CASE STUDY

Decreasing Variances Pays Big Benefits for Small Patients in Texas

When local pediatricians begin directing patients to a competing hospital's emergency department (ED), it is a problem deserving of a hospital's attention. But when the reason for this diversion is that the pediatricians have little confidence in the ED physicians' treatment of children, it's clear that the issue goes beyond the business of running a hospital and could potentially affect patient safety. This was exactly the situation at Memorial Hermann Baptist Hospital (MHBH) in Beaumont, Texas, in 2006.

MHBH enlisted the help of Susan G. Engleman, R.N., a clinical nurse specialist and pediatric nurse practitioner. In her role as director of system children's services at MHBH's sister hospital, Children's Memorial Hermann Hospital in Houston, Engleman is often asked to assist with pediatric issues throughout the 15-hospital Memorial Hermann system.

At a Glance

Name of the organization: Memorial Hermann Baptist Hospital (MHBH) is a 250-bed acute-care hospital located in Beaumont, Texas. MHBH includes a 17-bed pediatric inpatient unit.

Purpose of the Project: To increase pediatricians' confidence in emergency department (ED) physicians by decreasing the number of variances between care ordered by ED physicians and care the patient's pediatrician would have applied.

Outcomes of the Project: Within three months of applying procedural changes, the number of variances decreased significantly. The pediatricians' confidence in the ED physicians' orders was restored, and the relationship between pediatric and emergency physicians and nurses was strengthened.

Defining the Problem

Engleman used Six Sigma methodology to address the situation at MHBH, and she emphasizes that the most important part of any Six Sigma project is how you begin. "You can't make any assumptions," she says. "If you go into a project like this thinking you already know the answers, you're going to fail."

For example, in the MHBH project it was critical to correctly define who the "customer" for the project was. "This was a patient safety project," Engleman explains. "Your assumption from that would be that your customer is your patient. But in this particular project, we did not define it that way. While the patients were definitely affected, this project really was aimed at meeting the needs of the pediatricians who were diverting patients away from the MHBH ED."

At the time the project began, ED physicians were writing admission orders that the pediatric nurses noticed were inappropriate for child patients. These variances in treatment included inappropriate medications and/or dosing, inappropriate fluid type and/or dosing, and missing or incomplete diagnostics. The nurses would then contact the patient's pediatrician, who would write new, correct orders.

Fortunately, the pediatric nurses noticed these errors before treatment was administered and then consulted the patient's pediatricians to determine the correct treatment; the patients were never harmed or affected in any way. But these incidents did cause the pediatric physicians and nurses to have serious concerns regarding the quality of care being given to all children in the ED at MHBH—those treated and released, as well as inpatients.

When error data were collected and analyzed, it became clear that the emergency care at MHBH was entirely appropriate in every respect. The errors did not appear in the records of children who had been treated and released; they showed up only when a child was admitted to the pediatric unit from the ED. Therefore, the data indicated that the issue was the process for admitting pediatric patients. As Engleman points out, this is not surprising. "The emergency physicians are not trained to give pediatric inpatient care. They are trained to treat an emergency, stabilize the patient, and then send [him or her] to the pediatricians so they can administer inpatient treatment."

Implementing Solutions

After the root of the problem was identified, the next step was to find a solution that would bring the orders that were being written into alignment with

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the care that was needed. When the findings were presented to the ED physicians, they readily acknowledged that they did not know how to care for children as inpatients. They offered to work with the pediatricians to develop a specific order set for pediatric patients, and suggested pediatric education for ED nurses. The pediatricians agreed, and work began on a new pediatric order set. After review and discussion by a panel of pediatricians as well as the ED physicians, the new set of pediatric orders was sent to all pediatricians in the community. The orders were unanimously accepted.

Just three months after MHBH introduced the new order set, the number of admission errors decreased significantly—in fact, there was a 79% reduction in errors. More charts were reviewed after another three months, and project improvement had risen to 86%. Quarterly reviews will continue to ensure that the new system remains effective.

These improvements are not entirely due to the creation of the pediatric order set. By addressing this issue, two formerly adversarial groups have reopened lines of communication and cooperation. Now, when a physician or nurse in the ED has difficulty starting an intravenous line in a young patient, for example, they are willing to call the pediatric floor for advice or assistance. As Engleman states, "The most valuable thing to come out of this project was the relationship that was forged between the pediatric unit and the ED, on both a physician level and a nursing level. It is a much more collaborative way of giving care." B