Background: A prolonged outbreak of carbapenemase-producing *Serratia marcescens* (CPSM) was identified in our quaternary healthcare center over a 2-year period from 2015 through 2017. A reservoir of IMP-4–producing *S. marcescens* in sink drains of clinical hand basins (CHB) was implicated in propagating transmission, supported by evidence from whole-genome sequencing (WGS). We assessed the impact of manual bioburden reduction intervention on further transmission of CPSM. Methods: Environmental sampling of frequently touched wet and dry areas around CPSM clinical cases was undertaken to identify potential reservoirs and transmission pathways. After identifying CHB as a source of CPSM, a widespread annual CHB cleaning intervention involving manual scrubbing of sink drains and the proximal pipes was implemented. Pre- and postintervention point prevalence surveys (PPS) of CHB drains performed to assess for CPSM colonization. Surveillance for subsequent transmission was conducted through weekly screening of patients and annual screening of CHB in transmission areas, and 6-monthly whole-hospital PPS of patients. All CPSM isolates were assessed by WGS. Results: In total, 6 patients were newly identified with CPSM from 2015 to 2017 (4.3 transmission events per 100,000 surveillance bed days [SBD]; 95% CI, 1.6–9.4). All clinical CPSM isolates were linked to CHB isolates by WGS. The CHB cleaning intervention resulted in a reduction in CHB colonization with CPSM in transmission areas from 72% colonization to 28% (ARR, 0.44; 95% CI, 0.25–0.63). A single further clinical case of CPSM linked to the CHB isolates was detected over 2 years of surveillance from 2017 to 2019 following the implementation of the annual CHB cleaning program (0.7 transmissions per 100,000 SBD; 95% CI, 0.0–3.9). No transmissions were linked to undertaking the cleaning intervention. Conclusions: A simple intervention targeted at reducing the biological burden of CPSM in CHB drains at regular intervals was effective in preventing transmission of carbapenemase-producing Enterobacterales from the hospital environment to patients over a prolonged period of intensive surveillance. These findings highlight the importance of detailed cleaning for controlling the spread of multidrug-resistant organisms from healthcare environments.
Funding: None
Disclosures: Jason Kwong, Austin Health
Doi:10.1017/ice.2020.606

Presentation Type:
Poster Presentation

A Single Case Outbreak of Nipah Encephalitis From India in May–June 2019

Anup Warrier, Aster Medcity; Arun Wilson, Aster Medcity, Kochi

Background: Nipah encephalitis outbreaks mostly involve multiple patients. We report a case of Nipah virus encephalitis (NVE), which had no documented secondary cases in spite of many having prolonged and close contact with the patient. **Methods:** A 21-year-old male was admitted with NVE on May 30, 2019. Before the confirmatory report, there was close contact with multiple healthcare workers (HCWs), defined as exposure for >1 hour to the patient or his immediate environment and/or exposure to body fluids. We conducted extensive contact tracing of all HCWs who had come into close contact with the proven NVE case from the time of admission to the time of discharge. This contact tracing included those who had nursed him before the diagnosis with usual standard precautions and those who had nursed him after the diagnosis with full PPE. These HCWs were reviewed daily for fever and respiratory symptoms. All those who developed these symptoms within the 3 weeks of exposure where tested for NEV with a throat swab using RT-PCR. This testing was conducted twice over 3 days to confirm negative results. For the close family contacts that were asymptomatic, both throat swab and serum for Nipah IgM were tested. **Results:** In total, 169 HCW contacts were identified at our hospital. Of these, 94 were at high risk according the predetermined criteria and others were low-risk contacts. Moreover, 7 HCWs developed fever and respiratory symptoms within the defined surveillance period; 5 had symptoms before the diagnosis (using only standard precautions) and 2 were in contact with full PPE after the diagnosis. All of these symptomatic contacts were tested for NEV (throat swab and serology), and all were negative. The family members of the patient (his mother and aunt) who had cared for him throughout his illness period of 12 days before the diagnosis were also tested and were seronegative for NEV. **Conclusions:** This NEV case had very low transmission capability; even close family members who cared for him for 12 days without any precautions and had exposure to urine (which was positive for NEV) did not contract the disease. The absence of overt respiratory involvement and young age of the affected patient could have contributed to low transmissibility both prior to hospitalization and during the hospitalization.
Funding: None
Disclosures: None
Doi:10.1017/ice.2020.607

