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Decreasing CAUTI Rates by Educating Staff on Reinforcing the CAUTI Bundle

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Walden University

College of Health Sciences

This is to certify that the doctoral study by

Yasmin Asif Ali

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2018

Abstract

Decreasing CAUTI Rates by Educating Staff on Reinforcing the CAUTI Bundle

by

Yasmin Ali

MSN, Walden University, 2011

BSN, Aga Khan University, 2003

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

May 2018

Abstract

The Centers for Disease Control and Prevention (CDC) estimates that catheter associated urinary tract infections (CAUTIs) account for 40% of all the hospital acquired infections in the United States. The use of an indwelling catheter is common in hospital settings. Improper placement, assessment, and maintenance can increase the risk for CAUTI, increase the length of stay, and cause harm to the patient. The purpose of this project was to decrease CAUTI rates in a critical care unit by educating nursing staff on the use of the CAUTI bundle and the CAUTI maintenance tool. The practice questions focused on (a) whether an education program for nursing staff on CAUTI extends the knowledge of nurses in managing patients with indwelling catheters and (b) if an education program for nursing staff on CAUTI decreases the incidence of CAUTI. Malcolm Knowles's theory of adult learning guided this project. Data on CAUTI incidence pre- and post-education program reflected zero CAUTI incidence in the month following the education program with 96% of the nursing staff following the CAUTI protocol. Participants completed a post program evaluation. All participants identified that they agreed or strongly agreed that the program met the objectives identified on the evaluation form and that the content extended their knowledge of the topic. This project may contribute to social change by impacting the potential for patients to have less infection leading to decreased hospitalizations and improved quality of life.

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Dedication

I dedicate this paper to my amazing husband and my kids (Zaina, Arman, Alayla, and Zoya). Thank you for understanding, support, and the encouragement you provided throughout this journey. Honey, you are my best friend and a true partner anyone can wish for. Love you all!!

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Section 1: Nature of the Project

Introduction

The use of indwelling urinary catheters has been used since the 19th century for treating both men and women of all ages (Feneley, Kunin, & Stickler, 2012). Indwelling catheters are used in the healthcare industry to manage urinary retention and urinary incontinence and measure strict urinary output (Lo et al., 2014). However, indwelling urinary catheters are the leading cause of nosocomial infections in the United States (Saint et al., 2016). The risk of acquiring catheter-associated urinary tract infections (CAUTI) increases with the extended usage of the catheter and improper insertion and maintenance (Lo et al., 2014). According to Healthy People 2020, hospital-acquired infections (HAIs) are increasing in the United States, which eventually increases mortality, morbidity, and the cost of the healthcare (Centers for Disease Control and Prevention [CDC], 2015). These infections are preventable, and strict guidelines and tools should be implemented to decrease the CAUTI rates and avoid any harm to patients (CDC, 2014).

Problem Statement

CAUTIs are one of the most common and the costly HAIs, which extends the length of stay and comorbidity. The Centers for Medicaid and Medicare Services (CMS, 2015) will not reimburse the cost of the condition if it develops during the hospital stay, explaining why organizations should decrease the CAUTI rates. However, according to the Agency for Healthcare Research and Quality (2016), CAUTI rates are on the rise, increasing by 9% between 2010 to 2013.

There are guidelines, evidence on the etiology, and clinical indications of CAUTI that can be used to help decrease the number of patients developing CAUTI. Hospitals use creative strategies to engage the frontline staff because the frontline staff has the potential to significantly impact the quality of care (CMS, 2015). According to several studies, it is essential to assess the needs of the catheter as well as the usage time. Assessing these details can be achieved by implementing the best guidelines backed by evidence-based knowledge to advocate for patients (Lo et al., 2014). Nursing can play a vital role in following best guidelines and achieving better catheter monitoring.

Purpose

Decreasing the CAUTI rate in the long-term critical care unit was the goal of the chief nursing officer and the manager at the practicum site for this study. This facility has the second highest CAUTI rate in its state. One of the hospital staff's goals was to increase patient safety and satisfaction as well as reduce and prevent financial burden related to CAUTIs such as financial penalties from CMS. The purpose of this quality improvement project was to determine if educating nurses on evidence-based guidelines recommended by the CDC would improve the knowledge and confidence of nurses in managing patients with indwelling catheters.

Nature of the Doctoral Project

I developed an education program for the unit staff on CAUTIs. De-identified secondary data were obtained from the facility, and I identified the number of patients who had been admitted with a catheter in place and acquired a CAUTI as well as those patients who acquired a CAUTI during their hospital stay. Data were provided by the

quality assurance department on CAUTI pre- and post-education program. The focused practice questions were:

1. Will an education program for nursing staff on CAUTI extend the knowledge of nurses in managing patients with indwelling catheters?
2. Will an education program for nursing staff on CAUTI decrease the incidence of CAUTI?

Significance

According to the CDC, around 15% to 25% of patients receive a urinary catheter during their hospital stay. The most important risk factor for acquiring a CAUTI during the hospital stay is the frequent and prolonged use of the indwelling catheter. Due to this reason, it is highly recommended to remove the catheter as soon as possible (CDC, 2015).

CAUTIs can lead to many complications among patients; these complications include prostatitis, epididymitis, cystitis, sepsis, and meningitis. Complications related to CAUTIs lead to patient discomfort, increased hospital stay, and eventually increased cost that the organizations must cover because the patient acquired CAUTI during the hospital stay (CDC, 2016). There is an estimated cost of \$424-\$451 million annually within the United States related to CAUTIs (Lo et al., 2014).

CAUTIs are a significant issue that can lead to increase in hospital stays, decrease in patient safety, and increase in financial burden on the institute (Nicolle, 2014). Nurses are the frontline staff who can make a positive or negative impact on patient outcomes. With knowledge, skills, and the training related to CDC guidelines on CAUTIs, nurses

can provide evidence-based recommendations and can make an impact on CAUTI rates (Nicolle, 2014).

Summary

In an era that included outstanding technological advances in medical practice, it is hard to understand why some healthcare providers still are having difficulty draining urine from the bladder without producing infection and a range of associated complications. The morbidity and mortality caused by the current devices and the costs of health services in managing the complications are no longer acceptable (Feneley et al., 2012). Therefore, staff were educated on evidenced-based CAUTI bundles to decrease the rate of CAUTIs and improve patient satisfaction.

Section 2: Background and Context

Introduction

Urinary tract infections (UTIs) are one of the most common types of HAIs, and they account for more than 30% of infections stated by hospitals in the United States. Most healthcare-associated UTIs are caused by equipment in the urinary tract, which is known as an indwelling catheter or Foley catheter. An indwelling catheter is a catheter or drainage tube that is inserted into the urinary bladder through the urethra and is left in place; it is connected to the closed system (CDC, 2015). Most UTIs are often caused by the placement of the drainage tube or indwelling catheter and are known as CAUTIs.

CAUTIs occur when bacteria enter the urinary tract through the urinary catheter and cause infection. Complications such as morbidity, mortality, increased cost, and the length of stay has been associated with CAUTIs (Greene, Oriola, & Mark, n.d.). The hospital-acquired UTI can lead to unnecessary antibiotic use, and urinary drainage systems are often one of the greatest reservoirs for multidrug-resistant bacteria, which can be a source of transmission of these resistant pathogens to other patients (CDC, 2015).

One of the best practices to avoid CAUTIs is to prevent the use of indwelling catheters whenever possible (Dailly, 2011). Evidence-based guidelines can help to prevent and decrease the occurrence of CAUTIs in patients. Organizations are working hard to address this ongoing issue by using various strategies. Organizations are putting pressure on frontline staff whose impact can improve the quality of patient care (CMS, 2015).

