

# Success of a 3-Day Hard Stop on Repeat Urine Cultures for the Reduction of Reported National Healthcare Safety Network (NHSN) Catheter-Associated Urinary Tract Infections (CAUTIs)



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## Background

- ❑ Catheter-associated urinary tract infections (CAUTIs) are the leading cause of healthcare associated infections (HAIs).
- ❑ NHSN definitions condition CAUTI reporting.
- ❑ Unfortunately, urine cultures (UCXs) are often contaminated, so positive UCX may not reflect a true UTI, or CAUTI.
- ❑ If a positive UCX fulfills NHSN criteria for CAUTI it will be so classified and reported.
- ❑ Blood cultures (BCXs) are often only intermittently positive during an infection, so a pathogen might be missed on a first day of a febrile episode, but found on BCXs obtained on a subsequent day of fevers. Thus, some number of serial repeat BCXs during a multi-day febrile episode may be justified.
- ❑ In contrast, it is unlikely that a febrile patient with a negative UCX on day 1 of a multi-day febrile episode will have a urinary source of fevers. In turn, it is very unlikely the UCX will be positive on day 2 or 3, unless the repeat UCX is contaminated.
- ❑ Unfortunately, many UCXs are sent as a reflex response to fever, without weighing the likelihood that of a urologic source for the fever – even when the 1<sup>st</sup> UCX is known to be negative.
- ❑ This underpinned the implementation of a 3-day hard stop on repeat UCXs for inpatients at our institution.

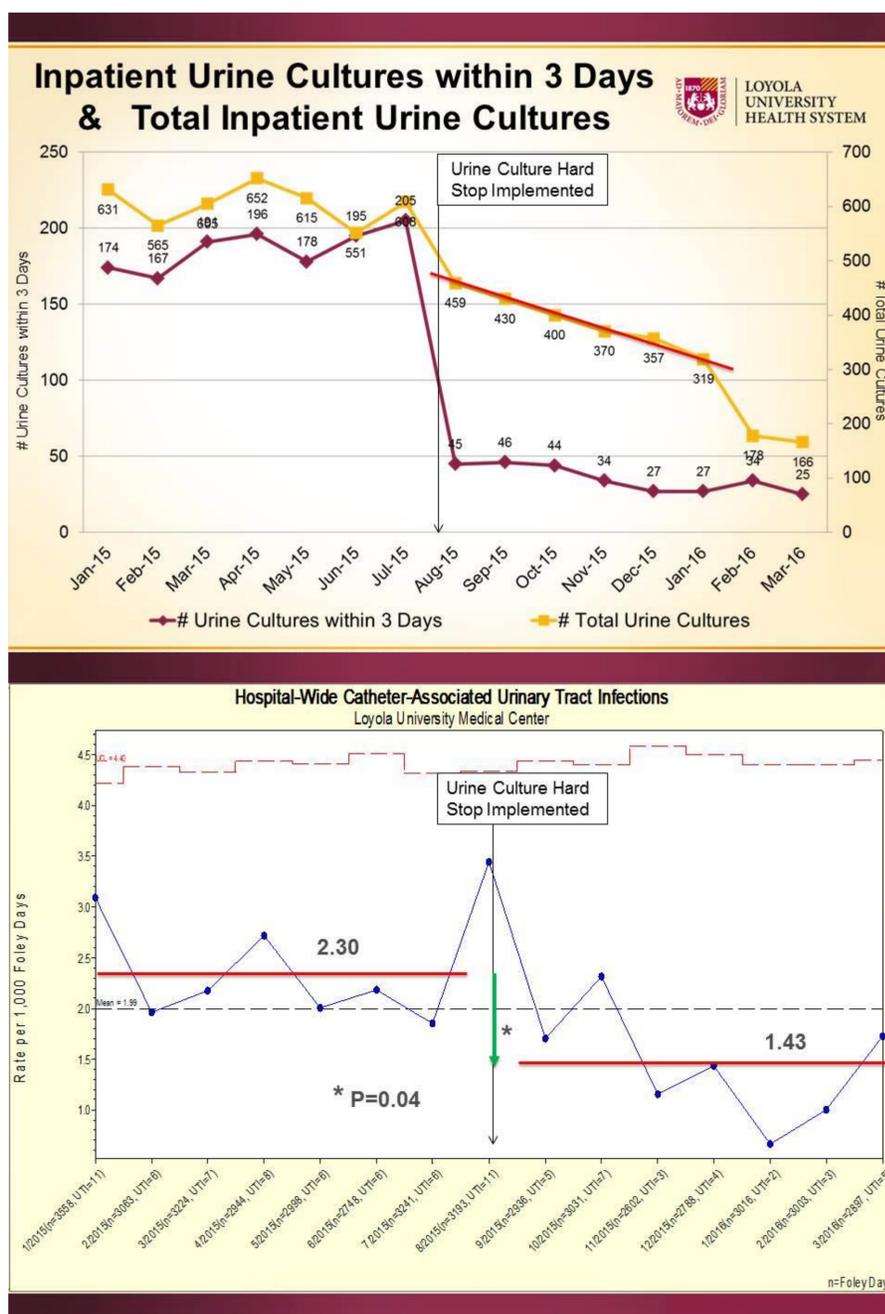
## Methods

- ❑ This is a single center pre-post observational study of the impact of a 3-day hard stop on repeat UCXs for inpatients.
- ❑ We tracked total and repeat UCXs, NHSN CAUTIs, and calls to the microbiology lab for overrides of the hard stop
- ❑ We also looked for adverse events, such as later recognition of UTIs and urosepsis.

## Disclosures

Nothing to disclose

## Figure 1 & 2



## Results

- ❑ After instituting the 3-day hard stop on repeat UCXs, there was a dramatic decrease in the number of repeat UCXs within the 3-day hard stop “black out” period (187/month vs 35/month,  $p < 0.001$ ) (Fig 1).
- ❑ There was also a general progressive downward trend in total number of UCXs over time (604/month vs 335/month,  $p < 0.001$ ) (Fig 1).
- ❑ Total positive UCXs and CAUTIs also decreased after the hard stop (2.30 vs 1.43/1000 Foley days,  $p = 0.04$ , for CAUTIs) (Fig 2).
- ❑ Override calls to the microbiology lab were common at first, but trailed off over time.
- ❑ We found no change in the number of sepsis events from a urologic source from the pre-post the hard stop

## Conclusions

- ❑ A 3-day hard stop on repeat UCXs played a key role in reducing the number of positive contaminated UCXs at our institution.
- ❑ Since many contaminant UCXs occur in febrile patients with a urinary Foley catheter they may meet NHSN definitions for CAUTIs and be classified as CAUTIs rather than contaminant CXs.
- ❑ Reducing the number of repeat UCXs that were not clinically indicated improved resource utilization, helped reduce probable contaminant UCXs and decrease CAUTIs reported to NHSN.
- ❑ In addition, the continued decline in total UCX orders over time may reflect increasing staff awareness for sending UCXs only as indicated, rather than as a reflex response to fever.
- ❑ We speculate that over time the decrease in contaminated UCXs may also help decrease inappropriate antimicrobial prescribing / improve stewardship and reduce pressures for the development of *C. difficile*-associated HAIs.

## Limitations

This was a single center study and may reflect events perhaps unique to our institution. The study is likely to have unmeasured contributors to the effect size.