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Implementing Ways to Reduce CAUTIS

University of San Francisco

Internship: Clinical Nurse Leader

NURS 653

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Spring 2016

Abstract

Center for Control and Disease Prevention (CDC), estimates that 40% of all Urinary Tract Infections (UTIs) are related to Hospital-acquired Infections (HAIs) (CDC, 2013). Kaiser San Jose (KSJ) hospital located in San Jose California consists of oncology, orthopedic, medical-surgical, telemetry, incentive care, and step-down units. This hospital with 242 licensed beds has approximately 51,571 ER visits and a total of 10,606 admissions per year. The prevalence of Cather-associated Urinary Tract Infections (CAUTIs) on the 4th floor, the medical-surgical unit with 42 beds was significantly higher than other units. The hospital goal is to increase patient safety and satisfaction as well as reduce and prevent financial burden related to CAUTIs such as financial penalties from Centers for Medicare and Medicaid Services (CMS).

The global aim of this project is to prevent CAUTIs through utilizing CAUTI Surveillance Bundle and implementing new interventions such as daily Chlorohexidine Gluconate (CHG) bathing for patients with Foley catheter. Besides, nurses' adherence to policy and procedures for urinary catheter management including early removal of unnecessary Foley are reevaluated. This project aims to reduce CAUTI occurrence by 41% by December, 31st, 2016. Fishbone Diagram, SWOT Analysis, Process Map, the Lewin's Change Model, and Plan-Do-Study-Act (PDSA) Improvement Model will be used concurrently to implement the project. Data collected by chart audit and CAUTI bundle surveillance audit indicated the need for re-education of nurses for Foley maintenance. This project highlights different roles of CNLs

curriculum elements such as Nursing Leadership, Care Environment, and Clinical Outcome Management (AACN, 2013).

Introduction

According to Healthy People 2020, Healthcare-associated Infections (HAIs) are related to increasing cost of health care in the United States as well as mortality and morbidity. These types of infections are preventable. Indwelling catheters count for about 80% of urinary tract infections (CDC, 2013). As healthcare professionals and adhering to the principle of nonmaleficence, we are obligated to make efforts to implement strategies to avoid any risks to harm patients. As Clinical Nurse Leaders (CNLs), we have to develop effective prevention tools and explore new prevention approaches for safety to adhere to the standard of care in nursing and the ethical commitment to the profession “first no harm” (ANA, 2016).

Clinical Leadership Theme

CNL exhibits leadership by implementing change in the healthcare delivery system to achieve the quality outcome (AACN, 2007). This project highlights all different CNL educational aspects of *Nursing Leadership, Care Environment, and Clinical Outcome Manager*. The American Association Colleges of Nursing (AACN) in the *White Paper on the Role of the Clinical Nurse Leader*, describes how CNL functions (AACN, 2007). The Clinical Nurse Leader has different roles in this project. Advocate and Member of a profession which are the roles the CNL play under Nursing Leadership. Team Manager, Information Manager, and System

Analyst/Risk Anticipator are different roles of the CNL of Care Environment element. Under Clinical Outcome Management, the CNL function as Outcome Manager, Educator, and Clinician.

Statement of the Problem

The most common and costly healthcare related infection that prolongs the length of stay and comorbidity is catheter-associated urinary tract infections (CAUTI). Furthermore, it is one of those conditions that the Center for Medicaid and Medicare Service (CMS) no longer reimburses the extra cost of treatment if a patient develops it during hospitalization (CMS, 2012). Regardless of how hard many organizations put energy to reduce CAUTIs; the U.S. Department of Health and Human Services indicates CAUTIs rate has increased by 9% between 2010 and 2013 (AHRQ's, 2008). With all the penalties from CMS and continued effort from hospitals to implement the best practices to reduce CAUTIs, Foley catheter use and Catheter-associated Urinary Tract Infections continue to grow (CDC, 2010).

Project Overview

Kaiser San Jose includes 242 licensed-bed hospital plus outpatient medical offices in San Jose and Gilroy. Kaiser San Jose (KSJ) so-called San Jose Medical Offices (SJO) has its physicians, hospitals, services and insurance. The hospital has different specialties. 3S, 3W, 3E are oncology and Ortho medical/surgical units. 4S and 4W are medical-surgical units with the

capability of continuous pulse oximetry monitoring. 4E and 6E floors are Intensive Care Units. 6W and 6S are the telemetry units. 7S is the step-down unit.

The prevalence of CAUTIs on the 4th floor, the medical-surgical unit at Kaiser San Jose, with the capacity of 42 beds is significantly higher than other units. The hospital wants to increase patient safety and satisfaction as well as reduce and prevent financial burden related to CAUTIs such as financial penalties from Centers for Medicare and Medicaid Services (CMS). This project is an evidenced-based practice and improves the delivery of care with no intention of using the data for research purposes.

Project Rational

Evidence from Microsystem

The Foley utilization data collected by the Infection Control Department from the 4th quarter of 2015 indicates every unit at Kaiser San Jose hospital was higher than the national experience pooled mean except the 3rd floor that squeaked under. The data shows the 4th floor has the highest rate among all other units. The rate is 2.55 CAUTIs per 1000 Foley days while the national mean (CDC's NHSN data) is <1.5/1000 Foley days.

Therefore, the 4th floor is an ideal unit to tackle. 41% decrease in CAUTI would get us at or under the national mean (CDC's NHSN data) of <1.5/1000 Foley days. Target is <1.5/1000 Foley days (see Appendix A). A graph was also created and illustrates CAUTIs rate on the 4th floor at San Jose Medical Offices (SJO) (see Appendix B). This chart indicates that if we took

100 little SJO 4th floor units across the nation, the 4th floor falls somewhere around the 80th percentile (meaning 80% of other hospitals similar to SJO 4th floor units perform better).

Global Aim Statement

The goal of this project is improving patients' safety and quality of care by reducing Catheter-associated Urinary Tract Infections (CAUTIs) on the 4th floor medical-surgical unit at Kaiser San Jose. This project aims to prevent CAUTIs through utilizing a CAUTI Surveillance Bundle and implementing new interventions as well as re-evaluating nurse adherence to policy and procedures for urinary catheter management starting February 2016. This project aims to reduce CAUTI occurrence by 41% by December, 31st, 2016. The process begins the moment the patient enters the 4th floor with RN receiving an order to insert a urinary catheter, or the patient arrives at the floor with Foley. Admissions to the floor include either transfer from different departments, home, or other facilities. The process ends with discontinuation of the urinary catheter.

By working on the process, we expect to achieve the following:

- Prevent and decrease Catheter-associated Urinary Tract Infections
- Reduce indwelling catheter days
- Improve patients' outcome, quality of care, and safety
 - Decrease CAUTI and urosepsis
 - Cut MDRO's and C. diff that result from antibiotic treatment

- Reduce length of stay (LOS) and readmission
- Decrease cost
- Improve patient satisfaction

CAUTI is not a benign infection. It is important to work on this project because every patient deserves to receive quality care that is safe, cost effective and is evidenced based.

Project Cost Analysis

CAUTIs in the United States cost an estimated \$424 - \$451 million a year. Additionally, the goal is to avoid the increase of hospital days; CAUTIs counts for 90,000 hospital days per year (Syndor & Trish 2011). The financial impact was calculated from September through December of 2015. There existed 12 CAUTIs house-wide which equals almost 29 CAUTIs annuals. There were 5 CAUTIs on the 4th floor during that same period which comes out to 12 CAUTIs annualized. During the CAUTI project between February-March 2016, there was 0 CAUTI on the 4th floor. Therefore, we expect a great reduction of CAUTIs per year house-wide.

According to CDC effective infection control strategies could decrease to 70% of infections. "This can translate into potential savings nationwide of up to \$31.5 billion of the \$45 billion expenditures attributed to HAIs" (CDC, 2013). A literature search was completed to understand the real costs of an average CAUTI in the microsystem. A CAUTI can cost from \$500.00 to \$2800.00 per day, and an increased length of stay from 1 – 4 days.

Gudino (2015) examined how a Catheter-associated Urinary Tract Infections (CAUTIs) increases the length of stay by two days. This extended hospital stay will increase the cost of care. Also, other problems may occur from CAUTIs that are challenging to quality care. CMS no longer reimburses hospitals for CAUTIs. Other business benefits include reduced in hospital-acquired pneumonia with increased ambulation, and decrease the length of stay as well as reduce in Clostridium difficile Infection (C.diff) results from antibiotic therapy.

If one considers the average LOS in a unit is 3.25 days with a mean of \$5287.75 per day substantial savings could be realized. If the combined interventions of the CAUTI bundle in addition to the rapid discontinuation of Foley Catheter cut the LOS by even one day, the saving for each patient would be around \$1,627 per day. The recent survey shows that Kaiser Permanente San Jose Medical Center with 242 licensed-beds had 51,571 ER visits and a total of 10,606 admissions in 2015. If multiplying \$1.627 by 10,606 patient admissions in 2015, the saving would be \$ 17,255,962 for the last fiscal year alone (see Appendix C).

The implementation cost of this project is insignificant as the hospital will save a considerable amount of money for not paying the CNL student volunteering to do this work; considering the estimated contribution of the student is \$17160 for 220 hours with an average salary of \$ 78 per hour required for project completion. The staff receiving one-hour mandatory education during the staff meetings in the month of February, March and April will account to around \$15000 in expenses. Other potential financial benefits of the CAUTI prevention project

would also include macrosystem increase in CMS total performance score reimbursement rates as our patient satisfaction scores rise (Centers for Medicare & Medicaid Services, 2013).

SWOT Analysis

A SWOT analysis of Kaiser Permanente San Jose Medical Center regarding this project on improving patient safety by implementing ways to reduce CAUTIs allows for a greater understanding of the microsystem. Strengths include active support for evidence-based practice from the leadership. Other advantages include the high skill level of the staff, and the culture of the unit. Opportunities include an increase in revenue, prevent infections, improve patients' outcome, increase patient and staff satisfaction, improve patient safety and do not harm. Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores improve, and the organization will receive more revenue.

Potential weaknesses include not hiring regular nurses, not hiring more nursing assistants, not having a strong policy of early removal of a Foley catheter, and increase utilization of agency nurses. Research Bernard, Hunter, and Moore, (2012) supports the timely removal of indwelling catheters as the best way to cut CAUTIs. The authors of this evidenced based article reviewed interventions such as “nurse-led interventions and informatics-led interventions” to guarantee timely removal of Foley catheters (Bernard et al., 2012).

