

Cleveland Regional Medical Center dramatically improves quality of patient care with weekly monitoring tools from Premier **CASE STUDY**



Cleveland Regional Medical Center Making Great Strides with Core Measures

ROI

- From the least favored deciles to the most favored deciles, compared to nationwide benchmarks, in clinical areas of congestive heart failure (CHF), acute myocardial infarction (AMI) and hip and knee core measures
- CHF improvements include:
 - Readmission rate decreased 37 percent
 - 73 percent increase in reliably meeting all of the best practice indicators for discharge instructions
- 25 percent decrease in acute AMI mortality
- 70 percent reduction in knee infections, 36 percent reduction in hip infections
- Improvement in reliable compliance in all areas for:
 - Aspirin and ace inhibitors on arrival and discharge
 - Beta blockers
 - LVF and smoking cessation, at least 95 percent of the time, often at 100 percent

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- Elizabeth Popwell, CHE, Vice President of Systems Management at CRMC

As the first Level III Trauma Center in North Carolina, Cleveland Regional Medical Center (CRMC), the largest facility in the Cleveland County HealthCare System and part of Carolinas HealthCare System, has always placed a special focus on quality. The 241-bed, not-for-profit facility, which employs more than 1,100 people and discharges over 10,500 patients a year, specializes in Oncology, Cardiology, Outpatient Rehabilitation, Medical/Surgical Services, Women and Children's Services, Trauma Service/Critical Care, and Outpatient Behavioral Psychiatry.

In early 2003, process and outcome data suggested that the Shelby, North Carolina-based medical center was struggling with providing its patients with reliable systems and processes that delivered evidence based care, particularly related to the outcomes of care for congestive heart failure (CHF), acute myocardial infarction (AMI) and hip and knee surgical patients. Thus, CRMC's administration decided it had to take action.

“With the advent of performance measurement indicators, there were

periods of improvement and then deceleration of that improvement as our process improvement team finished implementing a process,” said Elizabeth Popwell, CHE, vice president of Systems Management at CRMC. “We came to the conclusion that reliable process improvement was going to take more than educating staff on a new process. It was going to take concurrent review and intervention, as well as real time monitoring of results.

“For instance, we realized that analyzing the results of patient care processes after the patient left our care didn't give us an opportunity to make improvements while the patient could still benefit. Our goal was to improve the outcomes for our patients by building redundant systems and safety nets.”

In the area of congestive heart failure, the readmission rate at CRMC in 2003 was 12.09 percent, and patients receiving discharge instructions that included the appropriate elements were well below the national benchmark. In addition, hip and knee infection rates for surgery in 2003 were 2.8 percent for hip and 2.6 percent for knee, and the percentage of patients

receiving antibiotics within an hour of incision was again not at benchmark. “Obviously, these outcomes concerned us and were not reflective of the care we want to provide,” said Popwell.

Initially, CRMC attempted to address these issues by taking best practice ideas and working them into already broken processes. From a performance improvement approach, the medical center appointed teams to attend to and improve such areas, but the results were not satisfactory.

“Tools were in place and some successes were achieved, but performance and reliability would ultimately not be maintained,” said Popwell.

For core measures process improvements, CRMC was looking at charts six months post-patient stay. “Rather than being retrospective data miners, we want to ensure best practice quality real-time at the bedside of each patient,” Popwell stated. “Our quality professionals needed to better educate and engage physicians and clinicians about the evidence, as well as help ensure reliable processes while patients were being treated.”

THE PREMIER CHOICE

Clearly unsatisfied with the lack of maintaining improvements, CRMC decided to take a closer look at its day-to-day processes and how they could be improved.

CRMC had a longstanding relationship with the Premier Inc. healthcare alliance, having used Premier's Clinical Advisor for quality measurement and benchmarking, and decided to call upon them. Powered by the Perspective Online™ Web-based clinical comparative database, which provides patient-level detail to identify opportunities for improvement in clinical quality and efficiency, the Clinical Advisor solution offers assessment, consulting, knowledge-sharing and other customized services to help hospitals and health systems close gaps identified through the use of comparative data.

Representatives from Premier presented Premier's Hospital Quality Incentive Demonstration (HQID) project with the Centers for Medicare and Medicaid Services (CMS) and real-time data monitoring tools to Popwell, which aided CRMC's systems management division in creating a new vision for concurrent chart review and monitoring.

The first national project of its kind, HQID is designed to determine if economic incentives to hospitals are effective at improving the quality of inpatient care. In year one of the demonstration, CMS awarded \$8.85 million in incentives to the top-performing hospitals in the project.

In addition, CMS-validated data from the first year of the HQID demonstrates a significant improvement in the quality of care across five clinical focus areas as measured by 33 nationally standardized and widely accepted quality indicators. The average improvement across the clinical areas was 6.6 percent. These performance gains have outpaced those of hospitals involved in other national performance initiatives. Approximately 235 AMI patients were saved as a result of quality improvements in that related focus area alone.

Premier representatives, including Performance Engineer Kelly Hammock, also assisted Popwell and her team in developing a proposal for internal resources, which was accepted by CRMC's administrative team, led by president and CEO John Young.

