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Title:

Eliminating Catheter-Associated Urinary Tract Infections (CAUTI).

Identify topical area(s) of focus in this application:
- Patient Safety
- Quality Improvement Project

Welcome to Valley Children’s Hospital Video link:
https://www.youtube.com/watch?v=4QRhdLyRPZU
Executive Leader Statement of Support

On behalf of Valley Children’s Healthcare, we are honored to support this submission for the Hospital Quality Institute Vanguard Award. At Valley Children’s, ensuring our children receive exceptional medical care while striving for zero preventable harm is central to everything we do. Our goal is to be in the top 10 percent in clinical quality for pediatric care nationwide. Our relentless commitment to improvement demonstrates substantial progress toward that goal.

Our efforts are paying off in preventing harm, as we are 331 days with Zero Catheter-Associated Urinary Tract Infections (CAUTI) and 797 days with only one CAUTI. In 2014, a CAUTI prevention taskforce was created. Since then we have invested resources in the development and sustainment of the taskforce and have demonstrated significant improvement in reducing CAUTI infections. Much of the progress comes from our dedication to becoming a high-reliability organization. In a high-reliability organization everyone from the frontlines to the boardroom feels responsible for safety and behaves accordingly. This culture of safety compels peers to hold one another accountable, and encourages everyone to report errors. To support our safety culture, we implemented an organization-wide daily safety huddle, a unit-based safety coach program, executive patient safety rounds, error prevention training, and having safety behavior expectations. Valley Children’s is committed to doing the right thing at the right time in the right way for every patient. Patient Safety is our top priority.

We appreciate your consideration of our Vanguard Award application.

Todd Suntrapak, President and Chief Executive Officer, Valley Children’s Hospital

David Christensen, Senior Vice President Medical Affairs and Chief Medical Officer, Valley Children’s Hospital
Executive Summary

At Valley Children’s Hospital, safety culture is essential to how we deliver healthcare. 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. Solutions for Patient Safety (SPS), is a collaborative network of over one hundred children’s hospitals across the US that share the vision that no child will ever experience serious harm while we are trying to heal them. SPS believes by putting aside competition and sharing our safety successes and failures, we can achieve our goals faster. We all learn and all teach each other to ensure every child is safe in our care, every day. As a part of that collaborative, Catheter-Associated Urinary Tract Infections (CAUTI) was identified as an area for improvement nationally. The CAUTI team at SPS formed in May of 2012 to develop strategies consistent with high reliability concepts to reduce harm caused by CAUTI, and released the first recommended bundle to the network. The strategy has been successful with a 25% CAUTI reduction across the network as of May 2014. Using the data obtained from the SPS network as well as external evidence in the medical literature, the CAUTI team at Valley Children’s identified bundle elements within the first recommended CAUTI bundle that when reliably implemented are likely to result in decreased harm to hospitalized children. In October 2014, an interdisciplinary team embarked on a journey to eliminate harm by erasing CAUTIs from our organization. In the PICU, we implemented an evidence-based prevention bundle with the assistance of our leadership, clinical care team, and the Quality and Patient Safety team and have decreased the number of infections from nine in FY14 to one infection FYTD 2017. The taskforce reviewed previous infections and the current practice which included the insertion and maintenance practice and from that performed a gap analysis. The CAUTI taskforce implemented the following, a list of indications for use, rounding, PICU algorithm, bundle education, revised audit form, new door signage, and trialed new indwelling catheter tray. Our work doesn’t stop here. We must continuously strive to stay at ZERO.

Background and relevance of the problem being addressed and effort undertaken

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 100 pediatric hospitals. As more hospitals joined the network, the identified harm from CAUTIs grew. In 2011, approximately 19 children were harmed each month as a result of CAUTI across the Phase I SPS hospitals (n=33). In 2013, Phase II hospitals (n=55) joined the network and the number of children harmed per month increased to 38. As a result, the network urged hospitals 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 Valley Children’s Hospital’s CAUTI prevention taskforce was created. A gap analysis and a chart 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 phase, all guidelines and national standards were reviewed. It was identified that indications for use were not clearly outlined and defined, nor did they support established guidelines.

Phase one of the project was targeting culture 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 the 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.

During the tool development, 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 an indwelling catheter in place was reviewed by the medical team and determined 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 targeted human factors engineering and products.

The current products were not standardized nor could they be found in one place. The clinical team had to gather the products in order to execute the procedure. The catheter, bag, perineal care product, skin prep, gloves and securement devices were all located in separate places. This process was dependent on clinical staff remembering all the items required to carry out the procedure safely. The taskforce and clinical team began looking for an indwelling catheter tray for pediatric patients that supported safe practice by eliminating human error. An all-inclusive tray was identified and piloted in the PICU unit which was identified as high utilization. Now, clinical staff have to grab the tray and the 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 FY 2015. As of May 2017 we have one infection. The gap between infections lasted over 331 days and 797 days with only one CAUTI. 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 our work accomplished around the prevention of CAUTIs have demonstrated that using evidence based practices and teamwork with a common goal can be very powerful for outcomes. The belief that zero is achievable has become a reality. February 3rd 2016 marked a very special day in our journey at Valley Children’s here our hospital went one full year without a CAUTI house wide. 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 have 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. We are a learning organization and encourage the value of learning. We offer skills labs to all employees to enhance their knowledge and growth, and it also provides staff the tools to perform their job safely.
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 an interdisciplinary teamwork to support the effort. Having the front line clinical team involved in the process helped execute the right care at the bedside. Other lessons learned were collaboration, standardization, and evidence based use. Our colleagues at other hospitals can replicate this project by engaging leadership and developing an interdisciplinary team to support the implementation of the care bundle and process algorithm. We are happy to share our learnings and collaborate with all interested party.