Potential threats are staff being resistance to change, time constraint, and staff considering this change as an increase in their workload. Other possible risks to implement this

project are the high census of total care patients with comorbidities, and noncompliance to CAUTI bundle (see Appendix D).

Fishbone Diagram/ Root Cause Analysis

Our team consists of me as the MSN-CNL Graduate student at the University of San Francisco, the 4th- floor department manager, the infection prevention manager, the Chief Nursing Officer, the director of adult services, the education department manager, and the medical-surgical 4th-floor educator. During our team first meeting, we dove into the project and brainstormed ideas that contributed to excessive Foley catheter days and the rise in CAUTIs in the microsystem. Using RCA, the team put their ideas into a fishbone diagram and visually identified many possible causes of a problem. Furthermore, it allowed the team to sort ideas into different categories.

Some of the ideas that the group targeted were:

- ✚ Inconsistent RN knowledge/practice to document the daily necessity of Foley catheter need
- ✚ Awareness of the every shift assessment of Foley needs and communicating with the MDs.
- ✚ Doctors forget about the Foley catheter and the need to discontinue if necessary.
- ✚ The catheter care (see Appendix E).

Process Map

A process map was created. This first map was of the current state of practice for Foley insertion until Foley discontinuation. It was identified that there was an opportunity for improvement for the RN to notify the MD when a patient no longer meets an appropriate Foley indication (see Appendix F).

Different literature reviews indicate that nurses are consistent in managing the Foley catheter. Oman, Makic, Fink, Schraeder, Hulett, Keech, and Wald, H (2012) examined different nurse-driven interventions to reduce CUTIs. The authors examined the ways “evidence-based guidelines for indwelling urinary catheter management are not consistently followed” (Oman, et al, 2012). Our CAUTI bundle surveillance from 4Q 2015 also indicates the inconsistency of Catheter maintenance and the need for more education. The following graph illustrates what we see at the bedside differs from what is charted at the health connect by the nurses (see Appendix G).

Therefore, the second process map was created for Foley maintenance. The next process map was of the current state of Foley daily maintenance. It was identified that there was an opportunity for improvement for the RN to conduct regular assessment and decide whether catheter use was still required (see Appendix H).

Stakeholders Analysis

To target zero CAUTI and change the culture, providers need to be on board. These stakeholders consist of registered nurses, patient care technicians, physicians, urologists, leadership team, and infection control team. This change would impact patients by decreasing complications, LOS, and increasing patient safety. This project improves the quality of care at Kaiser San Jose. The staff nurse will continue adhering to CAUTI bundle. The physicians will monitor the need for Foley. The leadership team will support the funding for this change. In return, the management team will benefit from improving HCAHPS score because of patient satisfaction and increasing revenue as well as reducing cost.

Methodology

Increased Incidence of Catheter-associated Urinary Tract Infections (CAUTIs) on the 4th floor medical-surgical unit at Kaiser San Jose compare to the other units, encouraged the CNL student to work on the interventions to reduce CAUTIs. My intention is to reduce CAUTIs by 41% by December 2016. As a CNL student, I have conducted point prevalence surveys on Foley Bundle Compliance to identify areas of opportunity to reduce the risk of CAUTI at KSJ. Data collected by chart audit and CAUTI bundle surveillance audit indicated the need for re-education of nurses for Foley maintenance. The data indicates the Foley catheter utilization and CAUTIs rate also have increased. There is a lack of knowledge on the proper implementation of Foley usage, proper maintenance, and early removal of the Foley catheter.

Educational PowerPoint presented at monthly mandatory staff meetings by the CNL in February, March, and April. The focus of educating nurses was on the three different cycles: Foley insertion, maintenance, and removal as well as how to collect a urine sample. Visual board huddles, and one to one teaching were other tools to educate nurses. MDs were called to DC Foley catheter when there was not a proper indication because the most efficient way to target Zero CAUTIs is the removal of the catheter.

Our first PDSA was conducted in the middle of February. The CNL student re-educated the 4th staff about Foley necessity criteria during the mandatory meetings. Data started to display a downward trend after education provided. Our other PDS focused on Assistant Nurse Managers (ANMs) daily Foley rounding with the primary care RN. This idea will be adopted. Data shows a downward trend after initiation of this PDSA. In the last PDSA, the team reached out to the Patient Care Coordinators (PCCs). The group felt that the PCCs had a close relationship with HBS and spoke with them daily about each patient. Data does not confirm a decrease in Foley catheter use after this PDSA was implemented. The group feels that this is a good practice to be adopted (see Appendix U).

Additionally, to more reduce CAUTIs, other interventions such as daily Chlorohexidine Gluconate (CHG) wipes were considered. On March 4th, 2016, in another presentation, this proposal was offered to the Infection Control Committee (ICC) by the CNL. A literature review was done to evaluate perineum cleansing with CHG wipes. CHG cleansing was compared to the

standard soap and water. CHG bathing was already proven to reduce many multi-drug resistant organisms which are often associated with Hospital-acquired Infections (HAIs) and Surgical Site Infections (SSIs) in hospitalized patients. Hence, the practice of CHG bathing is an effective adjunct therapy to help to decrease the likelihood that a patient develops an infection with one of these microorganisms. CHG bathing has historically been evaluated primarily in ICU units but shows benefit in the reduction of all HAIs when all hospitalized patients are routinely bathed with CHG (Noto, 2015).

Other studies were reviewed to support this proposal. The authors of the *Effect of Daily Chlorhexidine Bathing on Hospital-acquired Infections* conducted “cluster-randomized, nonblinded crossover trial to evaluate the effect of daily bathing with chlorhexidine-impregnated washcloths on the acquisition of MDROs and the incidence of hospital-acquired infections” (Climo, et al. (2013). The findings support a decrease in HAIs and CAUTIs in hospitalized patients who receive 2% Chlorohexidine wipes (Climo, et al. (2013). A case for daily CHG bathing can be made not just for the ICU and surgical, but also for all patients who are admitted to the inpatient setting with a Foley catheter.

The proposal was approved for a small-test-of-change on the 4th floor to trial CHG bathing of all patients with a Foley catheter including perineum care. Different meetings were held to plan the trial and decide on the timeline of CHG bathing of patients with Foley on the 4th

floor. The next meeting will be on March 31st with the CHG wipe vendor and Infection Control Manager and other stakeholders. SBAR communication was made and sent to all stakeholders.

CAUTI REDUCTION: TEST-OF-CHANGE ON 4TH FLOOR

DAILY CHG BATHING OF PATIENTS' WITH FOLEY CATH

MARCH 2016

SITUATION: The 4th -floor CAUTI rates exceeded target in 2015.

BACKGROUND: See data:

	CAUTI RATE TARGETS	FOLEY UTILIZATION TARGETS	YTD CAUTI RATES 2015				
	Pooled mean from 2013 NHSN Data Summary Report	Pooled mean from 2013 NHSN Data Summary Report	# UTI's	Foley Days	Rate	PT DAYS	Utilization
4th floor	≤1.5	≤0.17	5	1962	2.55	9110	0.22

ASSESSMENT: The 4th-floor RN (MSN student) conducted a literature search on CHG bathing of patients with Foley catheters. She was able to find several current studies demonstrating a statistically significant reduction in CAUTI rates with no adverse reactions with daily CHG bathing (including perineum and external mucosa).

- ✚ The manufacturer (Sage) supports the use of 2% CHG in the groin and perineum.
- ✚ UC Davis Hospitals and VA Hospitals have adopted this practice.

RECOMMENDATIONS: The 4th floor to conduct a 30-day test-of-change using daily CHG bathing in patients with Foley catheters.

- ✚ Daily CHG bath includes cleansing of the perineal area and external mucosa as well as 6” of the proximal tubing with CHG cloths.
- ✚ The nursing staff will be educated on the protocol before implantation.
- ✚ The rate of skin/perineal irritation is very low (<1%), however, Nursing will monitor for and report any adverse effect (e.g., rash) to unit management and care provider.
- ✚ Evaluations will be collected upon completion of the 30-day test-of-change.
- ✚ If evaluations are favorable, we will adopt and spread this practice.

The other alternative to the Foley catheter were considered. Female Urinals and a new generation of condom catheter were displayed to the staff at visual boards. Meetings were held with the infection control manager, the education department manager, and the 4th floor manager.

**Meeting to Coordinate Trial of Alternative Devices (Female Urinal, Condom Cath)
3/23/2016**

Staff education: Infection control manager to call vendors to see what they offer. We are in agreement that rounding in services on all shifts Tuesday, Wednesday, and Thursday to cover all staff should suffice. A sign-in sheet will be needed (Education department manager to provide the sheet)

The staff should be reminded of the trial and to try to use the devices at each huddle through the trial month to keep it top-of-mind (“it takes 17X to learn/remember”)

A one-page informational flyer regarding this trial includes:

- Criteria for use (when to use) (e.g.; female urinal replaces bedpan, etc.)
- What to do if a patient has a Foley but nurse thinks the patient is candidate for trial device (e.g., call MD, etc.)
- How to use the devices (simple step-by-step)
- Update: In-service by vendors will be done on **April 12-13** (day/eve only). We will need NOC champions to educate on NOC shifts.

Stakeholders that need to know: The 4th- floor nurses and PCT’s (including travelers), PT, HBS, and Urology

When: Staff to be in-service on April 12-13

Go live date: April 14

End Date: 30 days after the start of trial (May 15)

How many of each product and sizes?

Condom catheter– Two boxes of the most common sizes and one box of less common sizes will be ordered.

On 3/23/16 free samples to show the staff during visual board ordered.

Female Urinals – one case ordered for the start. We can assess utilization after the 1st week. On 3/23/16, infection control manager spoke with the vendor. They do not provide free samples to trial; we will have to purchase a case. Order placed on 3/23/16.

Evaluation:

The evaluation template provided by the CNL student for both condom catheter and female urinal (See Appendix J and K).

Change Theory

This project will apply the Lewin theory of change. Lewin (1947) identified three stages of change. According to Lewin before any change becomes part of the system, the change agent must go through three different phases: unfreezing, experiencing the change or movement and Refreezing.

Unfreezing:

This phase of change focuses on mindfulness of unit staff of the necessity of change established upon the data collected by infection control committee (Lewin, 1947).

