

Disclosures. All authors: No reported disclosures.

1156. Running on Empty: Enlisting Transportation Services in Quality Improvement Initiatives as a Safeguard Against Catheter-Associated Urinary Tract Infections

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Background. Patient transportation for off unit procedures is associated with transfers from bed to chair to examination tables, frequent elevation of the urine collection bag (UCB) above the bladder and urinary reflux (UR) of bacteria-laden urine into the bladder, significantly increasing risks of catheter-associated urinary tract infection (CAUTIs). If UCBs were systematically emptied prior to transportation the likelihood of UR would be greatly diminished, potentially reducing CAUTIs.

Methods. During a 5-week period transportation services (TS) collected baseline data on UCB status of all ICU patients, classifying them as empty/good to go vs. full/not good to go (Phase 1). Then, TS were educated on the importance of reducing UR as part of CAUTI reduction and were empowered to request UCBs be emptied. In parallel, unit-based staff were instructed to drain CBs prior to patient transport off unit and to expect the TS would refuse transport if CB was not emptied (Figure 1). Wireless voice-activated communications devices were used to improve coordination between TS and unit staff. During a 3 month (Phase 2) period, TS again collected data on the UCB status of ICU patients while reinforcing the need to empty UCBs.

Results. At baseline it was a coin toss as to whether a patient's UCB would be empty or full at the time of transportation, while over 90% of UCB were emptied in Phase 2 (47.1% and 52.9%, vs. 90.6% and 9.4%, empty and unemptied in Phase 1 and Phase 2, respectively, $P < 0.001$) (Figure 2). Figure 3 shows the detailed UCB status (empty at TS arrival, emptied upon TS request, transported full, transport refused) during Phase 2, with significant month upon month improvements ($P = 0.014$).

Conclusion. Despite longstanding existing hospital policies promoting best practices, including the need to empty UCBs prior to transport, we found this was commonly ignored in usual practice. Recruiting the TS to enforce UCBs are empty at the time of transportation proved a very effective way to markedly improve best practices. If representative of general practices elsewhere, this suggests leveraging TS can help ensure UCBs are emptied prior to patient transport and reduce CAUTI risk. It also exemplifies how ancillary services can be recruited to play an active role in quality improvement/patient safety projects.

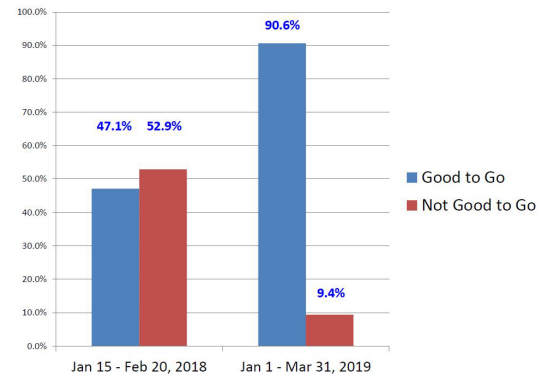
Fig 1

Empty and Low, or You Do Not Go!



Fig 2

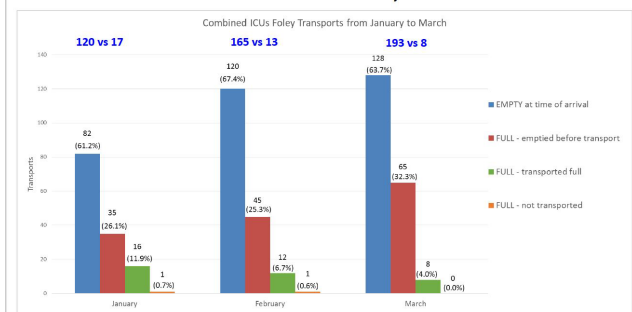
Phase One vs Phase Two



Phase 1 - Good vs Not Good for transport = 47.1% (152) vs 52.9% (171), while Phase 2 - Good vs Not Good for transport = 90.6% (1,070) vs 9.4% (111), $p < 0.001$.