The objective of this project was to educate staff on CAUTI evidence-based practice (EBP) guidelines and decrease the CAUTI rate in the unit. Researchers have found that there is a gap between the EBP and the implication of the concepts on nursing population. By bringing change in practice and application of EBP concepts to the nursing, communities can increase the awareness among nurses while promoting the descending trends in the occurrence of CAUTIs (Oman et al., 2012).

The practice-focused questions were:

1. Will an education program for nursing staff on CAUTI extend the knowledge of nurses in managing patients with indwelling catheters?
2. Will an education program for nursing staff on CAUTI decrease the incidence of CAUTI?

Theoretical Framework

The conceptual framework to guide this project was Malcolm Knowles's adult learning theory. In 1984, Knowles promoted the term known as *andragogy*, defining the term as the art and science to assist adult learners. Knowles built five assumptions about the features of adult learners (Knowles, Holton, & Swanson, 2014). Knowles proposed four principles of andragogy (Knowles et al., 2014). These principles helped to identify ways to develop adult learning opportunities successfully. These four principles are as follows:

1. Adults need to be involved in the overall education plan.
2. Adults' experiences should influence the learning activities. It includes success as well as stories that caused harm to patients.

3. Teaching should be immediately related to the learner's need.
4. The education should be focused rather than the general topic.

Table 1 reflects the difference between adult learners (andragogy) and child learners (pedagogy).

Table 1

Malcolm Knowles's Theory of Adult Learning

Assumptions	Pedagogy	Andragogy
Concept of Learning (self-concept)	Dependent personality	Self-directed
Role of learner's experience Readiness to learn	To be built on more than used as a resource Uniform by age level and curriculum	A rich resource for learning by self and others Develops from life tasks
Orientation to learning Motivation	Subject-centered By external rewards and punishments	Problem-centered By internal incentives/curiosity

Following are descriptions of the five assumptions of Knowles's theory (Smith, 2002) and how it was applied to this doctoral project:

1. The concept of learning: Adults are more independent than children. Adults are self-directed and show responsibility toward learning. The idea of learning applied to the project by providing healthcare workers minimal instructions and maximum guidance and support. Providing them with ample resources regarding CDC EBP guidelines helped them to apply theory into practice within their learning requirement.

2. The role of learner's experience: Adults have plenty of experience that can play an important part in the learning process. Because adults are goal oriented, unlike children, using case scenarios and active discussion related to CAUTIs helped nurses identify how the EBP was relevant to their learning and how it could affect patient outcomes.
3. Readiness to learn: Adults are more goal oriented and willing to determine if any activity is related to their development socially and or professionally. This behavior is essential because adults need to recognize the importance of learning before involving in any activity (Ortoleva, 2010). It is critical to create a healthy environment where staff feel supported by the management. When the staff felt the benefits of applying CAUTI guidelines into practice, they were willing to participate openly.
4. Orientation to learning: Adult learners are more focused and problem oriented. It was imperative to ensure that the learners were clear about the objective of the project and how will it apply to them. Adults are more willing to learn activities, which can help them solve and deal with their problems (Clapper, 2010).
5. Motivation to learn: Adults, for the most part, are self-motivated. If the staff are aware of the objectives and the outcome of the project, they will be able to apply the learned information, and eventually, their internal motivation will be engaged.

Definition of Terms

Urinary tract infection (UTI): An infection in the urinary system, which includes the bladder and the kidneys (American Nurses Association, 2017).

Catheter-associated urinary tract infection (CAUTI): Among UTIs acquired in the hospital, approximately 75% are associated with a urinary catheter, which is a tube inserted into the bladder through the urethra to drain urine (CDC, 2015).

Hospital-acquired infection (HAI): A hospital-acquired infection, also known as a nosocomial infection, is an infection that acquired in a hospital or other healthcare facility. HAIs are caused by viral, bacterial, and fungal pathogens (Medscape, 2016).

Indwelling urinary catheter: An indwelling urinary catheter, also known as Foley catheter, is one that is left in the bladder.

Relevance to Nursing Practice

CAUTIs are one of the biggest challenges for long-term acute care hospitals. Most of these patients come from intensive care unit with an indwelling catheter in place. These patients are vulnerable to acquire infections due to immune exhaustion experience (Krein, Kowalski, Harrod, Forman, & Saint, 2013). Each day the urinary catheter remains in place the risk of CAUTIs increases 5% per day (CDC, 2016). In healthcare organizations, there are various concerns that can hinder patient safety and eventually lead to increase in CAUTI rates such as difficulty with nurse and physician engagement, patient and family requests for indwelling catheter, and issues with catheter insertion practices and maintenance (Krein et al., 2013).

HAIs are on the radar for many media and news agencies. Information related to infections for each facility is public information, and consumers can have information on their fingerprints. Because long-term acute care facilities are 100% referral based, HAIs can impact their reimbursement and the image of the facility.

The most recent report from the year 2014-2016 shows the overall decrease in infection rates such as for Central Line-Associated Bloodstream Infection (CLABSI), MRSA, and abdominal hysterectomy infections. However, these reports show an increase in CAUTIs infections from the prior year and significant interventions are needed to decrease the CAUTI rates (CDC, 2016).

National Initiatives

CAUTIS are one of the most common HAIs in the United States with the rates continuing to rise (CDC, 2015). Each year more than 560,000 patients acquire CAUTI, which leads to increased health care costs and poor patient outcomes. Nurses play an important role to save lives, prevent harm, and reduce the healthcare costs (American Nurses Association, 2017).

Over the last few years, many initiatives and guidelines taken place to decrease CAUTI rates and improve CAUTI outcomes. In 2009, the U.S. Department of Health and Human Services introduced HAI action plan. Among HAIs, CAUTI was one of the HAIs the Department of Health and Human Services targeted on (CDC, 2015). In the same year, the CDC updated its guidelines on CAUTI, and many accreditation organizations took an active part to focus on decreasing CAUTIs. Such as the Joint Commission accepted a new National Patient Safety Goal specific to CAUTIs. Following these guidelines and initiatives, new federal funding supported state-based CAUTI prevention activities (Hanchett, 2012).

More recently, CMS started requiring all hospitals and long-term facilities to report their CAUTI rates through National Healthcare and Safety Network (NHSN). In

addition to benefiting from increased attention to HAI prevention, patients can access the data and compare the hospitals through the website. Since HAIs are public information, facilities are working hard to decrease the HAIs while increasing the revenue of their facilities (Hanchett, 2012).

The most common and costly HAI that prolongs the length of stay and comorbidity is CAUTIs. Furthermore, it is one of those conditions that the CMS (n.d.) no longer reimburses the extra cost of treatment if a patient develops it during hospitalization.

Regardless of strict guidelines to reduce CAUTIs, the U.S. Department of Health and Human Services indicates CAUTI rates have increased by 9% between 2010 and 2013 (AHRQ, 2015). With all the penalties from CMS and continued effort from hospitals to implement the best practices to reduce CAUTIs, Foley catheter use, and CAUTIs continue to grow (CDC, 2015).

Staff Education

Quality and performance improvement initiatives are driving significant changes in the United States healthcare system. The aim of these initiatives is to improve patient outcome, improve patient satisfaction, improve population health, and decrease the healthcare costs. Healthcare organizations across the United States are implementing these initiatives to improve patient outcome (Weston & Roberts, 2013).

Since the time of Florence Nightingale, nurses have played a major role in the management of quality measures and to create a positive environment for the patients (Cheung, Aiken, Clarke, & Sloane, 2008). According to the CDC (2015), educating

nurses in the usage and the maintenance of IUC can decrease CAUTI rates and improve patient outcome. The CDC (2015) suggested evidence-based guidelines that include proper insertion, maintenance, and the proper removal of Foley catheter. Studies have suggested that the appropriate use of CDC guidelines can prevent CAUTI risks. It has found that only a few studies have been conducted to evaluate nursing education as an intervention to decrease CAUTI (Rosenthal, Guzman, & Safdar, 2004). Hence, more studies are needed to be done to see the effectiveness of nursing education on decreasing CAUTI rates.

