

Revolutionizing Pediatric Hospital Auditing: Transitioning to Real-Time Electronic Platforms

Maggie Barry, MSN, RN, CCRN; Megan Morgan, MSN, APRN, PCNS-BC, RN; Carol Vance, MSN, RN CIC; Joel Anderson, MPH; Alexis Wozniak, MBA, CPHQ, RHIA

magdeline.barry@aah.org
Advocate Children's Hospital



Background

- Bi-campus non-freestanding children's hospital located in the Chicagoland area.
- Antiquated process for central line maintenance (CLM) and insertion (CLI) audits. Central Line maintenance and insertion audits were completed on a paper audit tool and then entered in an electronic database.
- Process required multiple individuals to enter data
- No real-time feedback on unit performance.

Purpose

- Improve the central line auditing process through streamlining the data entry process by transitioning to an online platform.
- Enhance auditing process for the end users.
- Allow for unit leaders to visualize real-time data and provide timely intervention.

Methods

Setting

- All inpatient units (general pediatrics, pediatric intensive care units, and neonatal intensive care units) and associated outpatient hematology/oncology clinics at a large metropolitan children's hospital

Implementation Strategy

- Plan Do Study Act (PDSA) quality improvement methodology was utilized as a guide for this project.
- Process measure questions were included at the end of each audit to capture auditor feedback.
- Updates were made throughout to enhance/modify audit based on end user feedback.

Intervention

- Transition to an electronic audit form that can be accessed via a QR code or a hyperlink. The audit is completed at the bedside and the information is entered concurrently.

Outcome measures/evaluation method

- Increase audit completion.
- All unit leaders have access to see real-time results to address fallouts.
- Decrease workload for bedside nurse auditors through decreasing the amount of time to enter audits/data.
- Increase real-time data entry
- Monitoring CLABSI rates with anticipation of a decrease in CLABSI rates.

Results

- Real-Time CLABSI Maintenance Audits: A vast majority of CLABSI maintenance audits were conducted in real-time, ensuring immediate data accuracy and enhancing efficiency throughout the process.
- By conducting real-time audits, the need for manual transcription of paper audits into the database was entirely removed, thus significantly reducing the chance of errors and expediting the overall auditing process
- Auditors reported immense satisfaction with the transition to an online platform for data entry.
- With the implementation of the online platform, there was a notable decrease in the time required to complete audits, thus enabling auditors to allocate their time and resources more efficiently to other valued tasks
- Auditors recommended the adoption of the online platform for various other audits, recognizing its efficiency and enhancing data integrity.
- The electronic data platform facilitated a marked increase in the number of audits completed, demonstrating heightened accessibility for the auditing process.
- Data analysis revealed a decrease in maintenance bundle compliance during November 2023, a trend stemming from the initial survey's ambiguity. Following the PDSA methodology, revisions were made to the audit tool, resulting in a notable rebound in compliance numbers.

