Services (AHS) Infection Prevention and Control (IPC) program posted its first resources relating to the novel coronavirus circulating in China. There was limited knowledge about this respiratory virus. The focus was on adapting droplet and contact resources. Healthcare providers (HCPs) struggled to identify resources, to keep up with changes, and to translate the information into safer practice. Using processes developed during the 2013 Ebola outbreak, IPC managed the flow of information as the waves of COVID-19 hit. Previous experiences with the H1N1 pandemic and other communicable disease outbreaks had shown how quickly information can change when these diseases make headlines.

**Project:** Using incident command structure, standard operating procedures (SOP), templates and visual identity framework AHS IPC managed over 300 COVID-19 documents, videos, posters, and education modules from January 2020 to December 2022. Document tracking was dynamic as new information emerged. Information was shared locally, provincially, nationally, and internationally with limited administrative and professional resources. IPC team members were embedded in AHS Emergency Command structure, Task Forces and many COVID-19 meetings. These representatives acted as champions for IPC resources as the source of truth, as well as channeling information back to IPC. Routine meetings of IPC leadership as well as identified leads within the processes were established in early February 2020 and continued until the end of 2022 with the frequency changing as the waves of COVID-19 and associated information flowed.

COVID-19 AHS guidance was robust, consistent, and widely available. AHS IPC COVID-19 response was excellent, especially in the provision of current and correct information. Staff felt safe and supported throughout the waves of the pandemic as IPC had standardized their approach.

**Lessons Learned:** When IPC is considered the owner of a health scenario, having the processes in place to respond accurately and quickly to emerging issues prevents the team from drowning in information and allows clinical resources to focus on safer practice. Requests to share resources were also handled within developed SOP so other healthcare organizations did not need to allocate scarce resources to replicate IPC material. IPC staff especially felt they had current, correct information to make recommendations on and a clear path for clarifying new content, changes or requesting information to address new questions, practices or gaps. Information outside the IPC process was quickly identified and either removed if incorrect or incorporated into other resources. While not perfect this system allowed AHS IPC to communicate relevant plans, updates, guidance, and emerging information without drowning ourselves nor washing away the confidence of those implementing the information.

**POSTER #60: BRIDGING COMMUNICATION ACROSS THE HOME CARE CONTINUUM DURING THE PANDEMIC**

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**Issue:** In Ontario, home and community care contracted service provider organizations (SPO) are responsible for providing a wide scope of practice, including nursing, personal support, dietetics, allied health to individuals of all ages in the home and community setting. As the pandemic evolved, significant challenges were encountered, particularly for the home and community care sector related to procurement of personal protective equipment, acute respiratory illness screening both active and passive, human resources capacity, accountability of provincial/ministry directives and accessibility for molecular testing. To counteract these challenges, infection prevention and control (IPAC) leaders from multiple SPOs developed and implemented collaborative responsive strategies to mitigate risks to healthcare workers (HCWs) and support safe care delivery to patients in their homes and within the community.

**Project:** The development of an IPAC Leaders group was created and organized by Home Care Ontario for infection control practitioners (ICPs) to work collaboratively and to develop a standardized approach for SPOs across Ontario. ICP leaders initially struggled to share consistent accurate and timely information, guidance and best practices related to IPAC.

**Results:** ICPS from SPOs collaboratively identified key tables where participation was essential. By coordinating efforts, the SPOs ICPs, representatives were able to build strong connections and awareness between healthcare sectors through participation at a variety of regional/provincial tables. To support known best practices, the group proactively created universal strategies to reduce risks posed to HCWs, patients in the home and community care setting. Work included development of universal PPE guidance, cleaning and disinfection, IPAC auditing practices, and enhanced IPAC practices within the home and community setting. This coordinated and collaborative effort demonstrated the willingness and desire of the contracted SPOs to provide the best care possible for patients while protecting HCWs. It demonstrated that working together was more effective in supporting all contracted SPOs to navigate the challenges presented by the pandemic and trying to maintain capacity in the home and community sector.

**Lessons Learned:** The pandemic exposed longstanding systemic challenges within the home and community sector, including gaps in IPC processes. It also exposed the lack of understanding by other areas of the health sector of what services the home and community care sector provide.

