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Background: Manual cleaning is the recommended method of environmental disinfection; it plays a key role in the prevention of healthcare-associated infections. Recently, automated "no-touch" disinfection technologies, such as ultraviolet (UV) light, have been proposed as a supplement to manual cleaning. However, UV light adds time to the cleaning process and may decrease the quality of manual cleaning. We evaluated the impact of adding UV light on the quality of manual cleaning and on room turnover times. **Methods:** During January–September 2019, we assessed the thoroughness of disinfection cleaning (TDC) of environmental surfaces in rooms identified for discharge. According to hospital policy, contact precautions rooms use UV light after manual cleaning with an EPA-approved sporicidal agent (bleach). Non–contact precautions rooms are disinfected using quaternary ammonium only. Rooms were identified after patient admission, selected randomly, and marked once discharge orders were placed. Fluorescent markers were applied on high-touch surfaces before discharge and were assessed after the cleaning process was completed. TDC scores were defined as the percentage of cleaned surfaces of the total of examined surfaces. UV-light disinfection time is determined automatically based on room size. We compared TDC scores and manual cleaning times between contact precautions rooms and noncontact precautions rooms. We also calculated UV-light cycle durations. **Results:** We assessed 2,383 surfaces in 24 contact precautions rooms with UV-light disinfection and 201 noncontact precautions rooms without UV-light disinfection. The TDC score was similar in contact precautions rooms (243 of 273 surfaces) and noncontact precautions rooms (1,835 of 2,110 surfaces; 89% vs 87%). The median manual cleaning time for contact precautions rooms was 56 minutes (IQR, 37–79), and for noncontact precautions rooms the median manual cleaning time was 33 minutes (IQR, 22–43). UV-light use added a median of 49 minutes (IQR, 35–67) to the overall cleaning process. The median turnover time for contact precautions rooms was 156 minutes (IQR, 87–216) versus 58 minutes (IQR, 40–86) in noncontact precautions room. **Conclusions:** In a setting with an objective assessment of environmental cleaning, there was no difference in quality of manual cleaning between contact precautions rooms (UV light) and noncontact precautions rooms (UV light). Adding UV light following manual disinfection increased the overall cleaning time and delayed room availability.

Presentation Type:
Poster Presentation
Impact on National Policy on the Hand Hygiene Promotion Activities in Hospitals in Korea

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Background: After the Middle East respiratory syndrome coronavirus outbreak in Korea in 2015, the government newly established the additional reimbursement for infection prevention to encourage infection control activities in the hospitals. The new policy was announced in December 2015 and was implemented in September 2016. We evaluated how infection control activities improved in hospitals after the change of government policy in Korea. **Methods:** Three cross-sectional surveys using the WHO Hand Hygiene Self-Assessment Framework (HHSAF) were conducted in 2013, 2015, and 2017. Using multivariable linear regression model including hospital characteristics, we analyzed the changes in total HHSAF scores according to the survey time. **Results:** In total, 32 hospitals participated in the survey in 2013, 52 in 2015, and 101 in 2017. The number of inpatient beds per infection control professionals decreased from 324 in 2013 to 303 in 2015 and 179 in 2017. Most hospitals were at intermediate or advanced levels of progress (90.6% in 2013, 86.6% in 2015, and 94.1% in 2017). In a multivariable linear regression model, the total HHSAF scores were significantly associated with hospital teaching status (β coefficient of major teaching hospital, 52.6; 95% CI, 8.9–96.4; $P = .018$), bed size (β coefficient of 100-bed increase, 5.1; 95% CI, 0.3–9.8; $P = .038$), and survey time (β coefficient of 2017 survey, 45.1; 95% CI, 19.3–70.9; $P = .001$). **Conclusions:** After the national policy implementation, the number of infection control professionals increased, and the promotion of hand hygiene activities was strengthened in Korean hospitals.

Presentation Type:
Poster Presentation
Implement Electronic Decision Support to Decrease Hospital-Onset *Clostridium difficile* Infections at Two Community Hospitals

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Background: Literature supports appropriate testing as a key factor affecting the hospital-onset (HO) *Clostridium difficile* infections (CDI) standardized infection ratio (SIR). In 2016, facility A was a significant outlier in HO CDI with an SIR of 2.57. In 2017, facility B had a peak SIR of 1.9. Both SIRs were considerably

higher than the Centers for Medicare and Medicaid Services (CMS) national SIR of 0.997. **Methods:** Hospital-onset CDIF cases from both hospitals were reviewed. Current electronic decision support in the electronic health record (EHR) was evaluated for CDI laboratory orders. Literature was reviewed for best practice of appropriate specimen collection and testing. Interventions were implemented at facility A in November 2016 and facility B in June 2018. **Results:** In total, 67 HO CDIF cases were reviewed from both facilities (October 2015–September 2016 for facility A and April 2017–June 2018 for facility B), and 46% were due to inappropriate testing. A CDI testing order set with decision support and best practice alerts was implemented based on national best-practice guidelines (Fig. 1). Physician and nurse education were completed on appropriate testing for CDI, including symptoms and timely specimen collection. Real-time review of appropriate testing was validated by the infection prevention team, and outliers were communicated to the ordering provider. After implementation, decreases in HO-CDIF SIRs occurred at both facilities (facility A SIR, 0.36; facility B SIR, 0.56). Both facilities have been able to sustain an SIR below the current CMS national average of 0.784. **Conclusions:** By implementing a sophisticated order-entry process that includes electronic decision support based on best practices, clinician education, and real-time feedback to providers, patients are appropriately tested for CDI. This intervention has allowed for appropriate classification within the NHSN and has decreased the overall HO-CDIF SIR.

