



 University Health System

THINKING BEYOND

Becoming CAUTI Cautious:

Reducing Catheter Associated Urinary Tract Infection Initiative

Clinical Safety and Effectiveness Cohort 20

 CENTER FOR PATIENT SAFETY & HEALTH POLICY
UT HEALTH SCIENCE CENTER™
SAN ANTONIO



Educating for Quality Improvement & Patient Safety

Our Team

- **Division**

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- **Sponsor Department**

- University Health System Neurosciences Intensive Care Unit
 - Eric Dahl, Executive Director
- University Health System Infection Control & Prevention Department
 - Dr. Jason Bowling, Hospital Epidemiologist

What are we trying to accomplish?

OUR AIM STATEMENT

The aim of this project is to increase the compliance of urinary catheter bundle rounds on 8 ICU to 90% during January through June 2017. Increasing compliance with the bundle is important to improve because catheter associated urinary tract infections have been associated with increased morbidity, mortality, hospital cost, and length of stay.

Background Information

- Urinary tract infections are the most common type of healthcare-associated infections, accounting for more than 30 percent of healthcare-associated infections reported by acute care hospitals.
- Virtually all healthcare-associated urinary-tract infections (UTIs) are caused by instrumentation of the urinary tract (e.g. insertion of catheters).
- CAUTI has been associated with increased morbidity, mortality, hospital cost, and length of stay.
- The good news is that many CAUTIs may be prevented with recommended infection control measures.

Centers for Disease Control (CDC) Core Strategies for CAUTI Prevention

- Insert catheters only for appropriate indications
- Leave catheters in place only as long as needed
- Ensure that only properly trained persons insert and maintain catheters
- Insert catheters using aseptic technique and sterile equipment
- Following aseptic insertion, maintain a closed drainage system
- Maintain unobstructed urine flow
- Practice hand hygiene and standard (or appropriate isolation) precautions according to CDC HICPAC guidelines

What changes can we make that will result in an improvement?

- Identified 8 ICU as the unit with the most opportunity for improvement
- Utilized CDC's Targeted Prevention (TAP) Report
 - To identify areas for improvement
 - To help identify effective strategies in top performing areas

CAUTIs: Jan 2015 – May 2016

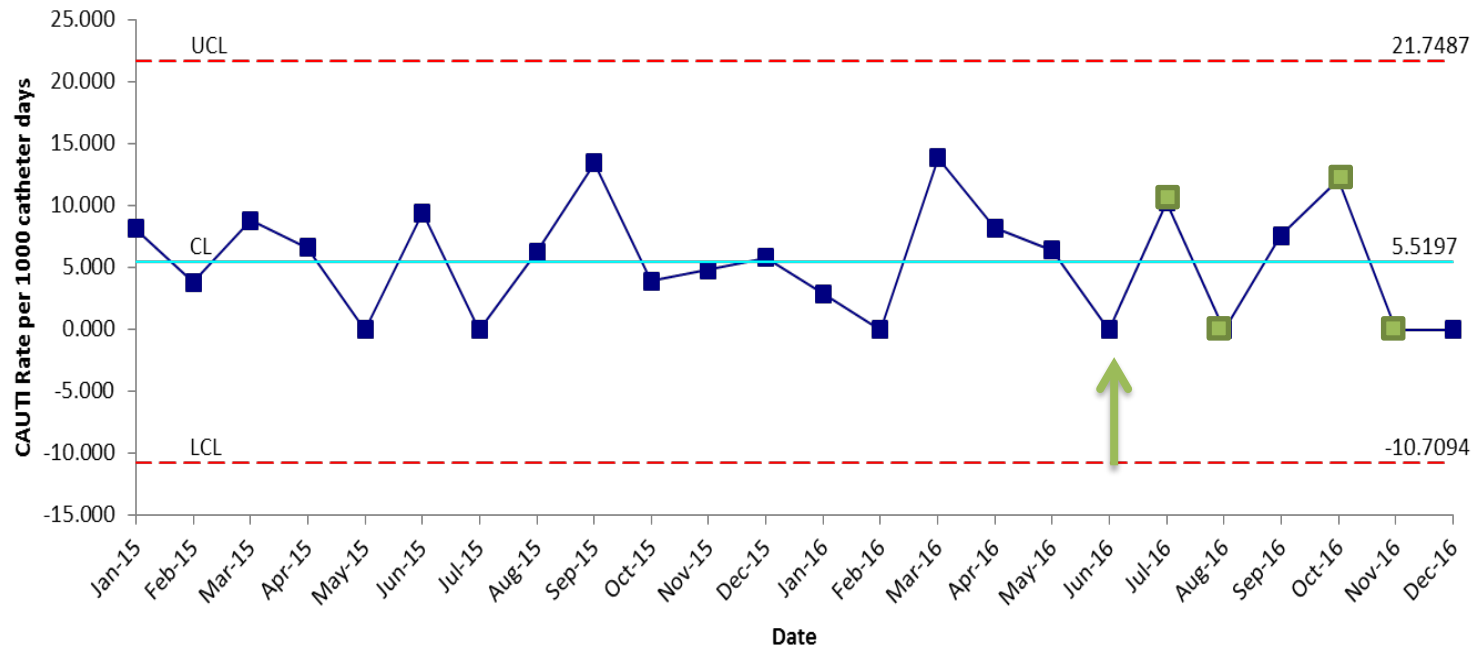
**National Healthcare Safety Network
TAP Report - CAUTI Data for Acute Care Hospitals
Locations Ranked by CAD Within a Facility
Cumulative Attributable Difference (CAD) Multiplier: HHS Goal = 0.75**

