Background

The Tulane Foley Catheter-Associated Urinary Tract Infection (CAUTI) Workgroup is an interdisciplinary team of Tulane Medical Center (TMC) staff and students who seek to reduce high rates of CAUTI at TMC (goal: zero).

In 2012, the intensive care unit (ICU) CAUTI rate was 6.21/1000 Foley days, well above the National Hospital Safety Networks (NHSN) benchmark (2.2/1000 Foley days).

Since 2012, multiple efforts have been undertaken to address the high rate (Figure 1).

Beginning in September 2013, the Workgroup piloted a nurse-driven Foley Catheter Removal Protocol on the ICU with the highest CAUTI rate, 4 West (4W, medical/surgical major teaching ICU).

The Protocol is modeled after the Keystone (Michigan) Bladder Bundle 1 and recommendations from the Agency for Healthcare Research and Quality.2

Aim

Primary: Implement and assess the effects of a nurse-driven Foley Catheter Removal Protocol on a Tulane Medical Center intensive care unit.

Secondary: Lower the CAUTI rate at TMC.

Methods

The Workgroup used Shewhart PDSA cycles to implement the new Foley Catheter Removal Protocol and develop a tool to audit compliance with the Protocol, then performed the compliance audits.

Trial Period: The Tulane Foley Catheter Removal Protocol was approved for a 90-day pilot study on August 19, 2013. Nursing, physician, and other care delivery staff were educated on the policy changes (i.e., appropriate indications for Foley Catheters) associated with the Protocol. Staff on 4W began using the new Reminder Order and Removal form in September 2013 (Figures 3 and 4). Nursing supervisors edited the forms based on clinical experience.

Trial Audits: The Workgroup developed an audit tool to assess compliance with the Foley Catheter Removal Protocol (Figure 2). Medical student auditors and Infection Control staff tested audit tool for two weeks in late-September and early-October 2013 using mini-PDSA cycles. Infection Control staff edited the audit tool. Reminder Order, and Removal form based on clinical experience.

Daily Audits: Medical student auditors completed audit tool daily, beginning October 7, 2013. Infection Control staff looked up Foley catheter insertion location and stored paper audit tools as needed. Medical student auditors alerted nursing supervisors to compliance issues.

Biweekly Status Meeting: The Workgroup holds bi-weekly meetings to assess the results of the daily audits and discuss problems with the Protocol. Medical student auditors highlight cases for discussion. Infection control staff highlight any patients who develop a CAUTI on 4W. Medical and nursing supervisors provide follow-up education and clarification with staff as needed.

Conclusions

While the Protocol trial continues, this poster reports on the audit period from October 7 to November 19, 2013:

• 43 Days Audited
• 80 Unique Foley Patients Tracked
• 310 Foley Days
• 80% Protocol Compliance
• 14+ Foley Discontinue Orders Written

The effect on Foley catheter utilization and CAUTI rate is unclear. A decline in Foley days was seen in October 2013, but it is too soon to draw conclusions about utilization trends. There were no CAUTIs on 4W during September, and only one CAUTI during October; however, it is unclear if this is a result of the Protocol, other interventions, or a combination. A chart review of the October CAUTI patient may help clarify the role of the Protocol and identify any missed opportunities for CAUTI prevention.

Continued assessment of the Protocol will guide expansion to other units at Tulane Medical Center.

Lessons Learned

Limits of Paper-Based Quality Improvement:
The use of PDSA cycles to improve both the Protocol and the audit tool was slowed by the need to update paper forms to reflect changes. Also, data collection was hampered by the inability to do retrospective chart reviews. All audits had to be completed at the point-of-care, potentially exposing the audit to bias if a Foley patient was absent from 4W during the audit. Future audits should consider alternative methods for chart reviews, including electronic data capture systems.

Need for Rapid Education and Follow-Up:
The Workgroup was initially focused on rapid response in the event of a CAUTI; however, it soon became clear that point-of-care provider education was needed to avert inappropriate Foley use (near misses). Nursing staff directed questions to medical student auditors that were better answered by nursing and physician supervisors. Clear feedback systems should be in place before new audits to facilitate rapid education of providers.