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Case Study

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Mercy Medical Center: Reducing Readmissions Through Clinical Excellence, Palliative Care, and Collaboration

Sharon Silow-Carroll and Aimee Lashbrook
Health Management Associates

Vital Signs

Hospital: Mercy Medical Center

System: Mercy Medical Center owns a physician network, hospice, and home health agency

Location: Cedar Rapids, Iowa

Type: Private, nonprofit hospital

Beds: 445

Distinction: Top 3 percent in low readmission rates for heart attack, heart failure, and pneumonia patients, among more than 2,800 hospitals eligible for the analysis.

Timeframe: October 2007 through September 2008. See Appendix A for full methodology.

This case study describes the strategies and factors that appear to contribute to a low readmission rate among patients at Mercy Medical Center. It is based on information obtained from interviews with key hospital personnel, publicly available information, and materials provided by the hospital during February through April 2010.

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For more information about this study, please contact:

Sharon Silow-Carroll, M.B.A., M.S.W.
Health Management Associates
ssilowcarroll@healthmanagement.com

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SUMMARY

Mercy Medical Center in Cedar Rapids, Iowa, had readmission rates in the lowest 3 percent among U.S. hospitals in all three clinical areas—heart attack, heart failure, and pneumonia—reported to the Centers for Medicare and Medicaid Services (CMS) for the selection period (Exhibit 1).

Mercy Medical Center's success may be attributed the following:

- a collaborative health care environment in which competitors work together to put patients first;

- primary focus on clinical excellence and standardized care, including an investment in advanced practice nurses to implement best practices and guidelines;
- early discharge planning, targeting of high-risk patients, and scheduling of follow-up care;
- telemonitoring and post-discharge phone calls for certain diagnoses; and
- strong end-of-life care that involves Palliative Care Teams, portable advance directives, and hospice care.

INTERNAL AND EXTERNAL ENVIRONMENT

The Hospital

Mercy Medical Center, located in Cedar Rapids, Iowa, was founded in 1900 by the Sisters of Mercy "to care for the poor and the sick." It is an independent regional hospital with 445 licensed acute-care beds and over 2,200 employees. In 2009 Mercy provided 320,415 outpatient visits, 42,104 emergency department visits, and 12,548 surgeries. All patient rooms at Mercy are private, and hospitalists and intensivists are used to help care for the patients. About 40 percent of patients are under hospitalists' care, including those who do not have a primary care physician and those whose physician requests that hospitalists manage their care.

A strong organizational commitment to evidence-based practice and standardization of care has been evolving at Mercy over the last decade. In the early 2000s, the hospital made an internal pledge to lower its patient mortality rate and launched several efforts to achieve this goal, including the use of rapid response teams and inpatient glycemic control initiatives. The results have been positive. Its Adjusted Mortality Index (calculated by dividing the actual mortality rate by the expected mortality rate based on patient severity, comorbidities, and other factors), decreased from 1.27 in 2003 (that is, higher mortality than expected based on patient risk) to 0.4 in 2009 (lower mortality than expected).

WhyNotTheBest.org
Readmissions Case Study Series

Nearly one of five elderly patients who is discharged from the hospital in the United States is rehospitalized within 30 days. Evidence suggests that many of these readmissions are avoidable, caused by complications or infections from the initial hospital stay, poorly managed transitions to post-acute care, or recurrence or exacerbation of symptoms of patients' chronic diseases. In addition to taking a physical and emotional toll on patients and their families, avoidable readmissions are extremely costly.

Reducing readmissions has become a priority among health care providers, health plans, government, and other stakeholders. Readmission rates for three clinical areas—heart attack, heart failure, and pneumonia—are collected and publicly reported by the Centers for Medicare and Medicaid Services and other organizations. The risk-adjusted readmission rates show significant variation across hospitals, indicating that some hospitals are more successful than others at addressing the causes of readmissions. This case study is part of a series that highlights best practices among hospitals.

Mercy was an early adopter of the American Heart Association's (AHA) guidelines for caring for patients with coronary artery disease. In 2003, before evidence-based medicine was common practice, Sue Dawson M.A., R.N., CCCP, clinical improvement and accreditation–cardiac, attended an AHA conference where the "Get with the Guidelines" initiative was introduced. Dawson returned from the conference "sold" on the initiative and convinced Mercy's clinical improvement leaders and physicians to adopt the guidelines. Since then, Mercy has experienced an 82 percent decrease in its mortality rate for heart attack patients. This early success helped drive adoption of evidence-based guidelines with many other populations.