Nurses are the frontline staff whose role can bring the positive outcome for the patients by properly placing, maintaining, and removing the IUCs. Since nurses play a significant role in patient outcomes, educating nurses on evidence-based knowledge can bring positive effects for the patients. EBPs and the guidelines can impact nurses' practice (Bernard, Hunter, & Moore, 2012). Due to this reason, it is essential for the organizations to update their policies and training modules and educate nurses on the indication and maintenance of IUC practices.

According to Drekonja, Kuskowski, & Johnson (2010), inconsistencies in nurses' knowledge concerning IUCs exist. Researchers also found that after retraining the staff regarding the IUCs, catheter days decreased, which proves that providing evidence-based knowledge to nurses helps in preventing CAUTI.

Smith (2015) reported that St. Francis Hospital in New York implemented a CAUTI evidence-based tool, and it has found that by educating nursing staff on CAUTI guidelines reduced the CAUTI rates to 45% over the period of three-quarter. The

American Association of Colleges of Nursing (2017) stated that CAUTI is a nurse-sensitive indicator and educating nurses on the CAUTI evidence-based guidelines will result in decreasing CAUTIs outcomes.

A nurse-led multidisciplinary approach has shown significant reduction in the rate of IUCs utilization from 203 IUCs days per 1,000 patient-days in the pre-intervention phase to 162 IUCs days per 1,000 patient-days in the intervention phase (Fakih et al., 2012).

Researchers recommended that for a successful CAUTI implementation, it is vital to gather staff perception on IUCs and assess the behavior and misconceptions about using IUCs. The goal of this project was to identify if the nurse-driven urinary catheter removal protocol can decrease the CAUTI rates. After educating nurses on autonomy and nurse-driven protocol, it was found that nurses have a significant increase in knowledge and education on IUCs. The unit maintained zero CAUTI rates over the 3-month period (Oman et al., 2012).

Managing patients with IUC is a significant issue that needs to be addressed to decrease the risk of infections. Implementing EBP guidelines in the organization is a vital strategy to minimize the usage and the duration of IUCs, which can eventually reduce CAUTIs (American Nurses Association, 2017). Evidence-based guidelines can promote nurses' knowledge, which promotes excellence in patient care (Justus, 2015). Educating and re-educating nursing staff improves patient safety, and it reduces the risk of CAUTIs (Burnett et al., 2010). Researchers have found that there is a gap between the EBP and the implication of the concepts on nursing population. The researcher suggested

that bringing change in practice and application of EBP concepts to the nursing community can increase the awareness among nurses while promoting the descending trends in the occurrence of CAUTIs (Oman et al., 2012).

Despite the link between the catheters and the UTIs, facilities are still struggling to prevent CAUTIs due to an inconsistency of using CAUTI strategies such as implementing CAUTI bundle. The goal of the CAUTI maintenance bundle is to optimize the care for any patient who requires a urinary catheter during the hospital stay. The CAUTI bundle emphasizes on using an evidence-based tool to prevent patients from acquiring CAUTIs (CMS, n.d).

Summary

As of October 2008, the CMS (n.d.) will not cover the cost of the HAIs. Because of this reason, healthcare agencies are working hard not to take on this extra financial burden. According to the Institute of Medicine, patient safety should be the number one priority for the healthcare organizations (Institute of Medicine, 2017). CDC introduced evidence-based CAUTI guidelines that can decrease usage of IUCs and educate nursing staff to reduce hospital-acquired UTIs.

Section 3: Collection and Analysis of Evidence

Introduction

CAUTIs are one of the most common types of HAI in the United States. More than 80% of infections are associated with CAUTIs. Because of the high number of CAUTIs, hospitals are covering for the costs of infections acquired during the hospital stay, and it is reported that an estimated \$451 million is spent annually to manage these infections (American Sentinel University, 2013).

Strict guidelines and protocols should be implemented to decrease HAIs. Infections increase the length of patient stay, patient safety is jeopardized, and hospitals cover the cost of the infections that patients acquire during the hospital stay. Since October 2008, Medicare deemed these incidents as “preventable” and pressured organizations to address the issue or pay for the cost themselves. Since then, many larger insurance companies are following the lead of Medicare and will not cover the cost either (American Sentinel University, 2013).

Practice-focused Questions

According to the CDC, 20% to 30% of patients receive urinary catheters during their hospital stays. One of the surveys included reports that up to 90% ICU patients receive urinary catheters (CDC, 2015). Nurses are the forefront staff and responsible for managing and maintaining urinary catheters; as a result, they can implement recommended strategies to help prevent CAUTIs and improve patient outcomes (American Sentinel University, 2013).

The practice-focused questions to address the issue of CAUTIs were:

1. Will an education program for nursing staff on CAUTI extend the knowledge of nurses in managing patients with indwelling catheters?
2. Will an education program for nursing staff on CAUTI decrease the incidence of CAUTI?

Sources of Evidence

Operational Data

According to the operational data, this facility had the second highest CAUTI in the state. The national benchmark for CAUTI is < 1.00 , and according to the statistics, the state of the study site has 5% worse rates than the national average (CDC, 2014).

De-identified data provided by the quality assurance coordinator revealed that in 2017, there were 13 cases of CAUTIs (Appendix B). The national benchmark should be < 1.00 per 1,000 patients. Data were also collected from the CAUTI bundle audit tool (Appendix A). Data were retrieved from 88 patients over 30 days, and according to the data, there were subsections in the audit tool where education was needed (Appendix C). The priority for the organization was to decrease CAUTI rates to or below the state and national level.

Evidence Generated for the Doctoral Project

Participants

Nurses comprise one of the largest percentages of the healthcare industry that provides direct care to the patients. Continuous education and staying current on EBPs can help nurses to provide better patient care and eventually increase positive patient outcomes (Brown, Wickline, Ecoff, & Glaser, 2009). For this project, nurses included

full- and part-time registered nurses, licensed practical nurses, and nursing assistants were the participants. The practice-focused questions for this DNP project were:

1. Will an education program for nursing staff on CAUTI extend the knowledge of nurses in managing patients with indwelling catheters?
2. Will an education program for nursing staff on CAUTI decrease the incidence of CAUTI?

This education program (Appendix D) was presented during mandatory staff meetings and mandatory in-services. I conducted two sessions day and evening over a 1-week period. Walden University DNP manual for staff education was used for this project and received IRB approval before implementing the project.

Procedure

After meeting the manager of the unit, I found that the regional hospital has the second highest CAUTI rates in the state. Upon meeting with the infection control nurse, QI coordinator, and the chief nurse officer, the team decided that educating staff on CAUTI bundle and the current guidelines are the best approach to decreasing the CAUTI rates.

I created an education program following the Walden University DNP Manual for Staff Education. This education program (Appendix D) was presented to the key stakeholders for content validity before presenting the program to the nursing staff. An anonymous evaluation survey was given to the participants at the end to evaluate the program.

Permission to implement this education project was obtained from the Walden University IRB (IRB # 02-05-18-0186017). A letter of cooperation was signed by the institution and sent to Walden IRB. Participants filled out the consent form from the DNP Manual for Staff Education. before participating in the project. The education program was presented during the staff meeting. Registered nurses, licensed practical nurses, and nursing assistants attended this program. Nurse practitioners and the physicians were encouraged to participate in the class as well. The goal of the staff education project was to educate all health care providers about the current statistics of their CAUTI rate, the importance of decreasing CAUTI rates, and the current standard guidelines on CAUTI bundle. Participants were given a program evaluation form (Appendix E). The evaluation results were reviewed with the quality assurance coordinator.