As of: June 15, 2016 at 3:17 PM
Date Range: CAU_TAP summaryYM After and Including 2015M01

FACILITY			LOCATION							
orgID	name	facCAD	locRank	location	infCount	numucathdays	locDUR	locCAD	locSIR	SIRtest
20064	University Health System	9.62	1	8 ICU	27	4514	78	12.10	1.36	
			2	8 HEM	4	508	8	3.09	3.28	SIG
			3	5 ACU	8	4007	15	2.29	1.05	
			4	7 ICU	5	1358	23	2.15	1.32	
			5	8 ACU	5	1522	13	1.46	1.06	
			6	6 ACU	5	2446	15	1.33	1.02	
			7	MED9	3	1402	11	1.00	1.13	
			7	PCICU	2	492	14	1.00	1.51	
			9	PHEM/ONC	1	118	4	0.68	.	
			10	IRF	3	987	11	0.19	0.80	
			11	7 ACU	0	114	2	-0.11	.	
			12	RMS6	0	84	7	-0.24	.	
			13	OB	0	781	6	-0.47	.	
			14	9 ICU	4	4296	63	-1.48	0.55	
			15	10 ACU	3	3330	14	-1.50	0.50	
			16	9 ACU	1	2140	12	-1.89	0.26	
			17	6 ICU	14	6860	72	-3.49	0.60	
			18	5 ICU	3	5510	64	-6.50	0.24	

Background Data

8 ICU CAUTI Rate



Month	CAUTI Count
Jan-15	2
Feb-15	1
Mar-15	2
Apr-15	1
May-15	0
Jun-15	2
Jul-15	0
Aug-15	2
Sep-15	3
Oct-15	1
Nov-15	1
Dec-15	2
Jan-16	1
Feb-16	0
Mar-16	4
Apr-16	3
May-16	2
Jun-16	0
Jul-16	3
Aug-16	0
Sep-16	2
Oct-16	3
Nov-16	0
Dec-16	0

June: Implemented daily urinary catheter rounds

July: Retrained staff on urinary catheter insertion and specimen collection

August: Introduced cleansing wipes for perineal care and began daily audits

October: Increased frequency of urinary catheter rounds to once per shift

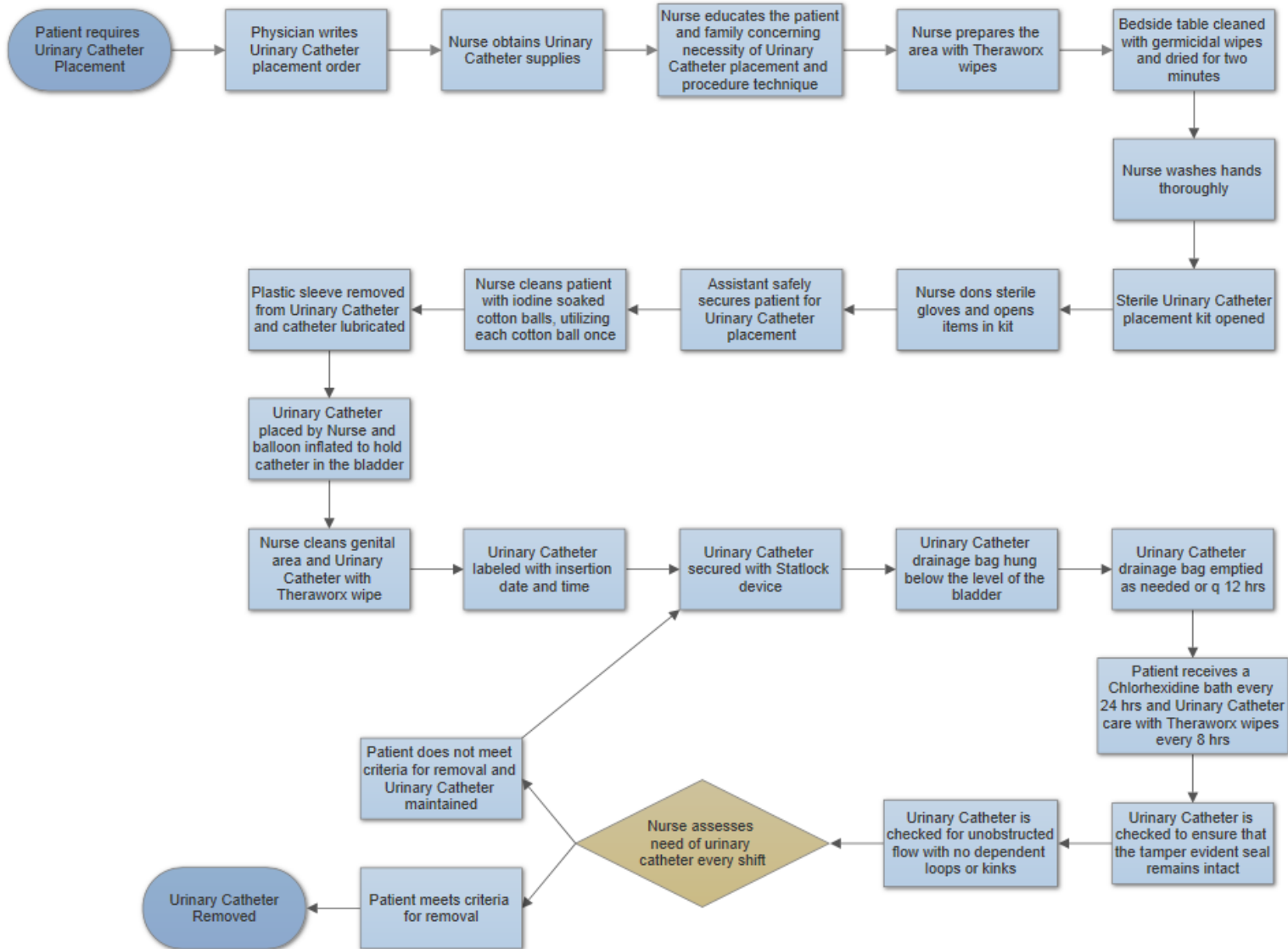
November: Participation in mandatory skills fair

