

ESSAY

Implementing a Quality and Safety Agenda in a Children's Hospital Within a Hospital: Challenges and Successes

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In the face of unspeakable tragedy, one can find hope. That is the beginning of the story and the journey at our children's hospital, which highlights patient centeredness, safety, and quality.

In 2012, a child was transferred from an urgent care center to our hospital, reportedly in stable condition, without first being assessed in our pediatric emergency department. By the time the child arrived on the pediatric ward, she was in extremis, was immediately transferred to the PICU, and quickly died of a treatable disease.

Although it had been in use for years, the process for bringing children into our hospital was flawed. The outcome for this child may not have been different, but as a result of the event, we began to examine many of our long-held beliefs and processes. We recognized that significant changes needed to be made in our health system related to patient quality and safety. What we learned is that large-scale improvement in a children's hospital within a large academic health center (AHC) requires patience, ingenuity, and the flexibility to shape the goals of the children's hospital to fit within the existing quality structure.

Shands Children's Hospital is a 188-bed, quaternary care children's hospital within a large AHC. We, like most children's hospitals, are clinically very busy and have robust research and education missions. In addition to our pediatric providers, we have hundreds of medical students, physician assistant students, nursing students, residents, and fellows, who all, at various times, interact within our children's hospital. This incredible number of providers, with varied educational backgrounds, was one challenge in developing our quality and safety agenda. Another was our identity as a "children's hospital within a hospital." Although we certainly had established leaders within the children's hospital structure (a Medical Director of Inpatient Services, a Physician Director of Quality, and an Associate Vice President for Pediatric Nursing, who helped solidify the leadership of our safety agenda), each of these leaders had to report up through the larger leadership structure within the AHC, which included a Chief Medical Officer of the AHC, a Senior Vice President for Nursing, and a Senior Vice President for Patient Quality and Safety. This layered leadership structure had the potential to make any changes to the safety agenda difficult. Certainly, it is important to recognize that hospital systems are rarely nimble, and it is critical to understand that creating a system-wide quality and safety agenda that provides a "one-size-fits-all" approach to quality and safety may not be successful. Keeping in mind the big aims for our institution (reduce harm, reduce variation, enhance the patient experience, and to transform our culture) we deliberately created a strategic safety and quality plan that attended to the specific quality and safety needs of children and their families within our large AHC.

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Developing the strategic plan was challenging. We started with a gap analysis, which allowed us to determine the differences between our practices and identified best practices. Like most institutions, our reporting system provided us with only a percentage of actual harm and, therefore, limited information.¹ In fact, some estimates suggest that only up to 8% of all patient harm is captured through voluntary patient safety reporting mechanisms.² Important to any new initiative, the first projects needed to have a high likelihood of success, be achievable, and have an observable impact. We looked for themes in the patient safety reports, such as peripheral IV infiltrates or rapid transfers, as a place to begin. Rapid transfers included any patient who required a transfer to a higher level of care such as the intermediate care unit or the PICU within 12 hours of admission to a general medical/surgical pediatric ward. We also reviewed all previous root-cause analyses, transfer center data, and safety events that had not been documented in the reporting system but were of concern to the team.

As the safety agenda became clearer, we needed a way to measure success. Therefore, one of the first process-oriented tasks was to create a Children's Hospital Scorecard. The scorecard allowed us to visualize where we began, what our goals were, and our progress toward those goals. We also drill down on each event to determine whether the event was predictable or preventable and to identify themes. The scorecard has gone through multiple iterations to capture what is important to the children's hospital. It is reviewed yearly to add or subtract items that we no longer need at the forefront. Since its inception, for example, we have tracked rapid transfers because of the serious safety event described above and because we continue to see children who require transfers to a higher level of care within this time frame. Time to pain medication delivery for patients with long bone fractures was recently removed because the goal was achieved; the measure is reviewed periodically by the quality and safety leadership, but is no

longer on the scorecard shared broadly in the children's hospital. We recently added *Clostridium difficile* infection rates after a series of events on one of our units. We also wanted to know how often we were using our Saving With Assessment Team (SWAT) to rescue patients before a code blue.

To augment the initial list, the team reviewed the Agency for Healthcare Research and Quality pediatric safety indicators, the adult core measures, and the institution's quality and safety goals.³ We selected key components of those indicators and measures to finalize our scorecard. Unlike a freestanding children's hospital in which all the patients who cross the threshold "belong" to the children's hospital, we had to define our population. Conservatively, we used all pediatric inpatients ages 0 to 17 years housed on pediatric units, including normal newborns and neonates in the NICU. We excluded obstetrics patients, patients age ≥ 18 on a pediatric unit, and patients age ≥ 17 on an adult unit followed by pediatric subspecialists.