Analysis and Synthesis

The quality assurance coordinator provided data on CAUTI rates for a one-month period post education program. Pre-and post-data for one month before and after the program were compared. Results of the data were provided to the quality assurance coordinator

Summary

The most important role for nursing profession is to stay current on EBPs. Evidence-based practices help nurses to improve their knowledge and skills and apply that into their practice settings for better patient outcome (Institute of Medicine, 2017)

CAUTIs are preventable infections, and nursing practice plays a significant role to impact patient outcome. Due to the complexity of healthcare needs, nurses are required to be competent in skills and to provide quality care to the consumers (Institute of Medicine, 2017).

This project helped nurses to translate evidence-based guidelines and knowledge into practice. The education given to the nurses were based on CDC guidelines along with the facility's policy regarding the CAUTI bundle.

Section 4: Findings and Recommendations

Introduction

A CAUTI is one of the most common HAIs in the United States, accounting for 80% of the HAIs. These infections can increase the morbidity, mortality, and healthcare costs. The CMS will no longer cover the cost of HAIs and facilities have to pay for CAUTI costs (Conner, 2012). National and international guidelines are present to decrease the rate of CAUTIs in the healthcare environment. However, despite prevention strategies, CAUTI incidence continues to rise (Conner, 2012).

The study facility had the second highest CAUTI rate in its state. One of the hospital's goals was to increase patient safety and satisfaction as well as reduce and prevent financial burden related to CAUTIs. The purpose of the project was to reinforce the CAUTI bundle to the nursing staff and educate new nurses on CAUTI bundle. The goal of the project was to identify the effect of evidenced-based education on nursing staff in the long term critical care and to assess if there was a decrease in CAUTI rates. Furthermore, the results of the project served as a platform to improve the rate of CAUTI in the facility as well as at the regional level. The focused practice questions were:

1. Will an education program for nursing staff on CAUTI extend the knowledge of nurses in managing patients with an indwelling catheter?
2. Will an education program for nursing staff on CAUTI decrease the incidence of CAUTI?

Sources of Evidence

De-identified data on CAUTI rates at the facility were provided by the quality improvement coordinator and collected through the EPIC computer system. The data were compared with national CAUTI data. Data were also collected from the CAUTI bundle audit tool before education and after the education program.

Findings and Implications

Fifteen nursing staff participated in the education program. Consent forms were completed by the 15 participants before the education program. At the end of the education program, participants were given an evaluation form measuring the effectiveness of the education program (Appendix E). Two education sessions were provided to cover the day shift staff and the night shift. Each session was approximately 30 minutes with 10 minutes for questions and answers. PowerPoint handouts were given to the participants (Appendix D), and the educational materials were also posted in the unit.

The CAUTI rates before and after education sessions were calculated by the QI coordinator. De-identified data were provided to me for the CAUTI rates over 1 month. The data were collected from the CAUTI bundle audit tool after the education program. I compared the CAUTI rates for the 1-month pre-education with those for the post-education. Table 2 reflects the number of CAUTI incidents for July–December 2017, January 2018 pre-education, and the February 2018 (post-education). Although data was available for only 1-month post implementation, there were no reported incidences of infection during the month. Data were also collected from the CAUTI bundle audit tool,

and the data were retrieved from 34 patients for over 30 days. Of the 10 criteria, nine were achieved at over 90%. The criteria for green clip attached was only met at 85%.

Figure 1 the result of CAUTI bundle compliance tool.

Table 2

CAUTI Incidence

Month	Year	CAUTIs per 1,000 patient days
July–December	2017	8
January	2018	2
February (posteducation)	2018	0

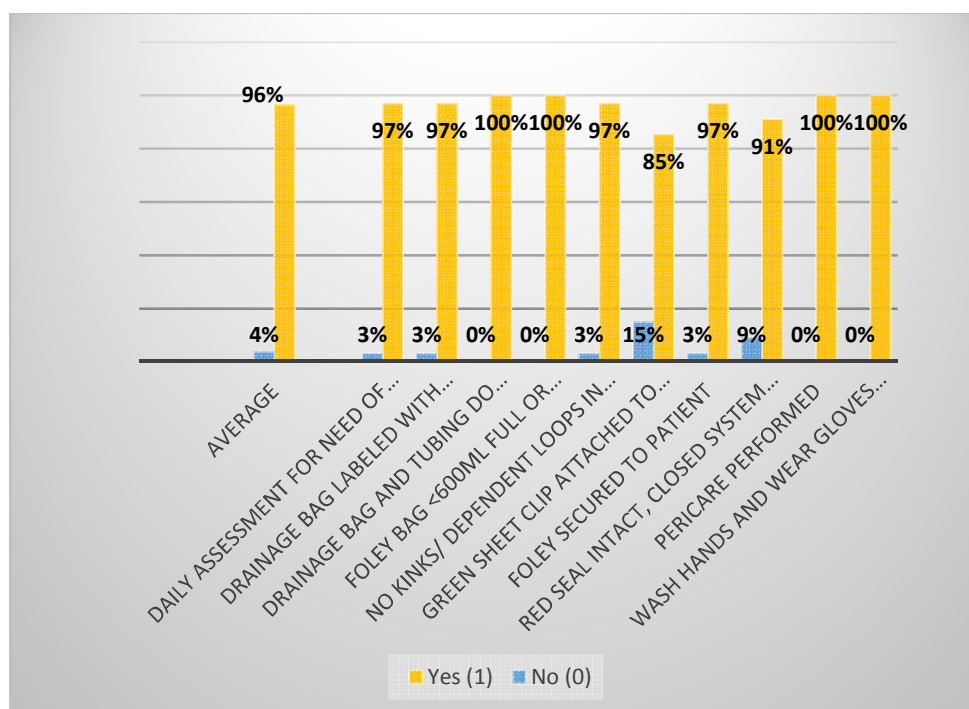


Figure 1. CAUTI maintenance tool results.

Evaluation

Evaluation is a systemic process to assess the effectiveness of the intervention. Evaluation results can be used to improve the program or modify the interventions for future planning and to ensure that modifications of intervention are based on more evidenced-based (CDC, n.d). At the end of the program, summative participants completed an evaluation to assess the effectiveness of the education.

At the end of the education, participants were asked to evaluate the researcher using a Likert scale of 1 to 5 in which 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral* (neither agree nor disagree), 4 = *agree*, and 5 = *strongly agree*. Table 3 reflects the results of the researcher evaluation. All participants identified that they agreed or strongly agreed that the program met the objectives identified on the evaluation form and that the content extended their knowledge of the topic. Two items on the evaluation reflected self-reporting of the information. Under content, 14 participants strongly agreed that the presented content extended their knowledge of the topic. One person responded agree in the content area and stated that they were aware of information. Under the content section, 15 participants stated that the content was related to their job. Although the participants indicated knowledge of the content, it is important to continue monitoring CAUTI rates and compliance with the CAUTI bundle and CAUTI maintenance tool. Table 3 depicts evaluation results.

Table 3

Results of Summative Evaluation

15	strongly disagree	disagree	neutral	Agree	strongly agree
	1	2	3	4	5
The content was interesting to me?	0	0	0	1	14
The content extended my knowledge of the topic?	0	0	0	1	14
The content was consistent with the objectives	0	0	0	1	14
The content was related to my job	0	0	0	0	15
Objectives were consistent with purpose/goal of the activity	0	0	0	1	14
The presentation was clear and to the point	0	0	0	1	14
The presenter demonstrated mastery of the topic	0	0	0	0	15
The method used to present the material held my attention	0	0	0	0	15
The presenter was responsive to participants concerns	0	0	0	0	15
The instructional material was well organized and easy to understand	0	0	0	0	15
The handout materials given are likely to be used as a future reference	0	0	0	0	15
The teaching strategies were appropriate for the activity	0	0	0	0	15

The above-mentioned evaluation results show that researcher's education was effective. Researcher had received multiple comments on the evaluation form such as "Well done"!!, "good work", "Thank you for sharing".

