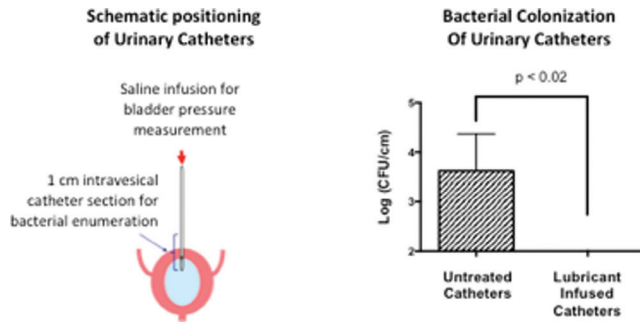


in 1 mL of Amies medium (eSawb, Copan), vortexed and sonicated. Ten microliters of the suspension were plated on URIslect4 medium (Bio-Rad, Hercules, Ca) for bacterial enumeration.

**Results.** A significant reduction in bacterial colonization with *Enterobacteriaceae* and *Enterococci* was observed in the LICs group ( $N = 6$ , below 100 CFU threshold) compared with the native catheter group ( $N = 5$ , average 8200 CFU) ( $P < 0.02$ ).

**Conclusion.** Lubricant-infused catheters effectively prevent bacterial colonization *in vivo* and provide an attractive and nonselective option for HAUTI prevention.



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### 2109. Reducing Catheter-associated Urinary Infections (CAUTI) in the Intensive Care Unit (ICU): Changing the Culture of Culturing

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**Background.** CAUTIs are one of the most common preventable adverse events in hospitalized patients. Prior to the start of this intervention, CAUTI rates in our ICU's throughout our multicenter acute care system were significantly above the national average. Our hypothesis was that we could decrease CAUTIs by daily review of the urine culture orders for patients with a Foley catheter.

**Methods.** We implemented guidelines for appropriate ordering of urine culture for patients with Foley catheters in 2014. The culture was deemed appropriate if the patient had a fever  $>100.4^{\circ}\text{F}$  within 48 hours or leukocytosis with no other identifiable source of infection and has one or more of the following: costovertebral angle/flank pain, suprapubic pain, increase in urinary frequency; urgency, frequency or dysuria after catheter removal, acute mental status change, worsening of clinical status. The ordering prescriber was called to cancel the order that did not meet the urine culture ordering guideline. If the ordering prescriber questioned the guidelines, Epidemiologists intervened to explain the rationale. This was a prospective, observational study. Chi-squared analysis was used to compare the reduction of CAUTIs.

**Results.** The data showed sustained improvement. Compared with the 2012 baseline rate of 4.28 cases per 1,000 device days, the 2013 rate was 2.70 ( $P = 0.085$ ), the 2014 rate was 1.38 ( $P = 0.00046$ ), the 2015 rate was 0.73 ( $P < 0.0001$ ), and the 2016 rate was 0.63 ( $P < 0.0001$ ).

**Conclusion.** We found that using guidelines combined with an Infection Preventionist review to determine the appropriateness of urine cultures was associated with a significant reduction in the rate of ICU CAUTIs. Real-time culture order review is a sustainable process that has continued the success of our CAUTI reduction program.

**Disclosures.** All authors: No reported disclosures.

### 2110. Taurolidine-Citrate Lock Solution for the Prevention of Central-Line-associated Bloodstream Infection (CLABSI) in Pediatric Hematology-Oncology and Gastrointestinal Failure Patients with High Baseline CLABSI Rates

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**Background.** Catheter-line-associated bloodstream infection (CLABSI) is a serious complication of patients on long-term central venous catheters (CVC). Taurolidine-citrate solution (TCS) is a catheter-lock solution with broad-spectrum antimicrobial action that prevents biofilm formation. The aim of this study was to evaluate the efficacy of TCS in reducing CLABSI rate in pediatric patients with long-term CVC at a tertiary children's hospital.

