Champions Changing Practice, Changing Culture: Cultivating Use of the CAUTI Prevention Bundle at Yale New Haven Hospital

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Aim

Describe strategies used by Yale New Haven Hospital (YNHH) inpatient unit-based catheter-associated urinary tract infection (CAUTI) champions to establish improvement in CAUTI prevention performance metrics; supporting a culture of quality and safety.

Methods

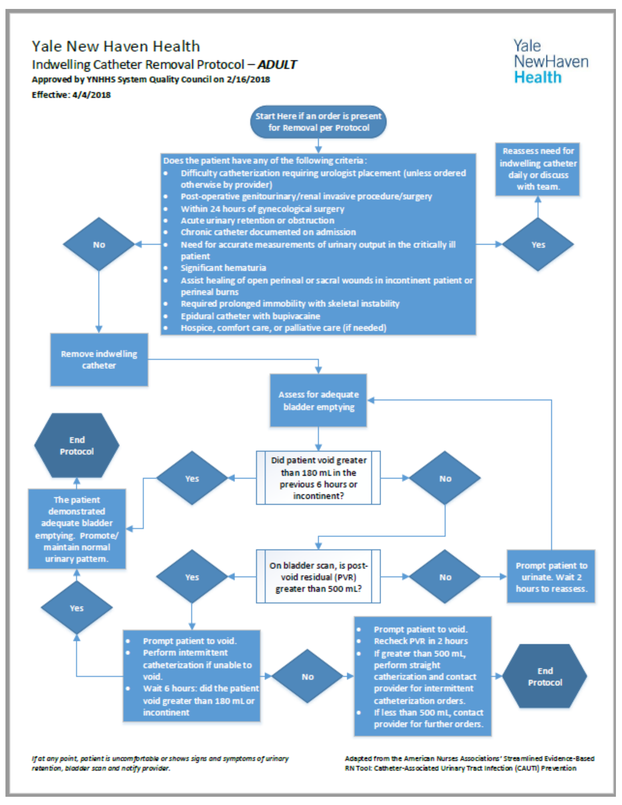
- The CAUTI Performance Improvement Team, through the ongoing use of the "Plan Do Study Act" framework enhanced the CAUTI Prevention Bundle with changes driven by our champions.
- The following timeline of implemented key elements have been sustained (April 2017 - August 2018), reflecting the success of the CAUTI Prevention Bundle across all YNHH service lines.
- Monitoring and tracking is comprehensive through champion observational audits, collaboration with infection prevention in the capacity coordination center, quarterly surveillance audits (Foley Friday), Epic reports and case reviews. Key elements are tracked by champions as well as the following (Figure 1):

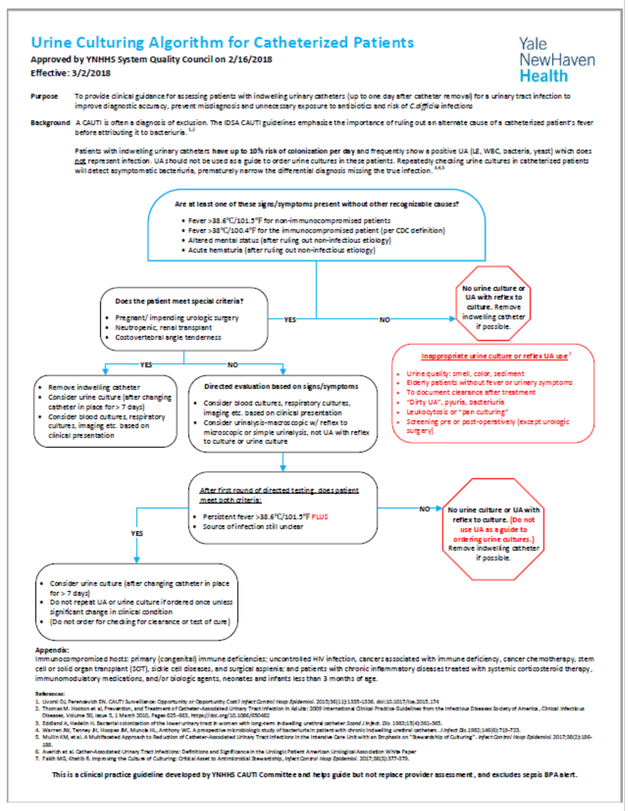
Figure 1

Bundle Elements	Tracking
Catheter Insertion: • Avoid unnecessary catheterization – focused on alternatives to catheterization and compliance to CDC indications only; added available appropriate alternative products for use • 2 person crosscheck checklist- automated documentation on EPIC to support practice	• Coordination Center • Epic report • Unit based champion review of necessity and indications of Indwelling Urinary Catheter
Catheter Maintenance: • Reducing urinary reflux and catheter migration: Proper positioning, use of securement device; emptying bag prior to ambulation or transfer to procedures • Perineal and indwelling catheter care practice • Added elements of CAUTI Prevention Bundle EPIC documentation to support practice • Conscious culturing- implemented the *YNHHS Urine Culturing Algorithm* (Figure 2) for appropriate, necessary urine culturing	• Foley Friday audit • Epic report • Case review
Catheter Removal: • Revised Yale New Haven Health Indwelling Catheter Removal Protocols (Adult and Pediatric)- simplified the protocol based on champion feedback (Figure 2)	• Foley Friday audit