Implications

According to the Centers for Disease Control and Infection (CDC), more than 1.7 million people acquired HAIs in the United States every year, and 100,000 people die due to the complications from these infections (CDC, 2016b). UTIs are one of the most common types of HAIs, which accounts for almost 40% of them. Researchers have found that 80% of the UTIs which acquires during the hospital stay is triggered by using indwelling catheter (Conner et al., 2013). In 2007, it was estimated that the cost of

treating and managing patients with CAUTI was \$400 million per year in the US alone (Conner et al., 2013).

Implementing an evidenced-based CAUTI bundle may decrease the length of stay for the patient, improve patient outcome, and decrease financial burden for the facilities (CDC, 2015b). Although only After implementing CAUTI bundle, there was a decrease in CAUTI rates Table 2 portrays the results of post education. CAUTI maintenance tool post education, also shows that 96% nursing staff follows the evidence-based guidelines. Many evidenced based frameworks and initiatives are present to improve patient safety, and despite all the strict measures, HAIs are still on rising and causing harm to the patients (AHRQ, 2016). Educating nursing staff on CAUTI evidenced based bundle tool, may assist the facility to decrease CAUTI rate, improve patient safety, and can bring social change within the organization.

Social change

Many Pieces of evidence and supporting interventions are present to decrease the HAIs, but still, CAUTI rates are on the rise (American Nurses Association, 2018). The Center for Medicare and Medicaid decided not to reimburse the cost of the infections if patients acquired that during the hospital stay such as CAUTI (CMS, n.d). Because of this reason, healthcare organizations are working hard to decrease their financial burden, improve patient safety, and enhance the quality of life by implementing evidenced-based strategies.

In today's healthcare society, you can access information such as infection rates, patient outcome, and patient satisfaction survey online from the State or the National data

website. In this information age, people have more access to the health information, and because of this reason, it enforces healthcare organizations to apply evidenced-based guidelines such as CAUTI bundle to increase patient outcome and decrease financial burden. It also provides an incentive for the healthcare facilities that improving patient safety and the outcome can increase their revenue. Most of the states are encouraging healthcare providers by providing incentives for promoting patient safety and being proactive in implementing HAIs prevention approaches (CDC, 2011). The Joint Commission is enforcing healthcare facilities to implement evidenced-based guidelines, and they are calling out to those facilities who fail to implement recommended guidelines and facilities to conduct Failure Modes and Effects Analysis (Joint Commission, 2010).

Strength and Limitations of the Project

The facility will continue to implement the project until the desired results achieved. One strength of the project is that the facility is implementing an evidenced-based CAUTI bundle tool and CAUTI bundle maintenance tool which has many sub-sections which can facilitate in decreasing CAUTI rate. The other strength of the project is that all nursing staff, providers, and the administration acknowledges the importance of decreasing CAUTI and patient safety. QI coordinator and the charge nurse are planning to do random audits for ongoing evaluation to assess and identify the gaps to improve the project.

One of the limitations of the project is that education was given to small sample size and data was retrieved from the small sample size. The other limitation is that the data was retrieved during a month period instead of over longer period.

Recommendations

Monitoring of the use of the CAUTI bundle should be continued with ongoing feedback from users/ stakeholders for the effectiveness of the CAUTI bundle. The CAUTI audit tool on a daily basis by manager/charge nurse to assess the effectiveness of the education and modify the interventions accordingly. Monthly CAUTI rates should be monitored and a review of causes of a rate above zero.

Another recommendation will be to provide educational in-services on a continuous basis. It can be either live sessions, online modules/videos, and educational visual pamphlets. These platform gives the opportunity to nursing leaders to educate nursing staff and assist them in reaching the benchmark. Continuous support from the leaders play an important role in sustainability of the project.

Furthermore, nursing programs should in cooperate evidenced based CAUTI guidelines into their nursing program. If students learn the concept during theory, lab, and the clinical settings, it will provide a solid background for nursing students from the beginning. This process will help them to apply theory into practice and learned knowledge will assist them to provide safe and quality care.

Section 5: Dissemination Plan

The purpose of the project was to understand the relationship between CAUTI rates and the education on CAUTI bundle. The literature, which was presented in Section 2, shows that there are many approaches that can assist in decreasing CAUTI rates. There are many evidence-based guidelines that can reduce CAUTI incidents. The EBP provides a platform for nurses to transform new researched knowledge and clinical decision making into practice which can improve patient outcome (Stevens, 2013).

This project did not only help me understand the importance of evidence-based guidelines in nursing practice, but it also helped me empower nursing staff to apply an evidenced-based CAUTI bundle tool to influence patient outcomes. After reflecting on my experience, I believe that evidenced-based guidelines can be applicable to the broader nursing profession. Inter-professional teams need to work together to apply the project to other departments. Good communication and transparency is important to keep all the stakeholders in agreement. The quality of patient care can be improved when all the members of the healthcare team work in collaboration to share patient perspectives. Each profession enters into the setting with various skills and knowledge. Working together can enhance the care of the patient (Keller et al., 2013).

Sustainability can be achieved by educating nursing staff on an ongoing basis on the best practices. Additionally, evidence-based guidelines on the CAUTI bundle tool should be taught in nursing schools. Simulations and case studies which focus on CAUTI bundle can help students' in cooperating theory into practice into the controlled environment, and this will eventually assist nursing students to apply theory into practice

at their clinical sites without causing harm to the patient. The best practices can be taught in new employee (RN, CNA) orientation programs.

Analysis of Self

Analysis as a Scholar

It is very true that nursing profession has evolved. It all started from Florence Nightingale with cleaning floors to now collecting data and implementing best practices as nursing scholars. Nurse scholars of the 21st century is responsible for understanding nursing theories, conceptual framework, and apply that into guiding practices (Bunkers, 2000). This project was not only implemented best practices but also to reflect on myself about the knowledge and skills which I learned during this experience. As a scholar, I identified the problem which was increased CAUTI rates at the practice setting and implemented evidenced-based practices outcome such as CAUTI bundle and CAUTI bundle maintenance tool with the help of adult learning theory. This process has given me an opportunity to self-reflect and identify the strengths and weaknesses as a scholar.

Analysis as a Practitioner

DNP prepares nurses to build a bridge between research and practice. This program helps me to apply knowledge into practice by appraising the literature and filling the practice gap while improving patient outcome. The role of the practitioners is to evaluate patients, promote preventive measures, and improve quality of life. During this process, I was able to apply knowledge into practice which can improve patient outcome.

Analysis as a Project Manager

As a project manager, I was able to identify the issue, create realistic goals and achieve those goals in a realistic period. This whole process helps me to be transparent with the stakeholders, keep them updated with the research, and the best practices. It also makes me understand the pros and cons of the project and the importance of sustainability of the project.

Summary

CAUTIs are the chief source of HAIs with significant consequences of mortality, morbidity, and the substantial increase in cost (Tenke, et al., 2017). The goal of this education project was to decrease CAUTI rates by reinforcing nursing staff on an evidenced-based CAUTI bundle. Nurses' are the frontline staff which plays a major role in impacting patient outcome. The national benchmark for CAUTI is 1 per 1,000 patient days. This facility had 13 cases over the 12-month period.

A PowerPoint presentation (Appendix D) was created which highlighted the CAUTI bundle guidelines along with the CAUTI bundle maintenance tool. Education was provided to the nursing staff on all the sub-section of the maintenance tool by applying Knowles's Malcolm theory. De-identified data was provided for over a month post education. The result showed zero CAUTI rates in February. Therefore, this project has shown improvement of CAUTI rates in the critical care unit. Hopefully, if this project applies to the other departments, CAUTI rates will decrease, and it will be beneficial if it can be applied to larger sample size and to assess the data three, six, and nine months post education. The ongoing support from the administration can create a

social change and provide platform for all other departments to implement the strategies into their department.

