

Can limiting foley insertions in the ED and utilization in the ICU reduce CAUTIs?

Katherine Rhodes, MSN, CIC, COHN-S and Kashayna Alanis, BSN, CIC



Background

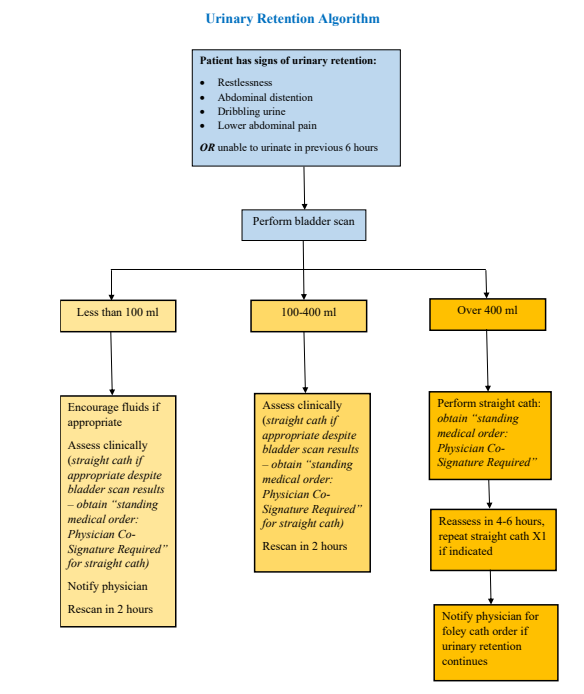
- Catheter-associated urinary tract infections (CAUTI) are one of the most frequent hospital-acquired infections in the acute care setting
- Each CAUTI event results in avoidable days and cost, and a 22% increase in mortality
- This entity saw a significant increase in CAUTI events in 2022, primarily related to avoidable retention of foley catheters
- Hypothesis: Decreasing routine insertions in the ED and utilizing a retention algorithm in the ICU could reduce device days and limit CAUTI events



Results

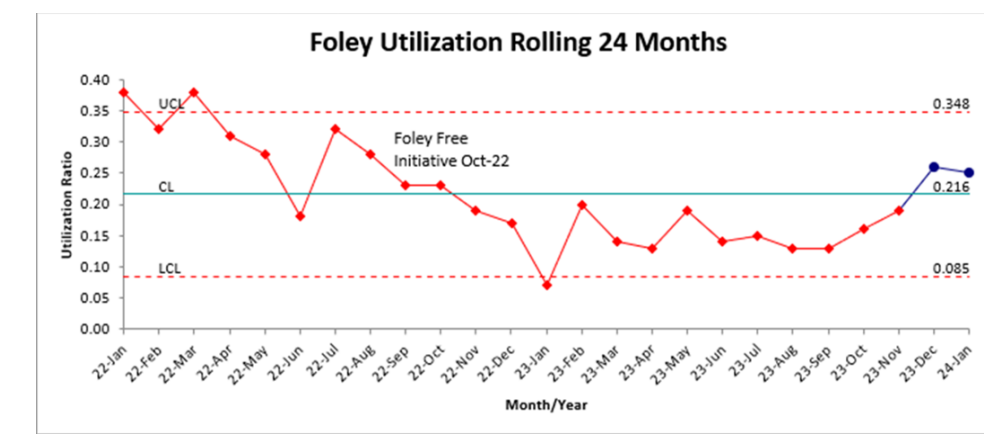
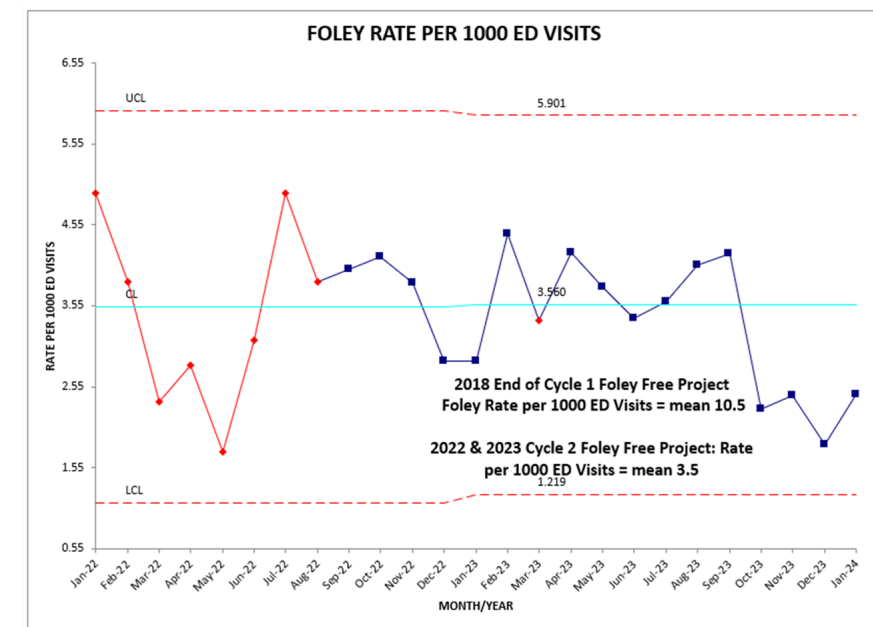


