

## **Mercy Medical Center – Des Moines Success Story**

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**Mercy Medical Center, Des Moines, a 917-bed acute care, not-for-profit Catholic hospital, located on three Des Moines campuses, began introducing Six Sigma early in 2004 as part of its recommitment to the performance improvement efforts in which Mercy has been engaged in for many years. By December 2004, 15 healthcare professionals were trained to be full-time, dedicated project leaders – called Six Sigma Black Belts. In addition, Mercy currently has 60 employees trained as Green Belts, devoting approximately twenty percent of their work time to practicing the Six Sigma methodologies as project leaders in their specific departments. Employing more than 6,600 people, with a medical staff of 800 physicians and allied health professionals, Mercy is using Six Sigma tools in a quest toward world-class quality.**

**Six Sigma methods have been used to improve customer satisfaction, make processes more efficient, reduce errors and improve financial performance throughout the hospital. To date, 375 Mercy employees have participated on more than 130 process improvement projects. Most projects have involved business and patient care support. However, Mercy is also seeing these process improvement tools used in more clinical applications.**

**After just two years of implementation, Mercy has already reaped many benefits – including nearly \$12 million in project savings/increased revenue and many improved processes impacting patient safety and/or patient satisfaction. Today's Six Sigma is not limited to the DMAIC (Define, Measure, Analyze, Improve, Control) method. Instead, Mercy has expanded its efforts to include DMAIC and Lean events under the umbrella of Six Sigma encompassing a philosophy based on a wide range of techniques and performance improvement methodologies. Mercy's Six Sigma efforts focus on four principles: the pursuit of perfection, continuous process improvement, customer/patient focus, and teams/collaboration.**

**The newest technique being introduced at Mercy is Rapid Process Improvement (RPI) methodology. Similar to a Lean event, with RPI, team members spend five days focusing on a particular process and developing improvement strategies. During this very intense week, the team maps the current process with process flow diagramming; identifies and analyzes process barriers to the process mission; prioritizes the barriers to be addressed; brainstorms and selects solutions to the identified barriers; develops a plan to implement the solutions; and develops control measures to ensure results, continued success and sustainability. In addition to the DMAIC and RPI methods, Six Sigma teams also use a variety of other strategies including: Design for Six Sigma (DFSS), change management techniques; and Voice of the Customer (VOC) methodologies that help guarantee that the needs of patients and other customers continue to drive Mercy's process improvement efforts.**

**Below are a few project examples related to Six Sigma Projects at Mercy Medical Center - Des Moines, Iowa:**

- 1. Wasted Medications:** In an effort to reduce wasted medications, one improvement project focused on the reduction of wasted Natrecor, an expensive IV medication used in the treatment of congestive heart failure. As a result of the team's recommendations, the process used in Pharmacy changed to prepare only the amount of medication needed for each patient. The change did not affect the amount of Natrecor given to the patient for the treatment of their heart failure, but rather how the medication was drawn and prepared, and the communication around patient schedules. By preparing Natrecor on a demand basis for each case, there were nine straight months of zero percent medication waste; this was down from the baseline waste levels of 28%.
- 2. Returns to ICU:** Another improvement project aimed to decrease patient returns to the Intensive Care Unit (ICU). Mercy's return to ICU data compared to similar hospitals nationwide showed a higher rate of patients returning to the ICU. Different assessment processes, including a checklist, were implemented to address patient stability before leaving the ICU and a new standard order set was created for use after transfer. Project efforts resulted in decreased patient returns to ICU from 7.8 percent to 3.7 percent. These changes also produced better care outcomes for the patients and a reduced length of stay.
- 3. Improved Diabetic Order Usage:** An interdisciplinary group of clinical staff and physicians applied the Six Sigma methodology to the process of care for our diabetic patients. Their work produced a 61% increase in utilization of American College of Endocrinology guidelines and a significant lowering of average glucose (blood sugar) levels in the study group. By utilizing the diabetes management protocol and order sets, there has been a decrease in costs, decreased length of stay, and improved glycemic control for patients.
- 4. Improve Pre-Surgical Evaluation Process:** Prior to a Six Sigma project, Mercy's Pre-Surgical Assessment Department (PSA) had been experiencing difficulty getting charts ready for outpatients having surgery. Through the use of a standardized cover sheet, there was an improvement from 30% to 79% for having the appropriate patient information on the chart, such as a current history and physical, lab work, EKGs and cardiac clearance, without requiring additional nursing intervention. This project has also helped decrease delays in surgical cases and improved patient, physician and staff satisfaction.