



A Successful Strategy to Reduce Hospital-Onset Clostridium difficile

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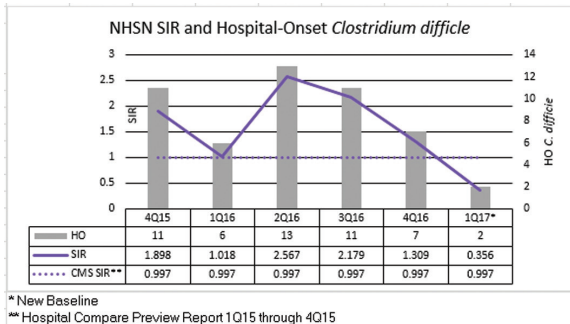
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explanations for diarrhea, including tube feedings and/or laxatives. Any CDIF test results from the past 30 days appear on the order screen to further guide physician ordering.

Results. Based on our NHSN data, HO CDIF cases were identified from October 2015 – September 2016, resulting in a peak (SIR) of 2.567. Since the interventions in November 2016, we have decreased our SIR to 0.356 in the first quarter of 2017. This shows a 50% overall decrease in HO CDIF. The data warehouse report showed 99% compliance of specimens collected within 24 hours of an order and only 5% of patients with an order in the past 7 days.

Conclusion. By implementing targeted education and a sophisticated order entry process that includes decision support, as well as recent results and treatments in the electronic medical record, CDIF cases are being appropriately ordered and collected, ensuring appropriate classification within NHSN and a decrease in overall SIR



Disclosures. All authors: No reported disclosures.

1319. First Environmental Investigation of Toxigenic *Clostridium difficile* at a Large Hospital in Bangladesh

M. Jahangir Alam, PhD¹; Khurshida Begum, PhD¹; Tasnuva Rashid, MD¹; İrtiza Hasan, MD²; Jacob McPherson, BS¹; Feroz Hossain, MD¹; Julie Miranda, BS¹ and Kevin W. Garey, PharmD, MS¹; ¹University of Houston College of Pharmacy, Houston, Texas, ²University of Edinburgh, Edinburgh, United Kingdom

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Background. Toxigenic *Clostridium difficile* is the most common cause of infectious diarrhea in hospitalized patients in the developed world and an emerging pathogen in developing countries due to increased use of broad-spectrum antibiotics. Although likely ubiquitous worldwide, the prevalence of toxigenic *C. difficile* spores in the hospital environs of developing countries is poorly understood. The objectives of the study are to isolate and characterize *C. difficile* from the hospital environs of a large hospital in Dhaka, Bangladesh.

Methods. As part of our environmental surveillance effort, we collected 330 shoe-bottom swab samples from hospital employees, patients, and visitors inside of a large hospital in Dhaka, Bangladesh. Samples were analyzed for *C. difficile* using anaerobic enrichment culture and molecular methods. Suspected colonies from cycloserine cefoxitin fructose agar (CCFA) plates were identified by PCR (*tcdA*, *tcdB*, *cdtA*, *cdtB* and *tpi* genes) and strain typed using fluorescent PCR ribotyping, and MLVA methods.

Results. A total 149 of 333 (44.7%) shoe-bottom swab samples were culture positive for *C. difficile* of which 19.8% samples were toxigenic (*tcdA* and *tcdB*) *C. difficile*. A total of 11 distinct ribotypes were identified from 58 toxigenic *C. difficile* isolates tested. Predominant ribotypes were F053-163 (24.1%), F017 (20.7%), F106 (19.0%), F014-020 (17.2%). Other ribotypes were R001, F005, F010, F018, F054, F216, and FP407. No R027 and R078 *C. difficile* isolated. A broad MLVA diversity has been seen among the tested strains.

Conclusion. We identified a high prevalence of toxigenic *C. difficile* with diverse ribotypes from hospital environmental shoe-bottom swabs in Bangladesh. This is the first hospital environmental report of *C. difficile* from Bangladesh.

Disclosures. All authors: No reported disclosures.

1320. Enhanced Cleaning and Education to Prevent Transmission of *Clostridium difficile* in Pediatrics

Anoshé Aslam, MPH; Giselle Melendez, RN, EdD; Min Wang, BS; Frederic Stell, BS; Paulette Kelly, MSN; James Killinger, MD; Aimee Dannaoui, RN; Scott Riedman, BS; Ruben Lopez, LSSGB; Jill Ackerman, MBA; Alexander Chou, MD; Leonard Wexler, MD; David Smith, MSED; Stacy Sanchez, RN, DNP; Elizabeth Robilotti, MD, MPH; Mini Kamboj, MD and Janet Eagan, RN, MPH, CIC; Memorial Sloan Kettering Cancer Center, New York, New York