Experiencing the change or movement:

This stage includes the RNs education on the evidence-based practice standard and that nurses can reduce the unneeded use of Foley by their interventions in the microsystem. Nurses were educated on the proper indication for Foley insertion. Most of the nurses were selecting the indication for “Frequent monitoring of urine in critically ill patients”. They would just look at the

first part which is “monitoring urine output” but they overlook the second part which is “in the critically ill patients”. This row belongs to ICU not medical-surgical unit. Nurses encouraged adhering to the criteria and defining critically ill patients consistently to decrease or eradicate inappropriate Foley usage. RNs encouraged to assess need for Foley independently every shift and offer patients urinal, commode, or bedpan when needed. If there are no proper indications, the RN has to call MDs for Foley removal order (Lewin, 1947).

Refreezing:

The nursing staffs were encouraged to accept the change and apply it to their plan of care. The staff that is resisting this change will be reported to the CNL for receiving more education (Appendix L).

Literature Review

Evidenced based practice literature review was conducted from multiple databases such as PubMed, AHRQ (Agency for Healthcare Research and Quality), Medscape and AJIC (American Journal of Infection Control) by the CNL. Several studies found seemed to best answer if CHG wipes will reduce CAUTIs.

In a collaborative cohort study done by Johns Hopkins University School of Medicine research team from the Quality and Safety Research Group (QSRG) findings were:

- Standardized bathing decreased rates of CLABSI and CAUTIs.

- CHG bathing reduces skin flora positively and decreases CAUTIs and other HAIs (e.g., MDRO's, CLABSI, C. diff) (Huang, et al. 2013).

Advancing Science Improving Care (ASIC) Journal (2013) published the findings of another study conducted in an academic medical center of the University of Colorado with average daily census of 48 patients. The study was done in three phases each phase three months in duration.

- ▶ Phase 1: Baseline, measured HAI rates with soap-and- water using a basin, no CHG bathing
- ▶ Phase 2: All patients were bathed using Basin Bath (Basin Bath).
- ▶ Phase 3: Patients were randomly receiving CHG wipes or Basin Bath (ASIC, 2013).

FINDINGS:

- ▶ When the bathing was done just using soap and water, both CLABSI and CAUTIs were reduced. CAUTI decreased from 1.43 to 0.97 (O.R= 0.63) with soap-and-water alone.
- ▶ After adding CHG, CAUTI rates decreased to 0 (OR<0.45)" (ASIC, 2013).
- ▶ There was no report of any skin irritation or reaction.

All the literature review which supported the CHG cleansing of the perineum were recent from 2010-2014. They all indicate that it is safe to use CHG on perineum and external mucosa. It was recommended to clean up the Foley catheter tubing including point of connection and only the outer genital region of urethral meatus (Climo et al., 2013).

From all the research were done eight studies did not advocate CHG bathing for perineum care due to risk for skin irritation, use of CHG wipes for perineal care did not significantly

reduce CAUTI in these studies, although this may be attributable to small data points as the analysis was based on quarterly rates not monthly.

Conway & Larson (2012) studied guidelines in the acute care hospitals to prevent catheter-associated urinary tract infection. These authors compared the hospital guidelines with federal initiative guidelines and suggested practices for preventing CAUTI that is consistent with the guidelines (Conway & Larson 2012). Another study was done by Elpern, Killeen, Ketchem, Wiley, Patel, and Lateef, (2009) indicated the need for daily assessment of appropriate criteria for Foley catheter use. The authors recommended to remove the catheter in any patient did not have a proper indication for Foley (Elpern, et al. 2009).

Magers (2013) in an Evidence-Based Practice study reports the best way to reduce CAUTIs among adult patients in a long-term acute care hospital is to remove Foley and decrease the length of catheterization.

Activities Timeline

January 2016: The problem was identified that the 4th -floor had not met 2015 CAUTI target.

February 2016: The 4th floor staff re-educated on CAUTI bundle with emphasis on alternatives to invasive urinary catheterization, appropriate indication, insertion, maintenance, early discontinuation, and urine sample collection started.

February 2016: CAUTI champions selected.

March 2016: The CNL student presented evidence-based practice proposal to trial daily CHG bathing of patients with Foley catheter to Infection Control Committee (ICC). The infection control committee approved the proposal on March 4th to pilot on the 4th floor.

March 2016: Foley algorithm decision tree/checklist created for and shared with nursing staff (see Appendix M).

April 2016: Various condom catheters and female urinals were shown to staff.

The nursing staff selected the products that they wanted to trial. The CNL, department manager and infection control manager attended Local Products Council (LPC) and the Coloplast condom cath and North Coast female urinal approved to trial (2 weeks).

April 2016: Coloplast representative trained the 4th- floor staff on the use of condom catheter on 4/12-4/13. The trial was initiated when received on 4/18/2016. Female urinals trial product has arrived, coordination for staff training pending.

April 2016: Staff education on CHG bathing by the CNL student and department educator started.

April 2016: CHG bathing trial initiated (3-6 months)

April 2016: Foley algorithm decision checklist revised and shared with nursing staff (see Appendix N).

May 2016: Project sustainability (see Appendix O for activity events).

Foley bundle compliance is audited quarterly by Infection Control and the CNL student. Assistant Nurse Managers are involved with ensuring prompt removal of the catheter when Foley no longer indicated.

Expected Results

Appendix P compares the CAUTI result from the last quarter of 2015 to the first quarter of 2016

The comparison shows a huge drop in Foley utilization and CAUTI rate since starting the project. The 4th-floor data in February 2016 demonstrates the Foley utilization in Jan is 0.23, and the Foley utilization in Feb and April is 0.17. Target is 0.15-0.17.

Nursing Relevance

Connection to Institution and National Initiatives

This project is connected to Goal 7 of the Hospital National Patient Safety Goals 2015 (NPSG.07.06.01); to reduce the risk of healthcare-associated infections, especially from urinary catheters (The Joint Commission, 2015). Many national initiatives for CAUTI prevention are available for clinicians. Healthcare personnel face the challenge of reviewing literature critically with careful consideration of evidence for its validity and clinical usefulness (The Joint Commission, 2015).

This project demonstrates the important position nurses have in the battle against Hospital-acquired Infections and patient safety. This project gives the CNL the opportunity of

using EBPs to have a significant contribution to the nursing practice and policy change as well as evaluating patients' outcomes. With the CNL initiative nurses now have an opportunity to oversee the care of groups of patients in complex situations, enforce standards of care, and develop infection control techniques that will benefit and support bedside nurses. The CNL as a "generalist clinician with education at the master's degree level" is a valuable asset to any institution. "The CNL brings a high level of clinical competence and knowledge to the point of care and serves as a resource for nursing teams" (AACN, 2013).

Summary

According to the CDC (2014), "urinary tract infections are the second most common type of healthcare-associated infection." Preventing CAUTI is one of the Joint Commission National Patient Safety Goals 2014 and part of CMS Core Measures. Noncompliance with CMS Core Measure affects hospitals' reimbursement rates. Based on the literature review, the essential elements to preventing CAUTI is through redefining current policies, a standardized tool for assessing the clinical need for continuing or inserting a urinary catheter, utilizing evidenced-based practices approaches, and educating staff. Knowledge empowers staff to achieve optimal outcomes for patients.

The goal of this project is improving patients' safety and quality of care by reducing Catheter-associated Urinary Tract Infections (CAUTIs) in the medical-surgical unit, the 4th floor at Kaiser San Jose. This project aims to prevent CAUTIs through utilizing a CAUTI Surveillance

Bundle and implementing new interventions as well as re-evaluating nurse adherence to policy and procedures for urinary catheter management starting February 2016. This project aims to reduce CAUTI occurrence by 41% by December, 31st, 2016.

The prevalence of CAUTIs on the 4th floor, the medical-surgical unit at Kaiser San Jose with 42 beds was significantly higher than other units. The patients' population on this floor includes mostly geriatric patients with several co-morbidities. This problem encouraged the CNL student to work on the interventions to reduce CAUTIs.

To monitor the result and identify barriers, the surveillance urinary catheter bundle was developed. The staff was trained on how to assess the need for Foley, early discontinuation, the new urinary catheter surveillance bundle, and education on policy and procedure for urinary catheter management. Every shift Nurse Algorithm developed and revised to help the nurses to follow the policy and procedure (see Appendix N). Also, educational flyers provided for nurses for daily %2 Chlorhexidine Gluconate (CHG) bathing as well as instruction for perineum cleansing using CHG wipes (see Appendix Q). The team developed pre/post patient satisfaction, and CHG bathing evaluation survey to evaluate the project. Based on the unit metrics, the microsystem is assessed and analyzed. Daily Foley utilization spreadsheet developed depending on the number of patients on the 4th floor and the number of patients who have Foley catheter at 11 pm on any given day. The number of patients on the 4th floor who have Foley catheter at 11 pm on any given day was entered into column B and the 4th- floor census at 11 pm on any given

day into column C. The Foley Utilization graph will auto-populates (see Appendix R). Since implementing the project, there has been zero CAUTI in the first quarter of 2016 on the 4th floor.

This project will continue until December, so the final result of this project is not fully perceived. However, the data from the first quarter of 2016 compare to the last quarter of 2015 indicates the project has generated positive results such as decreasing catheter days and reducing CAUTI cases to 0 in January, March, and April (see Appendix S). Using the urinary catheter surveillance bundle as a daily tool assists nurses to accurately assess and maintain urinary catheters, aid in the decrease of catheter days and preventing CAUTIs. Refer to Appendix T for the summary of changes that lead to improvements.

The staff was encouraged on the goal in every shift huddles, visual boards, and monthly staff meetings. It is important to choose champions among the staff who are respected by others, understand the project, and they are eager in the outcome. Sometimes staff doesn't get engaged because they don't know where they were and where they are now. A worksheet was made to help the team identify its current state, including what's working and what's not working. This tool contributes to outline future goals for CAUTI prevention, and develop clear next steps and an action plan. A graph was created and displayed on the visual board to show the progress trend. When the staff knows they are succeeding, they sustain their enthusiasm over the time (see Appendix S). The nurses who were once resistant to change are now calling MDs for Foley removal order without even being asked by the team. An additional tool to help the suitability of

the project is the shift checklist and algorithm. The checklist and algorithm focus on daily nurses' assessment of Foley necessity and care (see Appendix N). The CAUTI team will audit CAUTI bundle every shift. The champions will every shift remind staff to discontinue catheters if not necessary. Alternatives to indwelling catheters are considered. The entire CAUTI team will meet biweekly.

