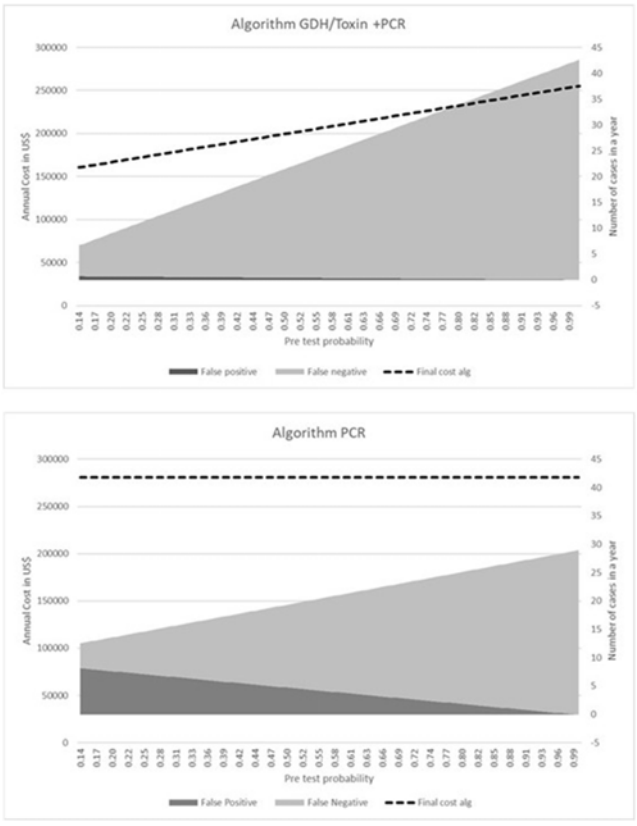

Fig. 1.

result. Simulations of annual cost and performance of the 2 algorithms have shown that the stepwise algorithm would still be advantageous in settings with higher pretest probabilities (Fig. 1). **Conclusions:** A stepwise algorithm based on GDH/Toxin before PCR seems to be more cost-effective, even in settings with higher pretest probabilities.

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Presentation Type:
Poster Presentation

Evaluation of a Continuously Active Disinfectant for Disinfection of Mobile Equipment

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Background: One of the limitations of current cleaning and disinfection strategies is that cleaned surfaces rapidly become recontaminated. In laboratory testing, a novel quaternary ammonium disinfectant provided sustained antimicrobial activity against multiple pathogens on surfaces after 24 hours. We hypothesized that this continuously active disinfectant would be effective in reducing contamination of portable medical equipment in a real-world healthcare setting.
Methods: In a hospital and affiliated long-term care facility, 114 portable devices were randomized to receive no treatment (N = 38) or a single spray application of a quaternary ammonium-alcohol disinfectant (N = 38) or of the continuously active disinfectant (N = 38). The devices were cultured at baseline and on days 1, 4, and 7 after treatment for total aerobic colony counts, methicillin-resistant *Staphylococcus aureus* (MRSA), and enterococci.
Results: As shown in Fig. 1, both spray disinfectants significantly reduced total aerobic colony counts in comparison to the untreated controls. The continuously active disinfectant resulted in sustained significant reductions in aerobic colony counts in comparison to

Figure. Total aerobic bacteria recovered on portable devices before and after treatment

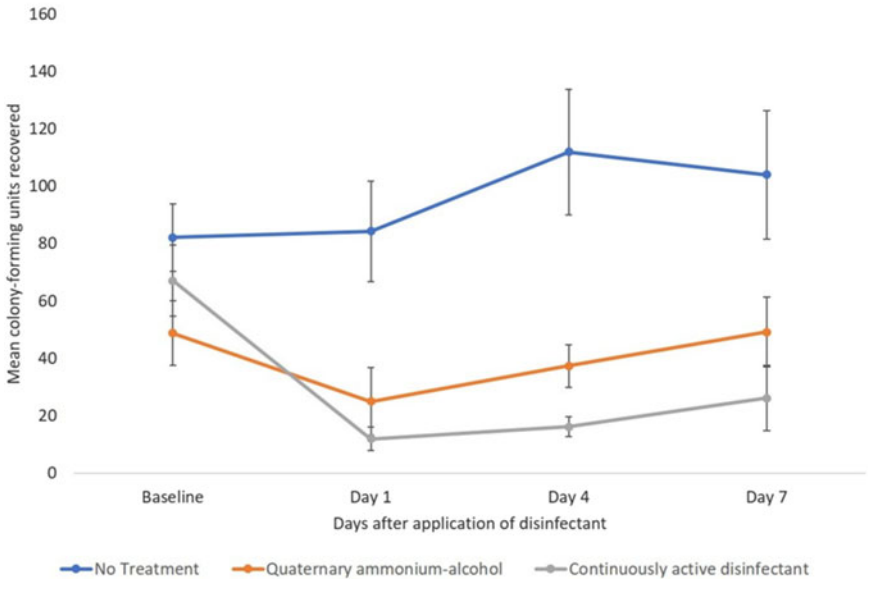

Fig. 1.