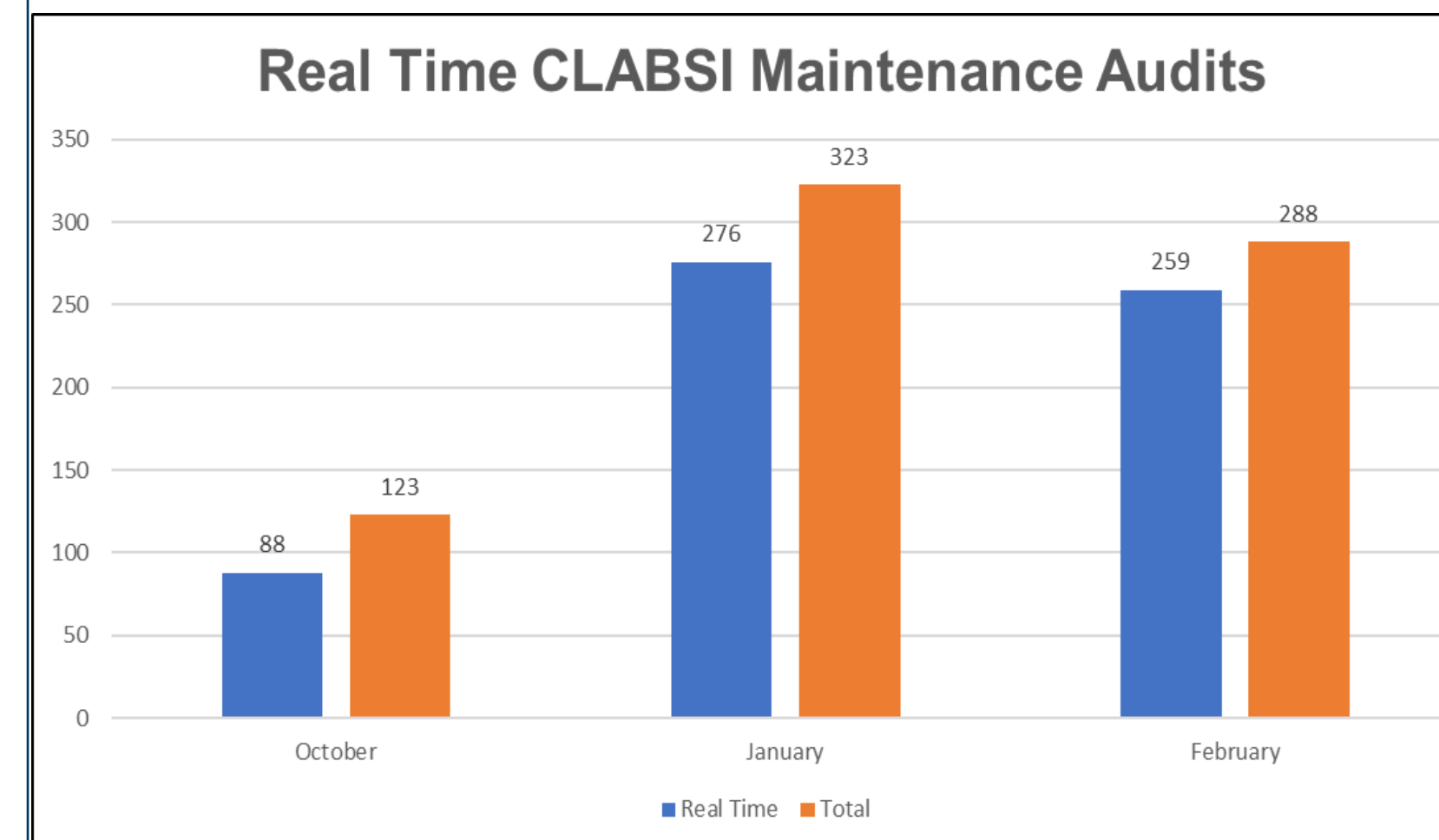


Figure 1. Prevalence of Real-Time audits.