- ED foley placements decreased from 10.5 per 1000 ED visits at baseline to 3.5 in 2023 (66.7% decrease).
- ICU foley utilization decreased from 0.36 in Q1 2022 to 0.16 in 2023 (55.6% decrease).
- Zero CAUTI events were identified for over 440 days after process change.
- Standardized Infection Ratio (SIR) decreased from 0.82 in 2022 to 0.14 in 2023.



Methods

- Infection Prevention, ED, and ICU performed an analysis of CAUTI events over the past 4 years
- Workgroup identified multiple opportunities:
 - Refresh education for staff on appropriate foley indications
 - Implement structured daily review of devices for necessity
 - Refresh staff on Urinary Retention Algorithm with use of straight cath and ultrasound assessments prior to foley insertion
 - Increase use of external urinary catheters
 - Remove indwelling catheters as soon as clinically indicated

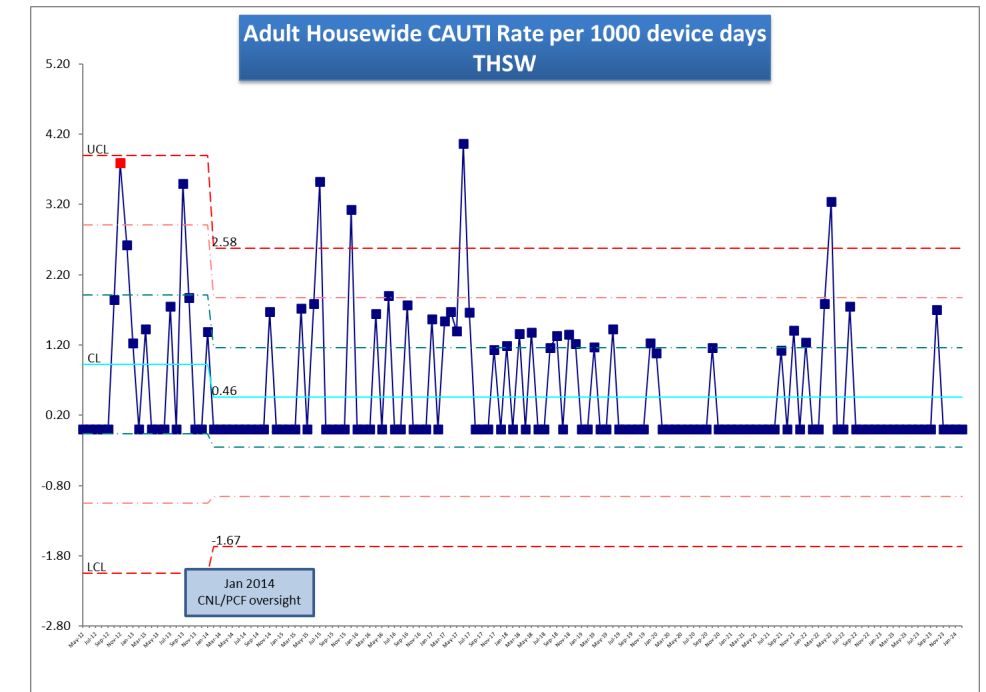


High Reliability

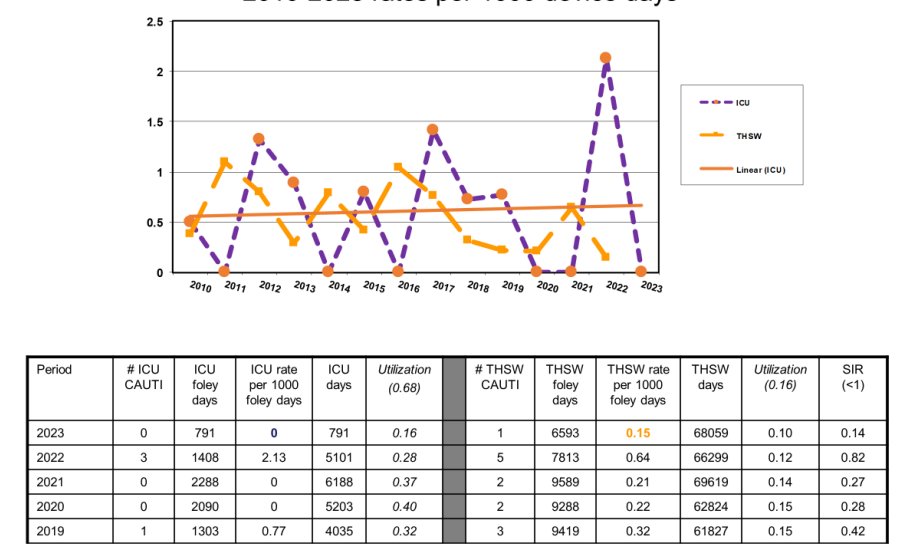
- Relocated external catheters in ED Clean Supply to foley tray shelf
- Included Foley Free initiative at nursing skills days, including use of external catheters
- ED supervisors reviewed all orders for foley insertion real-time
- Validated accurate I&Os achievable with use of external catheters
- Foley indication reviewed in ICU during daily multi-disciplinary rounds
- ID Medical Advisor presented foley avoidance and CAUTI updates to hospitalists
- Laminated copy of Urinary Retention Algorithm attached to all bladder scanner devices
- Additional bladder scanners purchased for each unit
- Foleys placed for retention in ICU are removed after 48 hours and retention rechecked
- ICU specified "critically ill" criteria for foley use to be "hypothermic or on pressors" (previously included all ventilated patients)

Metrics

- Population:** all admitted ED patients and all ICU patients over one year
- Process measures:**
 - Foley insertions in the ED (number of insertions per 1000 ED patients admitted)
 - Foley utilization in the ICU (device days per patient days)
- Outcome measure:** CAUTI events using NHSN criteria (adjusted by 1000 device days)
- Goals:**
 - Decrease foley placements in the ED and ICU foley utilization by 20% respectively by end of 2023
 - Reduce CAUTI events by 20% by end of 2023
- Balancing Metrics:**
 - Decrease in device days may artificially inflate CAUTI rates
 - Confusion and specialty physician frustration regarding foley avoidance



Catheter associated Urinary Tract Infection



Conclusion

- A collaborative effort to decrease foley use in ED and ICU can reduce CAUTI events.
- Data sharing between Infection Prevention and key stakeholders supported engagement of front-line clinicians.