Conclusions

Exercising basic nursing care and advocating for patients can ultimately lead to positive change in patient outcomes. Reviewing institutional policy and procedures and current evidence-based research assisted in the development of a tool that helps guide and remind nurses of proper indications and maintenance of urinary catheters. Implementing training and education for nursing staff and ancillary staff on proper maintenance of urinary catheters and CHG bathing supports an efficient change for this project. Lewin's Change Model and Plan-Do-Study-Act (PDSA) Improvement Model was incorporated as theoretical frameworks for implementing, reinforcing, and preserving changes for this project. As a CNL student, I have learned a great deal from this experience. I've learned this journey is a rocky road and need shared accountability between the leadership, providers, nursing and other ancillary staff. I've also learned:

- CAUTI prevention is a culture change and needs constant attention.

- Not to be afraid to refine the process
- Not to give up
- To continue talking to front line regarding obstacles and removing them
- To keep talking about patient and WHY we are doing this work!
- To focus on patient safety all the time
- To include all providers in education
- respectful communication is a MUST!

This project's result is not just CAUTI prevention; it is cost reduction, decrease length of stay, fall reduction, and delirium prevention! As a CNL per American Association of Colleges of Nursing (2013) clinical nurse leader competency, I can "facilitate the lateral integration of healthcare services across the continuum of care with the overall objective of influencing, achieving, and sustaining high- quality care" (p. 17).

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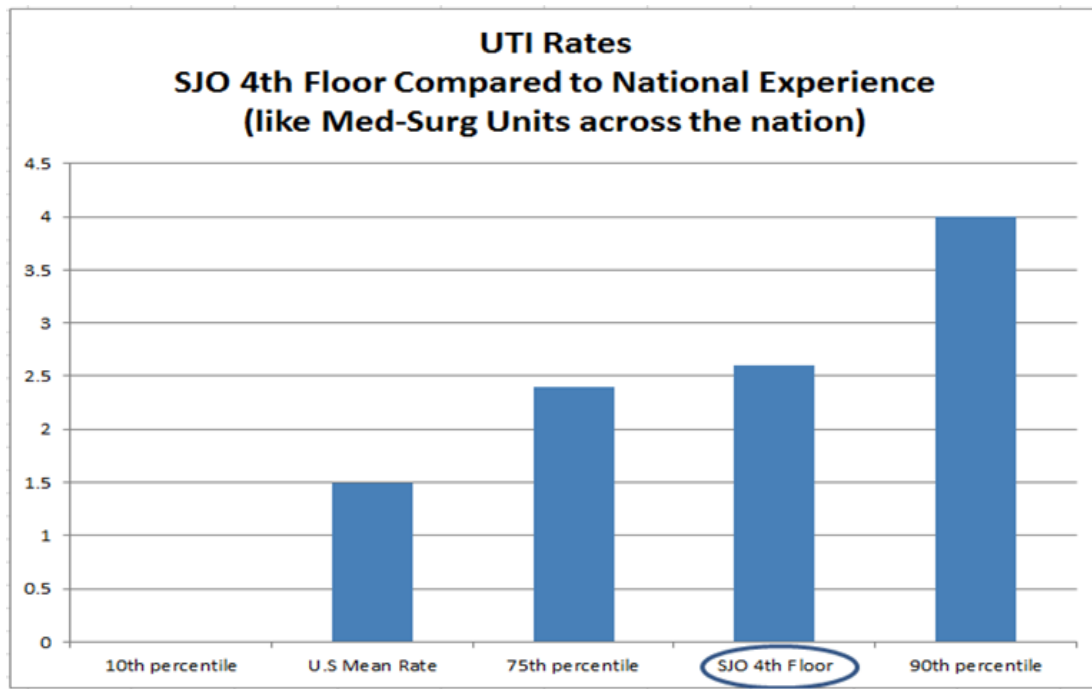
Commission: http://www.jointcommission.org/assets/1/18/CLABSI_Monograph.pdf

APPENDIX

Appendix A: Kaiser San Jose Foley Utilization, 2015

Kaiser San Jose Foley utilization in 2015			SJO STATUS				
	CAUTI RATE TARGETS	FOLEY UTILIZATION TARGETS	YTD CAUTI RATES 2015				
	Pooled mean from 2013 NHSN Data Summary Report	Pooled mean from 2013 NHSN Data Summary Report	# UTI's	Foley Days	Rate	PT DAYS	Utilization
3rd Floor	<1.3	<0.22	2	2740	0.73	12871	0.21
4th floor	<1.5	<0.17	5	1962	2.55	9110	0.22
6th floor Tele	<1.3	<0.19	2	2506	0.60	10981	0.23
7S Step Down	<1.7	<0.24	0	1744	0.00	4314	0.40
ICU	<1.3	<0.54	3	2355	1.27	3876	0.61
HOSPITAL OVERALL	na	na	11	11307	0.97	41152	0.27

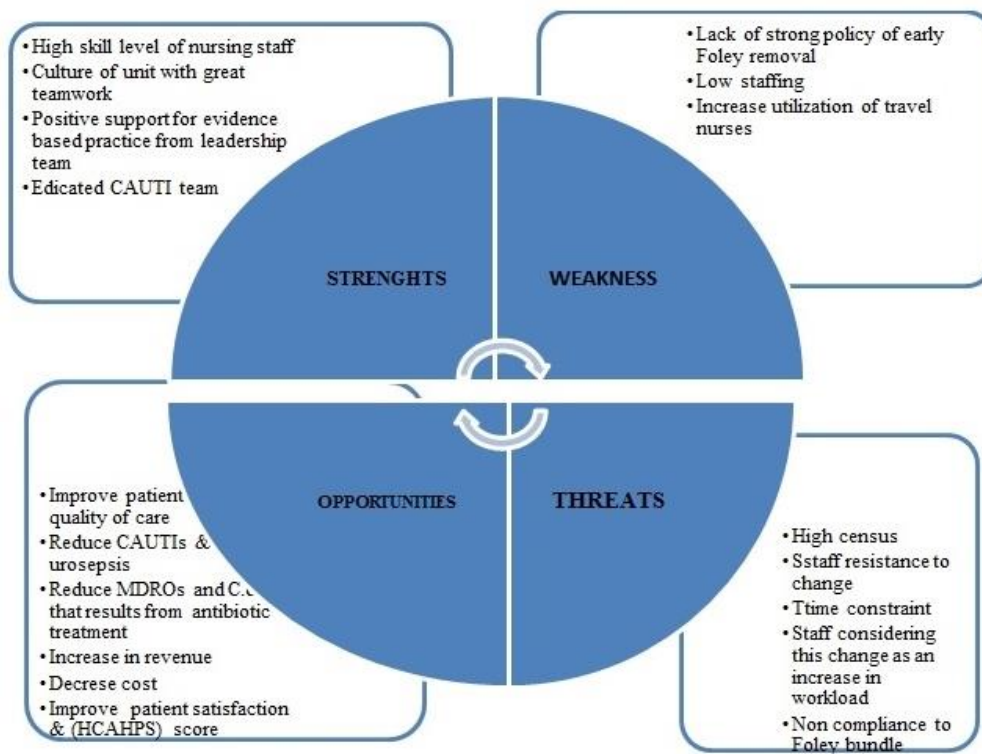
Appendix B: UTI Rates SJO 4th Floor Compared to National Experience



Appendix C: Cost Analysis

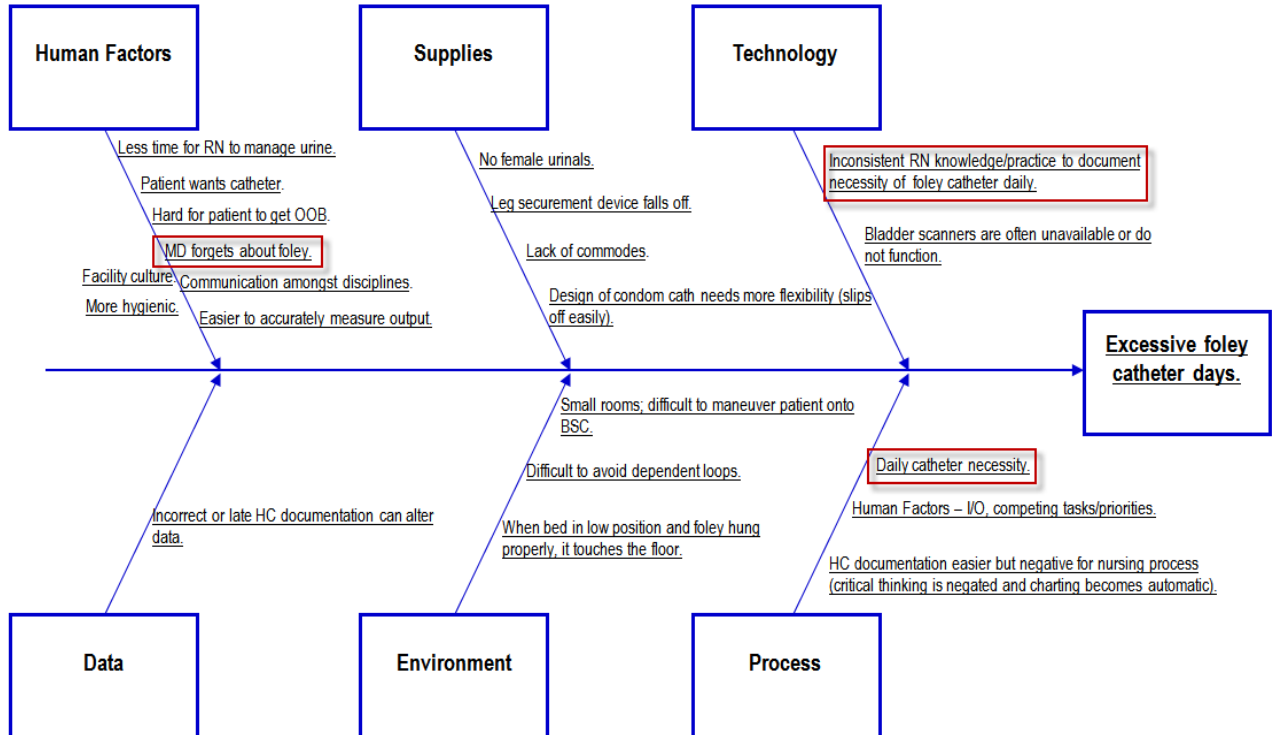
Unit Daily Cost (not including medications, laboratory fees, or diagnostic test fees)	Assumptions	Calculations
Medical/Surgical: \$5287.75	CAUTI increase LOS by 3 – 7 days	$5287.75 \times 3 \text{ days} = \15863.25 $5287.75 \times 7 \text{ days} = 37014.25$

