

HAP incidence in a step-down unit (Number of HAP/1000 patient-days) from 2016 to 2019

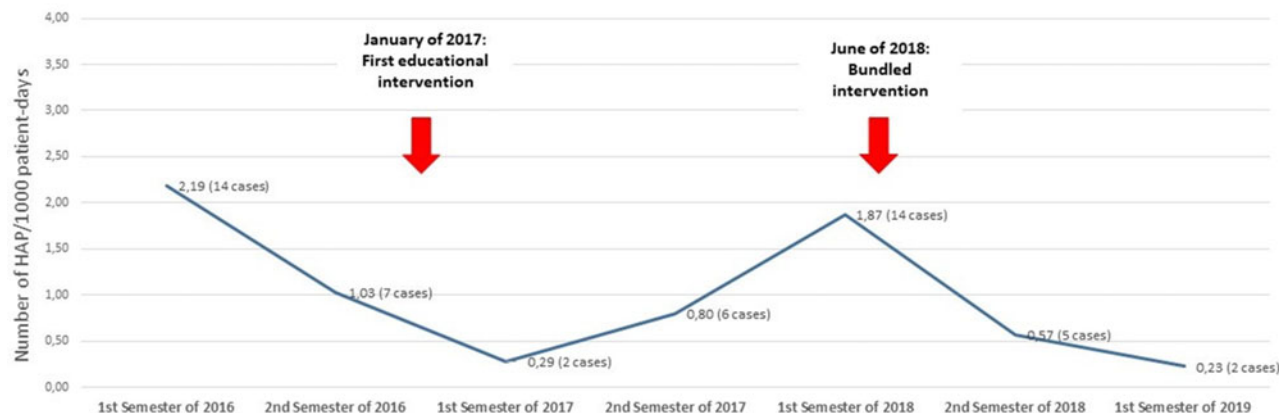


Fig. 1.

Presentation Type:

Poster Presentation

A Survey of Antibiotic-Resistant Microorganisms in Hospital Sink Drains

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Background: Handwashing sinks in healthcare environments are reservoirs for healthcare pathogens and antibiotic-resistant microorganisms (ARO). We investigated the distribution of HCP and ARO within and among handwashing sinks in healthcare settings. To do this, we determined the differences in the number of ARO between samples within a sink (biofilm vs planktonic samples), between sink types (healthcare worker [HCW] vs patient room sinks), and between hospitals in the same city. **Methods:** Tap water, sink surface, drain cover, tail pipe, p-trap water and p-trap samples were collected from 2 patient room sinks and 2 HCW sinks over 11 months in 2 acute-care hospitals. Suspected pathogens were isolated from selective media (Pseudosel, Chromagar KPC, and MacConkey with 2 mg/L cefotaxime) and identified via MALDI-ToF. Isolates confirmed to be healthcare pathogens were characterized via disk diffusion to determine their antibiotic susceptibility according to CLSI guidelines. Isolates not susceptible to carbapenems (meropenem or ertapenem) were tested further via the modified carbapenem inactivation method to detect carbapenemase production. **Results:** *Pseudomonas aeruginosa* and Enterobacteriaceae (*Enterobacter* spp, *Klebsiella* spp, and *Citrobacter* spp) were the most frequently isolated pathogens. Among these isolates (195 *P. aeruginosa* and 42 Enterobacteriaceae isolates), 28.5% of *P. aeruginosa* and 85.7% of Enterobacteriaceae were nonsusceptible to 1 or more of the antibiotics tested. Of the isolates that were nonsusceptible to a carbapenem (46 of 237; 19%), none displayed phenotypic carbapenemase production. Other mechanisms of resistance have not been confirmed. There was no significant difference in the percentage of nonsusceptible HCP isolated from biofilm samples (from p-trap and tail pipe) compared to planktonic (p-trap water) samples ($P > .05$ for *P. aeruginosa* and Enterobacteriaceae). A

greater percentage of resistant or intermediate isolates was recovered from patient room sinks than from HCW sinks ($P < .05$) for both *P. aeruginosa* and Enterobacteriaceae isolates (76.4 vs 32.9% for Enterobacteriaceae, 25.6 vs 0.3% for *P. aeruginosa*). We detected no significant difference in percentage of nonsusceptible isolates between the 2 hospitals sampled ($P > .05$). **Conclusions:** This survey of healthcare sinks supports previous work citing that they are reservoirs for HCP and ARO. This work further examines the distribution of HCP and ARO within and among sinks in these environments. Our findings thus far in the 2 hospitals studied reveal a higher percentage of ARO in patient sinks than in HCW sinks. This finding may suggest a higher input of ARO from patient use or greater selective pressure in patient room sinks.

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Poster Presentation

Achieving a Sustained Decrease in Facility-wide *C. difficile* Incidence in an Acute-Care Hospital in New York City

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Background: Mount Sinai Beth Israel is a 350-bed, acute-care hospital located on Manhattan's Lower East Side. In 2014, the hospital had reached a high (9.8 cases per 10,000 patient days) hospital-onset (HO) *C. difficile* rate. By 2015, this rate had decreased to 5.6 cases per 10,000 patient days because of compliance with established *C. difficile* bundle practices performed by nursing and environmental services. Despite these interventions, HO *C. difficile* events continued to occur. We realized that more had to be done to gain control over our rates. To determine areas for further improvement, infection prevention held an RCA meeting for every positive hospital-onset result. We discovered from these RCAs that many *C. difficile* tests were ordered without a valid indication. We believed that measures