

# Two Years of Zero Harm: A Multi-Faceted Approach for Achieving Two Years Without a Catheter-Associated Urinary Tract Infection (CAUTI)

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## Abstract

After experiencing five catheter-associated urinary tract infections (CAUTI) in 2019 (standardized infection ratio [SIR] 0.69) and six in 2020 (SIR 0.6), a 191-bed acute care hospital was determined to find a sustainable way to reduce the number of infections. Several interventions were introduced to reduce the number of CAUTIs, consisting of education, alternative device implementation, and electronic medical record (EMR) tools. Registered nurses (RN) and nurse assistants (NA) were reeducated on the importance of aseptic urine specimen collection and indwelling urinary catheter (IUC) maintenance bundles at annual skills fairs. The infection prevention (IP) and nursing team explored alternative external male urine collection devices such as condom catheters and moisture-wicking urinary pouches. The IP team performed audits with nursing unit leaders on IUC maintenance bundle compliance and reported the data monthly to unit staff and leadership. Additionally, inappropriate urine cultures decreased through the implementation of a urine culture hard stop in the EMR to ensure urine specimens were ordered and sent only if truly indicated. After implementation of these interventions, the hospital had one reportable CAUTI in 2021. In 2022 and 2023, zero were reported. The standardized infection ratio (SIR) declined from 0.69 in 2019 to 0 in 2022 and 2023.

## Objectives

- Reduce the number of CAUTIs in a sustainable manner.
- Provide appropriate alternatives to indwelling urinary catheters.

## Methods

### Education - Ongoing

- RN and NA Skills Fairs
- Aseptic urine specimen collection
- IUC maintenance bundles
- Collaboration with urine collection device manufacturer educators

### Alternative Device Implementation - Summer/Fall 2022

- Introduction of new condom catheter kits
- IP/nursing co-led trial on male external urine pouches
- Product manufacturer educators performed on-site trial and training

### Electronic Medical Record Tools - Spring 2021

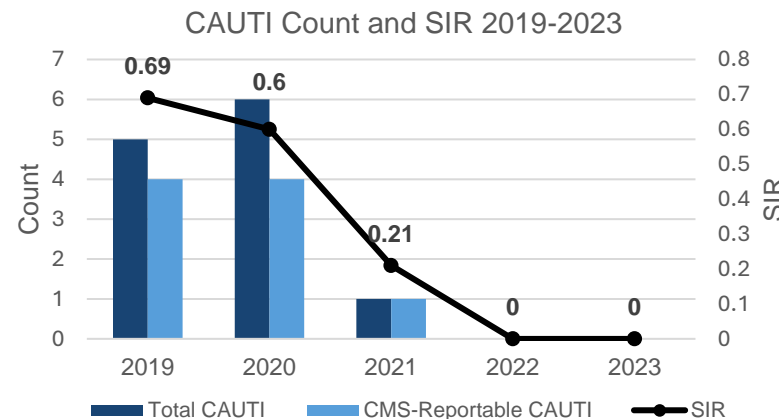
- Urine culture hard stop for patients with IUCs in place for >2 hospital days
- Infection Control Medical Director must approve urine cultures for testing if meeting this criteria but clinically indicated (ex. signs of pyelonephritis)

### Weekly Indwelling Urinary Catheter Maintenance Audits - Ongoing

- Round with unit leaders to assess the following:
  - Seal between the catheter and drainage tubing present
  - Catheter secured to the thigh with appropriate device
  - No dependent loop in the tubing
  - Drainage bag below the bladder and off the floor
  - Drainage bag filled with <1000cc of urine
- Data sharing with key stakeholders

## Results

- The total number of CAUTIs and associated SIR decreased dramatically, with a 2-year (and counting) sustenance.
- Through collaboration of IP, nursing, and supply chain, new male external urine collection devices were stocked in supply rooms through all inpatient, emergency, and observation departments for easy access.



## Conclusion

The IP and nursing team credits the sustenance of zero CAUTI-associated harm to the culture of high reliability created by the described interventions. Team members providing direct patient care are aware of the expectations related to CAUTI prevention. The facility plans to continue preventing placement of IUCs if another viable option exists, educate team members on IUC maintenance expectations, and ensure all urine cultures ordered when the IUC has been in place for three or more days are reviewed by the Infection Control Medical Director for appropriateness. We plan to continue these interventions, continuously assess education and supply needs, and adjust our CAUTI prevention program as necessary.

## References

CAUTI Guidelines. Centers for Disease Control and Prevention. November 5, 2015.

## Disclosures

We have no financial interests or relationships to disclose.