ACH CLABSI Maintenance REDCap Audit Survey Questions - Q4 2023

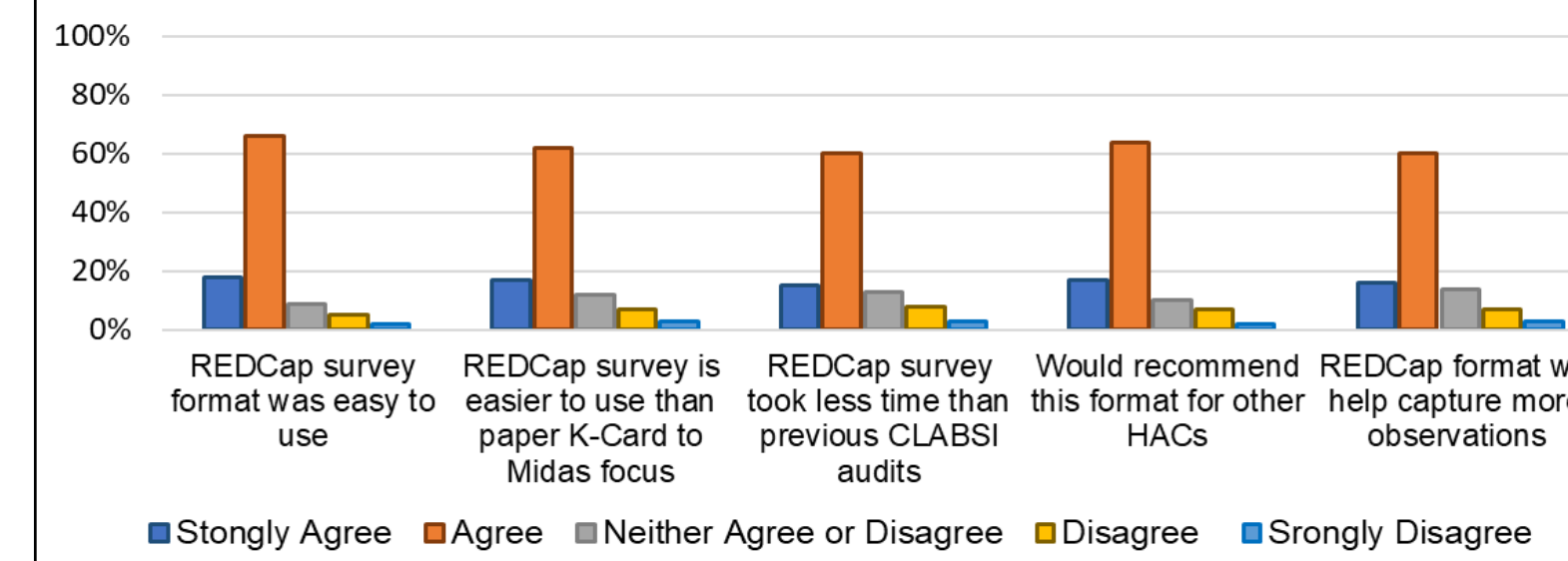


Figure 2. Auditor satisfaction with transition to REDCap.