The System

Mercy owns an affiliated, for-profit primary care physician group called MercyCare Community Physicians, a home health agency, and a hospice. This system offers a basic continuum of care ranging from primary to acute to end-of-life care. The hospital also maintains strong, collaborative relationships with specialists in the community, and many MercyCare physicians are medical directors of area nursing homes. These relationships promote linkages to long-term and specialty care, although neither provider type is officially part of the Mercy system. In addition, overlaying Mercy's electronic information system is a user-friendly Web portal that offers MercyCare physicians, care coordinators, and community physicians access to integrated inpatient and outpatient records. This facilitates the transfer of patient information across the continuum of care.

The for-profit MercyCare physician group employs about 40 percent of the primary care physicians in the community, many of whom were trained at Mercy. The group has recently been promoting the medical home model, in which a primary care physician helps plan and manage patients' care and also serves as the link between patients and specialists. In partnership with a large area health insurer, a separate medical home pilot is in operation at select MercyCare physician offices. A key component of the pilot is the placement of a health coach in primary care practices to provide support to patients and primary care physicians in managing chronic conditions.

Mercy is partnering with a local agency on aging to offer a chronic disease self-management program for its patients. The evidence-based program was developed by researchers at Stanford University and includes a six-week training program that helps patients improve communication with their providers, manage their symptoms, practice appropriate breathing exercises, and reduce fatigue. Most individuals with a chronic disease are candidates for the program.

> *Readmissions are a symptom of a system that hasn't learned to manage the entire clinical experience.*
> Tim Charles, CEO

A hospice program called Hospice of Mercy is also part of the Mercy system. The hospice is under the same leadership as the hospital's palliative care program and works closely with the Palliative Care Team (described below). The hospice program works with patients, families, physicians, and other caregivers to develop patient-centered care plans. A freestanding hospice facility caters to patients who cannot be cared for at home, and serves as an alternative to hospital and nursing home care. Hospice nurses are also available to provide care in area nursing facilities.

The Environment

The Cedar Rapids health care community was recently recognized by the Institute for Healthcare Improvement (IHI) as a high-performing community at an IHI annual forum. Communities were recognized for their high quality of care and low cost of health care services. During the annual forum's opening address, Donald Berwick, M.D., former president of IHI and now the CMS administrator, distinguished Mercy and its main competitor, St. Luke's, as being "highly cooperative stewards of limited resources,

Exhibit 1. 30-Day Readmission Rates for Mercy Medical Center

Condition	National average	Top 10%	Mercy Medical Center
Heart attack	19.97%	18.40%	17.20%
Heart failure	24.73%	22.40%	20.10%
Pneumonia	18.34%	16.50%	14.90%

Note: All-cause 30-day readmission rates for patients discharged alive to a non–acute care setting with principal diagnosis. Reporting period: Q3 2006 through Q2 2009. Source: www.WhyNotTheBest.org, accessed Dec. 15, 2010.

with significant respect for the community's overall health" and a "sense of the health care commons."

The IHI distinction is supported by various characteristics unique to the Cedar Rapids environment. Mercy, St. Luke's, and community physicians meet on a recurring basis to establish common processes for improving patient care. For example, the competing hospitals and community physicians developed a standing antibiotic order set for pneumonia patients. This not only improves patient care, but is appreciated by physicians who benefit from the ease of practicing a consistent process across both hospitals in the community.

The spirit of cooperation in Cedar Rapids is also illustrated by widespread participation in the IPOST Pilot, a collaboration that was initially created through the palliative care leadership from Mercy and St. Luke's hospitals, area residential and long-term care facilities, hospice programs, and local emergency medical services. As described below, the provider community created a standard, portable medical order outlining patients' advance directives and end-of-life preferences. It belongs to the patient and travels with them across the health care continuum, enabling transitions to happen safely and according to patients' desires. Mercy staff believe these medical orders contribute to the hospital's low readmission rates.