**POSTER #62: LESSONS LEARNED IN DELIVERING IPAC SUPPORT TO CONGREGATE SETTINGS: A TRUST BUILDING EXERCISE**

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**Issue:** In an effort to reduce the impact of COVID-19, providing IPAC support to congregate settings was a requirement of the newly established IPAC Hub under the direction of the Ministry of Health. Faced with the challenge of identifying all applicable facilities in the region, obtaining contact information for the most appropriate representative, establishing awareness of the IPAC Hub, and successfully engaging them in this effort, was difficult. From multiple angles, it was challenging to establish relationships and build IPAC capacity in these settings. The facilities were faced with unprecedented volumes of workload and concern over how to care for their residents in a safe manner, paired with their hesitancy and lack of trust of external organizations.

**Project:** We identified the need to adopt an approach to build engagement and trust amongst these groups. After identifying that the level of hesitancy and mistrust was a barrier to providing the facilities with the support they needed, dedicated time was spent building relationships organically with leaders in the region who were trusted amongst the facilities. Our initiation of Community of Practice (CoP) monthly meetings was not yielding the level of relationship and capacity building we were hoping to see; so, we developed smaller, more specific, supplemental Community of Practices so that individuals providing similar care delivery types could collaborate and learn from each other. This allowed for the opportunity for the Infection Control Practitioners (ICPs) to hear from the group members on what specific issues they were facing, so that we could tailor our Community of Practice meetings and have a stronger impact.
Results: Over time, awareness and understanding of the IPAC Hub improved and engagement increased. Trust was built to allow us to make on-site visits at the facilities, and work together to further build their IPAC capacity. These sustained relationships that have been built, have been closely related to the frequency and degree of impact of outbreaks in facilities. Community of practices (small and large groups) that have been sustained have created a sense of kinship, providing the ability to build capacity and learn on each other. Broadly, there has been improved quality of care delivered resulting from the ability to escalate concerns to the appropriate resource. CoPs have provided the opportunity to identify inequities between facilities (e.g., funding, access to resources, and a responsive network).

Lessons Learned: This work highlights the importance of a broad skill set, including flexibility and adaptability amongst infection control professionals, to prioritize relationship building to yield increased IPAC capacity and improvement of IPAC practices in congregate care settings. Adaptability from the acute care infection control program model to a model that fosters relationships and community is a key factor in sustained success of the IPAC Hub model.

POSTER #64: AN UNTAPPED RESOURCE? FAMILY AND RESIDENT INVOLVEMENT IN THE INFECTION PREVENTION AND CONTROL (IPAC) PROGRAM

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¹THP IPAC Hub

Issue: The COVID-19 pandemic has focused attention on the elderly in long-term care (LTCH) and retirement homes (RH) and the impact of IPAC measures on their quality of life, including their level of contact with family members and other visitors. This has often led to complaints and conflicts, and at times, a negative perception of IPAC among residents and their families. The concept of resident-centred care advocates for the inclusion of family and residents in the care and decision-making process. However, in contrast with the ongoing IPAC education activities for staff, sparse attention is given to engaging residents’ and families, some of whom are essential care givers. This is a missed opportunity to address the observed disconnect between families, residents, and IPAC program priorities.

Project: Through review of the current literature and discussion with LTCH and RH IPAC Leads, including onsite meetings and observations, IPAC Hub Infection Control Professionals (ICPs) actively sought evidence of resident and family involvement in existing IPAC programs and novel opportunities. Advantages and challenges to maximizing this involvement were considered and addressed.

Results: The findings align with the limited literature, indicating that family and resident involvement in decision-making and care results in better IPAC outcomes for everyone. Some settings report success with resident hand hygiene champions, providing reminders, and acting as role models for masking or physical distancing. While many staff acknowledge the importance of family/residents input, they are often hesitant to significantly involve them in the IPAC program, often describing these challenging conversations and interactions as problematic and time-consuming. To address this, some have engaged the service of the local community IPAC hub to provide virtual and in-person education sessions targeting family members. Some settings report success with resident hand hygiene champions, providing reminders, and acting as role models for masking or physical distancing. While many staff acknowledge the importance of family/residents input, they are often hesitant to significantly involve them in the IPAC program, often describing these challenging conversations and interactions as problematic and time-consuming. To address this, some have engaged the service of the local community IPAC hub to provide virtual and in-person education sessions targeting family members.

