CAUTI REDUCTION; ROUNDED WITH AN INFECTION PREVENTIONIST

CAUTI reduction quality improvement project; rounding with an infection preventionist

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On my honor, I pledge that I have neither given nor received any unauthorized assistance on this paper. April 10, 2023
Abstract

**Background and Purpose:** Catheter associated urinary tract infections (CAUTIs) are the most common healthcare associated infection, and healthcare leaders are under enormous pressure to consistently reduce or even eradicate these events. A medical-surgical unit continued to have CAUTI events despite an audit and feedback process in place to monitor nursing compliance to CAUTI prevention bundle elements. The purpose of this Quality Improvement (QI) project was to evaluate the impact on total device days and CAUTI incidence of a 12-week program utilizing one-on-one rounding by an infection preventionist, in a community, acute-care hospital, for adults with indwelling urinary catheters.

**Methods:** This project was longitudinal, data was collected in three, twelve week phases, pre, during and post intervention periods. The infection preventionist utilized academic detailing, pre-made educational references and Rapid Cycle Deliberate Practice (RCDP) methodology, to conduct “at the elbow” support and coaching rounds. Data collection included monthly device days, CAUTI incidence and CAUTI prevention bundle compliance audits.

**Results:** 44 rounding sessions were completed with 17 different Registered Nurses and Patient Care Technicians who were assigned patients with indwelling urinary catheters on the days that the infection preventionist rounded. The mean number of device days increased, CAUTI incidence decreased and CAUTI prevention bundle compliance increased.

**Conclusions:** Findings suggest that rounding with an infection preventionist with bedside RNs and PCTs may have a clinically significant impact on improved compliance to CAUTI prevention bundle audits and decreased CAUTI incidence. This project’s methods can be replicated in other acute care settings as a strategic tactic to reduce CAUTI events, with low financial cost and subject matter experts already in place at most acute care hospitals.

**Keywords:** CAUTI bundle, infection preventionist, Rapid Cycle Deliberate Practice (RCDP), at the elbow support, HAI
Introduction

Healthcare associated infections (HAI) are preventable events that can lead to poor patient outcomes, increased costs and increased mortality risk (Shadle et al., 2021). Approximately 1.7 million people develop a HAI and 100,000 people will die from complications related to a HAI, every year (CDC, 2021). Due to the burden that HAIs place on the patients and the healthcare system, the National Healthcare Safety Network (NHSN), part of the Center for Disease Control (CDC) has made reporting certain HAIs a requirement to participate in reimbursement from the Centers for Medicare and Medicaid including catheter associated urinary tract infections (CDC, 2015). Catheter associated urinary tract infections (CAUTIs) are the most common type of HAI and approximately 12% -16% of adult hospital inpatients will have an indwelling urinary catheter during their hospital stay (NHSN, 2021). Each day that these devices remain, the patient’s risk of developing an infection increases by 3% to 7% (NHSN, 2021). Catheter associated urinary tract infections (CAUTIs) cause discomfort for the patient, prolonged hospital stays and increased cost and mortality (NHSN, 2021). The estimated cost per year for CAUTI treatment in the United States is approximately $340 million dollars (Gauron and Bigand, 2021). Research suggests that following a bundled approach to care and maintenance of catheters is a strong strategy to prevent the development of CAUTIs (Apisarnthanarak et al., 2017).

Background of the Clinical Problem

Over a nine-month study conducted in an ICU, there was a statistically significant reduction in the incidence of CAUTI, from 10.7 per 1,000 catheter days to 4.5 per 1,000 catheter days, when all elements of a care bundle were adhered to (Soundaram et al., 2020).
comparison, analysis of the data from NHSN, average incidence of CAUTI events are estimated to be from 0.1 to 0.3 per 1,000 catheter days (Luzum, Sebolt and Chopra, 2020). At a local community hospital, CAUTIs have been identified as a quality and safety issue that have increased in priority due to a documented increase in CAUTI rates (E. Pummer, personal communication, June 28, 2021). According to a recent meta-analysis from the Agency for Healthcare Research and Quality (AHRQ), the average cost attributable on a per-case basis for each CAUTI is $14,000.00 (AHRQ, 2017).