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Appendix A: CAUTI Bundle Maintenance Audit Tool



REGIONAL HOSPITAL
16251 Sylvester Rd. SW
Burien, WA 98166
206.248.4604

CAUTI Bundle – Compliance (Maintenance)

Instructions: Complete once weekly on all patients with Foley catheter that day. Be sure to date so infection control knows the denominator for that day.

Date of Evaluation: _____

Pt initial and DOB _____

Medical Record Number (MRN #) _____

Date of Insertion: _____

Reviewer: _____

**COMPLETED FORM TO Infection
Prevention & Control**

No.	Foley Care and Maintenance	Yes 1	NO 0	Comments
1.	WASH HANDS and wear gloves when handling Foley? (Observation)			
2.	PERICARE performed. (Observation/ Epic)			
3.	Red seal intact, closed system maintained (Observation)			
4.	Foley secured to patient (Observation)			
5.	Green sheet clip Attached to the bedding sheet? (Observation)			
6.	No kinks/ dependent loops in tubing (Observation)			
7.	Foley bag < 600ml full or emptied q4hrs. (Observation/ Epic)			
8.	Drainage BAG and tubing DO NOT TOUCH the FLOOR? (Observation)			
9.	Drainage Bag Labeled with Insertion Date, Insertion Location and Initials (Observation)			
10.	Daily assessment for need of catheter completed (Epic)			

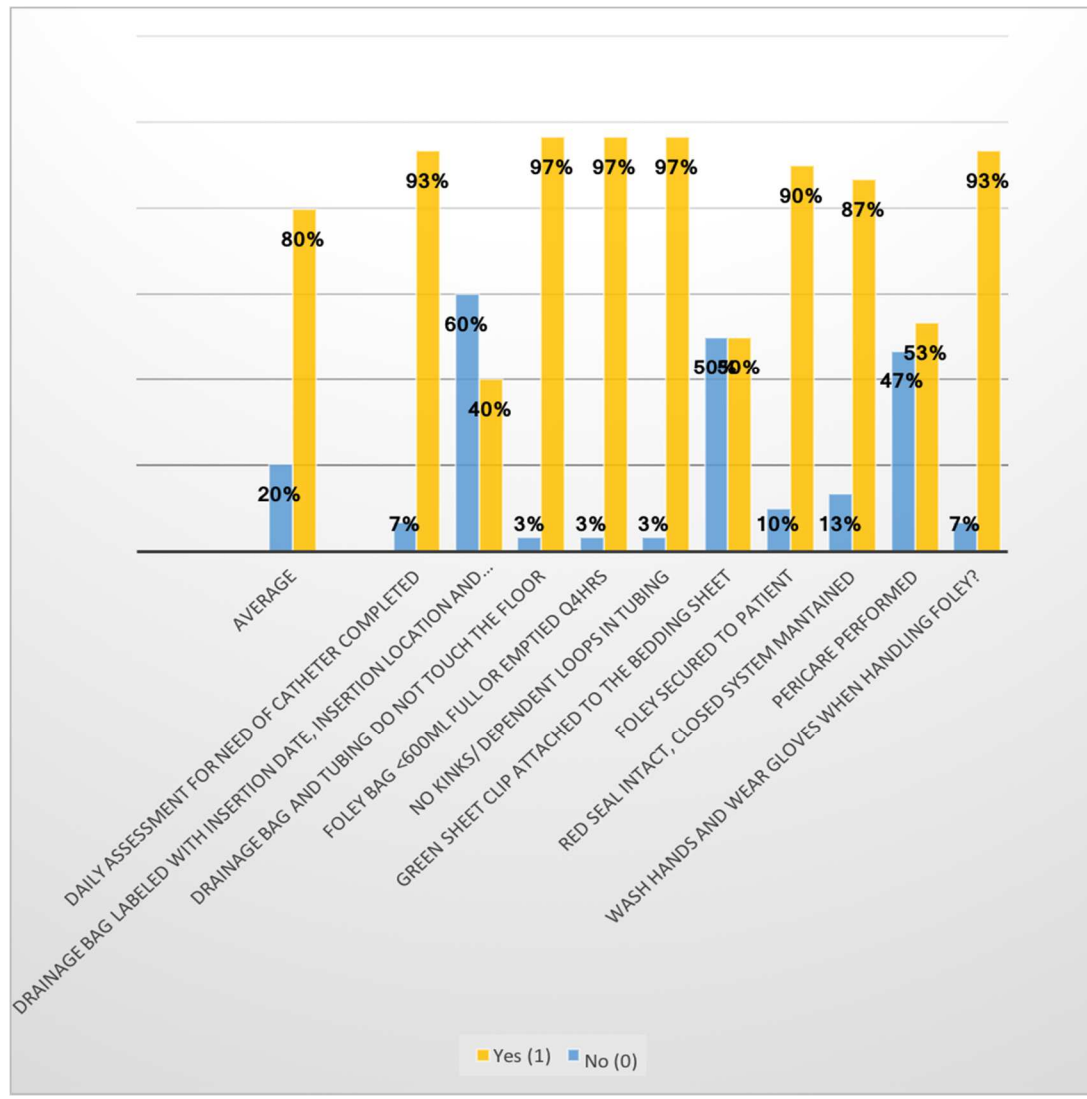
Appendix B: CAUTI Rates for the Period of 1 Year (2016-2017)

There were 13 cases reported for CAUTI over the period of 1 year. The National Benchmark should be <1.00 per 1000 patient days.

Month	Year	CAUTIs reported per 1000 patient days
July	2016	2
August	2016	1
September	2016	0
October	2016	0
November	2016	2
December	2016	3
January	2017	0
February	2017	1
March	2017	2
April	2017	1
May	2017	1
June	2017	0
July	2017	1
August	2017	2
September	2017	1
October	2017	1
November	2017	1
December	2017	2
January	2018	2
February	2018	0

Appendix C: Data Collected from the CAUTI Bundle Audit Tool

Data is retrieved from 88 patients over the period of 30 days.



Appendix D: Presentation Slides

Decreasing CAUTI rates by educating staff on reinforcing on CAUTI Bundle

Presented by
Yasmin Ali (DNP Student).



Learning objectives

At the end of the presentation, learners will be able to:

- Describe what is CAUTI and why is it important
- Relate present findings of the de-identified data to the CAUTI rate
- Discuss the elements of CAUTI prevention bundle and how they can decrease the rate of CAUTI.
- Understand the EPIC documentation regarding CAUTI Bundle

Goals

- To decrease CAUTI.
- To improve patient safety.

Learning Objectives



What is CAUTI?

Urinary tract infections (UTIs) are the most common hospital-acquired infection, accounting for up to 40% of infections reported by acute care hospitals.¹ The major risk factor associated with catheter-associated urinary tract infection (CAUTI) is the presence of an indwelling urinary catheter. Despite efforts to reduce the occurrence of CAUTIs, their frequency increased 6% between 2009 and 2013.¹ CAUTIs increase hospital cost and are associated with increased morbidity and mortality.^{2,3} CAUTIs are considered by the Centers for Medicare and Medicaid Services to represent a reasonably preventable complication of hospitalization (American Association of Critical Care Nurses, n.d).

Importance of CAUTI prevention and penalty

CMS (Medicare) will not pay for preventable hospital- acquired complications. One of their high priorities is CA- UTI -- due to its high cost and high volume

- CA-UTI adds \$500 to \$1,000 to direct costs of an acute care hospitalization; additional \$3,800 if bacteremia occurs
- Over 1 Million nosocomial UTIs occur per year
- According to CMS, annual cost due to CA-UTI amounts to \$424M to \$451M (Centers for Medicare and Medicaid Services, 2015).

Facts about CAUTI

- 600,000 patients develop hospital-acquired urinary tract infections per year.
- 80% of these are urinary catheter associated.
- Approximately half of the patients with a urinary catheter do not have a valid indication for placement.
- Each day a urinary catheter remains, the risk of a catheter-associated urinary tract infection (CAUTI) increases 5% (Agency for Healthcare Research and Quality, 2015).



