MHA Keystone Center | Blue Cross Blue Shield of Michigan

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A Voluntary Collaborative to Improve Quality and Save Lives

MHA Keystone: Catheter-associated Urinary Tract Infections (CAUTI)

Collaborative Overview:
Since 2007, Michigan hospitals have implemented evidence-based interventions to reduce Catheter-associated Urinary Tract Infections (CAUTIs) through the MHA Keystone: CAUTI (formerly MHA Keystone: Hospital-associated Infection) collaborative. CAUTIs are a common type of harm in U.S. hospitals and account for 35 percent of all healthcare-associated infections (HAI). The estimated cost of CAUTIs is $565 million annually and the estimated number of deaths per year is 8,205[1]. Approximately 600,000 patients develop hospital-acquired urinary tract infections (UTIs) each year and CAUTIs comprise 80 percent of these cases. Research suggests between 20 percent and 70 percent of these episodes are preventable[2]. Patients with indwelling urinary catheters are at greater risk for developing UTIs with risk of bacteriuria increasing with each day of use. The leading risk factors of CAUTIs include: prolonged catheterization, female gender and catheter insertion outside the operating room[3]. Up to 50 percent of patients from nonintensive medical and surgical units do not have a valid indication for urinary catheter placement, thus contributing to the high rate of CAUTI.

The MHA Keystone Center originally took a two-pronged approach to decrease catheter prevalence and reduce the risk of infection by working with inpatient and emergency department (ED) teams in conjunction with the national On the CUSP: Stop CAUTI initiative. The inpatient team training focused on using the Learning from Defects tool and health literacy, specifically addressing patient and family education to help prevent CAUTIs.

An ED pilot ended in April 2013 and teams ceased submission of catheter insertion rates in the ED at that time. Lessons from this pilot were shared locally and nationally. Efforts to reduce CAUTIs now include an emphasis on protocols and interventions to decrease unnecessary placement of urinary catheters and reducing readmissions through collaboration with other providers in the local community.

CAUTI interventions will be informed by the measurement and evaluation activities of the previous years. Further, we will be utilizing the Center for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN) Targeted Assessment for Prevention (TAP) strategy to identify units that have a disproportionate burden of CAUTIs so that gaps in infection prevention in targeted locations can be addressed. The TAP report uses a metric called the cumulative attributable difference (CAD). The CAD is the number of infections that must be prevented to achieve a HAI reduction goal and is calculated by subtracting a numerical prevention target from an observed number of HAIs. The TAP report allows for the ranking of facilities, or locations within individual facilities, by the CAD to prioritize prevention efforts where they will have their greatest impact.

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[1] Klevens RM, et. al. Estimating Health Care-Associated Infections and Deaths in U.S. hospitals, 2002. Public Health Reports. March-April 2007. Vol. 122: 160-66.

[2] Harbath S, et. al. The preventable proportion of nosocomial infections: an overview of published reports. Journal of Hospital Infection (2003) 54, 258–266.

[3] Maki DG and Tambyah PA. Engineering out the risk for infection with urinary catheters. Emerg Infect Dis. 2001 Mar-Apr; 7(2): 342–347.

Interventions

CAUTI interventions are informed by the measurement and evaluation activities of the previous years. Hospitals are encouraged to enroll additional units beyond the ICU and already enrolled medical-surgical units. All interventions are implemented at the unit-level.

Intervention 1: Implementation of CUSP tools (i.e. Learning from Defects).

Intervention 2: Assess current Foley catheter practices using the MHA Keystone: CAUTI Gap Analysis and identify areas for improvement.

Intervention 3: Educate staff on and implement CAUTI reduction activities.

- Appropriate indications for placement of urinary catheter.
  - Acute urinary retention or obstruction.
  - Perioperative use in selected surgeries.
  - To assist healing of perineal and sacral wounds in incontinent patients.
  - Hospice/comfort/palliative care.
  - Required immobilization for trauma or surgery.
  - Chronic indwelling urinary catheter on admission.
  - Accurate measurement of urinary output in critically ill patients.
- Consider alternatives to indwelling urinary catheters.
  - Bladder ultrasound.
  - Use of intermittent catheterization.
  - Use of condom catheters.
- Sterile insertion technique.
- Daily review of appropriateness and prompt removal of unnecessary catheters.
- Proper maintenance of urinary catheters.
- Appropriate culturing.
- Nurse driven protocols.
- Antimicrobial stewardship.

Intervention 4: Appropriately educate patients and families on how they can help prevent CAUTIs, being cognizant of health literacy.

Intervention 5: Implementation of quality improvement tools, such as the Small Test of Change, or other process improvement tools.

Additional interventions that have been used when coaching hospitals with high CAUTI rates include: analyzing orders by provider; engaging pharmacists for antibiotic stewardship; seeking physician champion support for earlier Foley removal; continuing to work with nurse champions for strong support on the front line; and evaluating the seal on Foley catheters.

MHA Keystone Center commits to providing the following resources to support these efforts:

Resource 1: The CUSP follows a five-step iterative process to improve patient safety and the culture that drives safety attitudes and practices. Culture is a major focus because it is the set of shared attitudes, values, goals and practices that characterize an organization (or unit/clinical area). CUSP is continuous and should become a part of daily activities in each unit or clinical area.

Resource 2: Educational programs, including in-person and multimedia sessions, and member services, such as:

- **Coaching calls** for teams to share successes and challenges, ask questions, and network.
- **Content and coaching webinars** with industry experts and for teams to share successes and challenges, ask questions, and network.
- **Regional meetings** that pull hospital teams together for intensive learning sessions.
- **Site visits** for hospitals that require a more intensive support.
- **Discussion board and blogs** that allow real-time discussion on issues and questions relevant to the particular collaborative.

2016 Keystone: CAUTI Events Schedule

Monthly content webinars are scheduled the third Thursday of each month from 1 to 2 p.m. EST. For a complete list of upcoming events visit the MHA Community.

What the MHA Keystone Center will measure:

This program is evaluated through the collection of outcome measures, which are collected on a monthly basis and imported into the Keystone Data System (KDS) or the CDC NHSN.

We will strive to minimize the burden of data collection by using data that is already collected where feasible, to focus on methods to improve performance, and assist with member needs to promote improved patient outcomes.

Outcome measures:

- CAUTI standardized infection ratio (SIR) ICU and all units.
- Catheter utilization ratio (catheter days per 10,000 patient days).
- Prevalence of patients with urinary catheters per 100 patient days.
- Prevalence of symptomatic CAUTIs by urinary catheter days on the unit per 1,000 urinary catheter days.
- Prevalence of symptomatic CAUTIs by patient days on the unit per 10,000 patient days.

Hospitals commit to:

1. Identify a CAUTI champion. This individual may hold any number of roles within the hospital, including nurse, physician, infection preventionist or quality improvement specialist. The CAUTI champion will be the primary contact responsible for deploying the interventions, collecting data and disseminating the findings among staff. It is essential that this individual be engaged and motivated to improve patient care, and adept at encouraging and enabling staff to contribute.
2. Develop and implement CAUTI and catheter reduction processes, by following the above listed interventions.
3. Teams will also be expected to collect data and report on specific measures throughout the duration of the project.
4. Participate in educational activities and regularly and reliably submit data for the duration of the project.

The MHA Keystone: CAUTI collaborative seeks expert guidance and support from clinical experts made up of representatives from Michigan hospitals and related healthcare organizations. Each participating hospital forms a multifaceted improvement team/committee to guide the hospital's participation in this initiative.

To enroll in MHA Keystone: CAUTI please click here.