

North Country Healthcare Reduces CAUTI Rates to Zero With Quality Initiatives and MEDITECH ExpansE



Introduction

According to the CDC, about 75% of urinary tract infections developed in hospitals are associated with a urinary catheter. A catheter-associated UTI — one of the most common hospital-acquired infections — is associated with increased morbidity, mortality, healthcare costs, and lengths of stay.

In October 2023, nurses at North Country Healthcare sought a more standardized approach to documenting the removal of indwelling catheters and central lines. They wanted to confirm these lines were removed promptly to mitigate the risk of infection. Improving clinical documentation using MEDITECH's ExpansE Patient Care would be necessary to make sure nurses could easily see which patients were due for catheter removal.

In addition, the amount of time needed to create reports was one of NCH's biggest obstacles to improving catheter management. Nurses were spending approximately 50 hours per month manually tracking and extracting line and drain data from charts for National Health Safety Network reporting — a frustrating and often inaccurate process.

To address these issues, NCH implemented a staff-initiated "Lines and Drains" project to improve tracking of indwelling urinary catheters and central lines at each of its three hospitals: Androscoggin Valley Hospital, Upper Connecticut Valley Hospital, and Weeks Medical Center. Through this initiative, the health system reached zero cases of CAUTI for more than eight months since the project began.

SNAPSHOT

Opportunity

Establish a quality-driven culture of care, including a technology-enabled initiative to reduce instances of CAUTI.

Solution

MEDITECH ExpansE Patient Care, Business and Clinical Analytics, and Order Management

Benefits


- Improved catheter and central line monitoring and removal, leading to zero instances of CAUTI for more than eight months since the initiative began
- 100% compliance in CAUTI documentation across all locations, up from 20% compliance
- Reduced time required to generate reports from 50 hours to less than four hours

Profile

Nestled in the northernmost region of New Hampshire, North Country Healthcare is an alliance of three Critical Access Hospitals and a home health and hospice agency. Formed in 2015, the alliance serves a population of 30,000, ensuring these communities have access to surgical care and medical services.

Rooted in quality

NCH's care approach is driven by a commitment to High Reliability Organization principles, which include valuing expertise and avoiding oversimplification, ensuring thoroughness rather than quick fixes. MEDITECH Expanse has enabled them to save time while also ensuring exceptional care quality, in accordance with the organization's overall mission and culture of safety.

 NCH's strategy to focus on High Reliability Organization principles has earned accolades, including its Level 9 achievement (in both the acute and ambulatory categories) from The College of Healthcare Information Management Executives' Digital Health Most Wired Survey for 2025.

Supporting a quality culture with Lean Six Sigma

Technology is an essential part of NCH's approach to care quality as well as its culture of education. The organization's commitment is driven by its CEO and Performance Excellence team, who mandate a six-hour Lean Six Sigma Yellow Belt training for all staff.

"Approximately 7.5% of our staff completed a voluntary Yellow Belt project, which focuses on a specific process improvement," said CIO Darrell Bodnar. "These projects are often presented at board and leadership meetings, showcasing individual contributions and fostering a passionate and employee-driven culture of quality throughout our organization."

The "Lines and Drains" initiative originated as a Lean proposal submitted by staff member and certified Yellow Belt David Fawcett, LNA, who suggested the system-wide effort to improve tracking of indwelling urinary catheters, central lines, and peripherally inserted central catheter (PICC) lines.

"We have three hospitals within our healthcare system that are a fair distance apart," said CNO Tiffany Haynes, MSN, RN. "At any point we needed our infection prevention nurse to be able to pull a report to see who had an indwelling catheter and who had a central line at each hospital. That was the genesis of this project."

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Elevating processes with help from Expanse's flexibility

Key improvements of the “Lines and Drains” project included:

- ▶ Leveraging MEDITECH's inherent flexibility to modify screens according to their needs.
- ▶ Addressing issues where nurses' worklist items didn't link to provider orders or where catheter removal was accidentally documented in free text, preventing NCH from collecting accurate data.
- ▶ Creating policies aligned with CDC guidelines for indwelling urinary catheters and central lines.

Improving the clinical documentation process and honing EHR screens involved up to 30 NCH staff members testing and giving their feedback. It was important to ensure that physicians and nurses were documenting orders for insertion and removal in the same place in the system.