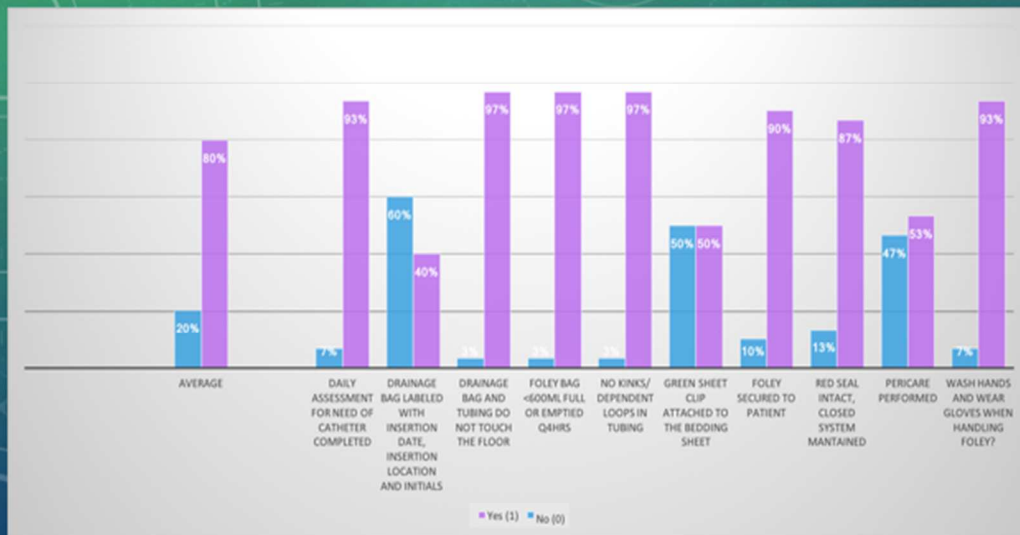
Facility Statistics

CAUTI rates for the period of one year 2016-2017

There were 13 cases reported for CAUTI over the period of one year. The National Benchmark should be <1.00 per 1000 patient days.

Month	Year	CAUTIs reported
July	2016	2
August	2016	1
September	2016	0
October	2016	0
November	2016	2
December	2016	3
January	2017	0
February	2017	1
March	2017	2
April	2017	1
May	2017	1
June	2017	0

Data was collected from the CAUTI bundle audit tool. Data is retrieved from 88 patients over the period of 30 days.



CAUTI Bundle

- The CAUTI maintenance bundle is to optimize the care of patients who require urinary catheterization during acute care, and to ensure that urinary catheters are removed as soon as clinically indicated. The CAUTI insertion pack would be useful to improve practice in areas where urinary catheters are inserted, but patients are transferred to another area for ongoing care. It can also be used in wards that want to ensure that their care is optimal at both insertion and for as long as the catheter remains in situ (Centers for Medicare and Medicaid Services, n.d).



CAUTI Bundle Maintenance Tool

No.	Foley Care and Maintenance	Yes 1	NO 0	Comments
1.	WASH HANDS and wear gloves when handling Foley? (Observation)			
2.	PERICARE performed. (Observation/ Epic)			
3.	Red seal intact, closed system maintained (Observation)			
4.	Foley secured to patient (Observation)			
5.	Green sheet clip Attached to the bedding sheet? (Observation)			
6.	No kinks/ dependent loops in tubing (Observation)			
7.	Foley bag < 600ml full or emptied q4hrs. (Observation/ Epic)			
8.	Drainage BAG and tubing DO NOT TOUCH the FLOOR? (Observation)			
9.	Drainage Bag Labeled with Insertion Date, Insertion Location and Initials (Observation)			
10.	Daily assessment for need of catheter completed (Epic)			

Epic documentation on CAUTI Bundle Maintenance

The screenshot displays the Epic EMR interface for a patient's CAUTI bundle maintenance. The 'Urinary Catheter Foley' section is expanded, showing a table with columns for 'Site Assessment', 'Clean/In...', and 'Catheter Type: Foley Catheter'. The 'Urinary Catheter Daily Bundle' row is highlighted with a red circle. A red arrow points from this row to a list of checkboxes on the right side of the screen, which includes 'Hand hygiene with soap and water occurs before and after contact'.

WASH HANDS and wear gloves when handling Foley

According to CDC, following are the guidelines on hand washing

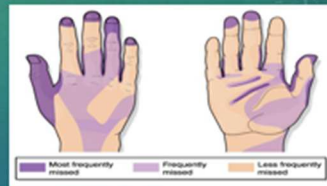
Wash with soap and water	Use an Alcohol-Based Hand Sanitizer
<ul style="list-style-type: none"> When hands are visibly dirty 	<ul style="list-style-type: none"> For everything else
<ul style="list-style-type: none"> After known or suspected exposure to <i>Clostridium difficile</i> if your facility is experiencing an outbreak or higher endemic rates 	
<ul style="list-style-type: none"> After known or suspected exposure to patients with infectious diarrhea during norovirus outbreak 	
<ul style="list-style-type: none"> Before eating 	
<ul style="list-style-type: none"> After using Restroom 	

(Centers for Disease Control and Prevention, 2017)

Wash hands (cont--)

• **Techniques for Using Alcohol-Based Hand Sanitizer collapsed**

- When using alcohol-based hand sanitizer:
- Put product on hands and rub hands together
- Cover all surfaces until hands feel dry
- This should take around 20 seconds



• **Techniques for Washing Hands with Soap and Water collapsed**

- When cleaning your hands with soap and water, wet your hands first with water, apply the amount of product recommended by the manufacturer to your hands, and rub your hands together vigorously for at least 20 to 30 seconds, covering all surfaces of the hands and fingers.
- Rinse your hands with water and use disposable towels to dry. Use towel to turn off the faucet.
- Avoid using hot water, to prevent drying of skin.

Remember to wear gloves before handling a Foley Catheter



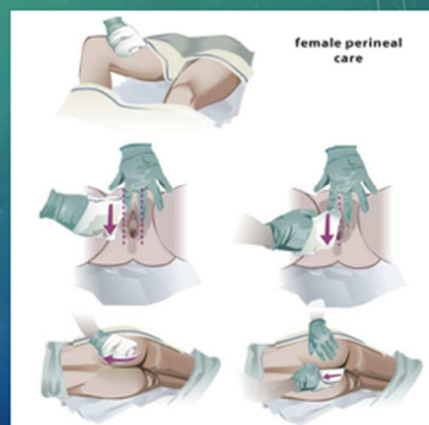
PERICARE performed.

- Male Perineal care steps
- Clean the tip of the penis at the urethral meatus in a circular motion from the center outward.
- Wash the shaft of the penis from the tip to the base in a downward motion.
- Wash the scrotum including the underlying skin folds.
- Wash the outer buttocks.
- Wash the inner buttocks.



PERICARE performed (cont--)

- Female Perineal care
- Clean the perineal area from front to back to prevent contamination from the rectal area to the urethra. It is also important to use a separate area of the washcloth for each area or a new washcloth if the one you are using becomes soiled. After you wash and thoroughly rinse each area, pat them dry to prevent skin irritation and breakdown



PERICARE performed (cont--)

- According to the facility policy, following are the critical aspects to perform after performing pericare:
- Use a separate wipe to clean the urinary catheter from top to bottom or away from the patient.
- Linens has to be changed immediately after performing Pericare.
- Proper documentation after the procedure.
- In the following two slides, you will be find screenshots from EPIC to have a better understanding of proper documentation.