ACH Number of Completed CLABSI Maintenance Audits

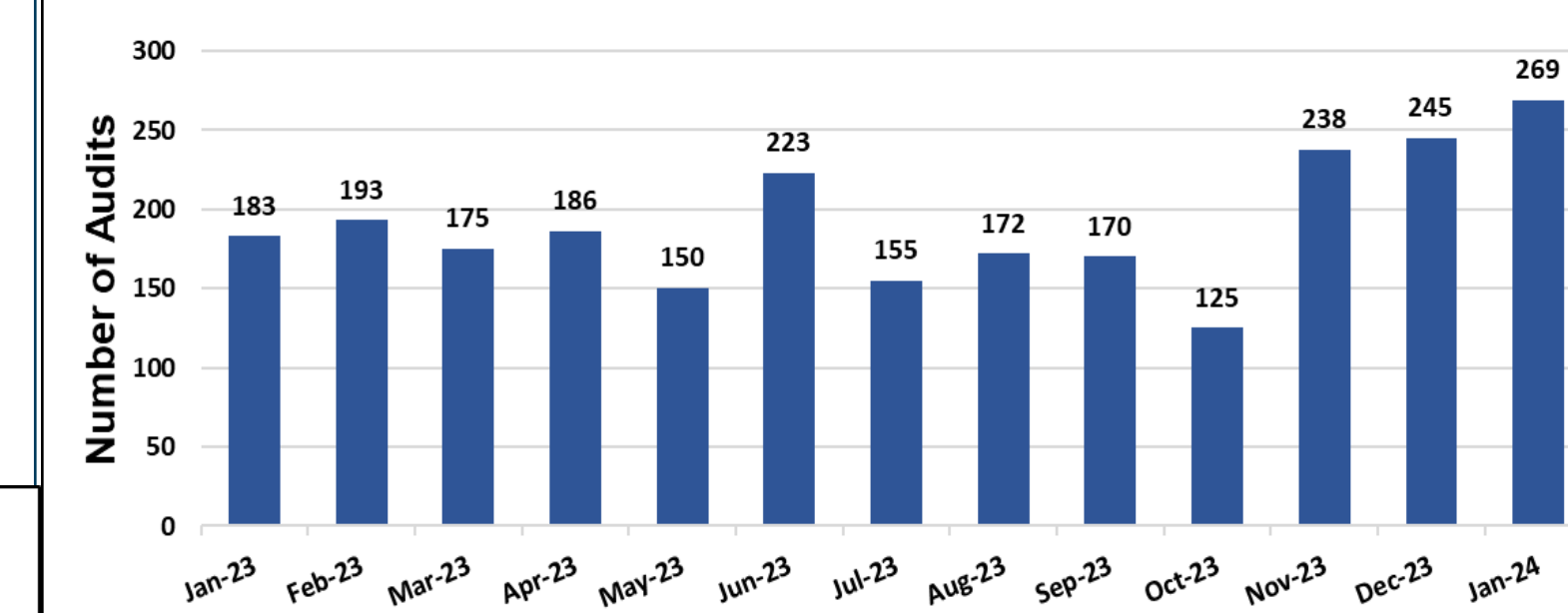


Figure 3. Monthly completed CLABSI maintenance audits.

ACH Percent Compliance Maintenance Audits

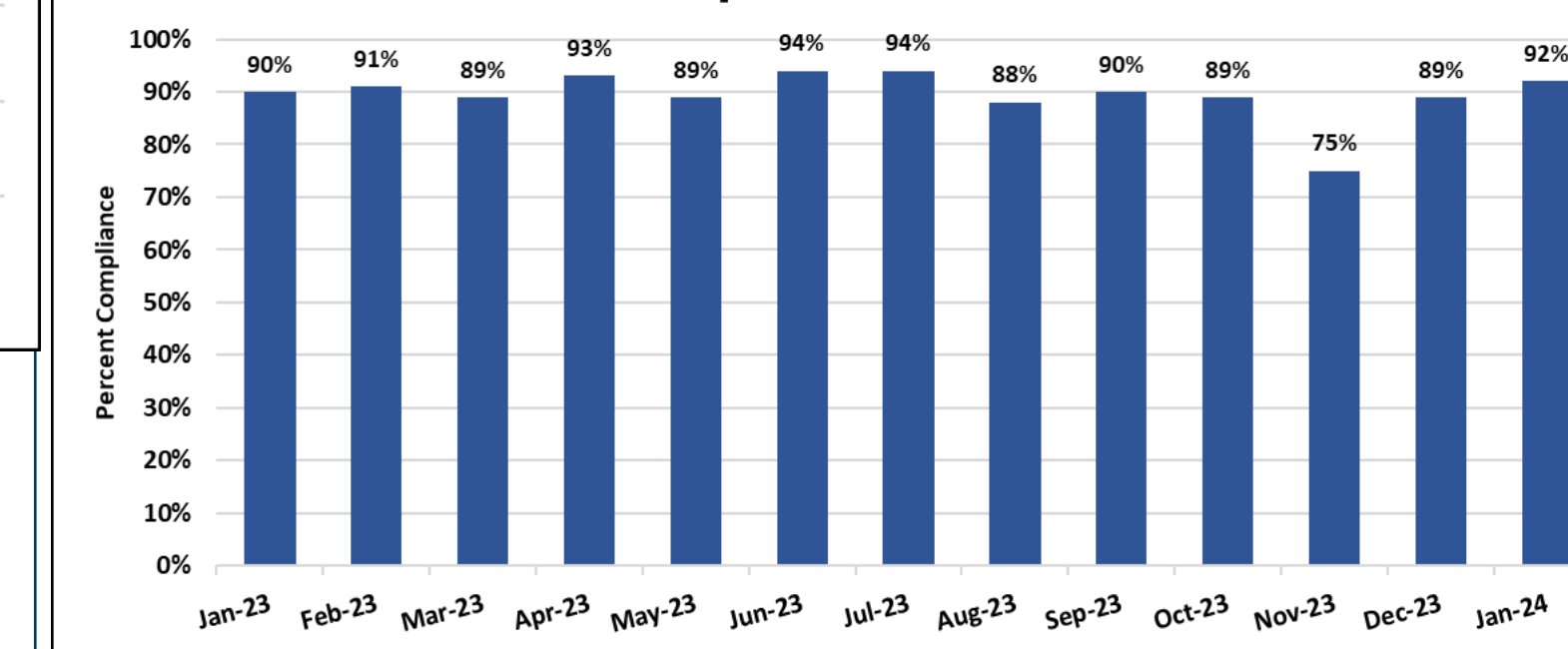


Figure 4. Monthly percentage compliance of CLABSI maintenance audits.

