

Baylor St. Luke's Medical Center

Leveraging Technology To Reduce **Catheter-Associated Urinary Tract Infections**

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Background

- Centers for Disease Control and Prevention (CDC) reported that urinary tract infections (UTI) are the fourth most common type of healthcare-associated infection, with an estimated 93,300 UTIs in acute care hospitals in 2011. It accounts for more than 12% of infections reported by acute care hospitals.
- Centers for Medicare and Medicaid Services stopped reimbursing for any costs associated with catheter associated urinary tract infection (CAUTI) in 2008.
- Variation in practice, incomplete documentation and inappropriate indications are contributors to the high rate of CAUTI in hospitals
- A CAUTI Task Force was convened to implement a hospital-wide multidisciplinary campaign to decrease CAUTI rate by leveraging technology and change in practice
- Hospital Standardized Infection Ratio (SIR) went up as high as 1.572.

Purpose

- Prevent CAUTI by identifying gaps in practice in physician orders, catheter indication, clinical documentation, clinical decision support, and interventions.
- Decrease CAUTI SIR by leveraging hospital electronic health system to provide task list, best practice alerts, order panels and mandate assessment of urinary catheter., documentation of catheter indication and catheter care.
- Utilize evidence-based practice guidelines and algorithm on CAUTI prevention.
- Present the change management process to manage and sustain the workflow conversion to the interdisciplinary committee.

Interventions

- Created multidisciplinary CAUTI team task to implement plans to decrease and prevent CAUTI incidence.
- Developed a rapid-cycle change Plan-Do-Study-Act (PDSA) cycle and presented to hospital leadership.
- Developed system-wide clinical education on catheter insertion, care and documentation organized using Train the Trainer approach followed by skills validation.
- Created a standardized order set with required nursing documentation embedded and added the following features:



- > Require indication for ordering urinary catheter based on CDC criteria
- > A pre-populated order panel that includes catheter care twice daily task and nurse-driven removal algorithm to discontinue catheter based on CDC criteria.
- > The tasks are automatically added to the clinician's work list for completion.
- > Best Practice alert twice daily to assess appropriateness of urinary catheter based on CDC criteria.

Post Vold Cath Residual (mL)									
OTHER									
Catheter Care with Soap and								Yes	Yes
Urethral Catheter Indwelling								2	
Urethral Catheter Properties	Placement	Date: 07/04/1	6 Inserted	by: (c) Pla	ced by Exter	nal Staff?: Y	es Catheter	-	
Meets CDC Criteria for Catheter					Criticall				Critically ill p
Does not Meet CDC Criteria for					Re-asse				Re-assess ca
Site Assessment					Clean;In				Clean;Intact
Collection Container					Urometer				Urometer
Securement Method					Securin				Securing devi
Output (mL)	75	75	50	65		30	30	35	120 mL
Status					Unclam				Unclamped
Foley Interventions (Bundle)					Catheter				Catheter is s
GBI?					No				No

A. Nursing Documentation on urinary catheter



Current Shift	← 07/06/16 1900-0700 ←	Start Date: 7/6/2016	Overdue		
Time View F	Filters: My Discipline (with PRN) 💌			Show: Completed	Discontinued
Time 📥	Task			Priority Done	
Documentation	l				
1903		dwelling;Temperature Sensing 16 Fr., P g Tube Size (Fr.): 16 Fr. Catheter Ballo	Placement Date/Time: 06/27/16 0827 Inserted by: Kangieser, RN Number of Attempts: 1 Catheter Type: *	Doc	Skip 5
2100	Urethral Catheter Care			Routine Doc	Skip 5 🗐

C. Task created on clinician's work list

B. Order Panel created with hard stop on indications





- Support tools post-op patients
- Prevent and decrease hospital CAUTI rate • Create a multidisciplinary CAUTI team Build a standardized order set with hard stop on approved indications and embedded Clinical Decision • Develop an educational plan for urinary catheter care and removal Collect data on urinary catheter line days and CAUTI rate • Develop quality reports on urinary catheter line with information on indication, care and catheter days • Hospital-wide education on urinary catheter insertion, assessment, care, documentation and hand hygiene Implemented urinary catheter intervention bundle Monitor urinary catheter use based on CDC indications and removal • Adopted the nationally recognized nurse removal of urinary catheter algorithm • A significant drop in the number of urinary catheter line days from average of 14 days to 4 days and 0.75 days for 🗾 Standardized Infection Ratio (SIR) decreases from 1.572 to 0.69 An 85% increase of urinary catheter indication documentation Variation of practice on Perioperative Order Sets was observed • Review post-operative order sets and embed standardized CAUTI order panel Present change to perioperative leaders and providers Monitor compliance and send reports to unit leaders



Discussion

- Incorporate training for CAUTI prevention during new hire orientation
- Implement annual skills validation for CAUTI prevention
- Review all EHR order sets and embed standardize order set on CAUTI prevention
- Continue to monitor staff compliance, urinary catheter line days and CAUTI rate.



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