

CAUTI Surveillance and Preventative Measures on a Cardiovascular Surgical ICU

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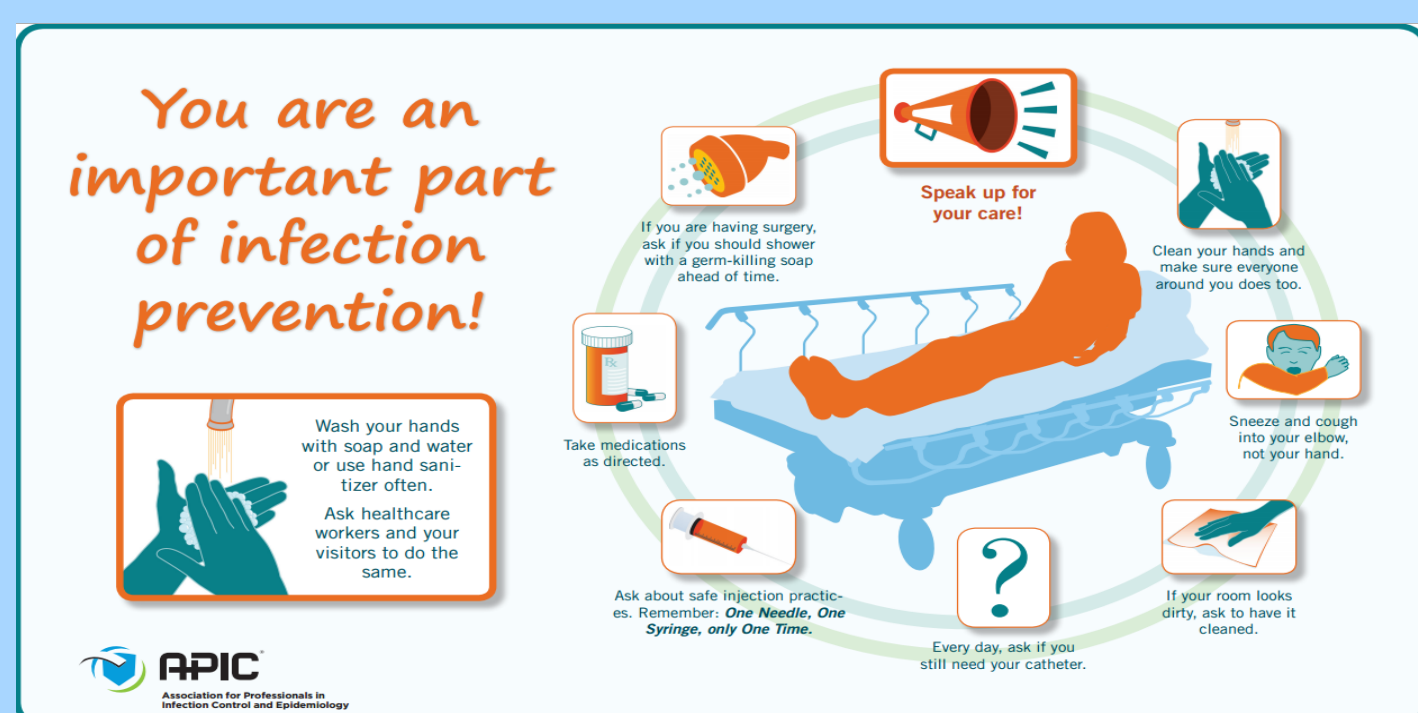


1 Background

Catheter-Associated Urinary Tract Infections (CAUTI) represent approximately 40% of nosocomial infections in acute care settings. ICUs are responsible for twice the CAUTI rate of non-acute settings. In the U.S., over 900,000 hospital days per year and 7,000 annual deaths are attributed to CAUTIs.

Approximately 80% of all nosocomial UTIs are associated with indwelling urinary catheters, and in the U.S., approximately 20% of all hospitalized patients have one inserted.

Considering the prevalence of urinary catheter use and of CAUTI, as well as the significance of such infections, determination of causative factors as well as implementation of effective prophylaxis both need to be improved and have the potential to create lasting change.



Example of CAUTI prevention checklist tool

2 Methods

This project was an effort to audit nurse adherence to those process measures deemed most important in the prevention of CAUTI and to correlate relative success or failure of adherence with observed CAUTI rates in the Cardiovascular Surgical ICU setting. A literature review and a review of unit-based prophylactic measures were also performed in order to assure identification and implementation of best process measures.

Methods:

- Administration of bi-weekly CAUTI audits, with goal of auditing 14 patients weekly for RN process measure adherence.
- Revision of CAUTI audit tool
- Literature review of best process measures
- Review of data to compare RN process measure adherence with patient outcomes and national benchmarks.