**Methods.** This was an open-label trial of hematology-oncology (H/O) and gastrointestinal (GI) inpatients with the following inclusion criteria: Pediatric patients  $< 17$  years of age, at least 1 previous CLABSI, required long-term CVC, e.g., long-term parenteral nutrition or undergoing chemotherapy for malignancy and have a minimum dwell time of at least 8 hours for TCS. The period of surveillance was from each patient's first CVC insertion till December 14, 2017 or discontinuation of TCS. CLABSI was calculated based on the number of CVC-associated BSI per 1,000 catheter-days. Statistics were derived using SPSS 19.0 and the student *T*-test for paired samples and nonparametric Wilcoxon analysis for two-related-samples test with a *P* value of  $< 0.05$ . OpenEpi v3.01 was used to compare 2 person-time rates and rate ratios with 95% confidence intervals.

**Results.** Thirty-four patients were recruited with a median age of 3.4 years (IQR 1.5–10.1 years). H/O patients constituted 58.8% ( $n = 20$ ) and GI patients 41.2% ( $n = 14$ ). The majority of CVC were Hickman line ( $n = 16$ , 47.1%) followed by Port-a-Cath ( $n = 8$ , 23.5%) and PICC ( $n = 10$ , 29.4%). The median duration of TCS usage was 138 days (IQR 62.50–307.25 days). The longest duration of TCS was 1737 days (4.8 years). Median pre- and post-TCS CLABSI rates for the whole cohort, H/O and GI patients were 14.92  $\pm$  13.50 and 2.65  $\pm$  4.31 ( $P < 0.001$ ); 16.55  $\pm$  12.96 and 2.81  $\pm$  4.66 ( $P < 0.001$ ); 12.59  $\pm$  14.39 and 2.42  $\pm$  3.91 ( $P = 0.011$ ) per 1000 catheter days respectively. For the whole cohort, pre and post-TCS rate ratio was 0.20 (95% CI 0.12–0.33,  $P < 0.001$ ). TCS reduced markedly the risk of CLABSI for the whole cohort by 80%; for H/O patients by 79% and GI patients by 88%.

**Conclusion.** Taurolidine-citrate solution was highly successful in reducing CLABSI rates by 80% in patients on long-term CVC with high baseline CLABSI rates.

**Disclosures.** All authors: No reported disclosures.

### 2111. Changing the Culture: A Quasi-Experimental Study Assessing the Burden of Urine Cultures and the Impact of Stewardship of Testing in an Urban Community Hospital

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**Background.** Indwelling urinary catheters (IUC) may cause inflammation and colonization, decreasing the diagnostic yield of urinalysis and urine cultures (UC). Indiscriminate testing can lead to misinterpretation of positive results as a catheter associated urinary tract infection (CAUTI), increasing antibiotic use and CAUTI rates. We studied the burden of UC and implemented a UC stewardship initiative (UCSI) as part of a comprehensive CAUTI reduction program.

**Methods.** A retrospective review of cases with IUC and positive UC in 2014 was performed. UCSI was implemented in March 2017 (Figure 1). Nursing staff were instructed to contact the infectious diseases physician when UC from IUC were ordered. Cases were reviewed and, if no UC indication based on IDSA guidelines was met, cultures were discontinued after conferring with ordering physician. Twelve months pre- and post-intervention data were collected; including case description, catheter days, UC ordered, alternative cause of fever, and recommendations.

**Results.** The pre-UCSI cohort had 23 UC in 19 cases. One UC (4%) met indication (Figure 2). Three (16%) met NHSN criteria for CAUTI and did not meet UC indication. The UCSI cohort had 21 UC orders in 13 cases. Most UC did not meet indication and were cancelled (90%, 19/21). Alternative causes for fever were found in all cases with cancelled UC orders (19/19), including pneumonitis, pneumonia, pancreatitis and tuberculosis. Antimicrobials were used in 53% (7/13). UC orders per hospitalization ranged 1–4 (average 1.7). IUC days ranged from 3 to 18 days (average 8). In both cohorts, UC with indication (3) did not meet NHSN criteria for CAUTI and did not receive antimicrobials.

**Figure 1.** UCSI Implementation.