Cedar Rapids also has a robust, free medical clinic—further evidence of the level of community collaboration among area providers. With no federal funding, the clinic's size is impressive: over 600 volunteers and a few paid staff serve more than 230 patients a day. It is a critical safety net provider that delivers access to primary care, referrals to specialists, laboratory and diagnostic services, and free medications. Since 2004, the number of prescriptions dispensed by the clinic increased by 324 percent. Mercy and St. Luke's hospitals also donate ancillary services, and Mercy hosts the clinic's Web site. The existence of this free clinic likely contributes to Mercy's low readmission rate because it is a reliable alternative to hospital emergency department care and provides access to free medications.

PRIMARY FOCUS ON CLINICAL EXCELLENCE

Investing in Advanced Practice Nurses and Quality Improvement

Mercy staff are quick to point out that the hospital's focus is on clinical excellence, not reducing readmissions per se. "Readmissions are a symptom of a system that hasn't learned to manage the entire clinical experience," said Tim Charles, CEO.

As explained by Rose Allen, M.S., R.N., senior director of clinical improvement and accreditation, the hospital firmly believes "if you can't get the fundamental things right that save lives, nothing else matters." This philosophy is behind Mercy's department of clinical improvement and accreditation, which is dedicated to the examination and implementation of best practices and evidence-based guidelines. The department was established in 2000 within the care management department, and by 2006 it had become its own department with seven advanced practice nurses (APNs). There are now 27 staff members working across four teams focusing on evidence-based practice, patient safety, infection prevention, and data management.

The APNs monitor national guidelines and work with physicians and other frontline staff to incorporate evidence-based standards into patient care using Lean process improvement principles.[1] The APNs are also responsible for analyzing the hospital's performance data to determine what can be done to improve patient care.

Hospital staff see a connection between the provision of evidence-based care for myocardial infarction and pneumonia care in the emergency department (ED) with Mercy's low readmission rates for these conditions. If treatment for acute myocardial infarction is delayed in the ED, patients are more likely to die or experience complications. For example, research has demonstrated a significant reduction in mortality with

[1] Lean, first used in the Japanese automotive industry and now translated for use by the U.S. health care sector, focuses on increasing value and decreasing waste in administrative and clinical processes.

> *If you can't get the fundamental things right that save lives, nothing else matters.*
>
> Rose Allen, M.S., R.N., Senior Director of Clinical Improvement and Accreditation

the administration of aspirin in the ED during the acute phase of the AMI.[2]

Maintaining the department of clinical improvement and accreditation costs the hospital about $1.7 million in salary and benefits each year. But having a large team dedicated to the adoption of evidence-based practices and standardized care has paid off in better care. Since 2006, the hospital's appropriate care measure rate, a composite score that captures whether a patient received all the recommended care based on core measures for his or her diagnosis, has increased from 70.8 percent to 91.8 percent. The department has also been able to demonstrate cost savings associated with specific initiatives (see Results).

Emphasizing Measurement and Accountability

Mercy's goal is to be in the top 10 percent of hospitals nationally across all common clinical and cost-effectiveness measures. To benchmark its performance against other hospitals nationwide, Mercy relies on a Web-based provider profiling system. The hospital uses the system to monitor and measure outcomes and compare its performance to other hospitals in terms of readmission rates, complication rates, finances, length of stay, and other indicators.

A quality dashboard is posted on all inpatient units and distributed to the hospital's administrators and board of directors. Performance is also reported at the physician level. The department of clinical improvement and accreditation develops individual physician report cards, which are disseminated by the Medical Staff Office.

[2] In the Second International Study of Infarct Survival (ISIS-2), the early use of aspirin in patients with an evolving myocardial infarction was associated with a 23 percent reduction in short-term mortality (Medicare Quality Improvement Priorities, Aug. 2003, CMS Publication No. 11041).

The hospital benefits from having strong physician leaders who are willing to have difficult conversations with their peers. If a physician is not meeting certain minimum thresholds in areas such as readmission rates or length of stay, the hospital's chief medical officer (CMO) will meet with him or her to discuss the performance issues. The CMO will also meet with physicians who do not follow established clinical guidelines and fail to document a reasonable explanation for the departure. In these meetings, the CMO focuses on improving care processes instead of penalizing physicians.

Mercy does not typically offer financial incentives to encourage particular physician behaviors. The hospital has generally found that providing physicians with evidenced-based guidelines for patient care is sufficient to motivate change. However, an agreement was just reached to give cardiologists financial incentives for meeting goals on 10 metrics, such as AMI core measure compliance.

