- Audit and reward compliance with UV light utilization, environmental cleaning Reduce shared patient care equipment, replace with disposable items
- Provide products for patient hand hygiene
- Implement marketing campaign to tie elements together
- **Control**
- Audit compliance with testing and isolation policies
- Laboratory rejection of formed stools
- Audit cleaning processes with adenosine triphosphate (ATP) monitor
- Track ultraviolet light usage

Collaborate with the antibiotic stewardship committee to audit and adjust prescribing practices as needed. **Results:** HO CDI cases decreased by 48% from 2017 to 2018. The NHSN SIR decreased below 1.0. **Conclusions:** The CDIFFerently initiative was successful as a bundled approach to CDI reduction. Incorporating program elements aimed at addressing diagnostic stewardship, antimicrobial stewardship, environmental contamination, transmission prevention and ongoing education, and tying them together with a successful marketing campaign, allowed staff to connect individual actions with a "big picture" approach to HAI reduction.

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Cerebrospinal Fluid Shunt-Associated Surgical Site Infection With Three- Versus Twelve-Month Follow-Up in Canadian Hospitals

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Background: Surgical site infection (SSI) after cerebrospinal fluids (CSF) shunt surgery is thought to be acquired intraoperatively. Biomaterial-associated infection can present up to 1 year after surgery, but many national systems have shortened follow-up to 90 days. We compared 3- versus 12-month follow-up periods to determine the nature of case ascertainment in the 2 periods. **Methods:** Participants of any age with placement of an internal CSF shunt or revision surgical manipulation of an existing internal shunt identified in the Canadian Nosocomial Infection Surveillance Program (CNISP) participating hospitals between 2006 and 2018 were eligible. We excluded patients with external shunting devices or culture-positive CSF at the time of surgery. Patients were followed for 12 months after surgery for the primary outcome of a CSF infection with a positive CSF culture by review of laboratory and health records. Patients were categorized as adult (aged ≥18 years) or pediatric (aged <18 years). The infection rate was expressed as the number of CSF shunt-associated infections divided by the number of shunt surgeries per 100 procedures. **Results:** In total, 325 patients (53% female) met inclusion criteria

Figure: Number and percentage of CSF-SSI identified by week post shunt surgery

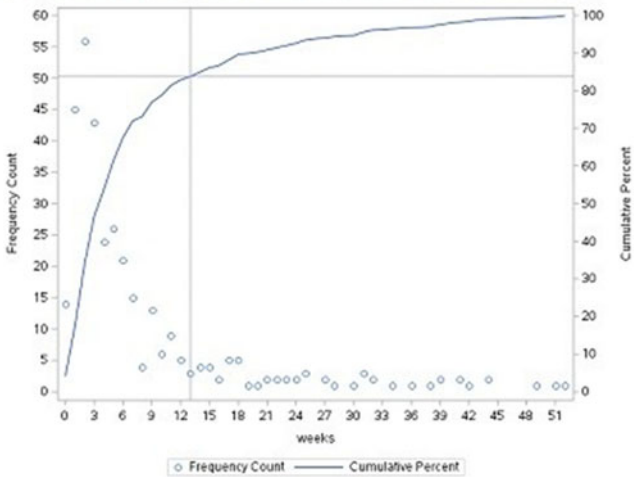

Fig. 1.

in 14 hospitals from 7 provinces were identified. Overall, 46.1% of surgeries were shunt revisions and 90.3% of shunts were ventriculoperitoneal. For pediatric patients, the median age was 0.7 years (IQR, 0.2–7.0). For adult patients, the median age was 47.9 years (IQR, 29.6–64.6). The SSI rates per 100 procedures were 3.69 for adults and 3.65 for pediatrics. The overall SSI rates per 100 procedures at 3 and 12 months were 2.74 (n = 265) and 3.48 (n = 323), respectively. By 3 months (90 days), 82% of infection cases were identified (Fig. 1). The median time from procedure to SSI detection was 30 days (IQR, 10–65). No difference was found in the microbiology of the shunt infections at 3- and 12-month follow-ups. The most common pathogens were coagulase-negative *Staphylococcus* (43.6 %), followed by *S. aureus* (24.8 %) and *Propionibacterium* spp (6.5 %). No differences in age distribution, gender, surgery type (new or revision), shunt type, or infecting organisms were observed when 3- and 12-month periods were compared. **Conclusions:** CSF-SSI surveillance for 3 versus 12 months would capture 82.0% (95% CI, 77.5–86.0) of cases, with no significant differences in the patient characteristics, surgery types, or pathogens. A 3-month follow-up can reduce resources and allow for more timely reporting of infection rates.