Appendix D: SAWOT Analysis:



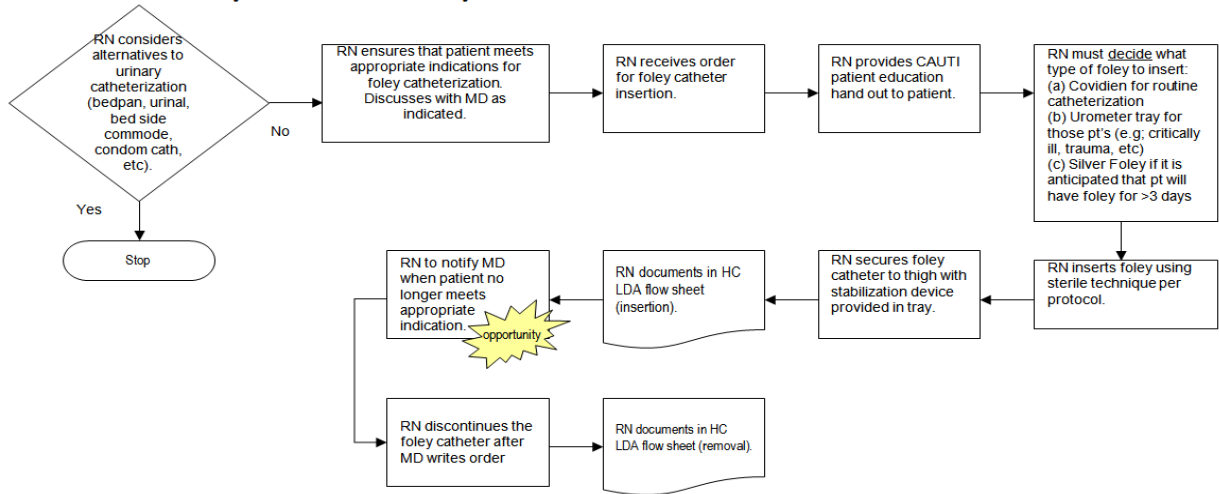
Appendix E: Fishbone Diagram CAUTI Project

Fishbone Diagram CAUTI Project

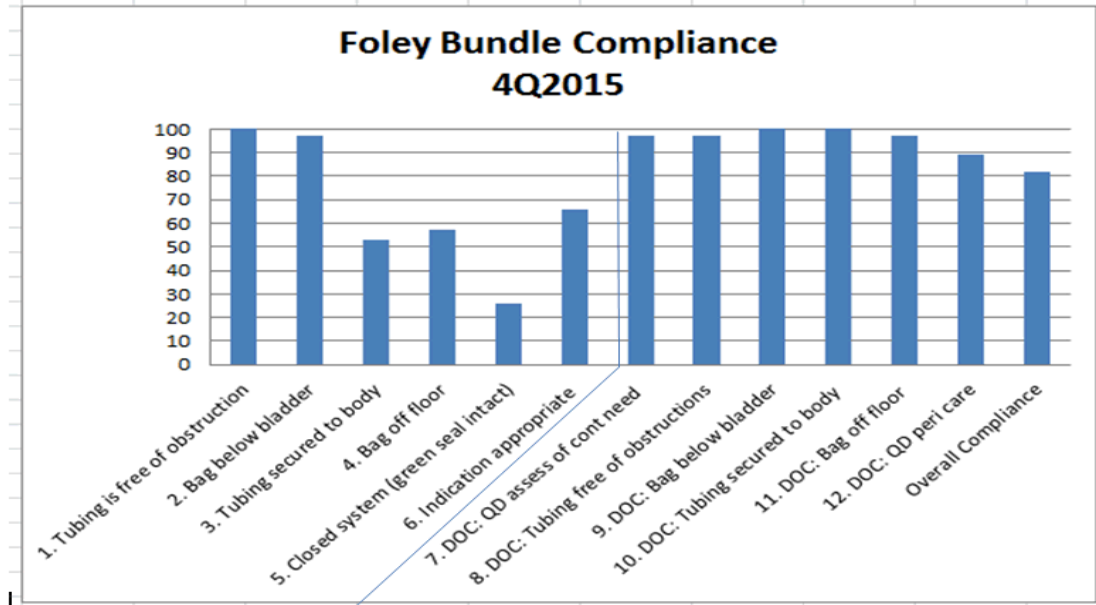


Appendix F: CAUTI Bundle Project- Process Map-1 Foley Insertion until Foley Discontinuation

CAUTI Bundle Project – Process Map
Foley Insertion Until Foley Discontinuation

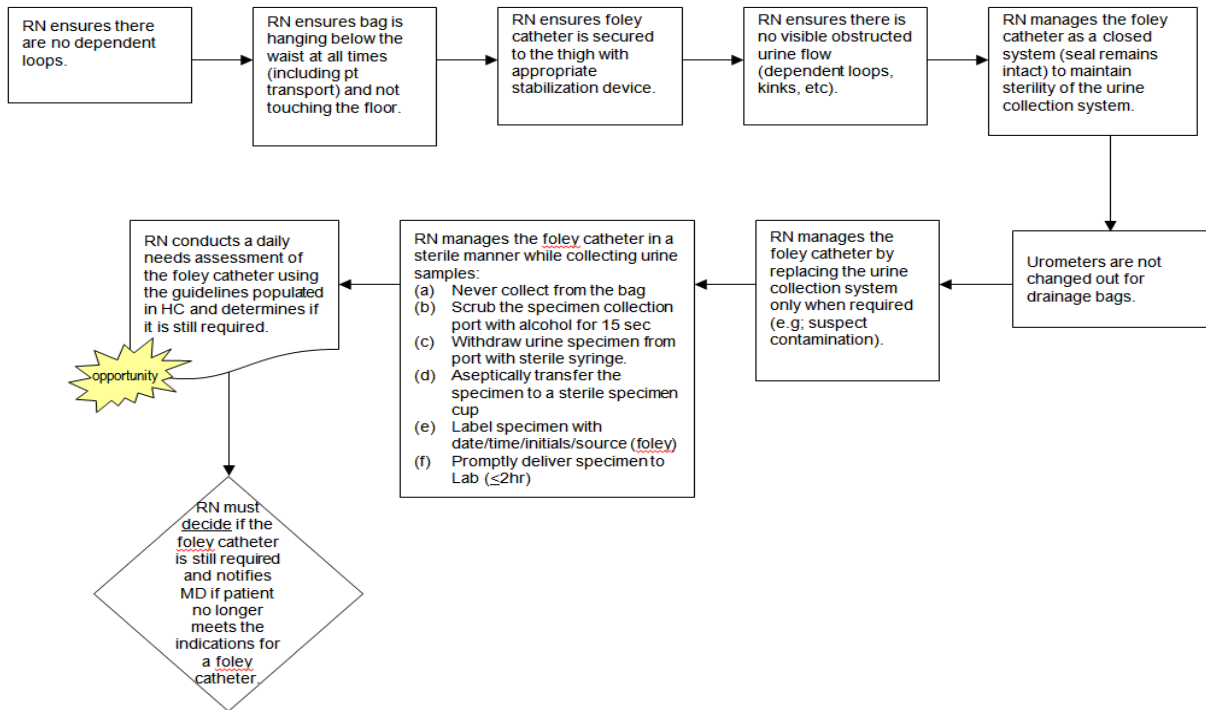


Appendix G: Foley Bundle Compliance 4Q 2015



Appendix H: CAUTI Bundle Project- Process Map-2 Foley Maintenance

CAUTI Bundle Project – Process Map
Foley Daily Maintenance (RN)



Appendix J: Condom Cath Evaluation Form

EVALUATION FORM

Evaluation of Coloplast Conveen Optima Condom Cath

Evaluated by _____

Date _____ Department _____ Shift _____

Please complete this evaluation so that we may determine the effectiveness of the item being studied. Use additional paper, if necessary, for comments. Thank you.

(Circle rating - 5 highest)

Does the item perform the required function? 1 2 3 4 5

Is it safe for the user? 1 2 3 4 5

Is it safe for the patient? 1 2 3 4 5

Is the item easy to use? 1 2 3 4 5

Does the item save time? 1 2 3 4 5

Each time the item is used, is it functional and reliable? 1 2 3 4 5

What is your overall evaluation of this item? 1 2 3 4 5

How Does this item compare to the item currently being used?

____ Better than ____ Equal to ____ Worse than

Would you like to see this item instituted in a permanent basis? ____yes ____no

Would you like to continue using this item with modification? ____yes ____no
(if yes, please note below)

Would you like to continue using the current item? ____yes ____no

Would you prefer to test another item? ____yes ____no

What is your recommendation regarding this item? _____

Signature: _____

Appendix K: Female Urinal Evaluation Form

EVALUATION FORM

Evaluation of North Coast SPIL-PRUF Female Urinal

Evaluated by _____

Date _____ Department _____ Shift _____

Please complete this evaluation so that we may determine the effectiveness of the item being studied. Use additional paper, if necessary, for comments. Thank you.

(Circle rating - 5 highest)

Does the item perform the required function? 1 2 3 4 5

Is it safe for the user? 1 2 3 4 5

Is it safe for the patient? 1 2 3 4 5

Is the item easy to use? 1 2 3 4 5

Does the item save time? 1 2 3 4 5

Each time the item is used, is it functional and reliable? 1 2 3 4 5

What is your overall evaluation of this item? 1 2 3 4 5

How Does this item compare to the item currently being used (e.g; bedpan)?