CARE TRANSITION STRATEGIES

Care Coordination and Discharge Planning: Targeting High-Risk Patients

Mercy's discharge process is designed to improve patient outcomes by reaching out to patients who are likely to have problems after leaving the hospital. The process starts early, with a social worker visiting all patients over 80 years old on the day following their admission. A social worker also visits patients who are referred for discharge-planning interventions based on special needs identified through the case-finding process. Case-finding targets individuals who may be functioning at a suboptimal level at home. A social worker connects them with community-based resources to maintain their level of functioning and enable them to live independently.

Communication among members of the patient care team is a key component of Mercy's discharge planning process. Floor nurses, social workers, discharge nurses, and hospitalists participate in daily interdisciplinary conferences. The daily conferences

serve multiple purposes—they are an opportunity to discuss a patient's potential discharge needs early on, keep care team members up to date on patients' discharge plans, and for team members to direct questions to the hospitalist physician on duty. A whiteboard in the meeting room lists patients who will be going home that day or soon.

Communication with patients and their families is also critical. A whiteboard located in every patient room includes information such as the name of that day's nurse, discharge concerns, the date of the palliative care conference (if applicable), the potential discharge date, goals for the patient for that day, and upcoming tests or procedures. To further enhance communication, Mercy is rolling out a new Bedside Reporting program in which incoming and outgoing nurses give each other updates at shift change at bedside—including patients in the discussion.

The discharge/primary care nurses are responsible for preparing comprehensive discharge plans, scheduling follow-up care, and educating patients about their discharge and after-hospital care. Patients and their families participate in these discussions whenever possible. Because necessary follow-up care (e.g., X-rays, physician visits, or specialist visits) is scheduled prior to discharge, patients are more likely to obtain recommended care.

Mercy is working on implementing standard discharge order sets that will print automatically upon admission, to "make sure physicians do not forget to include any necessary instructions that they may now be forgetting when they complete the order by hand," said Pat O'Donnell, M.S.N., clinical improvement and accreditation–heart failure. As with other areas of care, hospital leaders believe that standardizing this process will ensure that discharge orders are comprehensive and include instructions in areas such as diet, activity, home health care, and oxygen use.

Patient Education and Engagement

Discharge-related education can take on a variety of forms depending on the unit of the hospital and the patient. For example, new heart failure patients receive verbal and written instructions, while repeat heart failure patients receive mostly written materials as a reminder of previously provided information. Hospital staff say that the teaching methods used to educate patients regarding discharge plans are a "work in progress." Teams of frontline and clinical improvement staff are evaluating options and making recommendations for improvement.

Nurses instruct all heart failure patients to pay attention to warning signs such as shortness of breath or lack of energy. Patients receive an instruction sheet with a diagram that identifies symptoms the patient may feel after discharge and color-coded zones indicating when patients should call their physicians or 911. Mercy has also recently developed a side-by-side discharge/transfer medication order sheet, which compares current hospital and home medications to enable providers to easily identify any omissions or other discrepancies. The finalized medication list is then sent to the community provider on the day of discharge. Revised medication instructions are under way to clarify to patients which medications they should continue and which they should discontinue upon discharge.

Post-Discharge Follow-Up: Phone Calls and Telemonitoring

At Mercy, all cardiac preprinted order sets include an automatic referral for telemonitoring devices, which enable at-home monitoring and transmittal of vital signs. Considered a "lifeline" for patients with chronic conditions such as heart failure, chronic obstructive pulmonary disease (COPD), and diabetes, such devices enable the hospital to keep patients under close supervision after discharge and reduce the number of patients readmitted in crisis mode. Since adoption of telemonitoring devices in February 2008, the hospital's readmission rates have declined (see Results). The hospital also credits the devices for reducing by 57 percent the average length of stay among patients using them.

Mercy's telemonitoring devices monitor patients' blood pressure, pulse, oxygen saturation, weight, and blood sugar. This information is

transmitted from the wireless devices through the patient's phone line to the Mercy Home Care office on a daily basis; a registered nurse reviews the data 365 days a year. The nurse contacts patients if their vital signs are not in the range of the physician-approved parameters for them. The follow-up steps may include a call to the physician, an adjustment to the medication regime, an office visit, or in more serious circumstances, a trip to the emergency department. All patients with a telemonitoring device are also visited by a home health nurse. About 60 patients are currently using a telemonitoring device. There is no time limit for its use; some patients have had a device for two years or more.