Lessons Learned: Numerous opportunities often present in LTCH and RH for enhancing the IPAC knowledge of family and residents. Recognition and timely response to these opportunities, even when they initially present as conflicts, are critical for sustained engagement of families and residents, and strengthening the IPAC program, to truly make IPAC everybody’s business.

POSTER #66: KHSC IPAC HUB – COMMUNITY MOBILE RESPONSE TEAM

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¹Kingston Health Sciences Centre

Issue: The COVID-19 pandemic highlighted gaps in Infection Prevention and Control (IPAC) knowledge, skill and/or capacity for congregate living settings (CLS). Access to IPAC experts was limited or did not exist and these settings were identifying cases and outbreaks of COVID-19 leading to significant morbidity and mortality. Several lessons have been documented in Provincial and Federal reports, and in particular, enhancing IPAC capacity through on-site support as a priority.

Project: To address this issue, as part of the province’s comprehensive plan keeping Ontarians Safe: Preparing for Future Waves of COVID-19, local networks of IPAC expertise (IPAC Hubs) were developed across the health system throughout Ontario. The purpose of implementing the IPAC Hubs has been to enhance IPAC practices in community congregate living settings. In the Fall of 2020, Kingston Health Sciences Centre identified as the IPAC Hub for the SE Region, along with 25 other hub sites across the province. A steering committee was formed with the Ontario Health East Region to create and maintain annual plans as the program integrated into the SE region health system. The IPAC Hubs collaboration with partners have included: local hospitals, public health units, Public Health Ontario and community partners from the targeted settings. January 2021 KHSC integrated the IPAC Hub and Spoke model into the internal IPAC program to support community congregate living settings with the addition of new resources. The program focus was IPAC prevention, support and outbreak response.

Results: Our services were provided to a range of congregate care settings: long-term care homes, retirement homes, hospices, residential settings for adults and children, shelters and supportive housing. This was done through education and training, outbreak support, communities of practice, assessments and audits, review of guidelines, linking to KHSC for resource support, development of resources: tip sheets, videos, presentations, policy updates, newsletters and website. Beyond COVID-19 the need for IPAC support and expertise in congregate living settings will continue to exist. Our program vision is to continue work with partners to build IPAC programs. This will be done through multifaceted IPAC support to implement new IPAC standards released for LTC. Collaboration and partnerships with new IPAC leads in LTC will be the key to success with visits that provide tailored operational IPAC guidance, and support quality improvement projects. The program has already identified priority support in the following areas: surveillance, hand hygiene programs, cleaning and disinfection, construction and renovation. The future of the SE IPAC Hub is proactive and collaborative through the provision of proactive consultations and risk assessments, mentorship of new IPAC practitioners in LTCHs and strengthening established partnerships.

POSTER #68: COVID-19 OUTBREAK RESPONSE MANAGEMENT

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¹Providence Care Hospital

Issue: Providence Care, in Kingston Ontario, provides inpatient care in three unique settings: hospital (mental health and rehabilitation), long-term care home, and an alternate level of care site. A standardized approach to outbreak management is a helpful backbone to support COVID-19 outbreak management and the infection prevention and control (IPAC) team designed a checklist to guide practice. The pandemic, however, challenged conventional IPAC outbreak practices and required a balanced approach to risk reduction. Staffing pressures, essential care partners, supporting health system capacity and navigating the unique needs of the population presented challenges to implementing best practices for outbreak management.

Project: Working closely with multidisciplinary outbreak management teams that include Public Health, Infection Prevention and Control (IPAC) identified common themes and risk factors that contributed to transmission during outbreaks. Each outbreak and setting presented new opportunities to consider: patient population and behaviours, transmission dynamics, physical infrastructure, essential care partners role or staffing needs. A compilation of learnings from outbreaks was assembled to inform a scalable approach to future outbreaks that would allow flexibility to the standardized checklist.

