intervention site. FDA warnings about the side effects of fluoroquinolones released during the intervention period may have contributed to the avoidance of fluoroquinolones at both sites. Our intervention was effective at improving antibiotic choice and duration, so our future plans include incorporating our decision-support algorithm into the electronic medical record.

Funding: This study was supported by Zambon Pharmaceuticals.

Disclosures: None

Doi:10.1017/ice.2020.1198

Presentation Type:
Poster Presentation

Effectiveness of Dry Hydrogen Peroxide on Reducing Environmental Microbial Bioburden Risk in a Pediatric Intensive Care Unit

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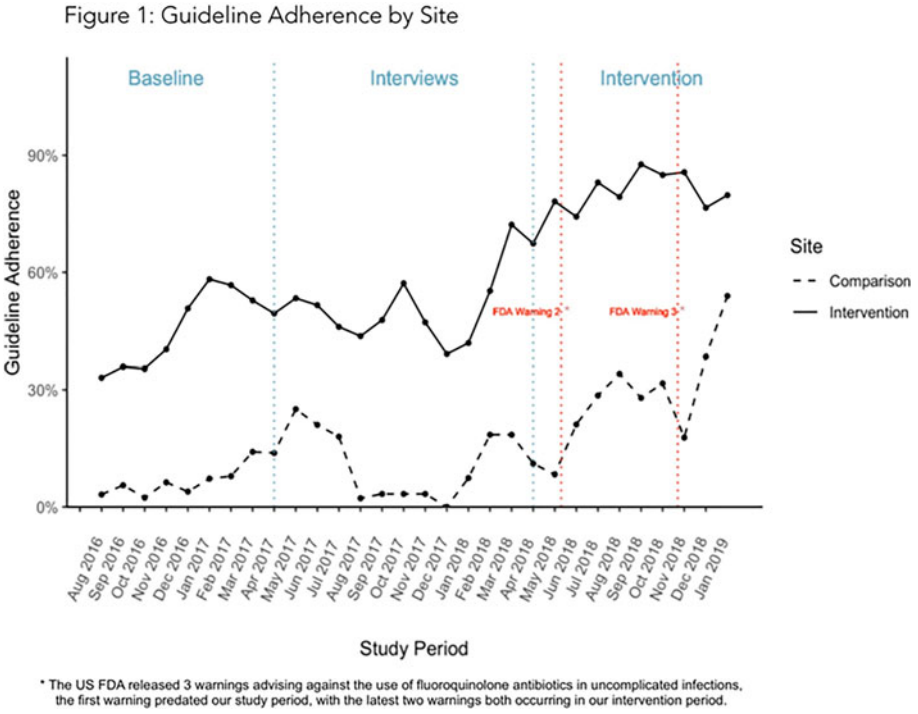

Fig. 1

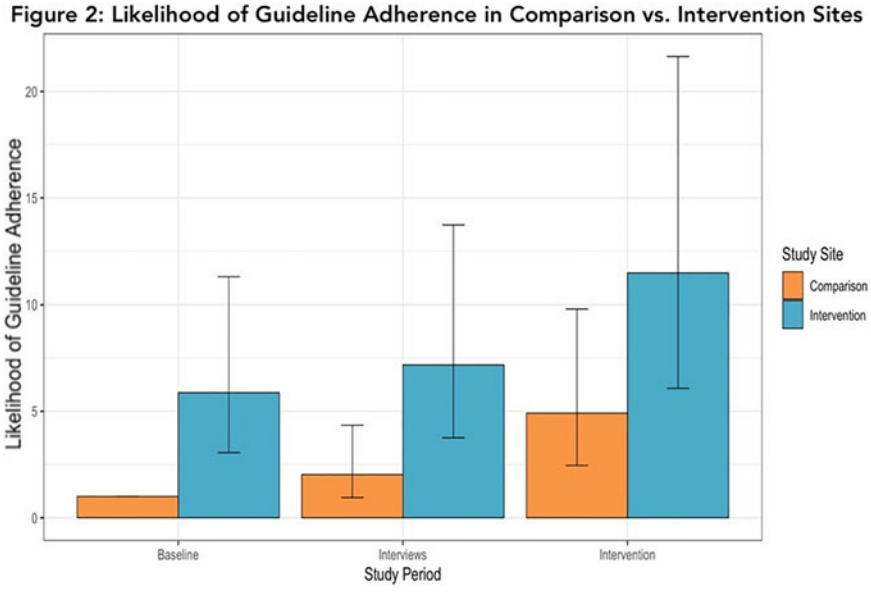

Fig. 2.