One issue that was discovered during the testing involved the creation of worklist items that did not link to specific catheter orders, and the failure of these items to be accurately pulled into reports.

“If a nurse puts in a worklist item that does not have an order associated with it, that data will not populate our reports appropriately,” said Julie Bolton, RN, of Infection Control. “After going through all of the MEDITECH screens in our workflow and figuring out what the orders were, we streamlined the process by establishing a set of questions that providers are prompted to answer to determine if catheterization is necessary, and if it is truly the best way to manage the patient.”

Bolton said that they also implemented reflex orders for catheter removal upon insertion to prompt providers to remove the catheters in three days.

“As soon as you put in the order for insertion, the order for removal in three days happens automatically,” Bolton said. “That helps to challenge the provider to really consider if there are reasons for keeping lines in, as for end-of-life care or upon discharge, and that’s correctly noted in the documentation.”

‘Moving the needle’ on CAUTI rates

It was important for NCH to place guardrails around how clinicians were entering orders. They suppressed the free text area, standardizing the documentation of catheter removal. Removing the free text option improved the overall quality of their reports.

“We went through and thought of all the areas where lines are being charted, and took steps to make it better,” said Bolton. “Now I can compile the report for our three locations in under four hours, compared to 50 hours previously.”

Tracking data for the three hospitals showed trends in catheter days and CAUTI rates. In addition, an infection prevention team assessment screen within MEDITECH Expanse is used daily to document infection control-related items like isolation precautions, line types, and urinary catheter use. This assessment includes documenting whether catheter removal was requested, and tracking culture results and antibiotic use to ensure appropriate treatment.

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Reports from Expanse included catheter, central line, PICC line, and medication/chemotherapy port data. A dashboard in Business and Clinical Analytics, MEDITECH’s data visualization solution, provided additional correlated and cross-referenced data.

Leapfrogging to improved medication scan rates

One of the first quality goals NCH tackled was to bring medication scan rates up to Leapfrog standards. For barcode medication scanning, this means that both the patient and the medication must be scanned. In 2023, complete scan rates as low as 70–80% were recorded.

New reports created in Expanse Business and Clinical Analytics enabled NCH to track missed or incomplete scans in real time, including details on the patient, incident, time, and the administering nurse. Each nursing leader was held responsible for reviewing these daily dashboards every morning, investigating why scans were missed, and following up to ensure full documentation and accountability. These improved measurement tools, along with clinician education, made a significant impact.

“Leapfrog’s benchmark is 95%, but we recognized that even meeting that standard would still result in approximately 1,500 missed scans each month,” said CNO Tiffany Haynes, MSN, RN. “We set our goal higher. Today, we are scanning at 99.4% across all affiliates and service lines, and we have sustained this level of performance for nearly a year.”





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“We have a specific chart check report that provides us with more granular information, including ordering provider details,” said Bolton. “This helps us identify patterns in catheter utilization to reduce their overuse. These chart checks have helped our clinicians achieve 100% charting compliance.”

Haynes added that the ease of reporting also enabled them to implement catheterization policies that closely aligned with CDC guidelines. For example, catheter status is discussed daily during interdisciplinary team rounds. Nurses are empowered to remove catheters before 72 hours if appropriate, with a courtesy discussion with the provider.

“Having data and reports easily accessible is the key to moving the needle on any metric — including seeing a decline in CAUTI rates,” Haynes said. “It’s been a game changer for us.”

Results

The “Lines and Drains” project was an overwhelming success, achieving 100% compliance in documentation across all NCH locations, up from an initial 20%. In addition, the organization has had zero instances of CAUTI for over eight months since the initiative began.

The project was also consistent with NCH’s process-driven philosophy, refining systems to align with human factors and combining this with staff reeducation. NCH leaders plan to apply lessons learned from the “Lines and Drains” project to other patient safety areas, such as sepsis and ventilator-associated infections. These future initiatives will continue to foster an environment of learning and accountability without fear of retaliation.

“It’s been so important for us to maintain a just culture, where clinicians can report errors and learn from their mistakes,” said Bodnar. “By integrating Lean Six Sigma principles into every aspect of our organization and implementing the right technology to support progress, we have improved our quality of care far beyond what we previously thought was possible.”



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