The data for CAUTI incidence and impact is readily available through literature databases such as PubMed, Cochrane, CINAHL Plus and SCOPUS. One study conducted in Saudi Arabia revealed CAUTI is one of the most commonly reported infections in the literature (Obaid, 2021). In 2020, the American Journal of Infection Control (2020) published a six-year report which was a summary of data from 45 countries from device-associated modules for the time period of 2012-2017. Rosenthal et. al (2020) summarized that during this six-year study period, 532,483 ICU patients were hospitalized from 242 hospitals. This summary was published as part of the International Infection Control Consortium (INICC) which revealed that the international data had a rate of CAUTI of 5.1 per 1,000 catheter-days, as compared to the United States’ rate of 1.7 per 1,000 catheter-days during the same time period (Rosenthal et. al., 2020). A study of this sample size spanning the geographic areas of Latin America, Europe, Eastern Mediterranean, South East Asia and Western Pacific World Health Organization regions indicates the pressing need to reduce the CAUTI incidences that lead to increased morbidity, mortality and financial burden (Rosenthal et. al., 2020). Nationally, AHRQ’s meta analysis revealed that the excess mortality associated with CAUTIs is estimated to be 0.036 (95% CI: 0.004 to 0.079) per case, in other words, for every 1,000 CAUTIs there are 36 excessive deaths
(AHRQ, 2017). According to a recent report from the Maryland Department of Health (generated from NHSN data) the local community hospital’s CAUTI incidence for the six-month time period of July 2020 through December 2020 for adult medical surgical inpatient units (not inclusive of intensive care units) was four CAUTIs over a total of 2,631 catheter days. This number approximately translates to 1.52 CAUTI events per 1,000 catheter days and an approximate cost of $56,000.00. The goal for this medical surgical unit is zero infections per month (E. Pummer, personal communication, June 28, 2021). The unit’s CAUTI incidence is well above this goal. Additionally, a study published by CDC researchers demonstrated that during the COVID-19 pandemic, healthcare associated infections worsened across the United States, specifically, CAUTI rates increased by 43% (Baker et al., 2021). Prior to 2020, HAI rates were steadily declining which was largely attributed to infection prevention and control measures (Baker et al., 2021).

**Problem Statement**

Despite sustained improvement with CAUTI prevention bundle elements, a medical, adult inpatient unit continued to have CAUTI events and not meet the organizational performance goal rate, causing increased morbidity, mortality and cost for the patients and organization.

**Purpose**

The purpose of this Quality Improvement (QI) project was to evaluate the impact on total device days and CAUTI incidence of a 12-week program utilizing one-on-one rounding by an infection preventionist, in a community hospital acute care, for adults with indwelling urinary catheters.
Project Aims

The three aims of this project were to:

1. Determine if a 12 week project with one-on-one rounding by an infection preventionist has an impact on duration of indwelling urinary catheter line days in adults on a medical surgical inpatient unit as measured by total device line days.

2. Determine if a 12 week project with one-on-one rounding by an infection preventionist has an impact on CAUTI incidence as measured by NHSN CAUTI definitions.

3. Determine the impact of a 12 week project with one-on-one rounding by an infection preventionist on nursing practice compliance to CAUTI prevention bundle for patients with indwelling urinary catheters.

Review of Literature

During the recent COVID-19 pandemic, resources typically devoted to HAI prevention, in hospital settings, were redirected for emergency response, patient volume surges and infectious disease containment practices (Baker et al., 2021). Healthcare leaders had to reassign resources based on urgency and clinical priority, and having the evidence to indicate, which specific CAUTI prevention tactic would have the most impact, would have been helpful evidence to aid in that decision making (Flesher et al., 2022).