January: Enrolled in Clinical Safety & Effectiveness Course: Reducing CAUTIs in 8 ICU

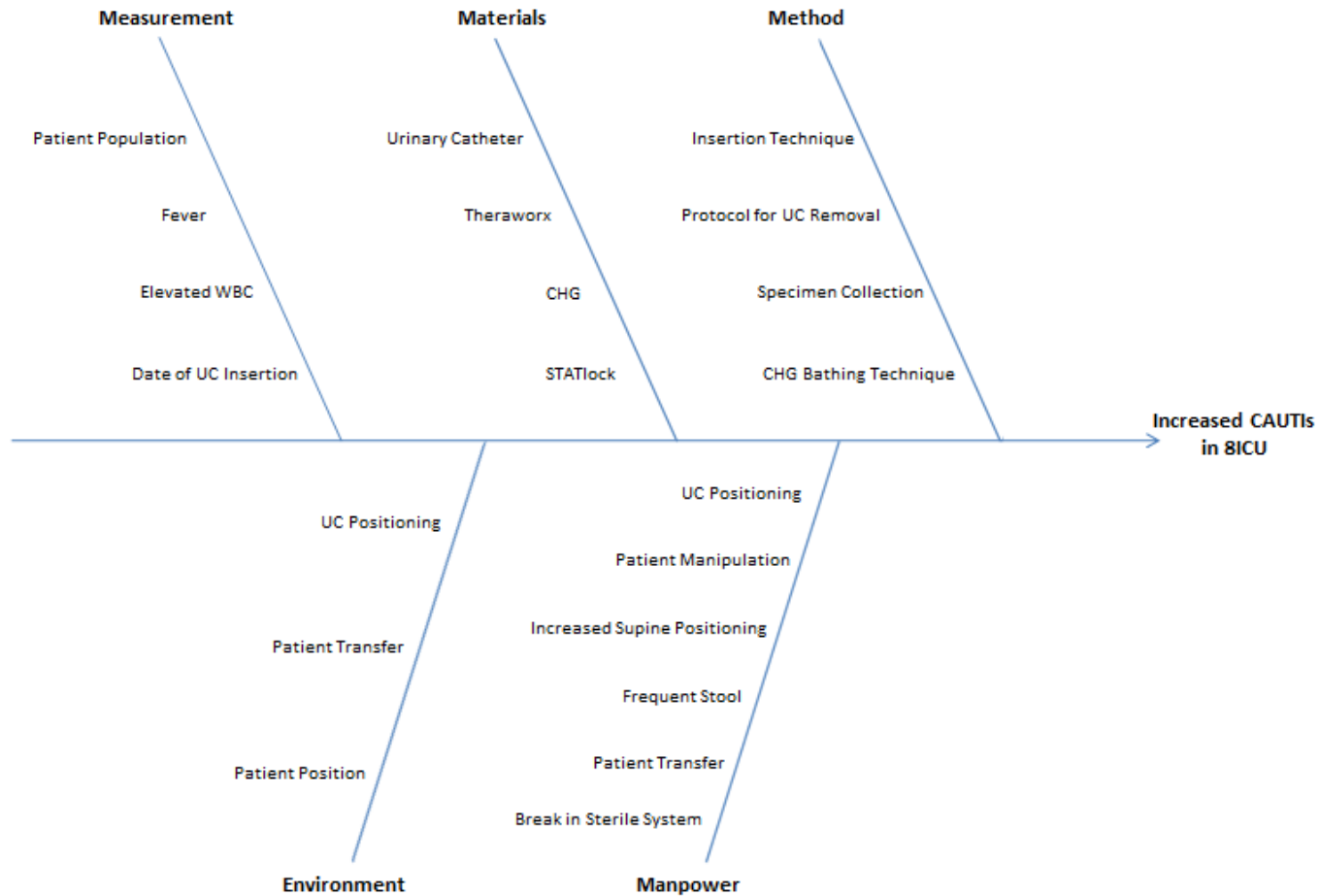
Project Milestones

- Team Created January 2017
- AIM statement created February 2017
- Weekly Team Meetings February – June 2017
- Background Data, Brainstorm Sessions, Workflow and Fishbone Analyses February 2017
- Interventions Implemented January 2017
- Data Analysis January – June 2017
- CS&E Presentation June 2017