Presentation Type:
Poster Presentation

A 6-Year Review of Carbapenemase-Producing Organisms in Alberta, Canada

Ye Shen, Infection Prevention & Control, Alberta Health Services; Jennifer Ellison, Infection Prevention & Control, Alberta Health Services; Uma Chandran, Royal Alexandra Hospital & Glenrose Rehabilitation Hospital; Sumana Fathima, Epidemiology and Surveillance Unit, Alberta Health, Government of Alberta; Allen O'Brien, Epidemiology and Surveillance Unit, Alberta Health, Government of Alberta; Jamil Kanji, Provincial Laboratory for Public Health, Alberta; Bonita Lee, University of Alberta; Stephanie Smith, University of Alberta; Sharla Manca, Alberta Health Services; Lisa Lachance, Communicable Disease, Alberta Health, Government of Alberta; Blanda Chow, Infection Prevention & Control, Alberta Health Services; Kathryn Bush, Infection Prevention & Control, Alberta Health Services

Background: This review describes the epidemiology of carbapenemase-producing organisms (CPO) in both the community and hospitalized populations in the province of Alberta. **Methods:** Newly identified CPO-positive individuals from April 1, 2013, to March 31, 2018, were retrospectively reviewed from 3 data sources, which shared a common provincial CPO case definition: (1) positive CPO results from the Provincial Laboratory for Public Health, which provides all referral and confirmatory CPO testing, (2) CPO cases reported to Alberta Health, and (3) CPO surveillance from Alberta Health Services Infection Prevention and Control (IPC). The 3 data sources were collated, and initial CPO cases were classified according to their likely location of acquisition: hospital-acquired, hospital-identified, on admission, and community-identified. Risk factors and adverse outcomes were obtained from linkage to administrative data. **Results:** In total, 171 unique individuals were newly identified with a first-time CPO case. Also, 15% (25 of 171) were hospital-acquired (HA), 21% (36 of 171) were hospital-identified (HI), 33% (57 of 171) were on

admission, and 31% (53 of 171) were community identified. Overall, 9% (5 of 171) resided in long-term care facilities. Of all patients in acute-care facilities, 30% (35 of 118) had infections and 70% were colonized. Overall, 38% (65 of 171) had an acute-care admission in the 1 year prior to CPO identification; 59% (63 of 106) of those who did not have a previous admission had received healthcare outside Alberta. A large proportion of on-admission cases (81%, 46 of 57) and community-identified (66%, 33 of 53) cases did not have any acute-care admissions in Alberta in the previous year. Overall, 10% (14 of 171) had ICU admissions in Alberta within 30 days of CPO identification, and 5% (8 of 171) died within 30 days. The most common carbapenemase gene identified was NDM-1 (53%, 90 of 171). **Conclusions:** These findings highlight the robust nature of Alberta's provincial CPO surveillance network. We reviewed 3 different databases (laboratory, health ministry, IPC) to obtain comprehensive data to better understand the epidemiology of CPO in both the community and hospital settings. More than half of the individuals with CPO were initially identified in the community or on admission. Most had received healthcare outside Alberta, and no acute-care admissions occurred in Alberta in the previous year. It is important to be aware of the growing reservoir of CPO outside the hospital setting because it could impact future screening and management practices.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.608

Presentation Type:
Poster Presentation

A Statewide Assessment of Antifungal Stewardship Activities in Acute-Care Hospitals in Connecticut

Romina Bromberg, UCONN Health; Vivian Leung, Connecticut Department of Public Health; Meghan Maloney, Connecticut Department of Public Health, Healthcare Associated Infections & Antimicrobial Resistance Program; Anu Paranandi, Connecticut Department of Public Health;
David Banach, University of Connecticut School of Medicine