There is evidence to demonstrate that bundling interventions to prevent CAUTIs does result in a decrease of catheter related infections as well as reduction of total line days (Andreesen, Wilde & Hereendeen, 2012; Elkbuli et al., 2018; Carter, et al., 2014; Sampathkumar, et al., 2016). However, there is little evidence that details a specific tactic or
Intervention to reduce CAUTI and the resulting effect. An extensive review of the literature conducted demonstrated consistently that bundling the CAUTI prevention interventions would lower CAUTI incidence and reduce device days, however, no singular intervention or single element of the bundle was identified as a superior intervention. The gap in the literature is that the bundled interventions were not all the same, were applied inconsistently, and no specific interventions were identified as being most effective at reducing CAUTI incidence. Additionally, the level of compliance by the clinical staff for the interventions was not specified nor were strategies for leaders to enforce compliance to bundled interventions.

Relational approaches have significant positive impacts on project work even when conducted by transient teams (White et al., 2020). Healthcare work commonly brings individuals together from various work groups who undertake a shared effort to achieve a pressing, predetermined goal with limited time, structure, and resources (White et al., 2020). Structural empowerment is a practice that leaders undertake to ensure their members have access to information, support, resources and opportunities that promote success (White, et al., 2020). Nurses who work in structurally empowered environments report higher levels of control over their practice and greater satisfaction in their work (White et al., 2020). Shared governance is one approach to achieving structural empowerment and the setting of this community hospital for this project has a deeply embedded shared governance structure with consistent and broad nursing engagement across all levels of experience and practice.

Daily rounds made by all disciplines engaged in care create a moment or opportunity for clear and direct communication, problem solving, along with education and decision support (White et al., 2020). Rounding by leaders and providers have demonstrated an increase in engagement and accountability from staff as well as help to improve patient outcomes (White et
The literature is varied on how these rounds are structured and which disciplines participate but the main theme from the literature is that over the long term, from a quality improvement perspective, all groups involved found them to be productive (White et al., 2020). Additionally, including leadership on direct patient care rounds with clinical staff enable leadership to put a practical and personal face to the data shared in dashboards and reports (White et al., 2020). Leaders who participate in walk rounds can have a more vivid understanding of both the risk and the implementations of failure which translate into an environment more conducive to practice (White et al., 2020). The work of quality and patient safety needs to be visible, compelling, and pervasive across the organization (White et al., 2020). Additionally, the work needs a champion with the visibility, authority, tenacity, data and credibility to take the team through many waves of change (White et al., 2020). Conducting rounds with an infection preventionist is a relational approach to creates moments for bedside clinical staff to have routine and predictable access to a subject matter expert and leader in device related infections that can coach, support and educate on evidence-based practice to embed infection prevention habits into bedside care.

Implementation of prevention bundle and subsequent audit and feedback methods are commonly deployed at healthcare organizations because they target outcomes, avoid complications and lend themselves to ongoing monitoring (White et al., 2020). The format of audit and feedback is widely used because the tracking of performance tends to appeal to the competitive nature of individual teams and in doing so, fosters interest in improving performance (White et al., 2020). Despite these efforts, the organization for this project setting continued to have CAUTI events.
Based on the literature review, an intervention that has not been formally evaluated is the deployment of an infection preventionist conducting daily rounds directly with bedside staff, utilizing academic detailing, and on the spot coaching while reviewing each CAUTI prevention bundle element. Academic detailing refers to the work of trained consultants who provide unbiased, noncommercial, evidence-based information about interventions and is used to improve the quality of care and outcomes (White et al., 2020). Infection preventionists are experts in the prevention or disruption of transmission of organisms or infections within the acute care setting and are designated as leaders and subject matter experts (APIC, n.d.). Additionally, literature shows that coaching, providing immediate performance feedback to the learner, promotes effective teaching and improves learners’ confidence to self-evaluate and identify their own learning needs (Lambie et al., 2015). This ‘at the elbow model’ of coaching enabled the infection preventionist to provide guided reflection for the RN and PCT, promoting self-awareness which fosters improvement in the quality of patient care.

**Evidence Based Practice Model**

The Translating Evidence into Practice Model is a collaborative model for large scale knowledge transfer (Provost, et al., 2008). This framework was best suited for the organizational setting of this project because of the strongly embedded nursing shared governance infused at all levels of the organization, as evidenced by Magnet status recognition by the ANCC (L. Sidone, personal communication, February 17, 2022). The translating evidence into practice model has four stages and is designed for collaborative projects (White et al., 2021). It was important to choose a model focused on collaboration to achieve outcomes because this facility’s hierarchical structure is relatively flat and the majority of decisions affecting nursing clinical practice are not
initiated until consensus is achieved between nursing quality, nurse leaders, quality, patient safety and the infection prevention teams.