3 Results

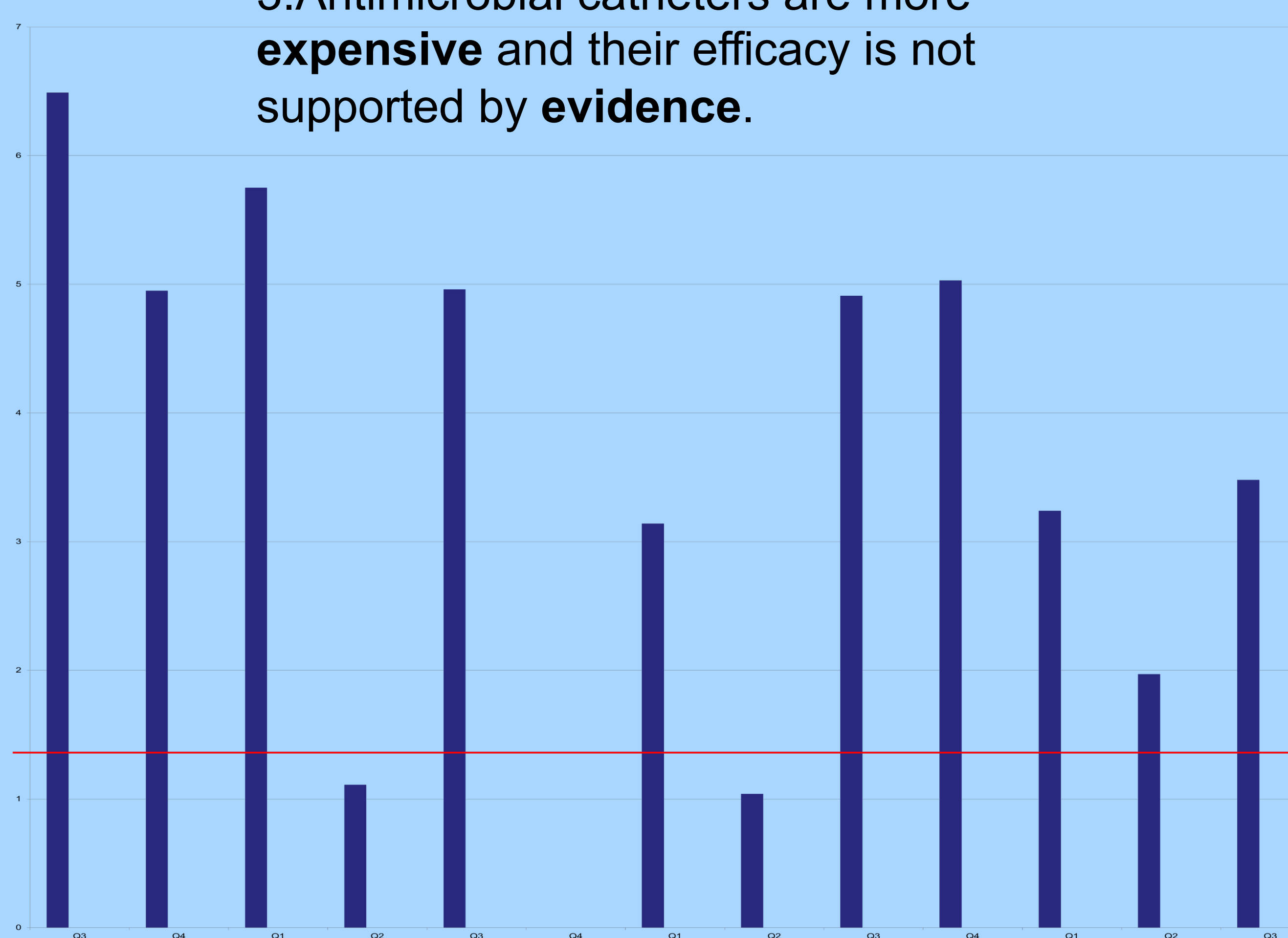
Results to date are inconclusive.

While process measure review is still ongoing, most measures appear to have been met at a rate above 90%. RN documentation of catheter care remains the one sticking point, with approximately 80% adherence on some weeks, though staff widely acknowledged that, in most instances of failed documentation, appropriate care was still given.

Johns Hopkins Hospital CVSICU has achieved its objective of fewer than 1.28 incidences of CAUTI per 1,000 catheter days in 3 of the last 13 quarters. Quarterly rates range from 0.00 CAUTI/1,000 Catheter Days to 6.49 CAUTI/1,000 Catheter Days.

Literature review yielded 3 key cautionary points:

1. Once-daily patient cleansing with chlorhexidine wipes reduces CAUTI risk, but **twice-daily** or more **increases risk**.
2. Cloudiness and odor are not reliable indicators of CAUTI, though the **misperception** that they are is **widespread**, even among seasoned clinicians.
3. Antimicrobial catheters are more **expensive** and their efficacy is not supported by **evidence**.



CVSICU CAUTI Rates: Q3 2011 – Q3 2014

Bars: CAUTI Rate per 1000 Catheter Days
 Line: 2014 Goal Rate (1.28 CAUTI per 1000 Catheter Days)

4 Conclusions

- CAUTI rates on JHH CVSICU are variable and difficult to correlate with RN behavior.
- Per literature: overarching theme of CAUTI prevention is surveillance.
- The one process measure that may bear significant improvement, within the context of this particular study, is RN documentation of catheter care.

Given the fine line between acceptable and unacceptable rates of CAUTI, detailing a correlation between process measures and outcomes may be difficult, especially when RNs have a high rate of adherence to process measures.

It may be useful, though logistically challenging, to conduct a study comparing staff perceptions of catheter care frequency with actual catheter care frequency, regardless of documentation, in order to assess the potential for improvement in this regard.

5 Future Directions

Given the primacy of surveillance and the subtlety of the relationship between RN process measures and patient outcomes, this project will remain ongoing.

- Continue to audit CAUTI prevention process measure adherence and patient outcomes.
- Continue to monitor trends and technologies associated with CAUTI risk reduction.
- Continue to educate all staff on the importance and methods of CAUTI prevention.

6 References

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