The telemonitoring service is a quality improvement initiative of Mercy Home Care. It is free to patients if they are receiving home care services; once they discontinue these services they can choose to continue telemonitoring by paying an out-of-pocket charge, based on a sliding scale. Since many patients are unable to pay, the hospital covers the cost despite the fact that they are not reimbursed by insurers. Mercy attributes reductions in readmission rates, lengths of stay, and costs to use of the telemonitoring service (see Results). Its Home Care agency is in the process of calculating the overall cost-effectiveness of using telemonitoring devices. Mercy would like to use this information to promote reimbursement of the devices by public and private insurers.

Some departments, including the heart failure, orthopedic surgery, and obstetrics departments, follow up with patients after discharge by telephone to ensure they are receiving recommended care and to answer questions. However, because of resource constraints, this process has not been standardized and is conducted on an ad hoc basis. Mercy would like to implement a consistent follow-up process across the hospital.

Preparing for End-of-Life: Palliative Care, IPOST, and Hospice

Mercy pays special attention to end-of-life care, and believes that this has helped keep its readmission rate low. The hospital provides a palliative care consult to certain patients, particularly those with complex illnesses or serious health conditions. These patients are identified by frequent visits to the emergency department, frequent admissions, a poor prognosis, prolonged length of stay with no evidence of progress, a new diagnosis of a serious illness, or those who need to clarify the goals of their treatment. Nurses are also able to consult the palliative care team for pain management, transitional care, or other needs.

Mercy's Palliative Care Team helps guide care transitions so that patients receive the right level of care at the right time. The team, which includes the patient's physician, a palliative care physician, an advanced practice nurse, a social worker, the hospital chaplain, the patient, and the patient's family, develops a care plan centered on patients' preferences and goals. For patients admitted to nursing homes after discharge, the team will work with the facility to make sure the patient's needs and desires are being met.

The Palliative Care Team leads discussions about advanced health care planning with patients and their families as appropriate. The date of the palliative care conference is posted on a whiteboard in patients' rooms.

The same department that oversees Mercy's Palliative Care Team oversees its hospice program, and the two teams work closely together. Established in 1980, Mercy's hospice program was one of the first hospital-based hospice programs in the country. In 2007, Hospice of Mercy built a 12-bed inpatient hospice facility to provide care for patients who are unable to stay in their home at the end of life. Patients admitted to the inpatient hospice facility for comfort or palliative care are not included in Mercy's readmission rate.

As noted above, Mercy participates in a pilot program called IPOST, which it developed in collaboration with its competitor hospital and other area health care providers, to improve communication and honor patients' end-of-life treatment choices across care settings.[3] The acronym "IPOST" refers to a tool called the Iowa Physician Orders for Scope of

[3] Patient Autonomy in Health Care Decisions Pilot Project, 2010 Report, http://www.idph.state.ia.us/adper/common/pdf/legis/archive/2010/2010_patient_autonomy.pdf.

Treatment. It is based on the National Physician Order for Life-Sustaining Treatment Paradigm and the La Crosse Respecting Choices model.[4] Using the tool, a trained health professional documents patients' preferences for end-of-life care (e.g., whether to have CPR, comfort measures, artificial nutrition, or other interventions), taking into account their comfort and quality of life, not just their conditions. The directives often indicate less aggressive treatment than would otherwise occur.

The IPOST program targets the chronically ill and frail elderly. In 2008, the Cedar Rapids provider community obtained legislative approval to make the treatment choices identified on the IPOST tool a medical order (Appendix C). The orders, signed by a physician, are portable across the health care continuum, including, for example, a nursing facility, hospital, and an individual's home. The IPOST form provides critical information to EMS workers and emergency department physicians. The IPOST pilot has been successful in terms of engaging providers and patients; it is now being expanded into a contiguous rural county and may eventually be spread throughout the state.

Allen, the senior director of clinical improvement and accreditation, believes that IPOST has helped the hospital maintain a low readmission rate by enabling providers to honor patients' wishes.

