# Infection Prevention Device Data Overlay Tool to Support Reductions in Central Line-associated Blood Stream Infections and Catheter-associated Urinary Tract Infections

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## Introduction

Central Line-Associated Blood Stream Infections (CLABSI) and Catheter-Associated Urinary Tract Infections (CAUTI) are a threat to patient safety. CLABSI and CAUTI reduction initiatives across our hospital includes daily huddles and rounding on patients with indwelling catheters. In March 2021, an Infection Prevention (IP) Device Data Overlay Tool was introduced, maximizing the value of caregiver rounding providing a focus on device necessity and timely removal. The data tool, an advanced analytic platform, overlays real time electronic health record documentation (Table 1).

**Table 1: Overlay of Information and Data Refresh Schedules**

| Variable | Data Refresh Schedule |
|---|---|
| **Patient Population**<br>• Patient Location<br>• Patient Unit<br>• Admission details (e.g., chief complaint) | ~ 15 minutes |
| **Nursing Documentation**<br>• Device type<br>• Indication for device necessity<br>• Device insertion date and time<br>• Dwell time | ~ 2-3 hours |

## Methods

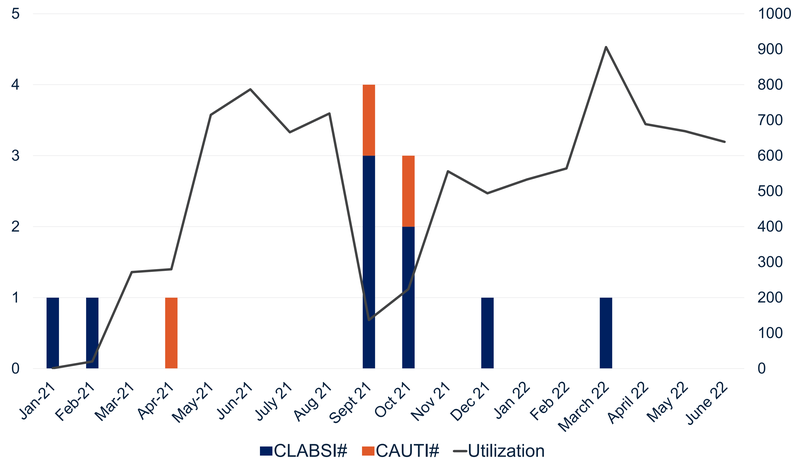
Utilization of the tool among a multidisciplinary team (Table 2) was performed covering an 18-month period (January 1, 2021 through June 30, 2022). A review of reportable CLABSI and CAUTI events meeting National Healthcare Safety Network surveillance criteria occurring during the same time period was also conducted to compare against utilization of the tool, evaluating for CLABSI and CAUTI reduction performance.

**Table 2: Multidisciplinary Team Users**

| Team Member | |
|---|---|
| • Chief Medical Officer | • Nursing Directors and Managers |
| • Chief Nursing Officer | • Quality Leaders |
| • Residents | • Infection Prevention |

## Results

Prior to implementation of the tool (January 1, 2021 to April 30, 2021), two CLABSIs and one CAUTI were identified (Graph 1). Upon implementation (May 1, 2021) and through August 2021, zero CLABSIs and zero CAUTIs occurred. In September 2021, tool utilization decreased by 81% and over September and October, the hospital experienced five CLABSIs and two CAUTIs. After the hospital re-engaged utilization of the tool (increase of 75%) in November 2021, CLABSI, CAUTI, and device utilization reductions were again observed. During the remaining observation period (November 1, 2021 through June 30, 2022) two CLABSI events and zero CAUTIs were identified.




**Graph 1: CLABSI and CAUTI with Infection Prevention Device Tool Utilization Overlay**

## Conclusion

Reductions in CLABSIs and CAUTIs were seen when utilization of the IP device data overlay tool increased. Continued focus remains on use of the device tool to support daily discussion on device necessity and timely removal of central lines and urinary catheters.

## Study Limitations

- The evaluation includes a small number events to analyze and outcomes could have occurred by chance alone.

## References

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