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Quality Improvement Initiative Successful in Achieving CAUTI Reduction

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INTRODUCTION

Catheter-associated urinary tract infections (CAUTI) negatively impact patient safety. Aside from complications associated with CAUTI, such as extended hospital length of stay, patient discomfort, and urosepsis, CAUTIs are considered “never events” and have negative economic consequences.¹⁻³ Prevention of CAUTI is an important focus of infection prevention efforts nationwide.⁴⁻⁶

Researchers have demonstrated a positive correlation between number of Foley catheter device days and incidence of CAUTI ($r^2=0.79$; $N= 22,134$ Foley catheter

device days; $P<.0001$).⁷ This has influenced the strong emphasis that has been placed on use of Foley catheters.⁸ Alternatives for urinary management are now considered, such as external collection devices (ECDs).

A hospital in Albuquerque trialed a quality improvement (QI) initiative hospital-wide using ECDs on male patients who met specific inclusion criteria and a 60 day study was conducted to measure their impact on CAUTI rates and prevalence.

METHODS

Clinical Setting: The QI initiative was implemented in November of 2014 hospital-wide for 60 days to determine the impact of ECDs on CAUTI rates in male patients.

Metrics: A 60-day comparison of CAUTI rates was made before, during, and after the QI initiative to determine the effectiveness of the intervention.

Intervention: A novel male ECD for urinary management was utilized instead of an indwelling urinary catheter in patients who met the following inclusion criteria:

- No restraints
- No benign prostatic hypertrophy
- No neurogenic bladder
- Cooperative with no urinary issues
- Hospitalized 2 weeks or greater

Education: Staff received education on appropriate application of the male ECD, and a “train the trainer” program was implemented to ensure staff competency and knowledge of anticipated wear time (approximately 24 hours).

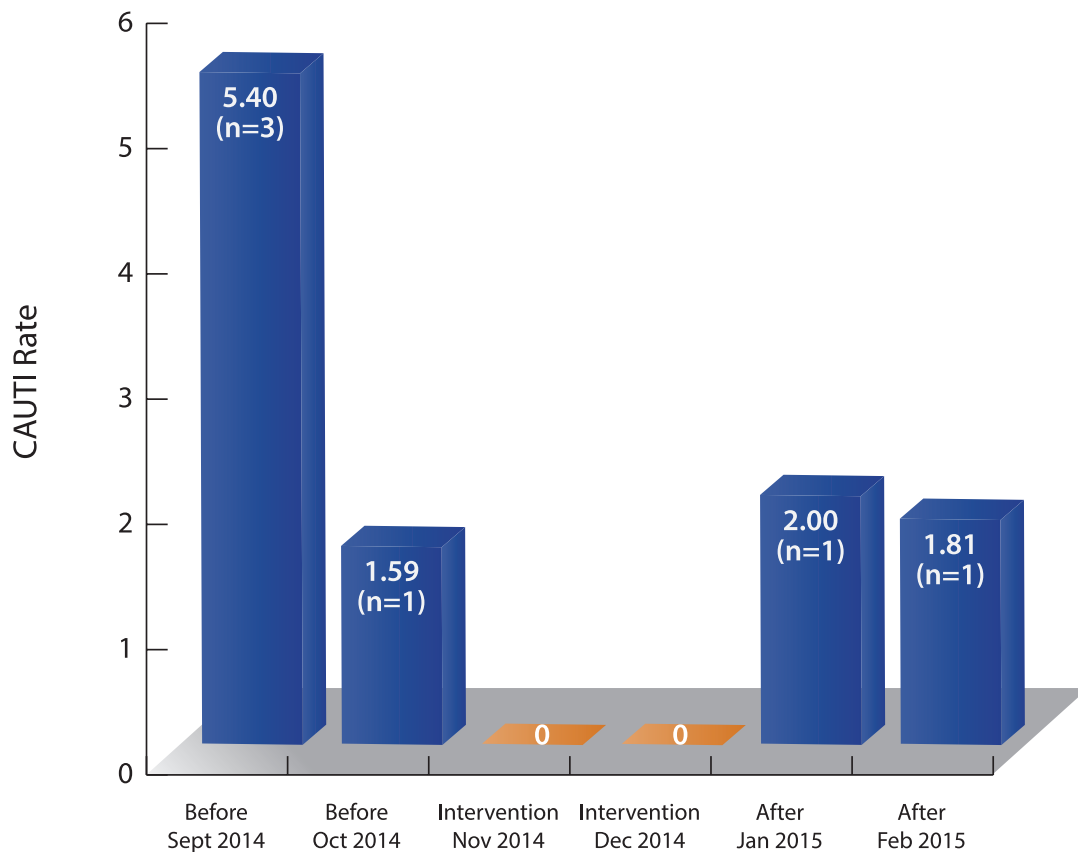
Change Management: The QI coordinator conducted daily evaluations to determine average wear time, ensure there were no patient skin issues, or other questions/problems associated with the ECD interventions.



RESULTS

The QI initiative was determined to be successful, with CAUTI rates falling to 0 during the 60 days of the ECD intervention (Figure 1). The average wear time of the ECD was approximately 24 hours.

Figure 1. CAUTI rate before, during, and after intervention



The Foley Utilization Rate (FUR) is listed in Table 1 for all time periods. It is important to note that the average FUR during the 60-day intervention period was substantially lower compared with the average FUR during the two months before and after the intervention (32.5% lower average FUR compared with before; 30% lower average FUR compared with after). No complications or adverse events were reported as a result of the ECD intervention.

Table 1. Foley utilization rate before, during, and after intervention

| | Before: September 2014 | Before: October 2014 | Intervention: November 2014 | Intervention: December 2014 | After: January 2015 | After: February 2015 |
|---------------------|------------------------|----------------------|-----------------------------|-----------------------------|---------------------|----------------------|
| FUR | 38% | 42% | 25% | 29% | 34% | 43% |
| Foley catheter days | 556 | 629 | 363 | 429 | 499 | 552 |
| Patient days | 1445 | 1507 | 1441 | 1468 | 1463 | 1273 |

FUR= Foley utilization rate (Foley Days/Patient Days)

CLINICAL IMPLICATIONS

- Use of ECDs can successfully manage urinary incontinence in circumstances where indwelling urinary catheters are deemed inappropriate.
- Ensuring appropriateness criteria are adhered to for urinary catheterization is essential for prevention of CAUTI and related complications.
- This 60-day QI intervention resulted in a lower average FUR compared with the time periods before and after the intervention, thereby lowering patient risk for CAUTI.

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