Urinary Catheter Process Flow Map



Urinary Catheter Fishbone



How will we know that a change is an improvement?

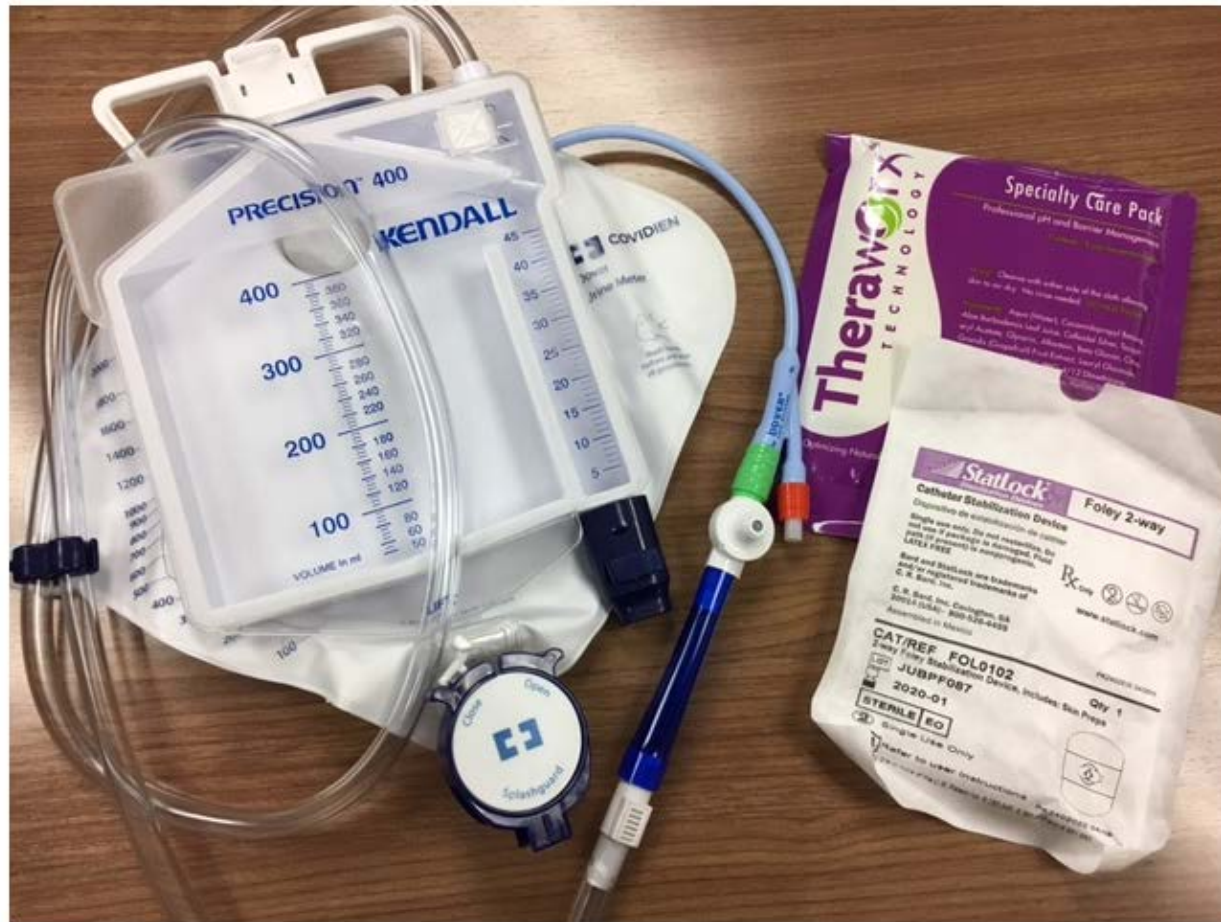
- Perform a review of patients with urinary catheters and assess compliance for each component of the bundle every shift
- Continue CAUTI Rounds with IC&P
- Track compliance per element
- Target components of bundle that fall-out
- Reinforcement of evidence based practices in shift huddles