Peri care Documentations

The screenshot displays the EPIC EHR interface for a patient's care plan. The patient's name is 'Admission (Current) from 8/16/2017 in Regional Hospital for Respiratory and Complex Care'. The care plan is titled 'Pericare' and includes a table with columns for dates and times: 0200, 0500, 0742, 0744, 0828, 1000, 1142, 1148, 1400, 1500, and 1505. The care plan items are organized into sections: 'Hygiene', 'Urinary Catheter Care', 'Oral Care', 'Skin Care', 'Level of Assistance', and 'Linens Changed'. A red circle highlights the 'Hygiene' section in the care plan grid. A red arrow points from this circle to a dropdown menu on the right side of the screen, which is currently open to the 'Hygiene' section. The dropdown menu lists various hygiene tasks: 'Black rub', 'Bedside', 'Catheter Care', 'Hair washed', 'Nail care', 'Pericare', 'Shower', 'Sick', 'Patient refused', and 'Other (Comment)'. Below the dropdown menu, there is a 'First Filled Value' field showing 'Pericare' and a 'Last Filled Value' field showing 'Pericare'.

Linens change documentations

The screenshot displays a patient chart interface with a table of linens changed over time. The table has columns for dates and times, and rows for different types of linens. A red circle highlights the 'Linens Changed' row in the table, and a red arrow points from this circle to the 'Linens Changed' section in the right-hand sidebar. The sidebar lists various linens such as 'Total Bed Change', 'Incontinence Pad', 'Pillow Case', 'Bottom Sheet', 'Top Sheet', 'Blankets', and 'Other'. The 'Linens Changed' section also includes a 'Select Multiple Options (FS)' dropdown and a 'Comment (FS)' field.

Red seal intact, closed system maintained

- Ensure red tamper evident seal (TES) remains intact, a broken seal increases the risk of infection; remove catheter as soon as possible if seal is broken



Foley secured to patient

- Ensure a securement device is being used in a way that does not create dependent loops; use the StatLock possible



Note: Please make sure patient is appropriate for use of STATLOCK® Stabilization Device

Green sheet clip Attached to the bedding sheet?

Use green sheeting clip to secure drainage tube to the sheet. In any circumstances, the tube should not be kinked.



No kinks/ dependent loops in tubing

- Ensure tubing is free of dependent loops (a dependent loop occurs when the tubing forms a u-shape); this allows fluid in the tube to flow against gravity back to the bladder increasing the risk of infection. In any circumstances, the tube should not be kinked.

Important To Remember and Communicate

- Arrange tubing to avoid dependent loops or kinks



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Foley bag < 600ml full or emptied q4hrs.

- Foley bag should remain less than half full at all times to prevent backflow; if traveling to a procedure or test, drain the urine collection bag to prevent backflow
- Ensure foley bag is below the level of the bladder; this helps gravity to keep the urine flowing toward the bag and not back flowing into the bladder. Foley bag should hang free without touching the floor



Drainage BAG and tubing DO NOT TOUCH the FLOOR

- Ensure foley bag is below the level of the bladder; this helps gravity to keep the urine flowing toward the bag and not back flowing into the bladder. Foley bag should hang free without touching the floor



Drainage Bag Labeled with Insertion Date, Insertion Location and Initials

- Document the date and time of insertion on Epic system.

Date/Time _____ Department _____ Initials _____ BAIRD Foley Catheter Insertion	To be used in conjunction with SCIP [®] guidelines		
	Pre-OP	Intra-OP	Post-OP
	Temp _____ Blood _____ Cath/Time _____	Temp _____ Blood _____ Cath/Time _____	Temp _____ Blood _____ Cath/Time _____
BAIRD Foley Catheter Insertion	Date/Time _____ Department _____ Initials _____		
 CDC Guidelines for Appropriate Indications for Indwelling Urethral Catheter Use			
<input type="checkbox"/> Patient has acute primary infection or unstable medical comorbidity <input type="checkbox"/> Patient has adequate urine output measurements in critically ill patients <input type="checkbox"/> Use for selected surgical procedures <input type="checkbox"/> To assist in diagnosis or therapy, control or prevention of infection in hospitalized patients <input type="checkbox"/> Patient requires prolonged immobilization <input type="checkbox"/> To improve comfort for end of life care			
Have You? <input type="checkbox"/> Obtained order from physician/provider <input type="checkbox"/> Followed procedure to prevent and prevent infection			

Daily assessment for need of catheter completed

- Infection risk increases 5% per day with catheter in place; advocate for catheter removal as soon as the indication is no longer present. Document the assessment in the Epic system.

Assessment Item	0100	0329	0408	0408	0511	0524	1000	1142	1400	1422	1505
Urinary Catheter	Clear			Clear		Clear	No odor	No odor			No odor
Urine Appearance				Clear							
Urine Odor							No odor	No odor			No odor
Bladder Scan Volume (mL)											
Intermittent Straight Cath Volume (mL)											
Post Void Bladder Scan Volume (mL)											
Genitalia											
Female Genitalia	Intact			Intact			Intact				Intact
Urogenital											
Discharge Color											
Reason for Continuing Urinary Catheterization							Critical	Critical			Critical

Questions?



- References:
- Agency for Healthcare Research and Quality. (2015). Toolkit for Reducing Catheter-Associated Urinary Tract Infections in Hospital Units: Implementation Guide. Retrieved from <https://www.ahrq.gov/professionals/quality-patient-safety/hais/cauti-tools/impl-guide/implementation-guide-appendix-g.html>
- American Association of Critical Care Nurses. (n.d). Preventing CAUTI in adults. Retrieved from <https://www.aacn.org/clinical-resources/practice-alerts/prevention-of-cauti-in-adults>
- Centers for Disease Control and Prevention.(2017). Clean Hands Count for Healthcare Providers. Retrieved from <https://www.cdc.gov/handhygiene/providers/index.html>
- Centers for Medicare and Medicaid Services. (2015). Hospital-Acquired Condition (HAC) Reduction Program. Retrieved from <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/HAC/Hospital-Acquired-Conditions.html>
- Centers for Medicare and Medicaid Services, (n.d). Catheter- Associated Urinary Tract Infection (CAUTI). Retrieved from https://partnershipforpatients.cms.gov/p4p_resources/tsp-catheterassociatedurinarytractinfections/toolcatheter-associatedurinarytractinfectionscauti.html
- Winslow. K. (2017). CAUTI. Retrieved from [https://health.ucsd.edu/medinfo/nursing/edr/Documents/Annual%20Update%202017/CAUTI%20\(Catheter%20Associated%20Urinary%20Tract%20Infection\)%20NPSG.pdf](https://health.ucsd.edu/medinfo/nursing/edr/Documents/Annual%20Update%202017/CAUTI%20(Catheter%20Associated%20Urinary%20Tract%20Infection)%20NPSG.pdf)

- Course Evaluation



Appendix E: Evaluation Form

CAUTI EDUCATION EVALUATION FORM

Education Title: Decreasing CAUTI rates by educating staff on reinforcing on CAUTI Bundle

Date:

As a learner please assist in the evaluation of this presentation. Please circle the number beside each statement that best reflects the extent of your agreement. Thank you.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Content					
1. The content was interesting to me.....	1	2	3	4	5
2. The content extended my knowledge of the topic.....	1	2	3	4	5
3. The content was consistent with the objectives.....	1	2	3	4	5
4. The content was related to my job.....	1	2	3	4	5
5. Objectives were consistent with purpose/goals of activity.....	1	2	3	4	5

Faculty/Presenter Effectiveness: (Insert Presenter's Name here)

1. The presentation was clear and to the point.....	1	2	3	4	5
2. The presenter demonstrated mastery of the topic.....	1	2	3	4	5
3. The method used to present the material held my attention.....	1	2	3	4	5
4. The presenter was responsive to participant concerns.....	1	2	3	4	5

Instructional Methods

1. The instructional material was well organized and easy to understand.....	1	2	3	4	5
2. The handout materials given are likely to be used as a future reference.....	1	2	3	4	5
3. The teaching strategies were appropriate for the activity.....	1	2	3	4	5

Comments: