

.00001) (Table 1). **Conclusions:** This investigation demonstrated that steam sterilization was the most effective method, followed by ETO and HPGP and, lastly, VHP.

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#### Presentation Type:

Poster Presentation

#### Comparison of Bacterial Contamination in a Children's Outpatient Clinic: General Medicine Versus Pulmonary Units

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**Background:** The bacteria that inhabit outpatient healthcare facilities influence patient outcomes and recovery, although the diversity and quantity of these bacterial communities is largely unknown. Whether differences in bacterial presence exist in individual medical specialty units of an outpatient clinic is also largely unknown. The purpose of this study was to compare bacterial species found in the general medicine and pulmonary units of an outpatient children's clinic associated with a teaching hospital.

**Methods:** In total, 6 locations (4 floor sites, counters, air ducts) were sampled in 3 rooms in the pulmonary (PUL) unit and 3 rooms in the general medicine (GM) unit on 13 days over a 6-month period. Sterile double transport swabs were utilized, transported on ice to a microbiology lab, and used to inoculate Hardy Diagnostics Cdiff Banana Broth (for *Clostridium difficile*), CHROM MRSA agar (for methicillin-resistant *Staphylococcus aureus* [MRSA]), eosin methylene blue (Levine-type, for Lac+ gram negatives [GN]), and *Pseudomonas* isolation agar (for *Pseudomonas* spp and *P. aeruginosa* [PS and PSA]). Media were incubated for 48 hours at 37°C and were scored for bacterial presence based on colonial observation. **Results:** The presence of bacteria isolated from GM and PUL units differed by species and location. Based on the percentage of positive swabs, the presence of GN was widespread in both units (Fig 1). Additionally, bacterial presence was greatest on the floors (GN ranged from 72% to 85% on floors in the 2 units), whereas counters had fewer positive swabs (GN ranged from 23% to 38% on counters), and swabs from return



Fig. 1.

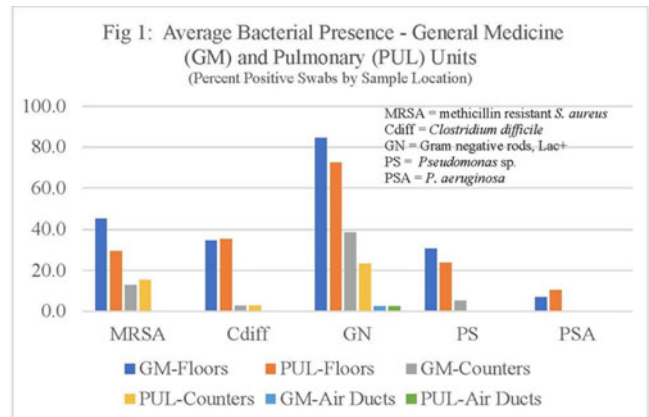


Fig. 2.

air ducts rarely led to bacterial growth. The 1 case in which swabs from the PUL unit resulted in higher levels of bacterial growth than for the GM unit was for PSA (GM, 8%; PUL, 13%). *C. difficile* detection was the same on both units (ie, 35% of floor samples showed contamination). **Conclusions:** The levels of environmental bacterial presence observed for these clinic units differed in some cases by unit and ranged from not detectable to very high levels. Detection of *C. difficile* on 35% of floor samples in both units could be problematic. Additionally, for the PUL unit, contamination of 13% of floor samples by PSA should raise concerns because many patients in this clinic have cystic fibrosis (CF). Although many CF patients are colonized by PSA, others may potentially contract an infection by this pathogen from the clinical environment. This observation supports current infection control recommendations for CF patients in outpatient settings.

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#### Comparison of Matched Patient Data for SSIs following Total Hip and Total Knee Arthroplasty: IPC Versus NSQIP Surveillance

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**Background:** In Alberta, Canada, surgical site infections (SSIs) following total hip and knee replacements (THR and TKR) are reported using the infection prevention and control (IPC) surveillance system, which surveys all THRs and TKRs using the NHSN definitions; and the National Surgical Quality Improvement Program (NSQIP), which uses different definitions and sampling strategies. Deterministic matching of patient data from these sources was used to examine the overlap and discrepancies in

