

Figure 1. Nursing Homes Reporting CA-SUTI, 2013–2018

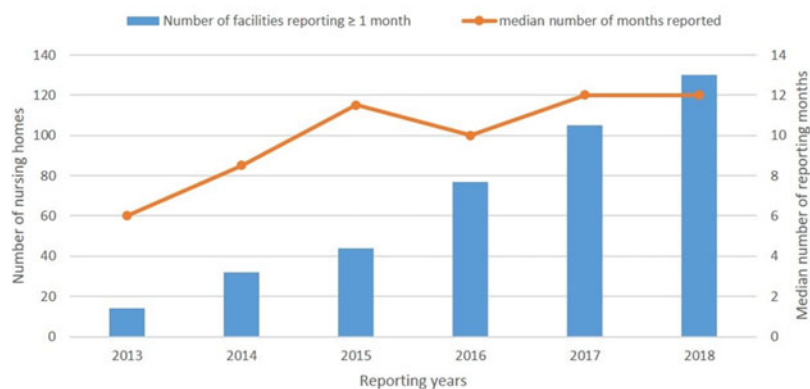


Fig. 1.

2016–2018 and 2013–2015 among both consistent and consecutive reporters. **Results:** During 2013–2018, the number of nursing homes submitting at least 1 month of CA-SUTI data to NHSN increased from 60 to 120 (Fig. 1). Among these nursing homes, 194 (88%) were consistent reporters. The pooled CA-SUTI rate of 1.77 per 1,000 catheter days in 2016–2018 was significantly lower than the pooled CA-SUTI rate of 2.45 per 1,000 catheter days in 2013–2015 among consistent reporters by ~24% (Table 1). Also, 50 consecutive reporters submitted CA-SUTI data during 2013–2018. Among these consecutive reporters, the pooled CA-SUTI rate of 2.11 per 1,000 catheter days in 2016–2018 was significantly lower than the rate of 2.53 per 1,000 catheter days in 2013–2015 by ~21% (Table 1). **Conclusions:** This analysis suggests that nursing homes using NHSN for CA-SUTI surveillance have made progress in prevention efforts. During 2013–2018, evidence showed that CA-SUTI incidence rates declined among consistent reporters between the 2 reporting periods. This decrease was verified among consecutive reporters. Additional study is needed to determine which factors account for varying reporting patterns and differential CA-SUTI incidence.

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Presentation Type:

Poster Presentation

Catheter-Associated Urinary Tract Infections (CAUTIs) Reduction: A Multidisciplinary Approach

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Background: CAUTIs remain one of the most common hospital-acquired infections (HAIs) accounting for prolonged hospital stay and increased healthcare costs. According to the NHSN, the standardized infection ratio (SIR) at our institution was 1.6 compared to national average of 0.84 in 2018. We highlight the interventions implemented in our institution to prevent CAUTIs. These interventions have shown a reduction in the rate of CAUTIs, the SIR, Foley catheter days, and institutional cost. **Methods:** In addition to standard CAUTI prevention practices, we hypothesized that we could decrease CAUTIs through the daily implementation of specific practices. We developed a comprehensive

interdisciplinary team which included the staff or charge registered nurse (RN), the unit manager, an infection preventionist, an advanced practice registered nurse (APRN), a pharmacist with an antimicrobial focus, and a physician from the infectious disease department who would conduct daily rounds on different units in the institution for education and assessment of catheter indications. A detailed review and analysis of the urine culture orders for patients with a Foley catheter was performed. A nurse-driven Foley catheter removal protocol before urine culture collection was initiated. We implemented a Foley catheter bundle that has guidelines for Foley insertion, best practice competency, and urinary catheter best practice algorithm and advocated alternative use of male or female external catheter. We educated physicians about ordering a reflexive urine analysis test followed by urine culture instead of testing either individually after removal of a Foley catheter. Lastly, we performed a root-cause analysis on all reported CAUTIs. These policies were implemented in a 435-bed tertiary-care center in November 2018, and we present data from 1-year before and after the interventions. **Results:** At our institution, we had 71 CAUTIs, with an SIR of 1.6, a standardized utilization ratio (SUR) of 0.92, 27,621 Foley days, and institutional cost of \$979,303 compared to 40 CAUTIs with an SIR of 1, an SUR of 0.88, 24,193 Foley days, and institutional cost \$537,927 after implementing our interventions. **Conclusions:** CAUTIs can be reduced by implementing specific measures that include infection control team rounds, nurse-driven protocol, and the use of Foley catheter bundles. Measures should be undertaken to prioritize these practices as part of a protocol. We advocate further studies to evaluate these measures. Education programs for healthcare professionals concerning CAUTIs and its complications can be implemented to carry out the prevention methods efficiently.