Results: Deliberate engagement with frontline staff at the outset of an outbreak is vital to understanding the challenges and to inform next steps for outbreak management. Key discussion points at huddles and outbreak management meetings included, but were not limited to: a review of challenging behaviours and strategies to support, implementing control measures in the absence of an outbreak for units where behaviours promote transmission, benefits/challenges of permitting essential care partners, augmenting ventilation in high-risk areas, ability to remain open to support the healthcare system, segregating pods rather than entire units and relocating COVID-19 cases to dedicated units.

Lesson Learned: Adapting a tailored approach to outbreak management means clients/patients/residents can have a better balance of quality care while still being...
protected from COVID-19 infections. This risk-based approach, in partnership with the healthcare team, helps to identify key needs and works to manage them in the safest way possible. Designated care partners and essential visitors, within parameters, can continue to provide care and support mental health during staffing shortages and may prevent further transmission by providing a diversion for the client/patient/resident. Optimizing safe environments and placement of COVID-19 cases in early phases of the investigation are also key to rapid containment. A collective strategy for outbreak management includes standardized elements, but also considers the unique needs of the population and staff.

**POSTER #70: ANTIMICROBIAL EFFICACY AND DURABILITY OF COPPER PRODUCTS ON PUBLIC TRANSPORTATION VEHICLES**

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Background: Copper (Cu), with its well-documented antimicrobial action, could reduce the risk of pathogen exposure on highly touched surfaces for urban transportation riders.

Objective: This study evaluated the durability and antimicrobial efficacy of three types of Cu products on transit vehicles in Toronto and Vancouver after one year of use.

Methods: Three Cu products (decals, plasma spray-on and solid), were randomly installed on 110 stanchions on three buses and four SkyTrain cars in Vancouver and three buses, two subway cars and two streetcars in Toronto. Each Cu product had a mirror stainless steel (SS) control directly opposite. Every two months, an independent auditing firm collected Petrifilm™ aerobic plate samples (in triplicate) and ATP Bioluminescence (single sample) prior to vehicle cleaning and disinfection. Ex-situ microscopy was used to assess durability at six and 12 months.

Results: The overall mean log10 aerobic CFU was 1.217±0.494 on Cu and 1.469±0.521 on SS controls. The three Cu products (compared to the SS) significantly reduced the mean log10 CFU by 0.252±0.252 (95% CI: -0.355, -0.148), p-value<0.001. Histograms and boxplots indicated that this difference was consistent for all vehicles in both cities. The overall mean ATPBLU RLU sample was 152 (sd 237) on Cu and 1188 (sd 1033) on SS controls. The three Cu products exhibited a significant 87.059% reduction in the mean ATPBLU RLU (0.129 (CI95%: 0.039, 0.285), p-value<0.001). Ex-situ microscopy of Cu products after 15 months of use showed that physical damage was minimal indicating good durability. No significant changes in color were observed for the solid Cu and plasma spray-on products, while discoloration was observed on the decals due to oxidation.

Conclusion: Cu products, retrofitted to public transportation vehicles, maintained antimicrobial efficacy and remained durable by ex-situ microscopy after one year of use.

**POSTER #72: DECREASING CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS IN A CRITICAL CARE SETTING**

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Issue: Central line-associated bloodstream infections (CLABSIs) result in significant patient harm, increased length of hospital stays and increased healthcare costs, yet CLABSIs are preventable through evidence-based bundle application, infection prevention and control (IPAC) practice and continuous quality improvement (CQI). Despite the challenges posed by the ongoing COVID-19 pandemic, our quality aim committee continued its work towards achieving zero hospital-acquired CLABSIs in the critical care program. Our community hospital in Ontario, Canada had a baseline CLABSI rate of 4.08 per 1,000 line days in 2020. Our aim was to reduce CLABSIs by 25% each year and reach zero CLABSIs by 2023. Our target goal was 3.06 CLABSIs per 1,000 central line days in 2021/22 FY.