____ Better than ____ Equal to ____ Worse than

Would you like to see this item instituted in a permanent basis? ____yes ____no

Would you like to continue using this item with modification? ____yes ____no
(if yes, please note below)

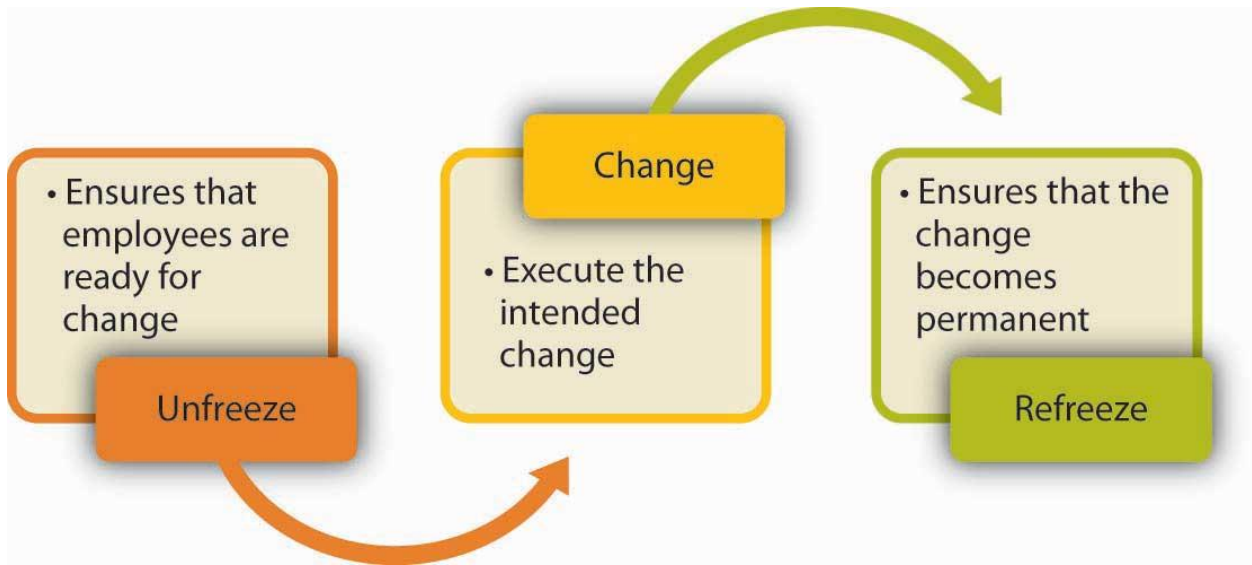
Would you like to continue using the current item? ____yes ____no

Would you prefer to test another item? ____yes ____no

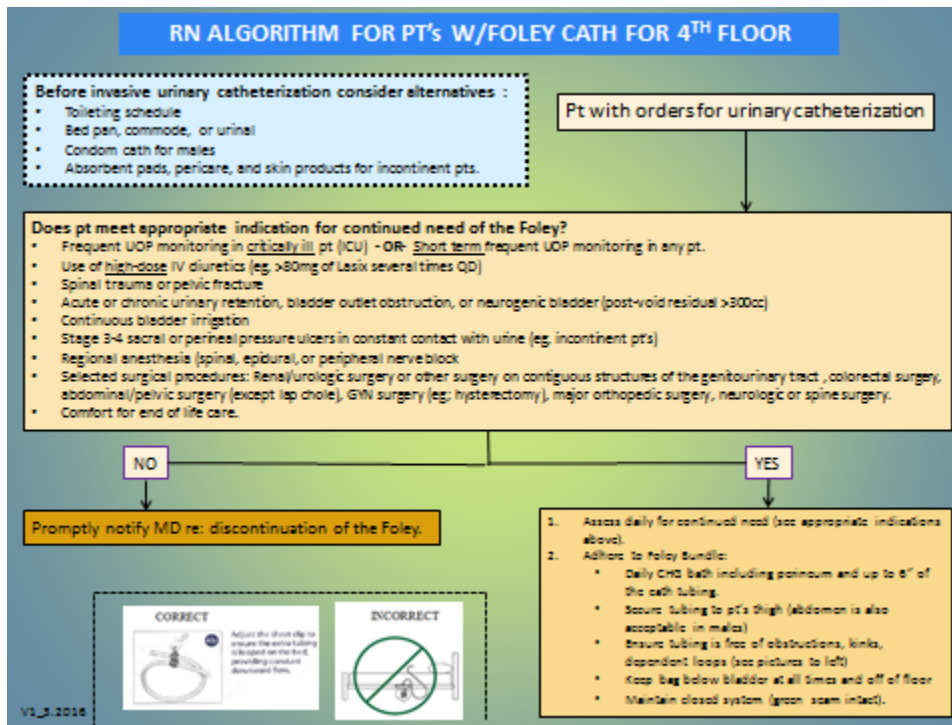
What is your recommendation regarding this item? _____

Signature: _____

Appendix L: Lewin Theory of Change



Appendix M: RN Algorithm for Patient with Foley Catheter for 4th Floor



Appendix N: Revised RN Algorithm for Patient with Foley Catheter for 4th Floor

FOLEY ALGORITHM SHIFT ASSESSMENT (4TH FLOOR)

Before invasive urinary catheterization consider alternatives :

- Toileting schedule
- Bed pan, commode, or urinal
- Condom cath for males
- Absorbent pads, pericare, and skin products for incontinent pts.

Pt with orders for urinary catheterization

Does pt meet appropriate indication for continued need of the Foley?


- Frequent UOP monitoring in critically ill pt (ICU) - OR- Short term frequent UOP monitoring in any pt.
- Use of high-dose IV diuretics (eg. >80mg of fask several times QD)
- Spinal trauma or pelvic fracture
- Acute or chronic urinary retention, bladder outlet obstruction, or neurogenic bladder (post-void residual >300cc)
- Continuous bladder irrigation
- Stage 3-4 sacral or perineal pressure ulcers in constant contact with urine (eg. incontinent pts)
- Regional anesthesia (spinal, epidural), or peripheral nerve block
- Selected surgical procedures: Renal/urologic surgery or other surgery on contiguous structures of the genitourinary tract, colorectal surgery, abdominal/pelvic surgery (except lap chole), GYN surgery (eg. hysterectomy), major orthopedic surgery, neurologic or spine surgery.
- Comfort for end of life care.

NO

Promptly notify MD re: discontinuation of the Foley.


YES

CORRECT





Adjust the short clip to ensure the extra tubing is looped on the bed, providing constant downward flow.

INCORRECT



1. As part of routine shift assessment, assess continued need of Foley daily and PMN (see appropriate indications above).
2. Adhere to Foley Bundle:
 - Daily CHS bath including perineum and up to 6" of the cath tubing
 - Secure tubing to pt's thigh (abdomen is also acceptable in males)
 - Ensure tubing is free of obstructions, kinks, dependent loops (see pictures to left)
 - Keep bag below bladder at all times and off of floor
 - Maintain closed system (groom seam intact).

Kaiser Permanente San Jose CAUTI Audit

Adjust the short clip to ensure the extra tubing is looped on the bed, providing constant downward flow.

Date: _____

Unit/Room/Bed: _____

MRN: _____

Auditor Initials: _____

Insertion Date: _____

Insertion Unit Dept: _____

At Bedside:

	YES	NO	
1.	<input type="checkbox"/>	<input type="checkbox"/>	Catheter tubing is free of kinks, obstructions, and dependent loops which impede urine flow
2.	<input type="checkbox"/>	<input type="checkbox"/>	Collection bag is below the level of the bladder
3.	<input type="checkbox"/>	<input type="checkbox"/>	Catheter tubing is secured to prevent movement and urethral traction
4.	<input type="checkbox"/>	<input type="checkbox"/>	Drainage bag is not able to touch the floor
5.	<input type="checkbox"/>	<input type="checkbox"/>	The catheter/drainage bag system is a closed system (seal is intact)

From Electronic Medical Record:

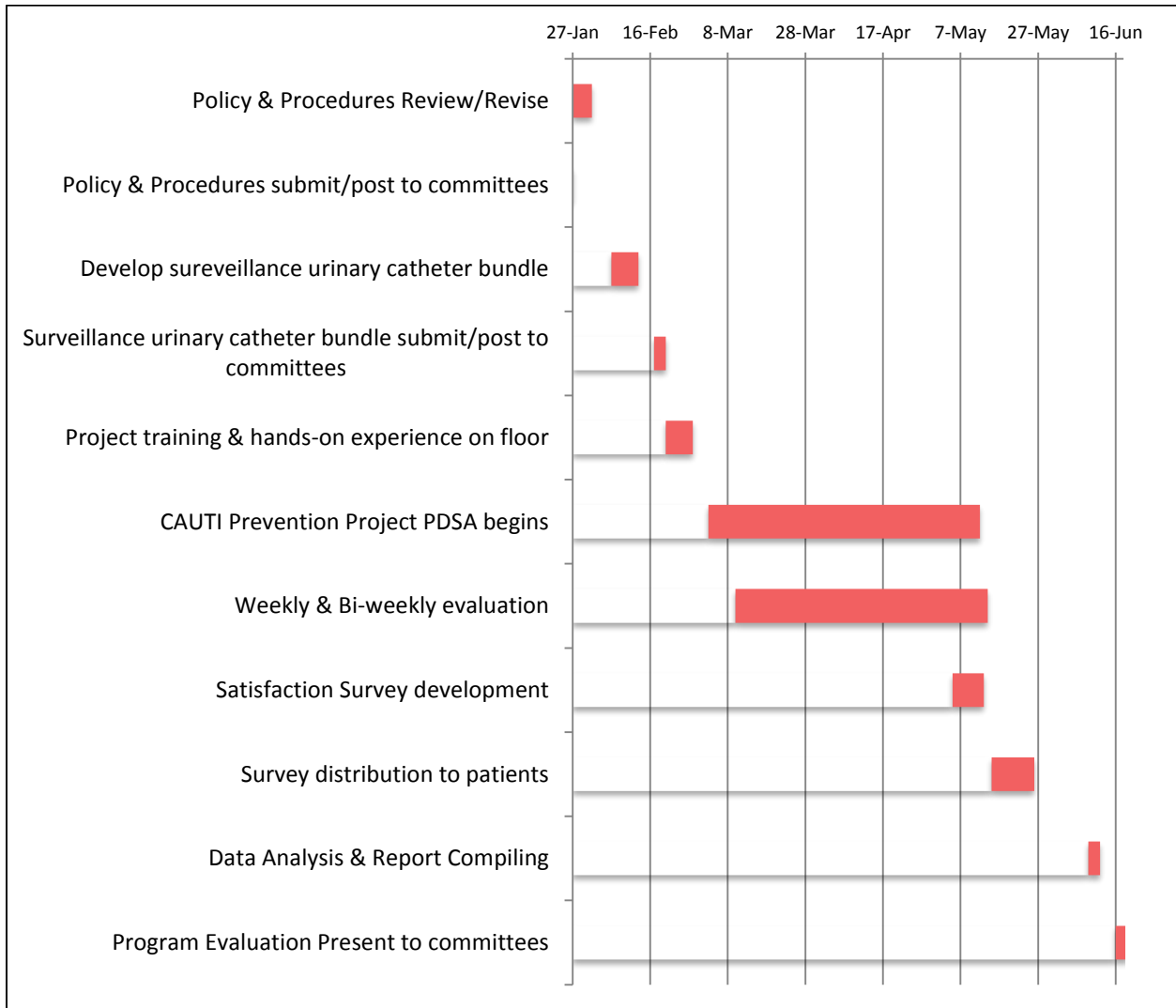
	YES	NO	
6.	<input type="checkbox"/>	<input type="checkbox"/>	Indwelling urinary catheter meets appropriate insertion indication
7.	<input type="checkbox"/>	<input type="checkbox"/>	Daily assessment for continued need of the urinary catheter is documented
8.	<input type="checkbox"/>	<input type="checkbox"/>	Catheter tubing is free of kinks, obstructions, and dependent loops which impede urine flow (R)
9.	<input type="checkbox"/>	<input type="checkbox"/>	Collection bag is below the level of the bladder (R)
10.	<input type="checkbox"/>	<input type="checkbox"/>	Catheter tubing is secured to prevent movement and urethral traction (R)
11.	<input type="checkbox"/>	<input type="checkbox"/>	Drainage bag is not allowed to touch the floor (R)
12.	<input type="checkbox"/>	<input type="checkbox"/>	Routine perineal care performed with soap and water at least daily is documented (R) N/A if admission <24 hrs.