Fig 3

ICUs Performance, Phase 2



Month upon month improvement in "Good to Transport" vs "Not Good to Transport", $p = 0.014$

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1157. GET IT OUT! Nurses and Clinical Quality Improvement Specialists Drive Initiative to Reduce Standardized Utilization Ratios for Indwelling Urinary Catheters in Hospitalized Patients

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Background. Urinary tract infections (UTIs) account for 34% of all healthcare-associated infections (HAI). Urinary catheters (UC) are placed in 15–25% of hospitalized patients and >75% of HAI UTIs are UC-related. Bacteria introduced via UC can colonize the bladder within 3 days. So, the greatest risk factor for acquiring a catheter-associated urinary tract infection (CAUTI) is prolonged use of indwelling UC. Nursing (RN) staff noted inconsistency with appropriate use of UC and commonly UC remained in place well after their original indication had expired.

Methods. As part of a multi-faceted approach for quality improvement and patient safety, we rolled out an Agency for Healthcare Research and Quality (AHRQ)-based initiative to reduce UC days/Standardized Utilization Ratio (SUR). Daily critical reviews of the indication for UC were conducted by two groups. First, frontline night shift RN staff identified patients who no longer had a valid justification for continued UC. They handed-off the information to day-shift RNs, who recommend removal of UC during daily rounds with the physician teams. A second review was performed by Clinical Quality Improvement Specialists (CQIS) based on defined criteria from our nursing decatheterization protocol. Their discontinued UC recommendations were also sent to the care teams. The critical reviews of UC for CAUTI reduction started with 4 ICUs in August 2018, with additional ICUs added in December, January and March. Monthly UC SURs were tracked

Results. Figure 1 shows the number of UCs recommended for removal by RNs vs. CQIS (bars), as well as the percent discordance between RNs and CQIS (line). CQIS identified many more removable UCs than the RNs (888 vs. 256). 211 UC were removed after RN recommendations, and an additional 386 UCs were removed as a result of the CQIS audits. Figure 2 shows the marked corresponding decline in our SUR over this intervention.

Conclusion. As more units participated in the initiative, we saw increasing numbers of “discontinue UC” recommendations. Over time there was also a moderate decrease in the discordance between RN and CQIS recommendations for UC removal. CQIS routinely identified many more UCs to be removed compared with RNs, and more than doubled the number of discontinued UC. Notably, the UC SUR markedly improved, decreasing from 0.98 to 0.78.

Figure 1

Identified Opportunities for UC Removal by RNs and CQIS and Percent RN-CQIS Discordance

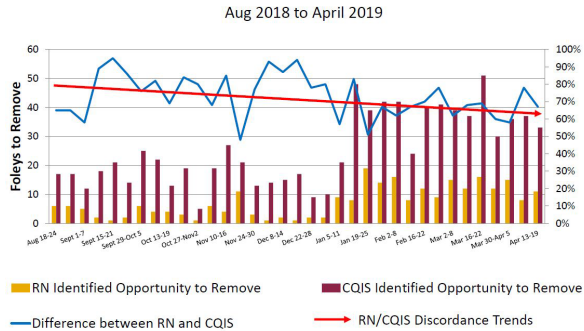
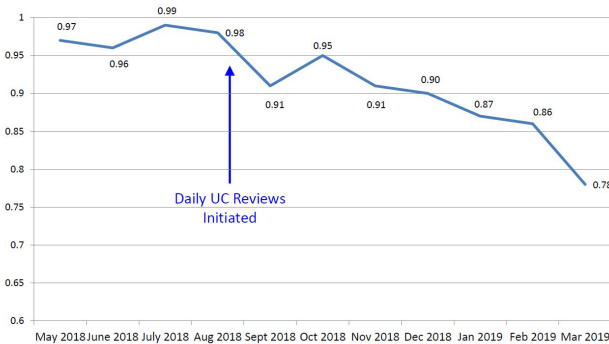


Figure 2

Hospital Wide Foley SUR



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1158. Discontinuation of Urine Cultures by Infection Preventionists in Hospitalized Patients with Indwelling Urinary Catheters: Is It Safe?

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Background. A majority of healthcare-associated urinary tract infections (UTIs) are caused by the use of urinary catheters (CAUTI). Finding of bacteriuria is common in catheterized patients and often leads to unnecessary antibiotic treatment, increased length of stay and additional healthcare costs. We implemented an innovative intervention to improve urine culture (UCx) orders and prevent overdiagnosis of CAUTIs.