Project: Prevention of CLABSI was selected as one of the organizational corporate quality aims. An interprofessional committee was established and comprised of physicians, nurses, allied health, IPAC professional practice, educators, data analysts and quality and patient safety teams. The team conducted a common cause analysis to identify individual and system failure mechanisms and to implement evidence-based interventions. A driver’s diagram was developed in collaboration with the key stakeholders to identify change ideas that could contribute to decreasing CLABSIs. The drivers diagram included governance and accountability, education and training, standardizing insertion and maintenance processes, updating equipment, improving data, and reporting, and creating a culture of safety. Initial projects focused on optimizing our Electronic Medical Record (EMR) system to capture process measures, standardizing insertion processes including the use of a central line insertion checklist and new central line insertion kits, implementing the use of capped lumens and implementing a scrub the hub educational campaign. Realtime electronic dashboards were used in the intensive care units to showcase CLABSI numbers and rates and to engage frontline staff in the ownership of the CLABSI data.

Results: Between Q4 20/21 and Q4 21/22 CLABSIs decreased by 34% from 4.08 to 2.3 CLABSIs per 1,000 line days thus surpassing our target goal. The rate of central line insertion checklists use increased from 22.8% to 56.9%, while the rate of central line capped lumens use increased from 72% to 94.3%. There was a 30% improvement from 61-91% post scrub the hub campaign launch in staff knowledge to scrub for 15 seconds.

Lessons Learned: An interprofessional quality aim committee can champion multiple initiatives with ongoing education and training to successfully decrease CLABSIs in critical care settings. In order to achieve further decreases in CLABSIs to achieve our aim by 2023, the next stages of the project will focus on compliance of the maintenance bundle, including dressing changes and line review necessity.
all hospitalized patients (age >1 year). *C. difficile* isolation was performed using ethanolic shock treatment, antimicrobial susceptibility using E-test, and molecular characterization using capillary gel-based electrophoresis ribotyping.

**Results:** Of 4,023 primary CDI cases included in this analysis, rCDI was reported in 350 (7.8%) cases. Healthcare-associated and community-associated CDI rates were 3.72 per 10,000 patient days and 1.35 per 1,000 patient admissions for study years 2015 to 2021, with rCDI rates of 9.2% and 7.7% respectively. The median days from the primary to rCDI was 29 (IQR: 22-40). All-cause mortality among rCDI patients was 7.7% (21/274), with seven deaths attributed to rCDI. Compared to non-recurrent CDI, rCDI patients were likely to be older (median IQR: 73 years [57-83] vs. 66 years [50-78]) and female (53.7% vs 50.1%). Furthermore, patients with rCDI were more likely to remain in hospital 30 days post primary CDI episode (34.6% vs. 16.8%; p<0.0001), rCDI cases (2.3%; 3/131) were also more likely to receive lactic microbviota transplant (FMT) treatment compared to non-recurrent cases (0.2%; 4/1,748). Ribotyping and susceptibility data were available for 2,939 samples. The most common ribotypes were 027 and 106. Ribotype 027 (19.0% vs. 10.2%; p<0.0001) and moxifloxacin resistance (24.3% vs. 14.8%; p=0.0002) were significantly associated with developing rCDI.

**Conclusion:** Our rCDI rate of 7.8% in CNISP hospitals were lower than previously published data; however, patients with rCDI were more likely to remain in hospital 30 days post primary infection. FMT usage was modest and represents an opportunity for an improvement. Patients with rCDI were more likely to be associated with RT027 or strains with fluoroquinolone resistance. Understanding the epidemiology and molecular characteristic of rCDI is essential to assess and mitigate the incidence of rCDI in Canadian healthcare settings.

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**POSTER 76: TRIAGE TOOL FOR INFECTIOUS DISEASES – TEAM E.R. AND IPC HOMERUN! OUTIL D'AIDE À LA DÉCISION POUR LES MALADIES INFECTIEUSES LORS DE L'ARRIVÉE DES USAGER À L'URGENCE – LA COMBINAISON DES EXPERTISES**

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1Direction de la prévention et du contrôle des infections pour les milieux de vie, Direction générale de la coordination réseau et ministérielle et des affaires institutionnelles, Ministère de la Santé et des Services sociaux du Québec
2Direction des services d'urgence et de la fluidité (DSUF), Ministère de la Santé et des Services sociaux

**Issue:** The National Emergency Nurses Association defines triage as a sorting process that utilizes critical thinking and a standardized set of guidelines, [...] Triage requires rapid assessment of the patient’s presenting complaint, assigning an acute level, and directing the patient to appropriate location and resources (NENA, 2014).