Once the scorecard was published, the team developed a priority list based on timeliness, importance to the overall mission, and opportunity for success. One of the first safety initiatives we tackled was the composition of our rapid response team (RRT). Before the change, adult first responders (such as anesthesia, adult intensive care physicians, and adult respiratory therapists) responded to pediatric codes and periodically had difficulty with young infants and children because of their lack of experience with this population. The change we recommended was to have a specific pediatric rapid response team with the PICU attending or fellow, the PICU charge nurse and respiratory therapist, and the stat nurses who already attended codes or SWATs.

It quickly became clear that implementation of a change (especially one of this magnitude) in a hospital within a hospital requires many considerations and people, because the implications may cross over into the processes of the adult hospital.⁴ This shift in process was not going to be simple or

quick, and certainly the opportunity for success was limited, but we believed it to be a critical first step in our establishment of the unique identity of our children's hospital safety paradigm. The proposed modifications required several process changes, because the code alert would no longer go to the adult team; rather, a new team would be created and educated about expectations for response. A new paging system for pediatric SWATs and code blues would need to be developed as well. Although all of the affected stakeholders knew that a pediatric-specific RRT was a good idea, accomplishing the goal was complicated. Fortunately, the hospital code blue committee allowed the change to move forward. Over time, we have shown an improved quality of care during pediatric SWATs and fewer code blues.

This change in practice led to acknowledgment within the health center that the issues related to pediatric codes and rapid response were different from those in the adult hospital. This recognition led to a system change, and the hospital code blue committee was reorganized into two working groups, each with a focus on specific needs of pediatric or adult codes, as well as early recognition of patient deterioration. Representatives from the adult and pediatric groups became the oversight committee, which encouraged collaboration across the entire institution on issues that were germane to both adult and pediatric patients. Multiple quality improvement projects have originated from the collaborations, including revision of the pediatric code cart, a multidisciplinary code blue education project that was supported by a W. Martin Smith Safety and Quality Grant, a novel communication tool used between nurses and residents to hand off new admissions, the development of a neonatal RRT, and a "code birth," which is called when a woman in labor is delivering in the front circle of our hospital.

As we began to have success with our quality and safety initiatives, we wanted to have a more robust involvement of our learners. We believed that a true culture change would require people from all levels

of learning and experience to accept that we were changing our course. As a teaching hospital, our residents and fellows make up a large number of the frontline staff that cares for our patients. In May 2013, we took our quality and safety agenda to a new level and kicked off a safety program for the pediatric residents and medical students. We scheduled an entire week where the focus of every noon conference, morning report, and grand rounds was patient quality and safety. We educated the residents about quality and safety vocabulary, taught them how to file patient safety reports, conducted mock root-cause analyses, and invited the nursing staff and respiratory therapists to participate with the house staff to work through cases that demonstrated medication errors, communication lapses, and cognitive biases. Departmental and children's hospital leadership attended these conferences, sending a strong message that quality and safety was important.

After the kickoff, we instituted a monthly safety day. The focus is patient quality and safety, and the format varies from morning report to morbidity and mortality conferences, which are required to follow a formal root-cause analysis framework. This does require time and investigation on the part of the presenter, who is paired with a faculty member to help the resident develop a cause-and-effect fishbone diagram (also known as an Ichikawa cause and effect diagram) that is used to identify specific

factors that may have contributed to the outcome being discussed.⁵ Nursing and physician leadership attend and have commonly implemented recommendations that emerge from these presentations.

Change can begin with a sentinel event or observation and is carried by the momentum that builds from the stories of other patients. At our AHC, the death of a child helped to change the culture of our hospital, and the lives and experiences of other patients have sustained our momentum. Since we began gathering data in 2012, we have seen significant improvement in our quality and safety culture as well as our overall grade on the employee engagement survey. Communication, teamwork, and openness about reporting safety concerns have all made major leaps forward. Our patient safety reports have increased, and we have seen a significant improvement in many of the metrics on our scorecard. The pediatric scorecard has helped us measure what we value. It is publicly reported to the children's hospital quarterly; because the scorecard visually represents for the hospital what our achievements are as well as where we are deficient, everyone becomes a stakeholder.

We still have much to do, but the focus on patient safety is clear. The challenges faced as a hospital within a hospital are present but not insurmountable. Constant pressure creates change, and what we have learned

is that not only do our voices count; they can effect large-scale improvements even within an academic health system.

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