

Executive Summary (200 Words)

Patient safety is a serious public health issue countless healthcare systems are facing around the world. Despite technological advances and proven effective interventions, patients are still experiencing harm or even dying within hospitals due to preventable harm. Healthcare systems must drive and continue to seek improvement opportunities within the complexity of healthcare.

In 2015, the National Patient Safety Foundation published a paper, 'Free from Harm: Accelerating Patient Safety Improvements Fifteen years after to Err is Human.' The paper highlighted recommendations to accelerate process and approach total system improvement. The culture in which care is delivered is essential to patient safety.

At Valley Children's Hospital, safety culture is essential to how we conduct business. We are committed to excellence, innovation and collaboration. The question 'How can we improve?' is critical to how the quality and patient safety department functions.

As a part of our effort to reduce harm, Valley Children's Hospital joined a national collaborative specifically designed for pediatric patients. As a part of that collaborative, Catheter-associated Urinary Tract Infections here identified as an area for improvement nationally.

Background and Relevance

According to Solutions for Patient Safety (SPS), Catheter-associated Urinary Tract Infections (CAUTIs) are the 6th largest contributor of harm across the SPS network of over 92 pediatric hospitals. As more hospitals joined the network, the identified harm from CAUTIs grew. As a result, the network urged hospital to address the issues by implementing an evidenced based bundle targeting prevention activities.

Describe the effort, including the scope, process, strategies and tactics utilized, challenges encountered and how they were addressed.

In October of 2014, a CAUTI prevention taskforce was created. A gap analysis and data review was initiated to help guide key starting points for the program. During the data review, a risk assessment was conducted and the Pediatric Intensive care unit (PICU) was identified as the unit to pilot the program. All of the CAUTIs occurred on that unit within the previous year's data. Also, our device utilization rate was above national benchmarks for like units. During the gap analysis process, all guidelines and national standards were reviewed. It was identified that indications for use were not clearly outlined and the current product did not support established guidelines.

Phase one of the project was targeting culture work and clinical practices within the PICU. The taskforce met to establish evidence-based indications that met the needs of our pediatric population. An interdisciplinary team including various medical specialties worked on a list of appropriate indications to help guide clinical decision. After the indications were identified, clinical staff worked to create an algorithm to support the medical management of the catheters. Once the tools were complete, the PICU started piloting the new process.

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During the tool development, culture work was started simultaneously to address the high utilization of indwelling catheters. During interdisciplinary clinical rounding, device necessity was added to the list of items to review. Each patient that had a indwelling catheter in place was reviewed by the medical team and determined if the catheter was still needed or if an alternative method could be used. To increase awareness and visibility within the unit, a sign for the patient door was created with the date of insertion and prevention bundles listed for the patient, family, and medical team to visualize daily. This helped identify patients at risk for infection.

Phase two of the process was targeting human factor engineering and products. The current product was several different pieces the clinical team had to gather in order to execute the procedure. The catheter, bag, perineal care product, skin prep, gloves and securement devices was all separate. This process was dependent on the clinical staff remembering all the items need to carry out the procedure safely. The taskforce, clinical team and the value analysis team began looking for a indwelling catheter tray for pediatric patients to support safe practice by eliminating human error. An all-inclusive tray was identified and piloted on two units identified as high utilization. Now, clinical staff only has to grab the tray and that appropriate catheter size for the patient.

Describe the results of the effort.

Prior to the development of the taskforce, 9 infections were identified in FY2014. The year after the taskforce started, the infections were reduced to 3 for the fiscal year 2015. Currently, year to date (August 2016) we have one infection. The gap between infections lasted over 460 days. Also, of note, the indwelling catheter rate has dropped almost 20% from last fiscal year.

Discuss the significance of the results. How do the results demonstrate outstanding achievement?

The results of the work done around prevention of CAUTIs have demonstrated that using evidence and teamwork with a common goal can be very powerful for outcomes. The belief that zero is achievable has become a reality for many and an indwelling catheter isn't viewed as common or necessary if you are a critical patient. Valley Children's Hospital has been recognized by the SPS collaborative as leading the way to preventable harm surrounding indwelling catheters.

Describe sustainability and scaling of the achievements.

As part of the effort, adherence to the evidence-based bundle is key to preventing harm. All the lessons learned in the PICU has since been spread hospital-wide with the support of our clinical education and the indwelling catheter tray manufacture support team. On a monthly basis, the clinical team performs audits of insertion and maintenance practices. Reliability to the bundle is what drives sustainability. The data also helps to drive education and reinforcement needs.

Describe key lessons learned and any advice to colleagues who might try to undertake a similar effort.

The greatest lesson learned in this project was the necessity of having leadership engagement and interdisciplinary teamwork to support the effort. Having the clinical team involved in the process helped

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execute the care at the bedside. Providing care isn't always easy and there will always be special populations that need exceptions. Having buy in for those patients makes the process run smoother.