Triage is an ongoing and ever-evolving challenge: it requires skills and honed expertise! In a few seconds, a crucial trajectory is determined. This quick decision must be able to expeditiously and confidently identify a risk and implement the expertise! In a few seconds, a crucial trajectory is determined. This quick decision-making process is essential to assess and mitigate the incidence of rCDI in Canadian health care settings.

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**POSTER 82: MANAGEMENT OF A VRE OUTBREAK IN AN ACUTE CARE INPATIENT UNIT**

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1North York General Hospital

**Issue:** Vancomycin-resistant enterococci (VRE) are among the most common antibiotic resistant organisms in Ontario hospitals. While IPAC practices vary across the province regarding surveillance and management of patients with VRE colonization, best practice recommendations include risk-factor based screening for VRE, and contact precautions for those who test positive. In January 2020, risk-factor screening led to the identification of a healthcare-acquired colonization of VRE in a patient; the subsequent investigation led to the identification of an outbreak at a community hospital in Ontario.

**Project:** When the index case of VRE was identified, IPAC initiated point prevalence testing to determine the scope of transmission. Three new cases were identified, and an outbreak was declared. The initial outbreak investigation included active surveillance via point prevalence testing days, pulsed-field gel electrophoresis (PFGE) for genotypic typing, line listing of the cases, contact tracing, and review of audits of hand hygiene, cleaning of shared equipment, and environmental disinfection. Initial outbreak control measures included contact precautions for all cases and exposures, and ongoing education and reinforcement of hand hygiene and cleaning of shared equipment practices. Transfers from the unit were halted. Environmental controls included additional cleaning and disinfection on the unit and visual inspection for damaged and broken furniture. Repeated prevalence testing continued to yield more cases, with surveillance indicating a higher incidence of cases from three rooms. As such, a month into the investigation, the unit was closed to admissions and room-to-room transfers were halted. The high-risk rooms were placed out of commission while environmental cultures were collected and processed, and supervised enhanced cleaning and ultraviolet disinfection were implemented.

**Results:** A total of 24 cases were identified, all genomically related as per PFGE analysis. Investigation into patient transfer practices indicated that patients were being transferred between rooms using their hospital beds instead of stretchers, contributing to transmission of VRE from room-to-room via contaminated beds. Repeated environmental cultures of the high-risk rooms identified persistent VRE contamination of high-touch areas; bed rails, switches, call bells, telephones, overbed tables. High-risk rooms were only reopened to admission when environmental cultures yielded negative results; items were discarded if they were unable to be decontaminated. The outbreak was declared over in 10 weeks, after three negative point prevalences for patients and all negative environmental cultures.

**Lessons Learned:** VRE outbreaks are difficult to control and require aggressive IPAC control and containment measures to eradicate transmission. Particular attention must be paid to environmental cleaning and surface contamination, and patient transfer practices which may contribute to spread.

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**POSTER 83: AN INFECTION PREVENTION AND CONTROL NEEDS ASSESSMENT SURVEY OF ALBERTA HEALTH SERVICES CONTINUING CARE PARTNER FACILITIES DURING THE COVID-19 PANDEMIC**

Sandra Mackaaci1, Michelle Stokke1
1Alberta Health Services

**Issue:** Outbreak management and infection prevention and control (IPC) practices varied at continuing care (CC) facilities across the North Zone of Alberta Health Services (AHS). Identifying gaps, strengths and staff needs was essential to determine the best way to provide support and to plan an effective IPC program.

**Project:** A needs assessment survey was conducted between March 2021 and April 2021, where managers and staff from 30 AHS CC partner facilities participated in individual or group interviews via telephone, Skype or Zoom, with a total of 47 respondents contributing. The survey consisted of 21 closed and open-ended questions pertaining to: outbreak management, staff education and IPC site designates, with nine questions focusing specifically on deficiencies that had been consistently identified during site reviews: improper use of personal
protective equipment (PPE), inconsistent hand hygiene (HH) and inadequate environmental cleaning and disinfecting.