16: Comments (free text): _____ (R) = repeats 'at bedside'

INAPPROPRIATE INDICATIONS

- As a substitute for nursing care of the patient or resident with incontinence
- As a means of obtaining urine for culture or other diagnostic tests when the patient can voluntarily void
- For prolonged postoperative duration without appropriate indications (e.g., structural repair of urethra or contiguous structures, prolonged effect of epidural anesthesia, etc.)

Appendix O: Activities Timeline



Activities Timeline

February 2016

Assess

Policy and procedure review
Baseline Data Obtained
Develop surveillance urinary catheter bundle
Project Kick-Off completed
Process Map Completed
Project Charter Completed

March 2016

Test:

Identify Changes
Cause and Effect Developed
Develop CAUTI prevention PDSA Action Plans
Approval for CHG Bathing from ICC

April 2016

Local Products Council agenda approval for new generation of Condom Cath and Female urinals test of change
CHG wipes test of change
Weekly evaluation

May 2016

Implement

Project training
Policy changing
Including CHG wipes in bundle interventions
Training and Communication Plans

Data Analysis
June 2016

Sustain

Sustainability Plan
Program evaluation

Appendix P: CAUTI Data in 2015 and 2016

CAUTI	CAUTI RATE TARGETS	FOLEY UTILIZATION TARGETS	YTD CAUTI RATES 2015				
	Pooled mean from 2013 NHSN Data Summary Report	Pooled mean from 2013 NHSN Data Summary Report	# UTI's	Foley Days	Rate	PT DAYS	Utilization
4th floor	≤1.5	≤0.17	5	1962	2.55	9110	0.22
6th floor Tele	≤1.3	≤0.19	2	2506	0.80	10981	0.23
7S Step Down	≤1.7	≤0.24	0	1744	0.00	4314	0.40
ICU	≤1.3	≤0.54	3	2355	1.27	3876	0.61
HOSPITAL OVERALL	na	na	11	11307	0.97	41152	0.27

CAUTI	CAUTI RATE TARGETS	FOLEY UTILIZATION TARGETS	Jan-15					Feb-15				
	Pooled mean from 2013 NHSN Data Summary Report	Pooled mean from 2013 NHSN Data Summary Report	# UTI's	Foley Days	CAUTI Rate	PT DAYS	Utilization	# UTI's	Foley Days	Rate	PT DAYS	Utilization
4th floor	≤1.5	≤0.17	0	128	0	630	0.20	1	159	6.29	723	0.22
6th floor Tele	≤1.3	≤0.19	0	288	0	972	0.30	1	222	4.50	879	0.25
7S Step Down	≤1.7	≤0.24	0	175	0	443	0.40	0	170	0.00	371	0.46
ICU	≤1.3	≤0.54	0	256	0	406	0.63	0	230	0.00	348	0.66
HOSPITAL OVERALL	na	na	0	1115	0.00	3634	0.31	2	1002	2.00	3374	0.30

RUNNING HEAD: IMPLEMENTING WAYS TO REDUCE CAUTIS

CAUTI															
						Jan-16					Feb-16				
UNIT	2015 SIR	2016 SIR Target	CAD (# of infections needed to reduce by to meet target)	Last Year's (2015) Rates	Pooled mean from 2013 NHSN Data Summary Report	# UTI's	Foley Days	CAUTI Rate	PT DAYS	Utilization	# UTI's	Foley Days	Rate	PT DAYS	Utilization
3rd Floor	3S: 0.75, 3W:0, 3E: 0.48	≤0.85	-1.6	1.0	≤1.3	1	206	4.85	954	0.22	0	231	0.00	1005	0.23
4th floor	4S:2.61, 4W:0	≤0.85	2	2.7	≤1.3-1.5	0	184	0	799	0.23	0	127	0.00	759	0.17
Tele	NA	≤0.85	NA	1.0	≤1.3	0	232	0	910	0.25	0	164	0.00	795	0.21
7S	0.30	≤0.85	-1.5	0.0	≤1.7	0	183	0	399	0.46	0	108	0.00	298	0.36
ICU	0.70	≤0.85	0.7	1.8	≤1.3	0	217	0	352	0.62	1	223	4.48	315	0.71
HOSPITAL OVERALL	0.74	≤0.85	NA	1.2	NA	1	1022	0.00	3414	0.30	1	853	1.17	3172	0.27

A	B	C	D	E	F	CW	CX	CY	CZ	DA	DB
CAUTI											
						2016 YTD CAUTI RATES					
UNIT	2015 SIR	2016 SIR Target	CAD (# of infections needed to reduce by to meet target)	Last Year's (2015) Rates	Pooled mean from 2013 NHSN Data Summary Report	# UTI's	Foley Days	Rate	SIR	PT DAYS	Utilization
3rd Floor	3S: 0.75, 3W:0, 3E: 0.48	≤0.85	-1.6	1.0	≤1.3	1	437	2.3		1959	0.22
4th floor	4S:2.61, 4W:0	≤0.85	2	2.7	≤1.3-1.5	0	311	0.0		1558	0.20
Tele	NA	≤0.85	NA	1.0	≤1.3	0	396	0.0		1705	0.23
7S	0.30	≤0.85	-1.5	0.0	≤1.7	0	291	0.0		697	0.42
ICU	0.70	≤0.85	0.7	1.8	≤1.3	1	440	2.3		667	0.66
HOSPITAL OVERALL	0.74	≤0.85	NA	1.2	NA	2	1875	1.1		6586	0.28

Appendix Q: 2% Chlorhexidine Gluconate (CHG) Bathing and Instructions for daily body bathing and cleansing of perineum using CHG wipes



KAISER PERMANENTE Kaiser Foundation Hospital – San Jose

Department of Clinical Education Practice and Informatics

2% Chlorhexidine Gluconate (CHG) Bathing

Pilot Location: 4th Floor Med/Surg Department

SITUATION: Prevention of UTI in patients with urinary catheters.

BACKGROUND:

- ✚ KPSJO target for **C**atheter **A**ssociated **U**rinary **T**ract **I**nfections (CAUTI) is **ZERO**.
- ✚ CAUTI cases at KPSJO:
 - ✚ We had 16 cases in 2014 and 11 cases in 2015. ✚
- Scientific evidence and studies have shown that:
 - ✚ 65 - 70 percent of catheters related to UTI may be preventable.
 - ✚ CHG reduces bacteria for up to 24 hours and prevents infection.
 - ✚ CHG provides rapid bactericidal action against a broad spectrum of microorganisms.
 - ✚ CHG kills almost all bacteria and viruses.
 - ✚ CHG is a fast-acting, alcohol free cleansing agent that can rapidly drop in skin bacterial counts.
 - ✚ CHG can also significantly reduce the number of microorganisms on intact skin.
- ✚ Cleansing of perineum with CHG wipes is safe and effective per SAGE's manufacturer's recommendations.

ASSESSMENT:

- ✚ Complete body bathing and cleansing of perineum with CHG wipes may help to reduce infections in patients with urinary catheters.

RECOMMENDATION:

- ✚ For all patients with the following urinary catheters, complete body bathing and cleansing of perineum with CHG wipes must be done **DAILY**:
 - Patients with Foley catheter.
 - Patients with Suprapubic catheter.
 - **Note:** Not for patients with Condom catheter.
- ✚ Document the bathing and cleansing of perineum with CHG wipes in patient's medical record **DAILY**. ✚ **Target Implementation Date: 4/25/16**

DOCUMENTATION IN KPHC:

- 1) Go to “Doc Flowsheets”, select “Care” section, then insert the column with right date & right time.
- 2) Document “Chlorhexidine Bath, Peri Care, & Linen Change” in “Hygiene” row as shown in example below

The screenshot displays a medical documentation interface. On the left, a sidebar lists various assessment categories with checkboxes: General, Assessment, Safety Interventions, Care (circled in red), Integumentary, Activity, Psychosocial, Neurological, Cardiovascular, and Respiratory. The main area shows a 'Care' section with a table of interventions. The 'Hygiene' row is highlighted in purple and contains the text 'Chlorhexidine'. A red circle highlights the 'Care' section and the 'Hygiene' row. An orange arrow points to the 'Chlorhexidine' entry. A yellow callout box contains the text: 'Hygiene Chlorhexidine Bath; Peri Care; Linen Change Taken on 04/05/16 at 1000'. The interface also shows a date and time filter set to '1h' and 'Based On: 0700'.