CAUTI Rounding Tool

CAUTI Maintenance Bundle

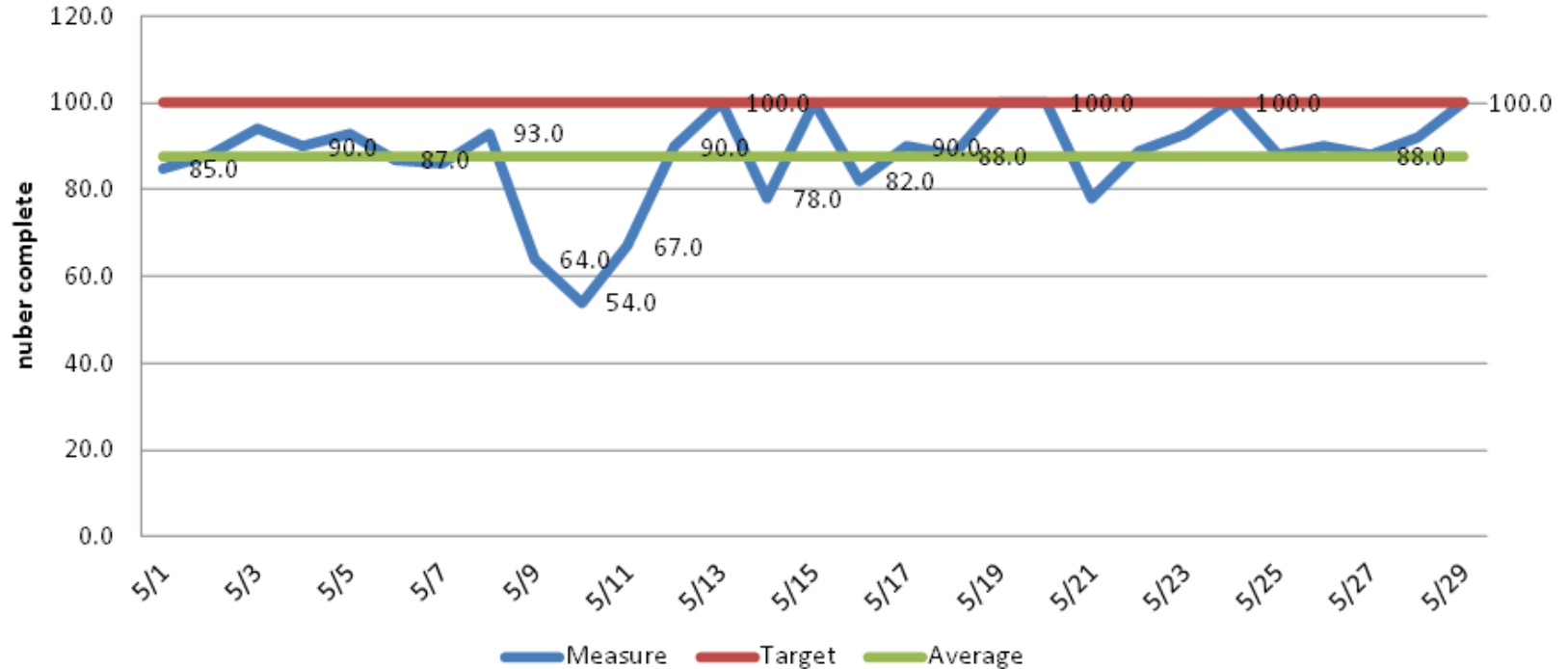
Room	Daily assessment of need documented		Foley catheter criteria met		Tamper evident seal is intact		Catheter secured-securement device in place (statlock)		Every 8 hrs and prn meatal hygiene performed with soap and water and theraworx		Unobstructed flow (no dependent loop, no kinks, bag is not touching the floor)		Foley removed=R or Maintained=M	Change by Date
8077	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8079	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8081	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8083	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8085	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8089	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8091	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8093	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8095	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8097	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8099	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8101	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8103	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8105	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8109	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8111	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8113	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
8115	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		