SSI reporting. **Methods:** A retrospective multisite cohort study of IPC and NSQIP superficial, deep, and organ-space THR/TKR SSI data collected 30 days postoperatively from September 1, 2015, to March 31, 2018 was undertaken. To identify patients with procedures captured by both IPC and NSQIP, data were cleaned, duplicates removed, and patients matched 1:1 using year of birth, procedure facility, type, side, date, and time. Positive and negative agreement were assessed, and the Cohen  $\kappa$  values were calculated. The definitions and data capture methods used by both IPC and NSQIP were also compared. **Results:** There were 7,549 IPC and 2,037 NSQIP patients, respectively, with 1,798 matched patients: IPC (23.8%) and NSQIP (88.3%). Moreover, 17 SSIs were identified by both IPC and NSQIP, including 9 superficial and 8 complex by IPC and 6 superficial and 11 complex by NSQIP. Also, 7 SSIs were identified only by IPC, of which 5 were superficial, and 36 SSIs were identified only by NSQIP, of which 28 were superficial (positive agreement, 0.44; negative agreement, 0.99;  $\kappa = .43$ ). Excluding superficial SSIs, 7 SSIs were identified by both IPC and NSQIP; 3 were identified only by IPC; and 12 were identified only by NSQIP (positive agreement, 0.48; negative agreement, 1.00;  $\kappa = 0.48$ ). **Conclusions:** THR/TKR SSI rates reported by IPC and NSQIP were not comparable in this matched dataset. NSQIP identifies more superficial SSIs. Variations in data capture methods and definitions accounted for most of the discordance. Both surveillance systems are critically involved with improving patient outcomes following surgery. However, stakeholders need to be aware of these variations, and education should be provided to facilitate an understanding of the differences and their interpretation. Future work should explore other surgical procedures and larger data sets.

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**Disclosures:** None

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## Presentation Type:

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## Comparison of Metrics Used to Track CLABSIs and CAUTIs Across a Regional Network

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**Background:** The standardized infection ratio (SIR) is the nationally adopted metric used to track and compare catheter-associated urinary tract infections (CAUTIs) and central-line-associated bloodstream infections (CLABSIs). Despite its widespread use, the SIR may not be suitable for all settings and may not capture all catheter harm. Our objective was to look at the correlation between SIR and device use for CAUTIs and CLABSIs across community hospitals in a regional network. **Methods:** We compared SIR and SUR (standardized utilization ratio) for CAUTIs and CLABSIs across 43 hospitals in the Duke Infection Control Outreach Network (DICON) using a scatter plot and calculated an  $R^2$  value. Hospitals were stratified into large (>70,000 patient days), medium (30,000–70,000 patient days), and small hospitals (<30,000 patient days) based on DICON's benchmarking for community hospitals. **Results:** We reviewed 24 small, 11 medium, and 8 large hospitals within DICON. Scatter plots for comparison of SIRs and SURs for CLABSIs and CAUTIs across our network hospitals are shown in Figs. 1 and 2. We detected a weak positive overall correlation between SIR and SUR for CLABSIs (0.33;  $R^2 = 0.11$ ), but no correlation between SIR and SUR for CAUTIs ( $-0.07$ ;  $R^2 = 0.00$ ). Of 15 hospitals with SUR >1, 7 reported SIR <1 for CLABSIs, whereas 10 of 13 hospitals with SUR >1 reported SIR <1 for CAUTIs. Smaller

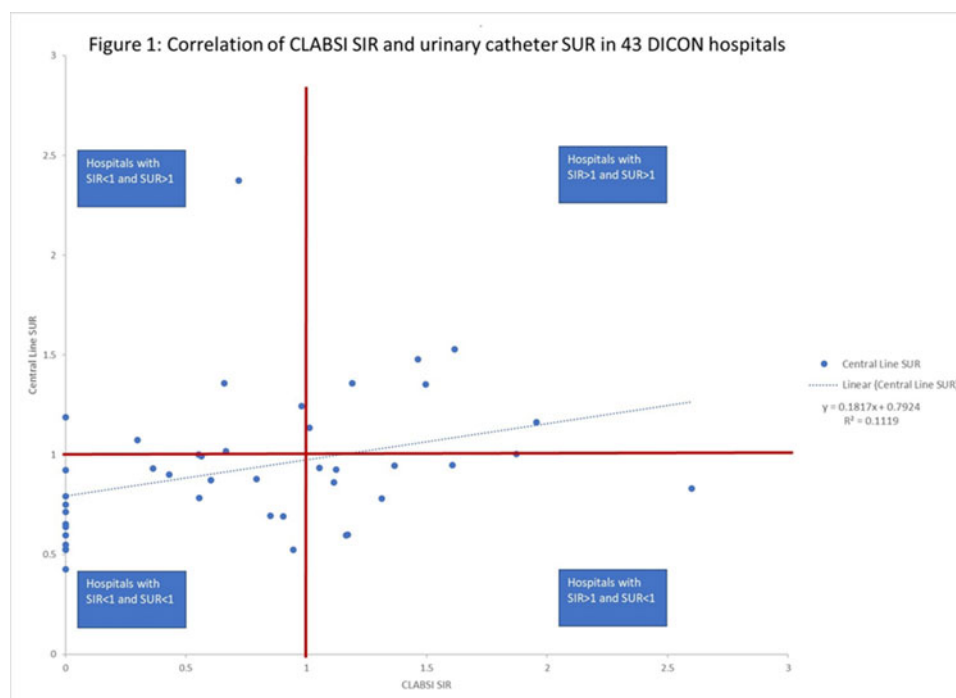


Fig. 1.