Implementation Methods for a Collaborative Pharmacist-Led Antimicrobial Stewardship Intervention at Hospital Discharge

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Background: Unnecessary and prolonged antibiotic use is an important driver of antimicrobial resistance, increasing patient harm and resource utilization. Antimicrobials prescribed at hospital discharge represent an important opportunity to intervene and optimize therapy. **Objective:** We describe the implementation of a pharmacist-led multidisciplinary antimicrobial stewardship (AMS) intervention at transition of care (TOC) to improve antibiotic selection and duration. **Methods:** This intervention an IRB-approved multihospital, quasi-experimental, 3-phase stepped-wedge project in a 5-hospital health system. The setting included a large, urban, academic medical center in Detroit, Michigan, and 4 community hospitals in southeastern Michigan. AMS is provided by a pharmacist and infectious diseases physician at each site. For
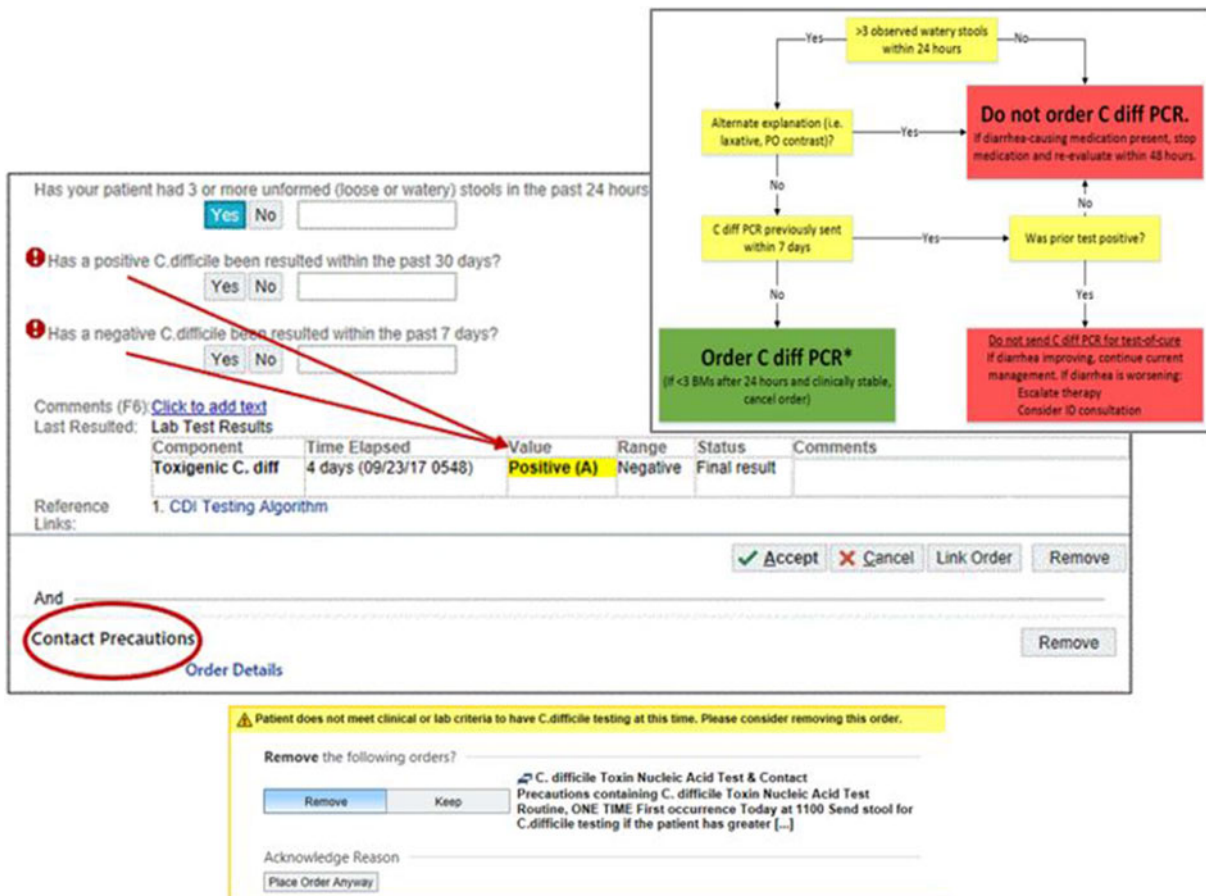

Fig. 1.