RESULTS

Mercy Medical Center's focus on clinical excellence and standardized care has produced positive results over the last decade. Mercy is among the 3 percent of hospitals in the nation with the lowest readmission rates among patients with heart failure, heart attack, and pneumonia, based on the selection criteria described in Appendix A. Exhibit 2 illustrates that Mercy's actual AMI readmissions were lower than expected readmissions (based on severity-adjusted diagnoses) in five of the last six years.

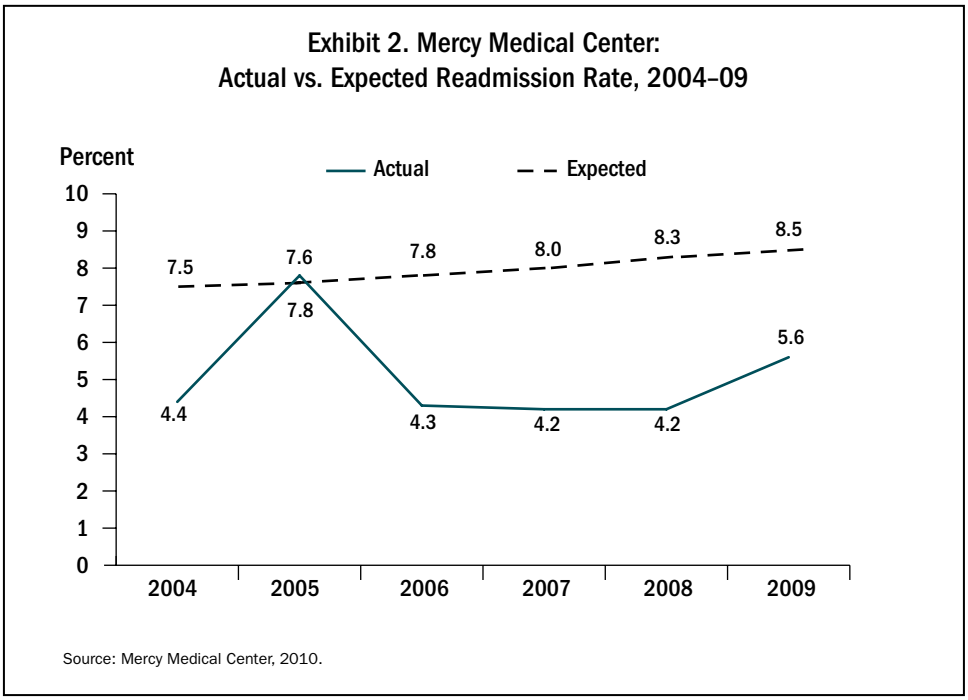
The results of Mercy's targeted initiatives are particularly striking. For example, the hospital has attributed a 47 percent decrease in hospitalization rates for its heart failure and COPD patients to the installation of telemonitoring devices, resulting in a more than $600,000 reduction in costs from February 2008 to February 2010 (Exhibit 3). All heart failure and COPD patients on the telemonitor were reviewed six months prior to being placed on the monitor and followed for six months after it was started. Any hospitalizations that occurred during these time frames were counted. In addition to savings associated with lower readmissions, Mercy estimates a cost reduction of more than $1 million over the same period due to the decreased average length of stay among telemonitored patients.

As noted above, the hospital's performance on measure of appropriate care increased from 70.8 percent in 2006 to 91.8 percent in 2010. Efforts to reduce deep vein thrombosis/pulmonary embolisms by hiring surgical advanced practice nurses, educating surgeons, implementing surgical order sets, and other actions resulted in a marked reduction in such complications from 2006 through 2009, saving more than $162,000 in avoided costs (Exhibit 4). Similarly, initiatives to improve AMI care resulted in sharp declines in AMI-related adverse events and mortality, with an estimated avoidance of more than $200,000 in costs over 2002–09 (Exhibit 5).

Appendix B shows Mercy's performance on the process-of-care "core" measures, patient experience measures, mortality rates, and readmission rates reported on WhyNotTheBest.org, compared with national averages and the top 10 percent of hospitals. On most of these process-of-care and patient experience measures, Mercy performs significantly better than the average of U.S. hospitals, though generally not as well as the best 10 percent of hospitals. It has below-average mortality rates in two of three clinical areas reported (heart failure and pneumonia). And the hospital reports that its overall, risk-adjusted mortality rate has decreased significantly in the past decade.