Methods (Continued)

Figure 2



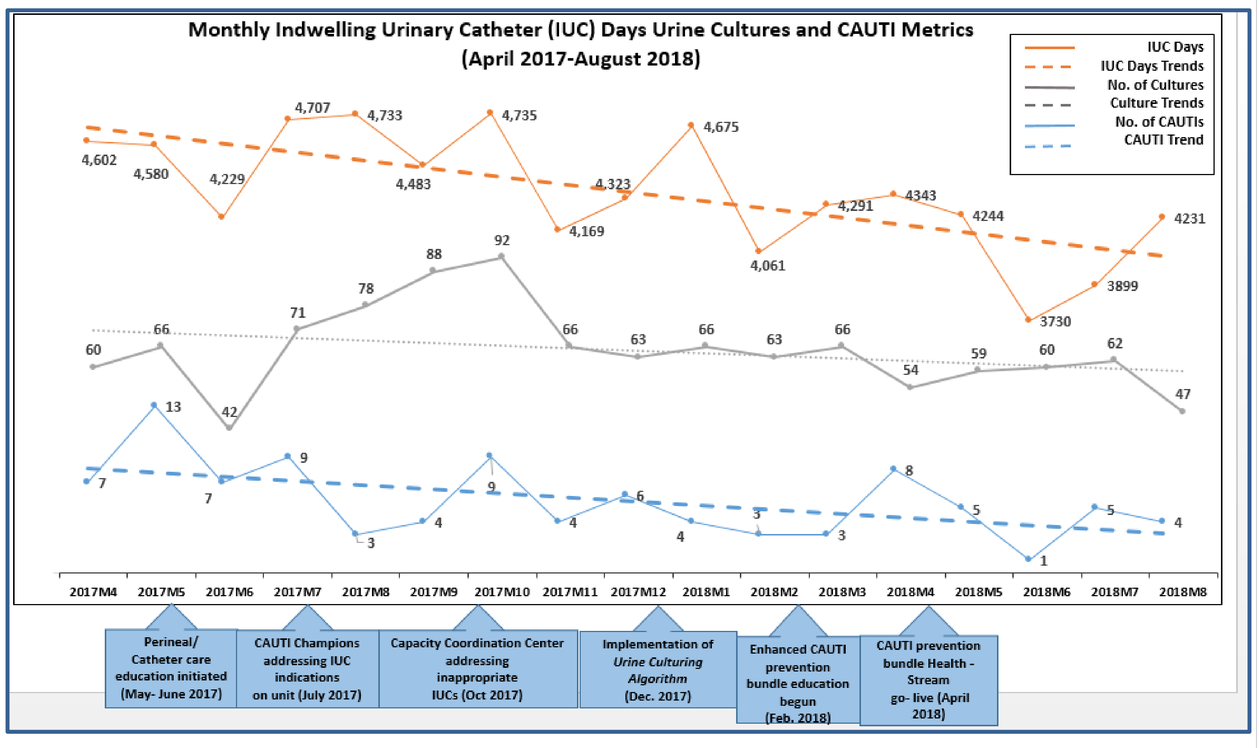


Results

Champions support and sustain a culture of quality and safety (see Figure 3):

- With the enhancement of the CAUTI Prevention Bundle, the mean number of catheter days decreased from 4556/month in fiscal year 2017 quarters 3 and 4 to 4286/month in fiscal year 2018 quarters 1, 2 & 3.
- The mean number of CAUTIs per month decreased from 7.2 per month for 2018 quarters 3 and 4 to 4.8 per month for 2018 quarters 1, 2 & 3.
- Urine cultures ordered in catheterized patients decreased by 27% from 78 average monthly urine cultures pre-algorithm implementation to 57 average monthly urine cultures post algorithm implementation..

Figure 3



Discussion

- With a focus on changing the culture of quality and safety in the inpatient areas, we noticed improved trends in performance with metrics: *indwelling urinary catheter days*, *number of CAUTIs and number of urine cultures* from April 2017-August 2018. This is a result of our comprehensive approach in support of the CAUTI prevention bundle.
- Although we re-educated all staff on the enhanced bundle, we do not feel that education alone created the change. From champion feedback however, we learned that real-life case study reviews in addition to review of the revised bundle was impactful. Champions support physicians in appropriate culturing by reinforcing the culturing algorithm.
- Culture has started to change due to efforts from an interdisciplinary CAUTI Performance Improvement Team using a multifaceted targeted approach including:
  - Engaged CAUTI champions from each unit
  - Administrative support, shared vision (i.e. CAUTI reduction is a visible priority)
  - Standardized process solutions, and timely data feedback

Implications for Yale New Haven Health

Changes, efforts, lessons learned and results are shared with Yale New Haven Health CAUTI Prevention Performance Improvement Team which resulted in a revised system policy and practice with ongoing evaluation of CAUTI Prevention Bundle performance outcomes.

Reference

Youngerman, Brett E. MD; et al; *Reducing indwelling urinary catheter use through staged introduction of electronic clinical decision support in a multicenter hospital system*; Infection Control & Hospital Epidemiology (2018), 39, 902–908

Acknowledgements

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