Methods. Orders for UCx in adult patients with short-term urinary catheters at NorthShore University HealthSystem, IL were reviewed daily for appropriateness based on the Infectious Diseases Society of America Guidelines. Appropriate urine testing was defined as: (1) presence of fever (>38°C) within past 48 hours, (2) new urinary complaints: flank or suprapubic pain/tenderness or dysuria, frequency, urgency or incontinence within 48 hours after catheter removal, and (3) no other reasonable explanation for fever. If UCx was deemed inappropriate, ordering provider was contacted to cancel the order. Chart review was performed at least 30-days post-discharge to determine whether patients developed recurrent UTI, sepsis, were readmitted or expired.

Results. Between 1 January to 31 March 2019, 65 UCx were submitted. Sixty-four patients (98%) did not meet criteria for testing. Most common reasons for not meeting criteria were absence of fever (60%) and no localizing UTI signs or symptoms (57%). 35 (54%) UCx were canceled after discussion with ordering providers. 21/35

patients (60%) were treated with antibiotics. All 35 patients were discharged, with a majority going to a skilled nursing facility (34%) or home (31%). 4/35 (11%) had a subsequent positive UCx. Two patients developed symptomatic UTI (sUTI) during the index admission. Two patients developed sUTI within 30-days post-discharge; one patient was transitioned to hospice after completion of therapy. All 4 patients were treated for sUTI.

Conclusion. We were able to safely discontinue UCx in 89% of patients. A majority of patients were already started on empiric treatment and development of subsequent sUTI was infrequent (11% of patients). Our findings suggest that discontinuation of inappropriately ordered UCx is safe with low risk for sepsis or mortality.

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1159. Multidisciplinary Leadership Rounds Are Associated with Decreased Urinary Catheter and Central Venous Catheter Device Utilization at a Tertiary Care, Academic Hospital

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Background. Optimizing use of urinary catheters (UCs) and central venous catheters (CVCs) is crucial to prevent catheter-associated urinary tract infections (CAUTIs), central line-associated bloodstream infections (CLABSIs), and other complications. Despite education and adoption of catheter removal protocols, indwelling devices not meeting approved indications were still noted.

Methods. Twice a week, UC and CVC surveillance rounds were conducted by a team of directors from nursing, vascular access, infection prevention, and hospital epidemiology. Different hospital units were selected each week in random distribution. Rounds emphasized face-to-face discussion with nurses and device observations to identify any removal opportunities and appropriate maintenance. Device utilization was monitored using CDC National Healthcare Safety Network (NHSN) standardized utilization ratio (SUR) and CAUTIs and CLABSIs were monitored using NHSN definitions. Relative ratios of SURs during pre-intervention (pre-INT) and post-intervention (post-INT) time periods for UCs and CVCs were compared using an exact binomial test and mid-P 95% confidence interval (CI). CAUTI and CLABSI rates were compared using Fisher’s exact test using mid-P value.

Results. A baseline time period A of 12 months pre-INT (June 2017-May 2018) was used to compare with the 10-month post-INT time period B (June 2018-March 2019). The UC SURs for periods A and B were 0.813 and 0.696 (Figure 1). The relative ratio shows a post-INT UC SUR that was 85.6% of the pre-INT period (95% CI: 84.1%, 87.2%, $P < 0.001$). CAUTI rates for periods A and B were not statistically significantly different at 2.276 vs. 2.164/1000 catheter days ($P = 0.803$). The CVC SURs for periods A and B were 1.244 and 1.081 (Figure 2). The relative ratio shows a post-INT CVC SUR that was 86.9% of the pre-INT period (95% CI: 85.7%, 88.0%, $P < 0.001$). CLABSI rates for periods A and B were statistically significantly different at 1.27 vs. 0.804/1000 central line days ($P = 0.0335$).

Conclusion. Leadership rounds were associated with a significant decrease in utilization of UCs and CVCs. A significant decrease was noted in CLABSI rates but not in CAUTI rates. Multidisciplinary oversight improved adherence to existing policies and should be considered for optimizing device utilization.

Figure 1: Urinary Catheter SUR

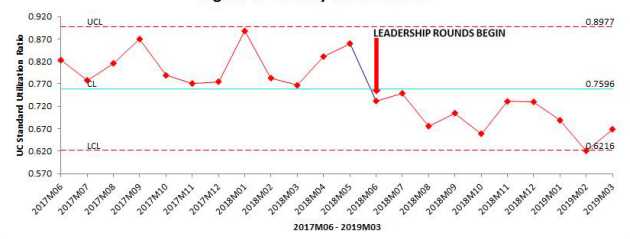


Figure 2: Central Venous Catheter SUR



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