Our Catheter Maintenance Tools



CAUTI Maintenance Bundle Compliance May 2017

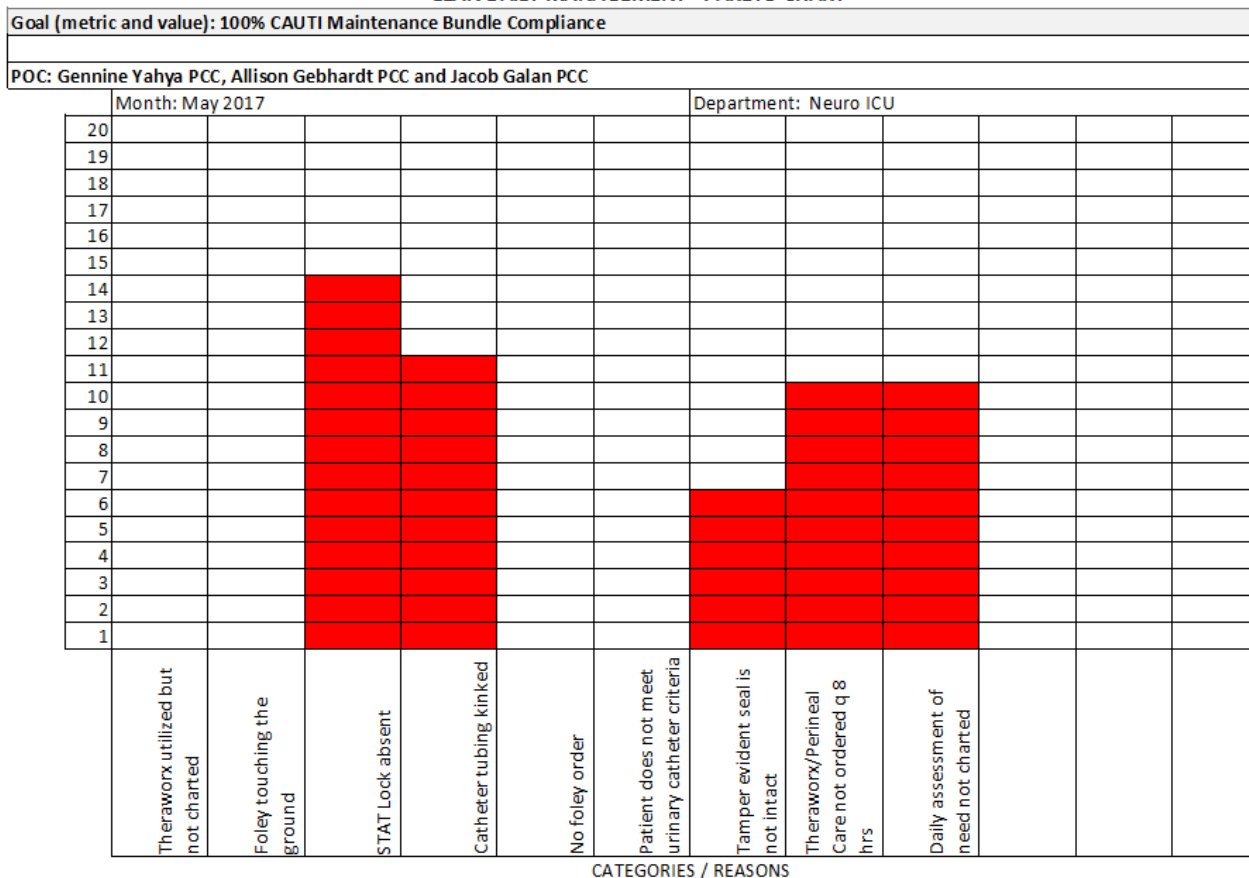
LEAN DAILY MANAGEMENT - OUTCOME MEASURE Metric: CAUTI Maintenance Bundle Compliance