Results: Staff (88%) from sites experiencing an outbreak in the previous 12 months, felt that they were well supported, but the lack of consistent communication/coordination among those providing support and conducting site reviews resulted in confusion and stress for staff due to mixed messaging and redundant site visits. The majority of facilities had an IPC designate (73%) to assist with outbreak management; however, the educational backgrounds, knowledge, and experience of those fulfilling this role varied. Overall, staff felt prepared to manage outbreaks (97%), but commonly cited challenges included staffing shortages and lack of compliance with IPC measures, especially among visitors. There was a discrepancy between how respondents viewed staff compliance with proper use of PPE, HH and environmental cleaning and disinfecting at their sites and what was noted during site reviews, with 43% of managers indicating staff HH and use of PPE did not require improvement, while 33% of managers stated environmental cleaning and disinfecting practices were good and no improvement was needed. Most sites provide education to new staff pertaining to use of PPE (87%), proper HH (93%) and environmental cleaning and disinfecting (80%), however, staff indicated that infection control practitioners could best support them by providing ongoing education and support, not just during an outbreak or crisis.

Lessons Learned: 1. There needs to be better communication amongst outbreak management team members and roles/responsibilities must be clearly defined; 2. Individuals from various programs supporting the sites must collaborate on strategies to overcome barriers so there are more opportunities for staff education; and, 3. Site designates should all possess basic IPC competencies; thus, an IPC site designate education program is warranted.

EXTENDED SPECTRUM BETA LACTAMASE PRODUCING-BACTERIA TESTING ON ADMISSION TO NIAGARA HEALTH'S INPATIENT ONCOLOGY UNIT

Marissa Perrella¹, Mary Theresa Ususanlele, Carla Feltrin, Manish Patel, Jake Sereska, Lindsay Hampton-Hampesjkova, Karim Ah
¹Niagara Health

Background: Admission screening for ESBL producing organisms was not routinely done at NH. Infection Prevention and Control (IPAC) leadership trialed admission screening for ESBL to mitigate transmission for our immunocompromised oncology patients beginning June 1, 2022 due to an increased number of outbreaks, healthcare acquired (HAI) and community-acquired ESBL across NH.

Methods: Rectal swabs were collected within 48 hours of all patients being admitted to a 38-bed oncology unit housing both immunocompromised oncology medical patients mostly in private rooms. Urine specimens were obtained from catheterized patients. Attribution of a few patients transferred from other units were difficult to confirm due to delay in identification.

Results: 30 community acquired ESBL cases were identified between June 1, 2022 and January 4, 2023, averaging two to five cases per month with 15 being identified as oncology patients. Escherichia coli accounted for 16.67% and Proteus mirabilis 0.03%. All community cases were identified as colonized via rectal swab, 0.67% had a confirmed urinary tract infection (UTI) and 0.33% had a wound infection. Only 13.33% of the cases had a catheter on admission. A total of 16.67% of cases were admitted from a long-term care home or other healthcare facility and 33.33% of cases were on antibiotics at time of admission. None of the contacts identified resulted positive, likely one was previously colonized but later became infected in the blood, and the other became infected in the blood and urine during their admission with no known exposure/history. None of the contacts identified resulted positive, likely due to prompt separation in contact precautions.

Conclusion: The burden of HAI ESBL across NH increased 2.46 times in 2022 to 114 from an average of 46 in the previous seven years, yet the number of HAI cases attributed to K38 only increased 1.85 times to five from an average of 2.7. With admission testing, more cases of ESBL can be identified. The identification of community-acquired cases with the implementation of IPC precautions helps mitigate transmission and subsequently decreases the number of outbreaks and HAI cases.
Results: Pocket cards trialled from November 2021 to February 2022 at SCS identified 10 VAP and 10 CLI cases. Nine of the 10 VAP cases were COVID-19 positive. Seven of the 10 CLI cases were COVID-19 positive. Compared to the previous four months (July to October 2021), there was an increase of seven VAP and 10 CLI cases for total of 65.95% ventilator days, and 33.36% central line days. Unit posters provided from November 2022 to December 2022 identified two VAP and four CLI cases; zero cases had COVID-19 illness. Compared to the previous two months (September to October 2022), there was an increase of one VAP and four CLI cases for a total of 24.59% ventilator days and 28.5% central line days. An increase in frequency of VAP and CLI during the interventional periods was observed.