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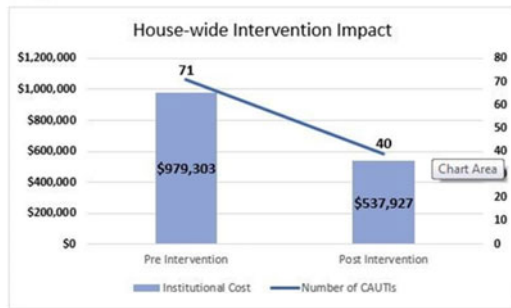
CAUTI: A Journey of Micturition at MICU Since 2014

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Background: Catheter-associated urinary tract infections (CAUTIs) have gained popularity in recent years for increasing

Financial Impact

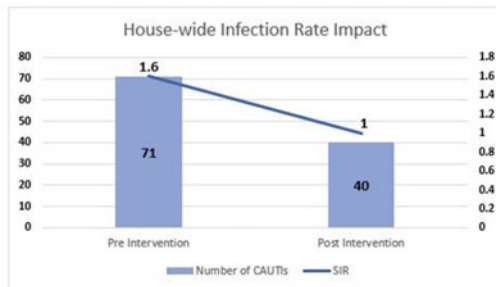
Reference for approximate facility cost of CAUTI (APA Format)

Agency for Healthcare Research and Quality. (2017). *Estimating the Additional Hospital Inpatient Cost and Mortality Associated With Selected Hospital-Acquired Conditions*. Retrieved from <http://www.ahrq.gov/professionals/quality-patient-safety/pfp/haccost2017-results.html>

Fig. 1.

Data Measurement

According to the Centers for Disease Control (CDC) the standardized infection ratio (SIR) is a summary measure used to track HAIs at a national, state, or local level over time. The SIR adjusts for various facility and/or patient-level factors that contribute to HAI risk within each facility.



References for SIR (APA format)

Centers for Disease Control. (2019). *The NHSN Standardized Infection Ratio (SIR)*. Retrieved from <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>

Fig. 2.

morbidity and mortality in multiple healthcare settings. In fact, they are the most common type of healthcare-associated infection (HAI) in US hospitals, and they account for ~35% of HAIs. Objectives: At our institution, CAUTI rates were higher than the national average; therefore, various preventative protocols were implemented. Southeast Health's Medical ICU (MICU) has taken many measures to decrease the CAUTI incidence. **Methods:** We conducted an observational study with a retrospective analysis of the data beginning in 2014 after a poor performance at prevention of CAUTIs as noted in the Leapfrog Hospital Survey. As part of improving prevention measures in MICU, we started a lean project in 2015 that primarily focused on systems-based practices and improvements in the existing nurse protocols. **Results:** We were successful in this endeavor and in August 2018 the Alabama Department of Public Health (ADPH) reported that we still lower than the national average in prevention of CAUTIs. This finding led us to tighten the protocols and to appoint 2 infection preventionists in the MICU. With the assistance of the infection preventionists, we were able to actively decrease indwelling catheter and device days with daily multidisciplinary rounds to access the necessity for catheter use. We also set monthly attainable targets and reinforced nurse driven protocols with educational in-service programs. One of the most significant additions was the

introduction of female external catheters (Purewick) in December 2019 and male external catheters (Liberty) in May, 2019. Our results showed a significant reduction in the number of CAUTIs divided by number of Foley catheter days in the MICU from 32 of 7,435 in 2014 to 1 of 5,934 in 2019. We are excited to see reduction in the CAUTIs with our above measures. We will continue our measures to reach our target of 0 CAUTIs, and we plan to remain above the national average.

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CAUTIs in Patients With Thoracic Epidurals

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Background: The Surgical Care Improvement Project 9 (SCIP 9) mandates the removal of urinary catheters within 48 hours following surgery to reduce the risk of catheter-associated urinary tract infections (CAUTIs). Although patients with thoracic epidurals are not exempt from SCIP 9, these patients may be inherently different from other surgical patients. Early removal of Foley catheters may cause urinary retention and recatheterization, which in turn can lead to CAUTI or urethral trauma. Our hospital's current policy is to allow Foley catheters to remain in place until the thoracic epidural is removed. The goal of our study was to identify and compare the rate of CAUTI in patients with thoracic epidural catheters to the rate of CAUTI in patients without thoracic epidural catheters. **Methods:** We performed a retrospective cohort study of patients with and without thoracic epidurals who had Foley catheters during hospitalization from July 1, 2017, to May 31, 2019. We used descriptive statistics to compare CAUTI rates based on unit between the 2 groups of patients. **Results:** We identified 1,834 unique patients with thoracic epidurals and urinary catheters during the study period. We found 4 CAUTIs of 9,896 catheter days (0.4 CAUTIs per 1,000 catheter days) in patients with epidural catheters and 43 CAUTIs of 36,809 catheter days (1.17 CAUTI per 1,000 catheter days) in patients without thoracic epidurals for a rate ratio of 0.346 (95% CI, 0.1242–0.9639; $P < .03$). We conducted a sensitivity analysis on a subset of patients admitted under the cardiothoracic service and compared the patients with Foley catheters with and without thoracic epidurals. In this subset, we found 1 CAUTI in 5,890 catheter days (0.17 CAUTI per 1,000 catheter days) in patients with thoracic epidurals and 4 CAUTIs in 9,429 catheter days (0.42 CAUTIs per 1,000 catheter days) in patients without thoracic epidurals, for a rate of 0.4002 (95% CI, 0.0447–3.5808; $P < .39$). In this subgroup, 7.0% of patients with thoracic epidurals required a second Foley catheter compared to 16.9% of patients without thoracic epidurals who required a second Foley catheter ($P < .01$). **Conclusions:** Although patients with thoracic epidurals maintain Foley catheters beyond 48 hours, the CAUTI rate in these patients is lower than in patients without thoracic epidurals. Therefore, removing Foley catheters within 48 hours of surgery in patients with thoracic epidurals may not reduce the risk of CAUTI and, in fact, could be harmful. Further evaluation of confounding variables is warranted.

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