Discussion

- Identified that comfort and interpretations existed with the paper survey that were eliminated with the transition to the online platform. While the paper tool was directly transcribed into the online platform the readability was different as identified by the bedside auditors.
- With the transition, we initially used the online survey to attempt to capture more detailed information which led to increased complexity of data report out to interpret.
- What was thought to be intuitive actually caused confusion and ambiguity amongst bedside auditors which resulted in skewed reported maintenance bundle fallouts.
- Utilization of electronic platforms ensures we are moving along with the trending times in healthcare.
- Electronic data entry ensures real-time documentation and eliminates additional nursing hours, duplication of work and risk for erroneous entries. Allowing nursing leaders to visualize unit compliance on demand can help reduce infection, identify areas of need, and help guide educational needs.
- Overall improved satisfaction from our bedside auditors.

Implications for Practice

- The induction of a singular platform for online audit/data entry can lead to improvements in the number of audits completed, decreased time spent on each audit, simplified access to data, and the opportunity to identify and change any fall outs at the unit level.
- The PDSA cycle provides the opportunity to test and adjust processes based off end-user feedback. The input from our bedside nurses was imperative to the success of our auditing enhancement project.

Acknowledgements

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Advocate Children's Hospital is proud to be Magnet® recognized by the American Nurses Credentialing Center.

Background: A large metropolitan children's hospital was using an antiquated process for central line maintenance (CLM) and insertion (CLI) audits. Central Line maintenance and insertion audits were completed on a paper audit tool and then entered in an electronic database. This process required multiple individuals to enter data, created an opportunity for error in transcription, and did not allow for real-time feedback on unit performance.

Purpose: Improve the central line auditing process through streamlining the data entry process by transitioning to an online platform.

Methods:

Setting: All inpatient units (general pediatrics, pediatric intensive care units, and neonatal intensive care units) and associated outpatient hematology/oncology clinics at a large metropolitan children's hospital

Practice change: Transition to an electronic audit form that can be accessed via a QR code or a hyperlink. The audit is completed at the bedside and the information is entered concurrently.

Outcome measures/evaluation method: Increase audit completion and allow for leaders see real-time results to address fallouts. Evaluation method would be to see a decrease in fallouts and a reduction in CLABSI rates. We would also see a reduction in time on data input from nursing as the previous method required double the work.

Implementation Strategies: We are following the Plan Do Study Act (PDSA) quality improvement methodology. We have included process measure questions at the end of each of the audits and are monitoring the audits every two weeks. We are making edits and modifications based on end-user feedback and clinical expert observations. We are starting with the CL auditing process with the goal of expanding this work and standardizing our auditing platform in the future.

Outcomes: The initial CLM audit results indicated 93 of 164 (57%) we entered in real time. This eliminated 93 occurrences of manually entering the paper audit into the data base. Real time entry compliance was higher with CLI audits 28 of 35 (80%).

Implications: The induction of a singular platform for online audit/data entry can lead to improvements in the number of audits completed, decreased time spent on each audit, simplified access to data, and the opportunity to identify and change any fall outs at the unit level.

The PDSA cycle provides the opportunity to test and adjust processes based off end-user feedback. The input from our bedside nurses was imperative to the success of our auditing enhancement project.

Relevance: Utilization of electronic platforms ensures we are moving along with the trending times in healthcare. Electronic data entry ensures real-time documentation and eliminates additional nursing hours, duplication of work and risk for erroneous entries. Allowing nursing leaders to