The four phases of the Translating Evidence into Practice model (Figure 1) are engage, educate, execute and evaluate (White et al., 2021). Within the first phase, engage, the model specifically calls for an interdisciplinary team, specific to the problem, to review the current evidence and identify the interventions with the greatest benefit (White et al, 2021). The interdisciplinary team assembled for this project was the hospital epidemiologist (Infection Disease physician), nursing quality and professional practice director, infection prevention program director as well as an antimicrobial stewardship pharmacist and unit-based nursing director, manager and educator. This detailed group reviewed the latest CAUTI prevention bundle practices, compared the elements to the facility’s current CAUTI prevention bundle tactics and evaluated if the current CAUTI prevention bundle tool was in line with latest evidence.

The second phase of this model is to educate and identify local barriers with special attention to culture, teamwork and communication. The project setting’s nursing staff are accustomed to frequent and consistent details about their performance with various quality improvement and patient safety practices, for example, compliance to the CAUTI prevention bundle. In light of this, communication centered methods utilized were, attending unit shift change huddles to present the project, then attending daily rounds with the bedside staff to review the revised CAUTI prevention checklist. The third phase of the model is to execute the intervention through standardized care process, measure performance and engage the bedside staff in the iterative process of learning from mistakes. The one-on-one rounding with an infection preventionist was conducted daily for all staff on the unit. The performance measures
were collated daily and performance evaluation was immediately provided to the bedside staff during the rounding. The fourth phase is to evaluate the impact of the intervention; having the infection preventionist attend daily rounds and review the prevention checklist. The translating evidence into practice model considers this phase to be the most complex as the organization’s culture influences the staff’s readiness to actively engage in the learning process and to ensure that all patients reliably receive the intervention. Additionally, this phase included comparing the pre and post intervention outcome data (incidence of CAUTI events) to determine level of successful implementation.

The Translating Evidence into Practice model was the best fit for this DNP project as it took into account the project setting’s already strong organizational commitment to evidence-based practice. Additionally, it provided a systematic structured framework to insert the infection preventionist as the subject matter expert to ‘walk the process’ with the bedside staff to assess and evaluate the barriers to achieving the CAUTI reduction goal. An adaptation with detailed stakeholder assignments is listed in Appendix A.

**Methods**

**Setting and Design**

To evaluate the effect of an infection preventionist rounding on indwelling urinary catheter device days and CAUTI incidence, a pre-post intervention project was conducted at a single site, community acute care hospital located in the Mid-Atlantic region of the United States. The project location was an 18-bed unit caring for adult medical/surgical patients with cardiac telemetry monitoring capability. The design of the project was longitudinal where pre-intervention data was prospectively collected, followed by an intervention period of twelve
weeks, then post-intervention data was collected. Between June 1, 2022 through August 31, 2022
pre-intervention data was collected to include total monthly device days, CAUTI incidence and
CAUTI prevention bundle compliance audits. During implementation of September 1, 2022
through November 30, 2022 a total of 44 rounding sessions were completed with 17 different
nurses and technicians. The post-intervention time frame was December 1, 2022 through
February 28, 2023. During the intervention and post-intervention phase the same data was
collected to monitor the effect of rounding with an infection preventionist. This QI project was
reviewed and approved by the Johns Hopkins School of Nursing PERC committee.

Sample

The project involved one sample of participants, Registered Nurses (RN) and Patient
Care Technicians (PCT) who were assigned patients with indwelling urinary catheters on the
days that the infection preventionist rounded.