"We think highly of Premier and its products, and we consider our Premier performance engineers, such as Kelly, as part of our hospital family, having always felt that they could support us in achieving our quality goals," said Young. "The ease of use of Premier's products, such as the HQID pay for performance project, further assured us that we needed to engage in HQID and use the real time monitoring reports to assist us in our improvement efforts."

Using Premier's data as a guideline, CRMC's administration and participating medical staff, known as the Quality Circle, helped redesign CRMC's order sets and protocols. CRMC's systems management division reorganized processes in the quality management department by

assigning a clinical quality improvement coordinator to conduct concurrent chart reviews. Rather than looking retrospectively, the clinical quality improvement coordinator addresses patient care needs concurrently by visiting the hospital units and finding out information real-time. If the best practice care indicated has not been completed, the clinical quality improvement coordinator intervenes and follows up with staff or a physician to expedite the process.

According to Young, "As we continue to look at our clinical quality best practices and clinical resource utilization opportunities, we are content that Premier will assist us in raising the bar for both."

"We realized that improving the process of care alone would not provide our patients the best possible outcome," said Popwell. "With assistance from Kelly, we collectively developed a methodology, known as the perfect process, which allows us to monitor the rate of patients that receive 100 percent of the care processes based on each patient's individualized needs, and in a more patient-centric manner.

"As patient focus shifts to this more holistic approach, their readmission, mortality and infection rate data has shown dramatic improvements."

And the results have been sterling.

CRMC has improved from the least favored deciles to the most favored deciles in the clinical areas of CHF, AMI, and hip and knee.



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Premier Inc., is a strategic healthcare alliance that provides an array of performance solutions to hospitals and other providers. Premier's Healthcare Informatics unit offers performance measurement, benchmarking, and reporting products and related advisory services and methodologies to support health systems' and hospitals' quality improvement efforts. Among its products and services, Premier Healthcare Informatics offers the Advisor Suite™ of clinical and operational performance measurement and reporting solutions; best practice methodologies to directly implement quality improvement programs; project-specific guidance; and on-site expertise to support improvement of clinical outcomes and efficiency of care. Areas of expertise include JCAHO and CMS performance measurement, clinical and operational benchmarking, labor management programs, balanced scorecards, patient satisfaction, evidence-based research, and patient safety. For more information about Premier Healthcare Informatics, visit www.premierinc.com/informatics or call 800.805.4608.

Readmission rates dropped 37% and discharge instructions improved 73 percent in CHF while reports show that 96 percent of patients at CRMC received the proper discharge instructions. In addition, 100 percent compliance in beta blockers, LVF assessment ACE-I/ARB and smoking cessation has been sustained.

(Refer to Figure 1)

In AMI, the mortality rate has decreased by 25 percent, and the latest reports show 100 percent compliance in aspirin (ASA) and ace inhibitors on arrival and discharge, as well as 100 percent compliance in beta blockers and smoking cessation.

(Refer to Figure 2)

Also, CRMC has seen a 70 percent reduction in knee infections and a 36 percent reduction in hip infections.

WANT TO LEARN MORE?

For more information about Premier or any of our Advisor Suite Solutions, please call 800.805.4608 or visit us on the Web at www.premierinc.com/informatics. For more information regarding Cleveland Regional Medical Center, please contact Elizabeth Popwell at 704.487.3848.

CRMC HEART FAILURE
YEAR 1 COMPARED TO YEAR 2 DECILE TREND

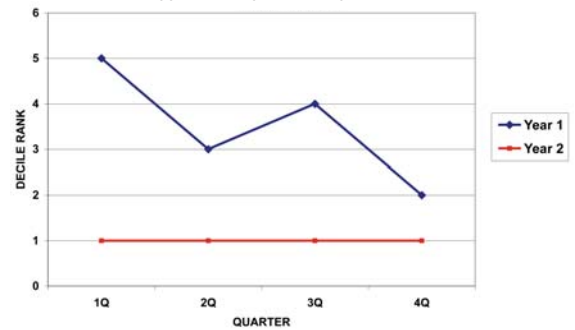


Figure 1 (Note: Lower decile placement suggests a more positive result)

CRMC ACUTE MYOCARDIAL INFARCTION
YEAR 1 COMPARED TO YEAR 2 DECILE TREND

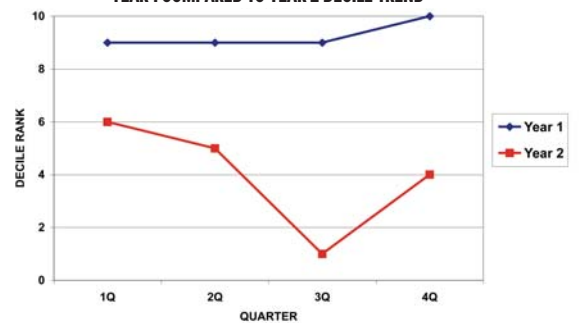


Figure 2 (Note: Lower decile placement suggests a more positive result)