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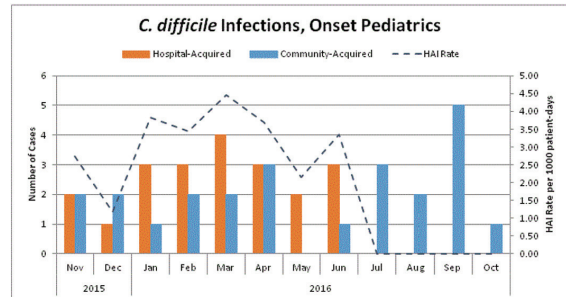
Background. Transmission of healthcare-associated *Clostridium difficile* infection (HA-CDI) has been shown to occur directly or indirectly through a contaminated environment. At a tertiary-care cancer center, HA-CDI rates were higher for pediatric units than for other general oncology units. To address the problem, a multidisciplinary team, including Infection Control, Nursing, and Environmental Services (EVS), was convened and identified refusals and room clutter as barriers to proper cleaning of rooms on the unit.

Aim: The aim of this study seeks to reduce HA-CDI in the inpatient pediatrics setting through environmental and educational interventions.

Methods. In the first phase of the study from February to April 2016, a baseline assessment of prevalent environmental disinfection practices was made among Nursing, EVS, Physicians, and Patient Representatives. Based on this feedback, the following were implemented during Phase 2, from June through October 2016: 1) Unit-wide disinfection with bleach twice a day including common and high traffic areas; 2) Initiation of a “preferred time for cleaning” program to engage families; 3) Enhanced visitor and family education on PPE use; 4) Creation of a communication plan in case of refusal to clean rooms; and 5) Dedicated use of diaper scales.

Results. During the first phase of the study, the following barriers to cleaning were identified: 1) High refusal rate as cleaning was perceived as inconvenient by families due to timing; 2) Common perception among EVS staff that multiple requests for cleaning the room may appear intrusive to the families; 3) Excessive clutter in the room; 4) Lack of education regarding PPE use; and 5) Shared equipment for diapers. To overcome these barriers, several interventions as outlined in methods were implemented. In Phase 2, there were 0 cases of HA-CDI identified in pediatric patients starting in July through October, 2016.

Conclusion. Control of CDI on pediatric units poses unique challenges. Engagement of key stakeholders is essential to identify and meet these challenges and to devise effective strategies that will ultimately lead to reduced hospital-based transmission of CDI.



Disclosures. All authors: No reported disclosures.

1321. A Successful Strategy to Reduce Hospital-Onset *Clostridium difficile*

Lou Ann Bruno-Murtha, DO¹; Rebecca Osgood, MD²; Casey Alexandre, RN³ and Rumel Mahmood, MSc⁴; ¹Harvard Medical School, Cambridge, Massachusetts; Cambridge Health Alliance, Cambridge, Massachusetts, ²Pathology, Cambridge Health Alliance, Cambridge, Massachusetts, ³Nursing, Cambridge Health Alliance, Cambridge, Massachusetts, ⁴Quality, Cambridge Health Alliance, Cambridge, Massachusetts

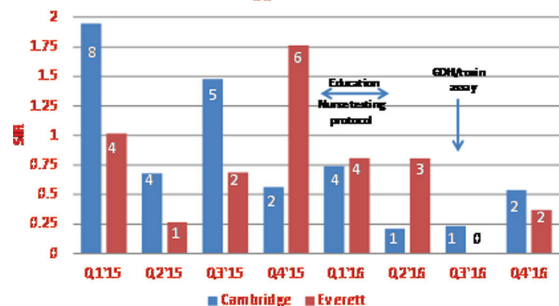
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Background. Our goal was to reduce the rate of hospital-onset (HO) *C. difficile* (CD) by prompt testing in patients with diarrhea on hospital day (HD) 1–3 using a nurse-driven testing protocol (NTP) with PCR and improve identification of disease after HD 3 using a combined toxin/antigen assay (TAA).

Methods. An automated best practice advisory/NTP was developed in Epic, triggered by documentation of diarrhea during HD 1–3, to facilitate prompt stool collection, testing and initiation of contact precautions. Education was provided. The NTP was fully implemented at 2 community-teaching hospitals mid-February 2016. The TAA was adopted 7/27/16 for testing after HD 3.

Results. In 2016, the standardized infection ratio (SIR) at Cambridge and Everett was 0.43 ($P = 0.009$) and 0.5 ($P = 0.017$), respectively, reflecting a 48–61% decrease from 2015. There was a 14–28% improvement in identifying cases as community-onset. The TAA led to a further decline in HO-CD by 10–61%. Refer to the graph for quarterly SIRs before and after implementation. Despite a 26% increase in testing volume, costs are less with the current strategy.

Quarterly Surveillance for HO-*C. difficile*



Conclusion. Prompt identification of CD improves care and prevents inflation of HO-CD. This strategy has enhanced our efforts to reduce our SIR (observed/expected cases) and resulted in a substantial incentive payment for CHA.

Disclosures. All authors: No reported disclosures.