Intervention

Beginning September 1, 2022 an infection preventionist rounded with bedside
RN s and PCTs utilizing pre-made educational references (Appendix B). The methodology
utilized during these rounds to assess, educate and coach bedside staff was Rapid Cycle
Deliberate Practice (RCDP) (Brown et al., 2021). RCDP methodology allows for rapid skill
acquisition, modification and enhancement (Brown et al., 2021). During these RCDP rounding
sessions, the learner (the RN or PCT) rapidly cycles between deliberate practice while pausing or
restarting with educational or coaching feedback specific to the need evidenced. The “at the
elbow” support of the infection preventionist established the beside RN (or PCT) as the learner
and the infection preventionist (IP) as the coach and educator. Having the IP provide rapid cycle
deliberate practice and at the elbow support was a process redesign focusing more on individual guidance instruction rather than asynchronous audit and feedback. As the RN/PCT and IP team moved from one patient and their indwelling urinary catheter to the next, this repetition mimicked the scenario as in a simulation-based environment. These repetitive steps enabled the RN and IP to review the checklist in the context of the next patient and their clinical differences. An infographic depicting the process of this intervention is included for reference entitled: At the elbow CAUTI prevention bundle rounding methodology (Image 1). This image was used during the rounding session with the RN or PCT to aid the project participant in understanding rapid cycle deliberate practice process being conducted. Academic detailing by the infection preventionist as the subject matter expert, served as the coach and educator and reinforced the correct deliberate practice. Debriefing at the end of the rounding provided an opportunity to strengthen the link between theory and clinical practice. At the end of each rounding session, the DNP student documented compliance to the CAUTI bundle steps, any education performed and any other notes or comments specific to the project participant (RN or PCT). Additionally, the educational tool utilized (Appendix B) was created in collaboration with organizational and unit leaders to reinforce the set of bundled interventions (words highlighted in green) as well as QR codes that linked to videos demonstrating perineal care for male and female patients.

**Measures and analytical strategy**

The aims of this project were to determine the effect that one-on-one rounding with an infection preventionist had on total device (indwelling urinary catheter) line days, impact on CAUTI incidence and impact of nursing practice compliance to CAUTI prevention bundle elements. The total device days was measured as per the definitions of NHSN, with one count of a device day equals one patient with an indwelling urinary catheter for one calendar day (NHSN,
CAUTI incidence data was obtained from the organization’s infection prevention team, and meets the following parameters: an indwelling urinary catheter, that has been in place for greater than two calendar days, on an inpatient location, a positive urine culture with no more than two species of organisms, at least one which is a bacterium of $> 10^5$ CFU/ml, and at least one sign or symptom (typically fever $>38.0$ degrees Celsius) (NHSN, 2022).

The third aim, the CAUTI prevention bundle compliance audit, was a checklist of evidence-based practices that when completed in a bundled fashion, reduces the risk of catheter associated urinary tract infections. It is important to detail the specifications of the bundle audit for this project so that others can replicate these details in their own practice. The bundle of interventions were measured as meeting all or none. Meaning, when rounding, if one part of the bundle was not in place, then that one session of bundle auditing was counted as non-compliant, even if other parts of the bundle were in place. This list of bundled interventions was distilled to the following five elements: perineal care completed and documented at least once per twelve hour shift, urine flow unobstructed, no dependent loops in the tubing, and securement device present and attached appropriately. This data was collected using an electronic form that was already in place at the project’s organizational setting.

Evaluation Method and Analysis

The total indwelling urinary catheter device days is a standard measurement to monitor device utilization within acute care settings and is readily collected and submitted into the CDC/NHSN database for required reporting of CAUTI related data.

Results
Descriptive and frequency statistics summarized staff demographics, a total of 44 rounding sessions were completed with 17 different nurses and technicians, 88.2% female, 11.8% male, 64.7% Registered Nurses, and 41.2% Patient Care Technicians (Table 1).

Device days steadily increased as depicted in Figure 1 during the intervention period then decreased in the post-intervention monitoring period. The mean number of device days pre-intervention was 22 days ($SD = 2$); during the intervention, the mean was 38 days ($SD = 13$), and the post intervention mean was 65.6 days ($SD = 16.6$).