Background: Morbidity and mortality associated with invasive fungal infections and concerns of emerging antifungal resistance have highlighted the importance of optimizing antifungal therapy among hospitalized patients. Little is known about antifungal stewardship (AFS) practices among acute-care hospitals. We sought to assess AFS activities within Connecticut and to identify opportunities for improvement. **Methods:** An electronic survey assessing AFS practices was distributed to infectious disease physicians or pharmacy antibiotic stewardship program leaders in Connecticut hospitals. Survey questions evaluated AFS activities based on antibiotic stewardship principles, including several CDC Core Elements. Questions assessed antifungal restriction, prospective audit and feedback practices, antifungal utilization measurements, and the perceived utility of a local or statewide antifungal antibiogram. **Results:** Responses were received from 15 respondents, which represented 20 of 31 hospitals (65%); these hospitals made up the majority of the acute-care hospitals in Connecticut. Furthermore, 18 of these hospitals (58%) include antifungals in their stewardship programs. Also, 16 hospitals (52%) conduct routine review of antifungal ordering and provide feedback to providers for some antifungals, most commonly for amphotericin B, voriconazole, micafungin, isavuconazole, and flucytosine. All hospitals include guidance on intravenous (IV) to oral (PO) conversions, when appropriate. Only 14 of hospitals (45%) require practitioners to document indication(s) for systemic antifungal use. Most hospitals (17, 55%) provide recommendations for de-escalation of therapy in candidemia, though only 4 (13%) have institutional guidelines for candidemia treatment, and only 11 hospital mandates an infectious diseases consultation for candidemia. Assessing outcomes pertaining to antifungal utilization is uncommon; only 8 hospitals (26%) monitor days of therapy and 5 (16%) monitor antifungal expenditures. Antifungal susceptibility testing on *Candida* bloodstream isolates is performed routinely at 6 of the hospitals (19%). Most respondents (19, 95%) support developing an antibiogram for *Candida* bloodstream isolates at the statewide level. **Conclusions:** Although AFS interventions occur in Connecticut hospitals, there are opportunities for enhancement, such as providing institutional guidelines for candidemia treatment and mandating infectious diseases consultation for candidemia. The Connecticut Department of Public Health implemented statewide *Candida* bloodstream isolate surveillance in 2019, which includes antifungal susceptibility testing. The creation of a statewide antibiogram for *Candida* bloodstream infections is underway to support empiric antifungal therapy.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.609

Presentation Type:
Poster Presentation

A Statistically Significant Reduction in Hospital Onset *Clostridioides difficile* Events Using a Learning Collaborative Model

Tracy Louis, LifePoint Health; Sandi Hyde, LifePoint Health

Background: Evidence-based best practices are available for the reduction and prevention of *Clostridioides difficile* infection (CDI). Often, these practices are not consistently followed in many inpatient care settings. A learning collaborative model resulted in a cost neutral, rapid, sustainable, statistically significant reduction in CDI events across an 88-hospital campus system without requiring hospitals to standardize laboratory methods, increase spending or increase staffing. **Methods:** In March 2018, a healthcare system with 88 critical access and community hospital campuses across 29 states participated in a harms-reduction learning collaborative. The collaborative format included educational webinars, gap analyses, action plans, and coaching calls facilitated by subject matter experts (SMEs). A collaborative cohort of 11 hospitals (55% rural*) was identified as having significant opportunity for improvement. These facilities participated in 3 monthly coaching calls. The coaching calls supported peer-to-peer sharing of practices and discussions of challenges and successes, and educational materials and presentations were provided by SMEs in pharmacy and infection prevention. **Results:** Statistically significant changes for the 88-hospital system as a whole: (1) 2018 compared to 2017: $P < .001$ (statistically significant); (2) 1H2018 compared to 2H2018 (before-and-after collaborative): $P = .001$; (3) 2019 compared to 2018: $P < .001$ (statistically significant). Statistically significant changes for the collaborative cohort: (1) 2018 compared to 2017: $P < .001$; (2) 1H2018 compared to 2H2018 (before-and-after collaborative): $P = .002$; and (3) 2019 compared to 2018: $P < .001$. We used 2-proportion, 2-tailed z-test for our analysis. **Conclusions:** Utilizing a learning collaborative model that