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Challenges and Facilitators to Effective Infection Prevention in Home Health Care: Results From Qualitative Interviews of Home Health Care Services

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Background: As the population of older Americans with chronic conditions continues to grow, the role of home health care (HHC) services in improving care transitions between acute care and independent living has become a national priority. Infection prevention and control (IPC) is often a focus of quality improvement initiatives

at HHC agencies. In this study, we investigated barriers and facilitators of effective IPC in HHC. **Methods:** In 2018, we conducted in-depth, telephone interviews with 41 staff from 13 agencies across the United States including administrators, IPC and quality improvement personnel, registered nurses and HHC aides. Interview transcripts were coded in NVivo v 12 software (QSR International), and themes were identified using content analysis. **Results:** We identified 4 themes: (1) IPC as a priority, (2) uniqueness of home health care, (3) importance of education, and (4) keys to success and innovation. When discussing the top priorities in the agency, participants described IPC as a big part of patient safety and as playing a major role in reducing rates of rehospitalization. Protection of patients and staff was described as a major motivator for compliance with IPC policies and procedures, and agencies placed specific focus on improving hand hygiene, bag technique, and disinfection of equipment. Almost all participants described the uniqueness of providing health care in a patient's home, which was often talked about as an unpredictable environment due to lack of cleanliness, presence of pets and/or pests, and family dynamics. Furthermore, the intermittent nature of HHC was described as affecting effective implementation of IPC procedures. Education was seen as a tool to improve and overcome patient, caregiver, and families' lack of compliance with IPC procedures. However, to be effective educators and role models, participants stated that they themselves needed to be properly educated on IPC policies and procedures. Several keys to success and innovation were discussed including (1) agency reputation as a key driver of quality; (2) agency focus on quality and patient satisfaction; (3) using agency infection data to improve the quality of patient care; (4) utilizing all available resources within and outside of the agency, and (5) a coordinated approach to patient care with direct, multimodal communication among all clinical disciplines. **Conclusions:** This qualitative work identified barriers to effective infection prevention and control in HHC and important facilitators that HHC agencies can use to improve implementation of policies and procedures to improve patient care.

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Challenges in Identification of *Candida auris* in Hospital Laboratories: Comparison Between HIC and LMIC

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Background: *Candida auris* is an emerging nosocomial fungal pathogen causing invasive illness and outbreaks worldwide. A major issue regarding *C. auris* is that it can be misidentified unless appropriate technology is used. We conducted a survey of available methods for identification of *C. auris* in 21 hospital laboratories in India regarding their protocols for prevention of *C. auris* infection. **Methods:** The survey was an adaptation of a similar survey conducted for the Connecticut Laboratory Response Network in 2017. We mailed the survey to 30 microbiologists and ID physicians, and 21 of them from 12 states responded. All respondents were from private acute-care and teaching hospitals. The responses were analyzed and compared to the Connecticut study. **Results:** Of 21 hospitals, 19 (90.5%) can identify *C. auris* in house. Also, 18 (85.7%) have identified *C. auris* in the past 18 months. Species level identification was done only for blood cultures in all hospitals. Only 5 (26%) laboratories speciated *Candida* spp isolated from other sites such as respiratory and urinary specimens. Automated systems were used like Vitek 2 in 16 (84.2%), Phoenix BD in 2(10.5%) and Microscan in 1(5.26%) laboratory. MALDI-TOF MS and PCR for identification were used in 2 laboratories. Antifungal susceptibility testing is done in-house in 19 (90.5%) laboratories. Only 10 (52.6%) responding hospitals from India had infection prevention protocols for *C. auris*, and 9 (47.4%) of them isolated patients. The major challenges for infection prevention with *C. auris* are absence of screening in high-risk patients (66.7%), misidentification by automated systems (84.2%), and inability to speciate from nonsterile sites underestimates the prevalence (100%). **Conclusions:** There is an urgent need to enhance the capacity of hospital laboratories to detect *C. auris* early, and to implement infection prevention measures. In both studies early detection is the key and as suggested by the US authors, challenges can be overcome through collaboration between hospitals and referral laboratories when resources are limited. This optimizes laboratory capacity and prevents global spread through colonized patients. The limitation of this study is that data from public hospitals are unknown and larger studies are needed.

Table 1. Comparison of Results of US and India Study

Candida auris Identification	Acute-Care Hospitals in Connecticut (N = 21), No. (%)	Acute-Care Hospitals in India (N = 21), No. (%)
In-house	17 (81)	19 (90.5)
Automated systems	21 (100)	19 (90.5)
Speciation from sterile sites like blood	16 (76.2)	18 (85.7)
Speciation from other sites - Respiratory - Urinary	9 (42.9) 11 (52.4)	9 (42.9) 13 (61.9)
MALDI-TOF	5 (23.8)	1 (4.8)
PCR	0	1 (4.8)
Antifungal susceptibility testing	2 (9.5)	19 (90.5)

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Changes in Regional Hospital-Identified *Clostridioides difficile* Infection, 2015–2018

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Background: Regional changes in United States *C. difficile* infection (CDI) are not well understood but important for targeting prevention strategies. **Methods:** Community-onset (CO) CDI was