In addition, Mercy has been distinguished in the areas of health information technology, quality of care, and use of evidence-based guidelines by organizations such as the American Heart Association and the Iowa Foundation for Medical Care. It is also an Institute for

[4] http://www.ohsu.edu/polst/about/index.htm.



Healthcare Improvement IMPACT hospital, a leadership role Mercy takes very seriously. IMPACT provides a platform for senior hospital executives across the country to collaborate on system-level performance.

LESSONS

A number of lessons emerge from Mercy's experience that may help other hospitals seeking to lower their readmission rates.

Make decisions based on the best interests of patients, not what improves the bottom line.

Mercy's leaders emphasize their commitment to clinical excellence and say they let the best interests of patients guide their decision-making processes, instead of focusing on increasing revenue or decreasing expenses to improve the bottom line. The hospital has made a costly investment in its department of clinical

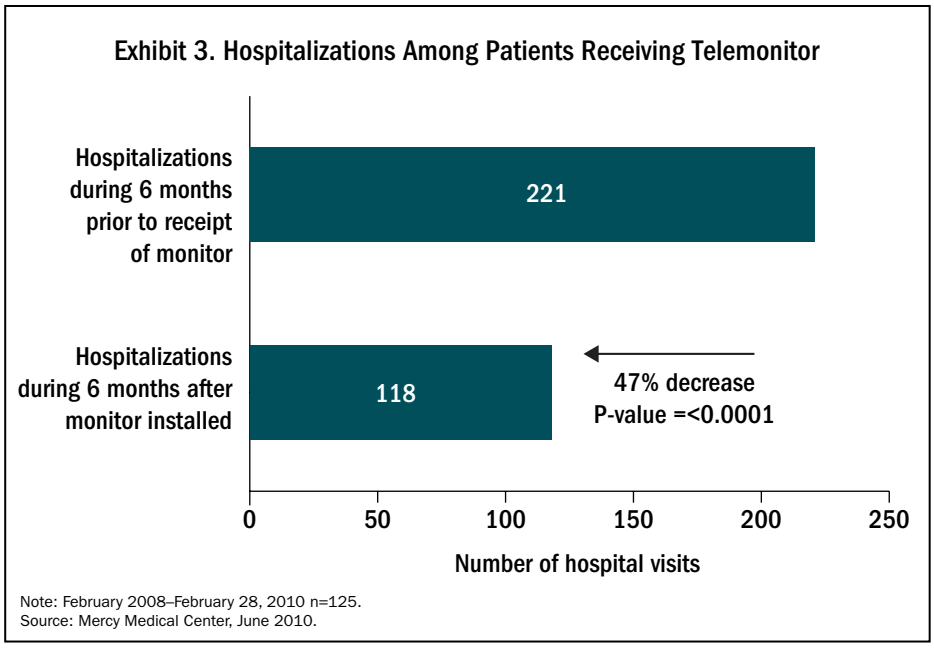
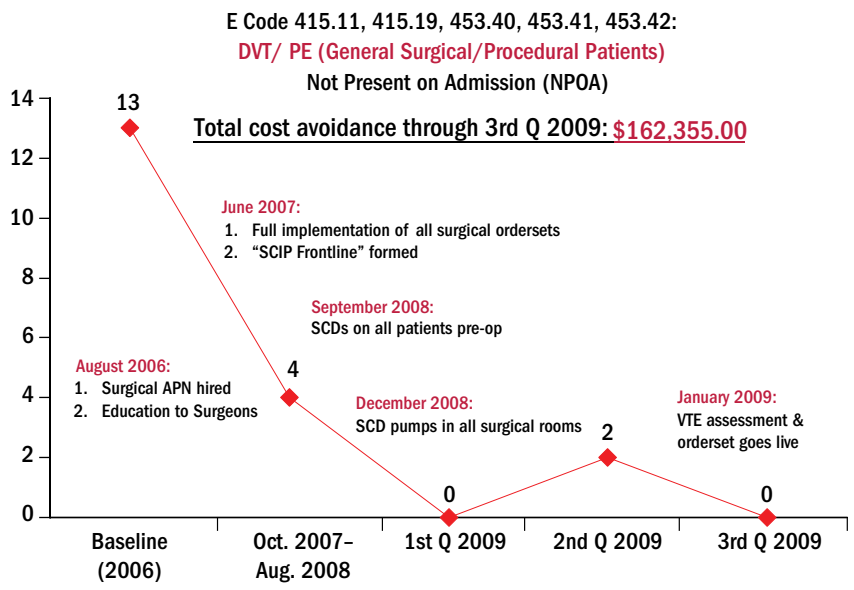


