Organization: Sinai Hospital of Baltimore
Solution Title: Clinical Protocol Reduces CAUTI

Program/Project Description: What was the problem to be solved? How was it identified? What baseline data existed? What were the goals—how would you know if you were successful?

Catheter-associated urinary tract infections (CAUTIs) are the most common healthcare-associated infections (HAIs), accounting for approximately 40 percent of all HAIs. Effective October 1, 2009 the evidence-based Surgical Care Improvement Project (SCIP) added a new measure for hospital (SCIP-Inf-9). Sinai Hospital identified two major issues that impact SCIP-Inf-9: 1. The routine practice for many surgical procedures to include insertion of an indwelling Foley catheter 2. The duration of Foley catheters without timely discontinuation.

Process: What methodology or process was used to develop the Solution?
The Plan-Do-Study-Act organizational structure for performance improvement was used. An interdisciplinary team of nurses, physicians, infection preventionist, educators, informatics specialist, and patient safety developed, implemented, and evaluated the "Indwelling Catheter Protocol" to prevent placing in-dwelling catheters unless medically necessary and early removal of catheters, thereby decreasing dwell time and reducing catheter-associated UTIs. This all transpires at the same time as achieving and sustaining excellence with SCIP-Inf-9 quality indicator.

Solution: What Solution was developed? How was it implemented?
Cerner Powerchart technology monitors all provider orders and nursing documentation for the presence of an indwelling urinary catheter. The system generates a mandatory reason for the indication of catheter insertion order based on recommendations from Society for Healthcare Epidemiology of America (SHEA)/Infectious Diseases Society of America (IDSA) as well as an automatic default to discontinue in 24 hours. The clinician has two options on the alert: 1. Discontinue the catheter, or 2. Attest that the catheter continues to be medically indicated. Furthermore, if a catheter is deemed necessary, a daily alert for the nurse to remove the Foley and/or contact the physician caring for the patient displays in the nursing task list for five days. The system produces precise real-time reports of clinical activity monitoring which gives key personnel the ability to see the indwelling urinary catheter for all patients. The electronic system was foundational to identifying and tracking the patient population. However, the ability of the CAUTI performance improvement team to engage and obtain support from the medical staff, promote attention to the alerts, and monitor compliance was key to achieving results.

Measurable Outcomes: What are the results of implementing the Solution? Provide qualitative and/or quantitative results to data. (Please include graphs, charts, or tools as attachments.)
The SCIP-Inf-9 measure improved to 98% from 67% and has been sustained throughout 2011. In addition, The National Surgical Quality Improvement Program (NSQIP) reported a 40 percent decrease in the incidence of UTIs after implementation of the indwelling catheter orderset.
**Sustainability:** What measures are being taken to ensure that results can be sustained and spread?
A dashboard of performance measures for SCIP and CAUTI is communicated prospectively to all staff. Nurse managers regularly review charts for duration of Foley catheter and adequacy of documentation for continuation of Foley catheter. Frontline nursing staff has revealed that the protocol helps them feel empowered to make clinical decisions that impact patient care. The protocol has demonstrated that clinical practice can not only be improved, but that these improvements can be sustained over time.

**Role of Collaboration and Leadership:** What role did teamwork and collaboration play in the Solution? What partners and participants were involved? Was the organization’s leadership engaged and did they share the vision for success? How was leadership support demonstrated?
Strong support and commitment of hospital staff and physicians, including management, has been essential to the organization-wide improvement. Safety and Quality is a priority for senior executives and board members alike. The board meetings at Sinai regularly include an update on SCIP and CAUTI performance. The chief executives participating in the CAUTI initiative will all attest that responsibility for patient safety cannot be delegated, and that they play a unique role in building and sustaining the focus on patient safety issues throughout our organization. Without this infrastructure to support the CAUTI team, improvements would not have moved beyond rudimentary changes. With organizational leadership support, we will be advancing this important patient safety initiative by participating in the state of Maryland and national CUSP (Comprehensive Unit-based Safety Program)-CAUTI initiative to reduce CAUTI rates and improve safety culture by improved teamwork using CUSP methodology.

**Innovation:** What makes this Solution innovative? What are its unique attributes?
Accountability for stakeholders, dedication and empowerment for staff to speak-up, innovative technology and hospital-wide knowledge transfer strategy.

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