Background: Environmental contamination is a known risk factor for healthcare-associated infection acquisition. Transmission of pathogens from the environment can occur from indirect or direct patient contact with the environment or via healthcare workers' hands. Dry hydrogen peroxide (DHP) has been shown to reduce microbial contamination in the hospital setting. This novel technology allows safe delivery of hydrogen peroxide in an occupied space, using ambient air and humidity to help create DHP. This study describes the implementation of DHP as an adjunct to routine environmental cleaning and disinfection, with the goal of reducing air and surface microbial bioburden in the intensive care unit (ICU) of a pediatric oncology hospital in Guatemala. **Methods:** A prospective IRB-approved study was conducted. Two rooms served as controls and 2 rooms served as intervention DHP sites. Air and surface cultures (5 high-touch, 2 low-touch) and adenosine triphosphate (ATP) swabs were collected from study areas for 1 week prior to deployment of the portable DHP units and at various time points for 1 month during the intervention phase. Air samples were collected using settling plates. The level of microbial burden was measured using colony-forming units (CFU) and ATP levels. A comparison between groups was carried out using Poisson regression analyses for CFU counts and linear regression analyses for log-transformed ATP levels. **Results:** In total, 280 surface cultures and ATP surface swabs were collected and analyzed. The overall mean microbial burden was significantly reduced in the intervention group compared to the control group (mean, 5.50 vs 11.77; $P \leq .0001$). Reductions in microbial CFU were observed across all sampling sites in the intervention group. ATP readings in both control and intervention group showed passing levels of surface cleanliness. ATP was measured in terms of relative light units (RLU). A reduction in the mean RLU levels was also noted in the intervention group compared to the control group (172.08 vs 225.83; $P \leq .006$). A reduction in aerobic CFU was seen as well in the air samples in the intervention group but was not statistically significant ($P = .139$). The ICU census was full, and services were not affected. **Conclusions:** DHP was effective in reducing surface and air microbial bioburden in an occupied space. Further studies of the impact of DHP decontamination on incidence of nosocomial infections should be performed.

Funding: This study was supported by Synexis.
Disclosures: None
Doi:10.1017/ice.2020.1199

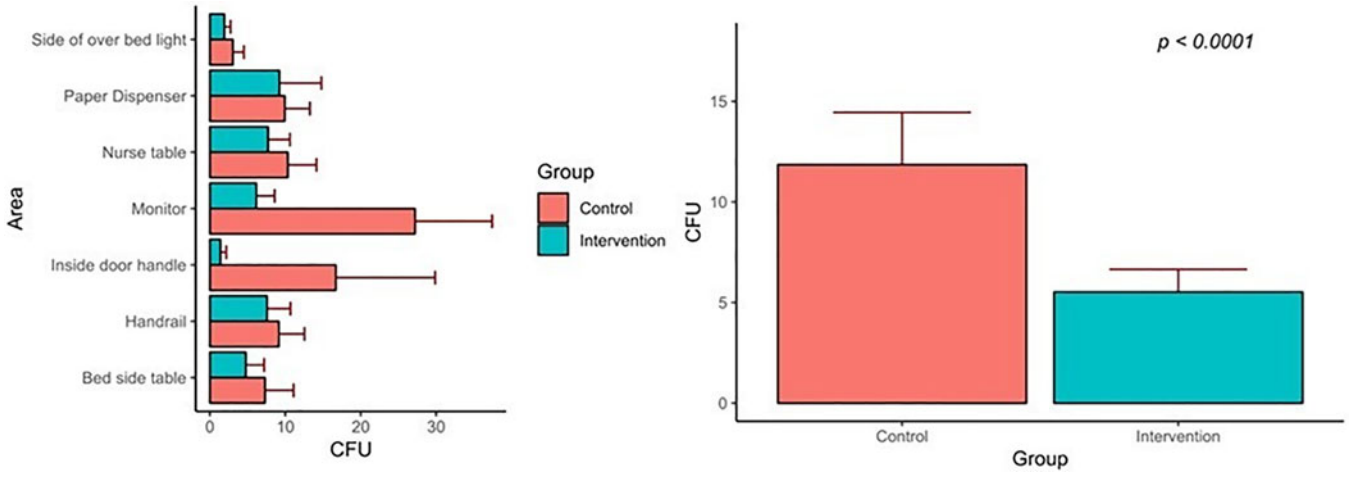

Fig. 1

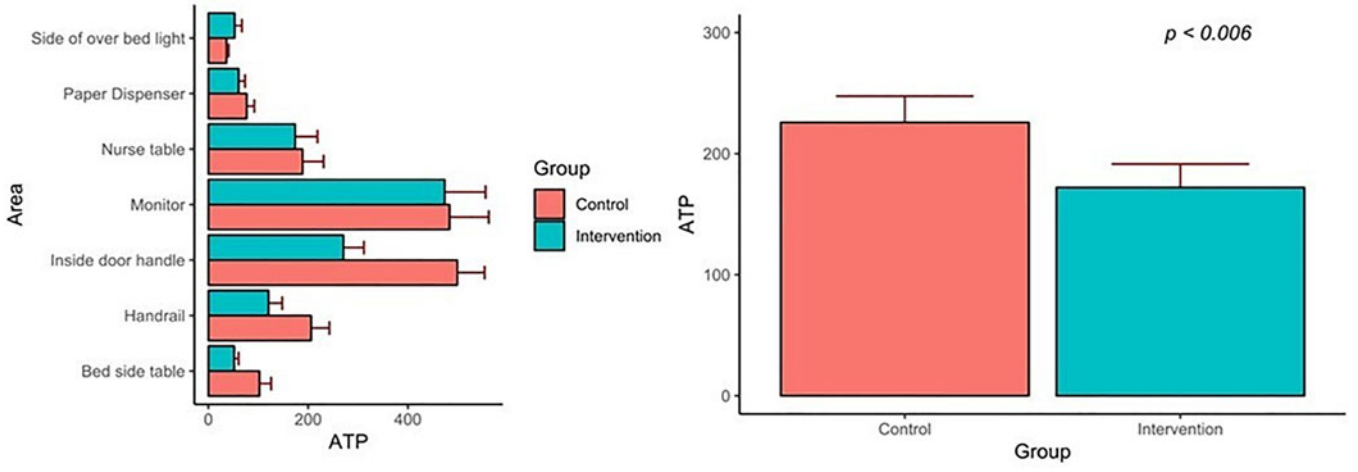

Fig. 2