The CAUTI incidence (Figure 2) decreased from one infection event during the pre-intervention period, showed sustained zero events during the intervention period and continued with zero CAUTI incidence events throughout the post-intervention monitoring period. Finally, the CAUTI prevention bundle compliance metric (Figure 3) was at 100% compliance pre-intervention, decreased to the lowest percentage of 81% during the intervention phase and then increased back up to 100% compliance during the post-intervention phase. These were chosen to monitor the impact of the intervention (rounding with an infection preventionist) because these are the same numbers that a frontline or bedside care giver would be shown in a quality improvement initiative specific to their unit. The clinical site for this DNP project showed graphical images to the staff of their unit depicting trends in indwelling urinary catheter device days, CAUTI incidence and CAUTI bundle compliance as these metrics were chosen by hospital leadership to decrease overall CAUTI rates. There was no missing data identified during this data collection timeframe.
Discussion

Catheter associated urinary tract infections (CAUTIs) are the most common healthcare associated infection, leads to increased morbidity and mortality, and can prolong hospitalization stays for patients. A medical-surgical unit in a community hospital continued to have CAUTI events despite an audit and feedback process in place to encourage nursing compliance to CAUTI prevention bundle elements. The COVID-19 pandemic highlighted the staffing gaps and shortage of RNs and forced hospital operations to reassign resources typically devoted to HAI prevention toward infectious disease containment and mitigation strategies. In the height of the COVID-19 pandemic, March 2020 to December 2020, one study demonstrated that CAUTI events increase nationwide by 43% (Baker et al., 2021). During the pandemic response, knowing which element of the CAUTI bundle would have the most impact on preventing the HAI would have been beneficial information during the reassignment of tasks. However, there is a gap in the literature that would detail and support such a decision.

Rounding with an infection preventionist utilizing Rapid Cycle Deliberate Practice (RCDP) and at the elbow support is a creative strategy to address and fill the practice gap between CAUTI prevention bundle theories and compliance to these bundled steps. This quality improvement project produced results consistent with the literature that when a bundled set of interventions are implemented and monitored, CAUTI events are reduced (Andreessen, Wilde & Hereendeen, 2023; Elkbuli et al., 2018; Carter et al., 2014; Sampathkumar et al., 2016). The main strength of this quality improvement project was one on one education, coaching and overall interaction with the bedside RN and PCT. The educational tools created answered the why behind each step of the bundled preventive elements and included a QR code to a video demonstrating the nursing skill of perineal care for both male and female patients. Having the
video option to view perineal care competency simulation was helpful during rounding sessions with participants who initially verbalized a lower comfort level with this specific skill.

Stakeholder buy-in and collaboration into the development of the rounding tools was critical to the success of this project. From senior organizational leadership, unit leaders and shift charge nurses, those involved with the project remained engaged and updated from inception to completion. Additionally, even though the intervention is complete, interest in utilizing the at the elbow support model has been verbalized by the organization’s senior leadership for other areas of nursing practice such as patient experience rounding and pressure injury prevention bundle rounds as well. The dip in bundle compliance percentage (down to 81%) can be attributed to the onboarding of newly assigned clinical staff (RNs and PCTs) to the unit that the project was performed on. Seasoned clinicians on this patient care unit were accustomed to CAUTI prevention bundle audits where as the less seasoned RNs and PCTs were starting with a knowledge and experience gap. In future studies, there may be benefit in correlating level of clinical experience with bundle audit compliance percentages as well measuring knowledge and comfort with bundled set of intervention pre and post intervention potentially utilizing a survey tool.

In regards to the third aim; number of device days, the mean number of device days increased through the intervention period, two months into the post-intervention period. There was a reduction for the final month of post-intervention monitoring period. Some potential reasons for increase in total device days are increased acuity of the patients and/or increased volume of urological surgery patients. One element of the bundled set of interventions was to ensure there was an appropriate indication for continued use of the indwelling urinary catheter. There is literature detailing success in lowering total device days when interventions on focused
solely on utilizing nurse-driven catheter removal protocols (Schiessler et al., 2019). However, the organization for the project setting did not utilize a protocol like this nor was developing one within the scope of this project. Future quality improvement projects and studies may find value in monitoring the post-intervention time period for longer than the three months period allowed within this project.