CAUTI Maintenance Bundle Pareto Chart

May 2017

LEAN DAILY MANAGEMENT - PARETO CHART

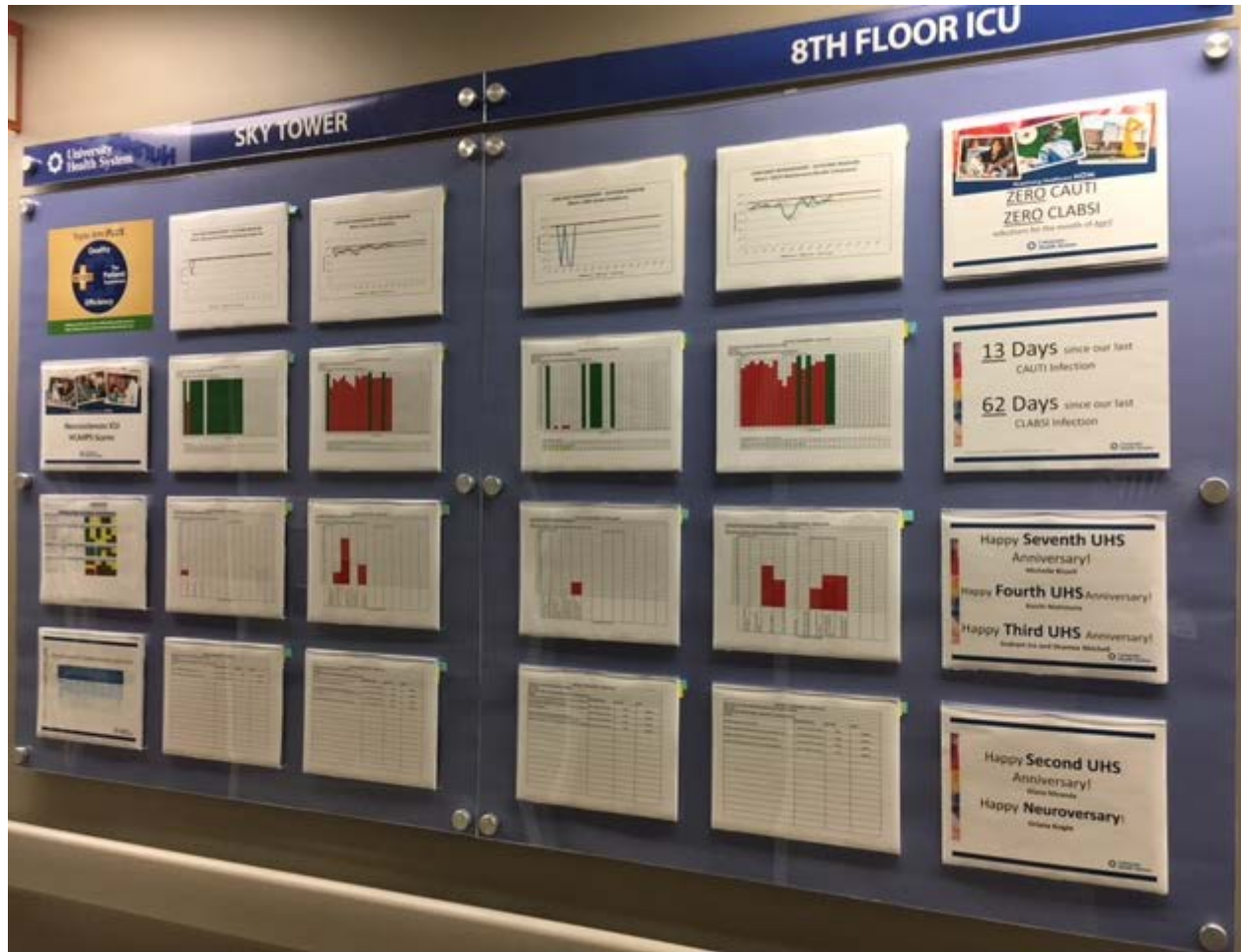


CATEGORIES / REASONS

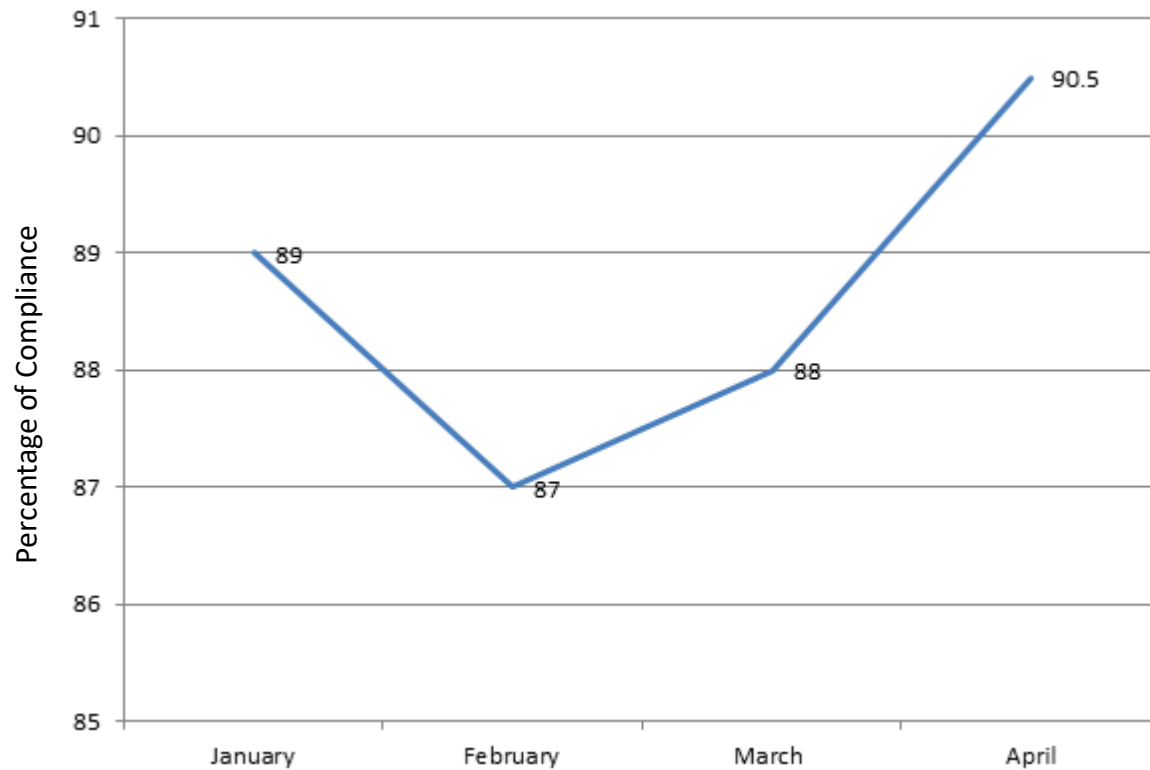
CAUTI Maintenance Implementation

- Observe perineal cleaning technique
- Provide 1:1 education regarding proper compliance with bundle components when violations are found
- Ensure perineal cleaning materials and maintenance supplies are readily available
- Education of CCT/PCAs concerning evidence based practice with the CAUTI Maintenance Bundle

GEMBA Board

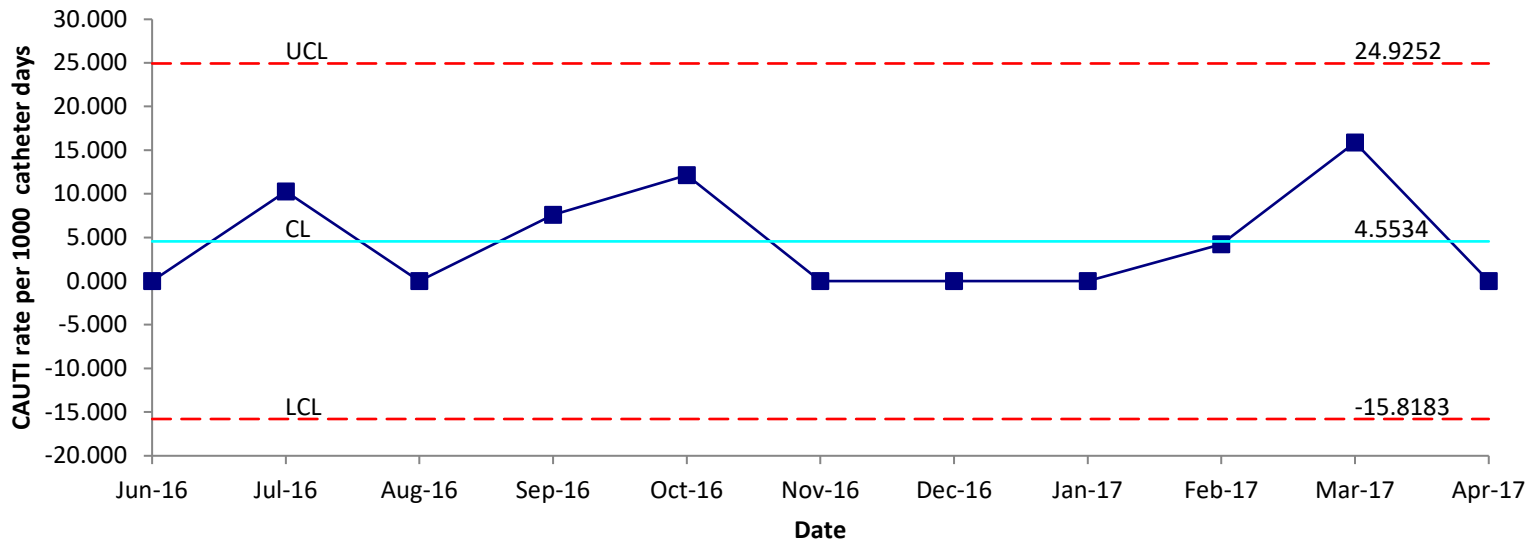


How did we do?



2017 CAUTI Compliance Data

8 ICU CAUTI Rate



Month	CAUTI Count
Jun-16	0
Jul-16	3
Aug-16	0
Sep-16	2
Oct-16	3
Nov-16	0
Dec-16	0
Jan-17	0
Feb-17	1
Mar-17	5
Apr-17	0

Return on Investment

- During our 11 month intervention time period:
 - Avoided 5 CAUTIs resulting in approximately \$4000 savings
 - $(5 \text{ CAUTIs})(\$758) = \3790
 - Reduced length of stay by 10-20 hospital days
 - $(5 \text{ CAUTIs})(2-4 \text{ days}) = 10-20 \text{ hospital days}$
- If we continue along the same trajectory, in 5 years
 - Prevent 27 CAUTIs resulting in approximately \$20,000 savings
 - Reduce length of stay by 54-108 hospital days
 - Improve public ratings on Hospital Compare and Leapfrog

Where do we go from here?

- Standardize Perineal Care Guideline for practice implementation
- Continue partnership with Infection Control & Prevention to sustain efforts
- Continue to perform case analysis with CAUTIs and search for common contributing factors
- Establish CAUTI Committee in 8 ICU
- Remain diligent with the education of nursing staff regarding urinary catheter maintenance

Thank you!



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