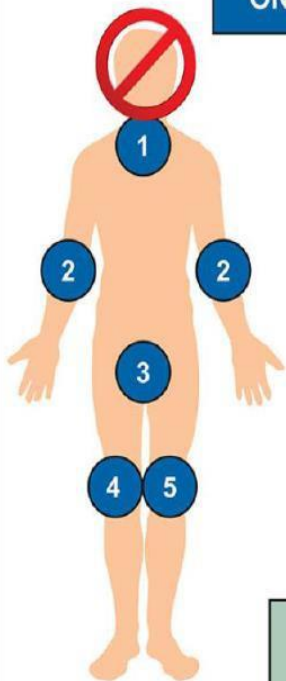
INSTRUCTIONS FOR DAILY COMPLETE BODY BATHING AND CLEANSING OF PERINEUM USING CHG WIPES

- Do NOT use soap below the jawline. Certain soaps and lotions can inactivate CHG.
- Only use CHG-compatible lotions and/or barrier products. →
- Dispose of all cloths in the trash. Do NOT flush.

Note Use Only Hospital Approved Lotions

BATHE WITH CHG USING FIRM MASSAGE TO REMOVE BACTERIA

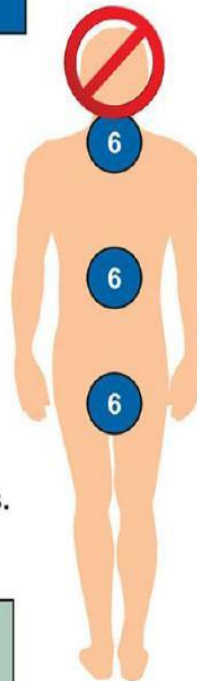
ONLY USE CHG CLOTHS *BELOW* THE JAWLINE



Front

- 1 Neck, shoulders, and chest.
- 2 Both arms and hands.
- 3 Abdomen then groin and perineum.
- 4 Right leg and foot.
- 5 Left leg and foot.
- 6 Back of neck, back, and then buttocks.

Skin may feel sticky for a few minutes.
Do NOT wipe off. Allow to air dry.



Back

INCONTINENCE:

- Clean with chux and water, NOT soap.
- Then bathe with CHG cloths, air dry.
- Use as many CHG cloths as needed.
- Apply CHG compatible barrier.
- Repeat throughout the day, as needed.

LINES AND TUBES:

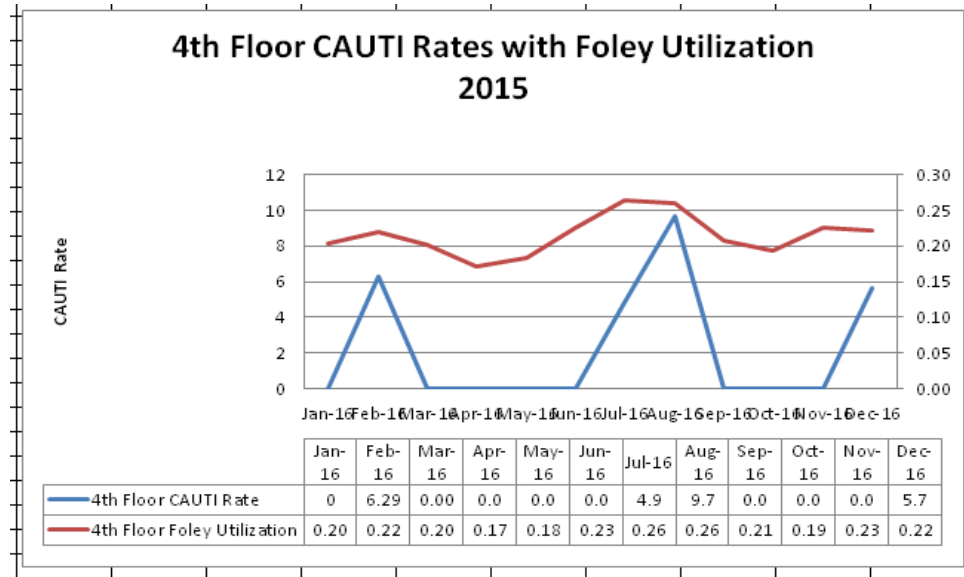
- CHG is safe on lines, tubes, and devices.
- Bathe with CHG right up to dressing.
- After bathing skin and/or cleansing of perineum, clean the tubes/urinary catheter 6 inches outward from the insertion site.

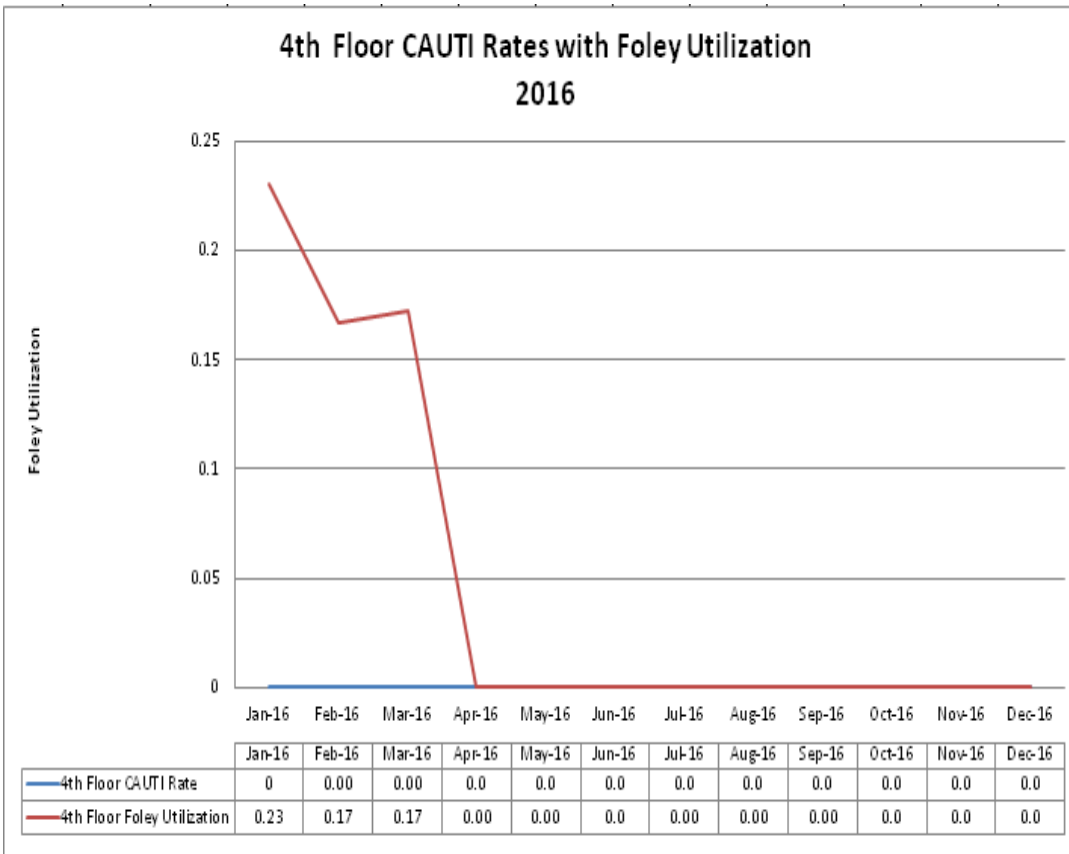
RUNNING HEAD: IMPLEMENTING WAYS TO REDUCE CAUTIS

Appendix R: Foley Utilization Spread Sheet

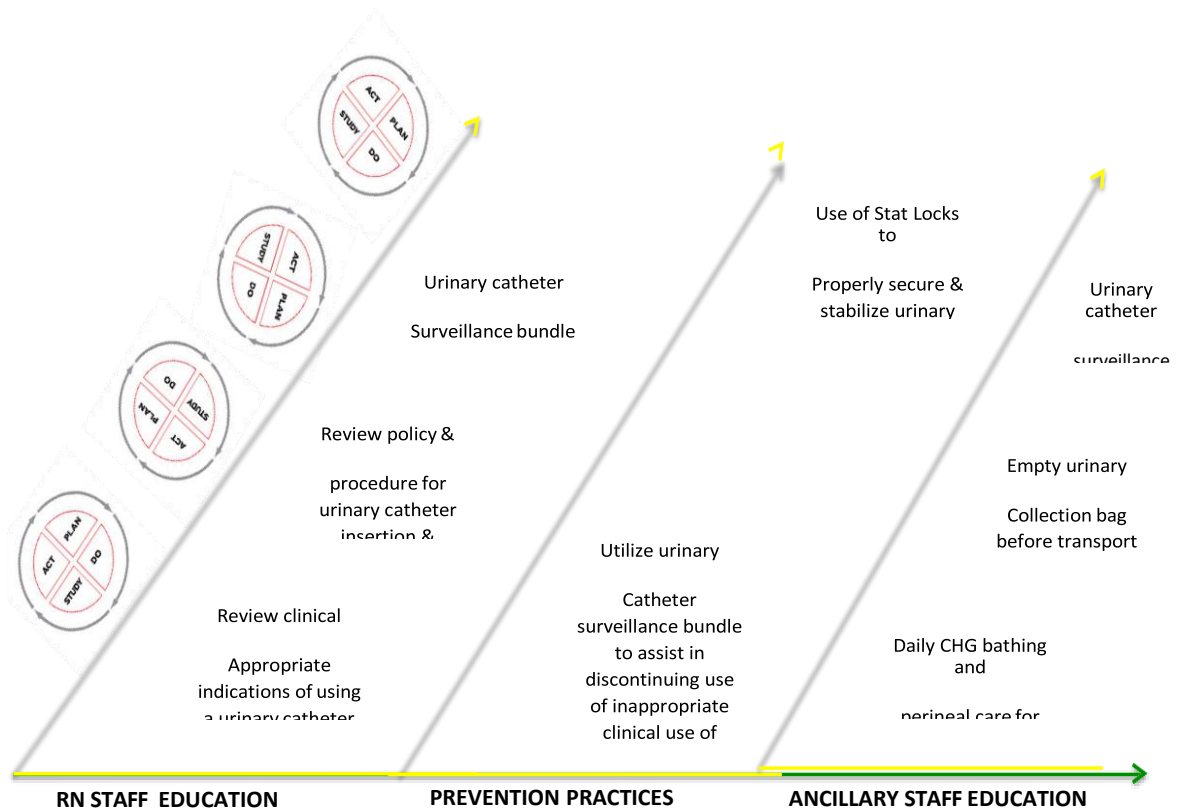


Appendix S: Foley Utilization and CAUTI Rate in 2016 compare to 2015.





Appendix T: Summary of Changes that Lead to Improvements



Appendix U: Project PDSA Cycle