Lessons Learned: Confounding factors may have contributed to the increase of VAP and CLI such as community prevalence of Omicron sub variant during the November 2021 to February 2022 period; seasonal impact for COVID-19 infections linked with VAP and CLI; and limitations due to low volumes in the comparison periods. However, teamwork was effective in improving ICU education, surveillance, communication, management of patient care, and data collection methods. The success with the unit poster implementation resulted with their expansion to the other ICU Sites of NH in 2023 by clinical management. IPAC departments can guide future research in ICU process improvements to meet best practices and provide optimal patient care.
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PCS 1000 Plus Oxidizing Disinfectant Cleaner

DIN: 02521431
- Oxidizing cleaner
- Oxidizing hospital grade disinfectant
- This product is a broad-spectrum virucidal hard surface disinfectant that is expected to inactivate the SARS-CoV-2 (the virus that causes COVID-19) AND OTHER ENVELOPED AND NON-ENVELOPED VIRUSES
- Active Ingredient
  - Sodium Hypochlorite - 0.13% w/w when packed
  - Hypochlorous Acid - 0.01% w/w when packed
- Color/Form Colorless, liquid
- pH 6.5 - 8.5
- Ready-to-use solution
- Scent Characteristic of ingredients slight bleach sent
- Shelf Life 1 year
- PCS 1000 Plus Oxidizing Disinfectant Cleaner for use on hard non-porous environmental surfaces in domestic, health care facilities, institutions, schools and hospitality industries

Contact Time Broad Spectrum Virucide and Hospital Disinfecting

<table>
<thead>
<tr>
<th>Virus/Microbial</th>
<th>Contact Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Coronavirus</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Adenovirus Type 5</td>
<td>3 minutes</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>

*PCS is in the process or has submitted to Health Canada a Request for additional claims

- *Clostridioides difficile, spore form* 1 minute
- *Spray disinfecting* 1 minute
- *Adenovirus Type 5* 1 minute
- *Staphylococcus aureus* 1 minute
- *Pseudomonas aeruginosa* 1 minute
- *Trichophyton interdigitale* 1 minute

We create our Hypochlorous Water by diluting PCS concentrated stabilized sodium hypochlorite disinfectant with water to the desired concentration of sodium hypochlorite and add dilute solution of acetic acid to the desired pH range 6.5 to 8.5 creating PCS Hypochlorous Acid.

“At environmental pH values (6.5-8.5) half of the hypochlorite is in the undissociated form of hypochlorous acid and half is dissociated to the hypochlorite anion. Only the hypochlorous acid fraction is volatile”

*Amend the Hypochlorous acid and sodium hypochlorite concentrations to 0.07% for each.

PCS 1000 Plus Oxidizing Disinfectant Cleaner Concentrate

DIN: 02521504
- Oxidizing cleaner
- Oxidizing hospital grade disinfectant
- This product is a broad-spectrum virucidal hard surface disinfectant that is expected to inactivate the SARS-CoV-2 (the virus that causes COVID-19) AND OTHER ENVELOPED AND NON-ENVELOPED VIRUSES
- Contains 2 % sodium hypochlorite
- Concentrate when diluted through NPH dispenser contains the Active Ingredient
  - Sodium Hypochlorite - 0.13% w/w when packed
  - Hypochlorous Acid - 0.01% w/w when packed
- Color/Form Colorless, liquid
- pH 12.45 (Concentrate)
- pH 6.5 - 8.5 at use dilution
- Scent Characteristic of ingredients bleach odour
- Shelf Life 2 years (Concentrate), 30 days (Use Dilution)
- PCS 1000 Plus Oxidizing Disinfectant Cleaner Concentrate for use on hard non-porous environmental surfaces in domestic, health care facilities, institutions, schools and hospitality industries.

US Patent No 11,103,840 issued August 31st 2021

A mixing and dispensing device and method. In particular, the device used by the applied method reduces the risk of chlorine gas formation while providing a stable, effective and safe disinfectant in the form of a hypochlorous acid and sodium hypochlorite mixture.