There were some limitations with this project. The sample size was small which limited statistical testing of the data collected. The nursing unit selected for the project had a low census of indwelling urinary catheters which limited opportunities for rounding one on one with the infection preventionist. The rounding tool and at the elbow model were novel methods developed specifically for this quality improvement project and not piloted before use to assess validity or reliability. Therefore, the results of this project should be interpreted with caution until further studies are conducted to validate the interventions and methods.

**Dissemination**

Findings from the project will be used to guide nursing practice within the organizational setting. Findings will be presented to the organization leadership and unit staff that participated in this project. Steps have been taken to train additional infection preventionists to continue implementation of the RCDP and rounding tools during CAUTI prevention rounds on other clinical units within the organizational setting. Additionally, the methods detailed in this project have been replicated to target other healthcare associated infection reductions (such as central-line associated blood stream infections) within the setting of the organization which speaks to the sustainability of the project. Results of this project are being developed into a manuscript which will be submitted for publication to the American Journal of Infection Control (AJIC).
Conclusion

This project’s results in reducing CAUTI events from one pre-intervention to zero during the post intervention period, provides support that one-on-one rounding with an infection preventionist utilizing academic detailing, at the elbow support, and rapid cycle deliberate practice reduces CAUTI events. This project demonstrates that utilizing the infection preventionist as the subject matter expert provides an opportunity to enforce evidence-based practice for RNs and PCTs to imbed infection prevention habits into their bedside care. This project’s methods can be replicated in other acute care settings as a strategic tactic with low financial cost and utilizing resources in place to improve the quality of care provided.
Reference


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https://doi.org/10.4067/s0716-10182020000500509

Appendix A

Translation Evidence into Practice model for Infection Preventionist rounding with bedside staff to reduce CAUTI incidence

*Adapted from:* Pronovost et al., (2008)
Appendix B

Front Page of Educational Reference

WHY’S OF CAUTI PREVENTION

- Insert catheters only for appropriate indications and avoid use for management of incontinence.
- Catheters are invasive devices and many are placed unnecessarily because, elderly, ICU patients, and those with impaired immunity are at higher risk of CAUTI.
- Every day a catheter remains in place, the risk of infection increases by 3% – 7%. Nearly 60% of all CAUTI are due to a urinary tract infection with 90% related to indwelling urinary catheters.
- Maintain closed drainage systems. Ensure urine samples are obtained promptly.
- Breaks in the sterile system can lead to introduction of bacteria into the bladder and increase risk of a UTI.
- Ensure drainage bag is below bladder.
- Maintain sanitized system when fluid empty collection bag regularly and before any transport. Keep drainage bag off floor.
- Prevents movement and contamination of urine.
- Visually check securing device.
- Prevents skin breakdown and regular check decreases risk of urinary tract infection.
- Perform perineal hygiene and catheter cleaning at least each shift and as needed (patient information of note).
- Oral antimicrobial stone catheters to catheterized patients with no symptoms.
- Diagnose and treat patients with appropriate antimicrobial which can lead to increased incidence of multi-drug resistant organisms. Reduce the risk of treating a positive culture which may only represent colonization.

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WHY’S OF CAUTI PREVENTION

Medline video demonstrating proper peri care with the wipes

https://www.com/28832612

ReadyCleanse Instructions for use (Male)

This is “ReadyCleanse instructions for use [video]” by Medline on Vimeo, the home for high-quality videos and the people who love them.

[QR Code for video]
Table 1. Project Participants Demographics

<table>
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<th>Demographic characteristics</th>
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<tbody>
<tr>
<td>Sex, n (%)</td>
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<tr>
<td>Female</td>
<td>15 (88.2)</td>
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<tr>
<td>Male</td>
<td>2 (11.8)</td>
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<td>Job Function RN or PCT, n (%)</td>
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<tr>
<td>Registered Nurses</td>
<td>11 (64.7)</td>
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<tr>
<td>Patient Care Technician (PCT)</td>
<td>7 (41.2)</td>
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Figure 1. Total indwelling urinary catheter device days by month

Figure 2. Catheter associated urinary tract infection (CAUTI) incidence
Figure 3. CAUTI bundle compliance percentage

Image 1. At the elbow CAUTI prevention bundle rounding methodology

At the elbow support model
"Repetition Reinforces Learning"