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baseline levels ($P < .05$), whereas counts returned to baseline levels by day 4 in the quaternary ammonium-alcohol disinfectant group. Recovery of MRSA and enterococci was significantly reduced on days 1–7 in the continuously active disinfectant group versus untreated controls (3 of 93, 3% vs 20 of 97, 21% respectively; $P = .002$), but not in the quaternary ammonium-alcohol disinfectant (11 of 97, 11%; $P = .12$). **Conclusions:** A single spray application of a continuously active disinfectant resulted in sustained reductions in total aerobic colony counts over 7 days and reduced recovery of MRSA and enterococci. The continuously active disinfectant could potentially reduce the risk for transmission of pathogens by portable devices.

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Presentation Type:
Poster Presentation

Evaluation of a Disease State Stewardship Intervention for Urinary Tract Infections at an Academic Medical Center

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Background: Urinary tract infections (UTIs) are often misdiagnosed and mismanaged. Disease state stewardship initiatives targeting UTIs through the development of institutional guidelines and real-time prospective audit and feedback (PAAF) on provider management may have a significant impact on the overuse of antimicrobials. **Objective:** Our study evaluated the effectiveness of a UTI focused disease state stewardship intervention by assessing institutional guideline adherence before and after implementation. **Methods:** This retrospective quasi-experimental study was conducted at a tertiary-care academic medical center. Patients ≥18 years of age receiving antimicrobials for a UTI were included. A previously performed retrospective review of UTI management from September-November 2017 was used as the baseline. The UTI management guideline was implemented in July 2018, and service lines were educated. A PAAF initiative began in June 2019, whereby the antimicrobial stewardship team performed daily reviews of patients receiving antimicrobials for UTIs. Data was collected on their management, and providers were contacted in real time with recommendations based on the institutional guideline. Patients reviewed June–October 2019 were included in the postimplementation analysis. Patients were excluded if they were pregnant, underwent a urological procedure with risk of mucosal bleeding, or were an outside hospital transfer already on UTI therapy. The primary outcome of this study was to evaluate guideline adherence before and after the implementation of PAAF for the management of UTIs. **Results:** In total, 198 patients in the preintervention group and 246 in the PAAF group were included. The emergency department was the primary ordering service of urinalyses (60.1% vs 66.1%; $P = .2287$) in both periods and altered mental status as the main indication for testing (35.2% vs 31.3%; $P = .5465$). Treatment of asymptomatic bacteriuria and pyuria decreased significantly between the 2 periods: 74.8% versus 36.2% ($P = .0001$). Appropriate ordering of urinalyses (33.8% vs 68.3%; $P = .0001$) and urine cultures (29.3% vs 61.0%; $P = .0001$) also improved in the PAAF group. Recommendations made during PAAF included therapy discontinuation (66.7%), antimicrobial therapy change (15.5%), or duration modification (15.5%), and 59.5% of first interventions were accepted. Overall guideline compliance significantly improved from 13.1% in the preintervention period to 26.1% in the PAAF period ($P = .0011$). **Conclusions:** A UTI disease state intervention was associated with significant reductions in the treatment of asymptomatic presentations as well as an improvement in overall guideline adherence. We believe that this approach represents a powerful stewardship strategy for decreasing unnecessary antimicrobial usage.

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Presentation Type:
Poster Presentation

Evaluation of a Sick Employee Online Log System for Tracking Sick Hospital Employees During Two Influenza Seasons

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Background: Since 2009, Vidant Health has used a Sick Employee Online Log (SEOL) system to track illnesses among employees and to capture this information in real time. The CDC assessed the 2017–2018 influenza season as a high-severity influenza season, whereas the 2018–2019 influenza season was of moderate severity. **Objective:** In this research project, we sought to determine whether the influenza season severity would affect either the hospital-based employee illness surveillance system results or would correlate with state influenza-like illness (ILI) visits. **Methods:** The SEOL system is an internet-based system initiated in December 2008. When a hospital employee calls in sick, the department manager records whether the employee reports the following symptoms: nausea, vomiting, diarrhea, upper respiratory infection, fever, sore throat, headache, conjunctivitis, rash, and/or cough. The information is confidential, with raw data access restricted to review by occupational health and infection control leadership. The correlation value was determined for each symptom using the North Carolina Division of Human Services (NC DHHS) percentage of ILI visits in statewide emergency departments.[1] The data collection dates covered January 1–May 31 for each year. In this study, only symptoms related to influenza were included: upper respiratory infection, fever, influenza-like illness, cough and self-reported influenza. Correlation values were calculated using MS Excel software. **Results:** There were no breaks in confidentiality. All of the correlation values had a correlation value of 0.5 or better (Fig. 1), showing good correlation with the NC DHHS ILI data for both years; however, the more severe 2017–2018 influenza season had correlation values of ≥0.7 for all symptoms, versus 0.52–0.59 for URI and ILI, respectively, only during 2018–2019. **Conclusions:** The higher-severity influenza season did correlate with a higher r values when compared to North Carolina's DHHS ILI emergency department data than did the influenza season of moderate severity. A possible explanation is that a higher-severity influenza season would correlate better than a moderate influenza season because it shows fewer ILI peaks and troughs. In conclusion, the SEOL system served as an early warning that influenza is present among our staff, and it correlates well with the state system for ILI surveillance. Potential