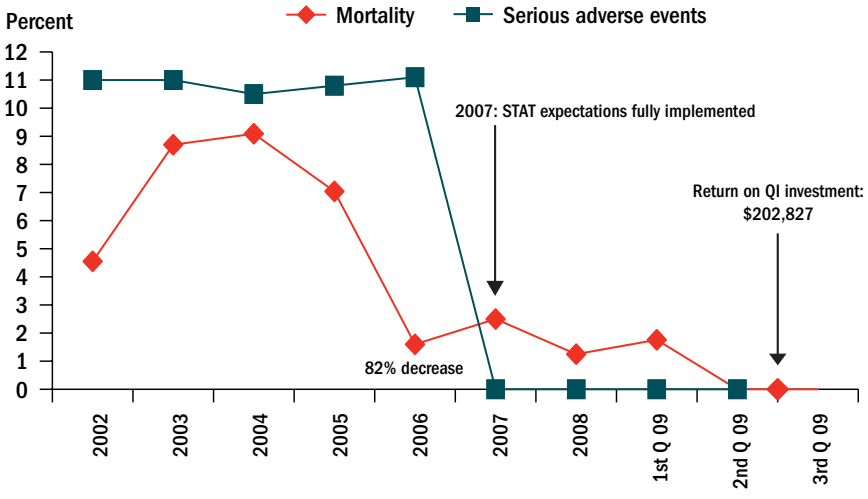
Exhibit 4. Reduction in Deep Vein Thrombosis/Pulmonary Embolism, 2006–09



Source: Mercy Medical Center, 2010.

improvement and accreditation—one that is credited with improving its performance on measures of appropriate care, mortality, readmissions, length of stay, and other indicators. Hospital staff also believe use of telemonitoring devices for COPD and heart failure patients is the "right thing to do," even though most payers do not provide reimbursement for the service.

Exhibit 5. Reduction in AMI-Related Mortality and Adverse Events, 2002–09



Source: Mercy Medical Center, 2010.

Use advanced practice nurses and Lean processes to drive adoption of evidenced-based practices.

Advanced practice nurses (APNs) can keep abreast of the latest evidenced-based practices and champion efforts to implement them—bridging the gap between national best practices and what happens on hospital units. Mercy has effectively used Lean quality improvement practices to identify and institute recommended process changes. According to Tim Charles, CEO, the hospital reviews the outcomes of process changes and continues to refine them until improvements are seen. "We expect nothing less than adherence to evidence-based practice and benchmark our results," he says.

Clinical leaders acknowledge that process improvement work can be more challenging in the area of pneumonia care than cardiac care, in large part because pneumonia patients are cared for by a broader group of physicians and spread throughout the hospital, making it harder to identify the possible reasons for readmissions or gaps in the quality of care.

Successful discharge planning begins early, targets high-risk patients, and involves frequent communication across the whole care team.

Mercy attributes its low readmission rates in part to an effective discharge process, in which providers target patients who are likely to have problems after leaving the hospital. Early referrals to social workers for elderly and high-risk patients help to resolve discharge issues and promote timely and successful transitions. Daily interdisciplinary care team meetings ensure all team members are on the same page and ready to prepare patients for discharge. The use of a whiteboard and bedside reporting also facilitates communication between members of the care team, as well as providers and patients and their families. Other strategies include preparing patients for discharge by providing "warning signs" education and scheduling follow-up appointments.

Maintain a "lifeline" with high-risk patients after discharge.

It is important to make sure patients don't "fall of a cliff" when they are discharged from the hospital. The use of telemonitoring devices for cardiac patients as well as visits by home health care nurses have had a positive impact on Mercy's readmission rates. Other successful strategies include post-discharge phone calls to heart failure, surgery, and obstetrics patients to answer questions, address issues, and confirm that patients are receiving recommended care.

Access to a continuum of care, including palliative and hospice care, facilitates appropriate care transitions.

An integrated health system such as Mercy's provides access to and coordination across a continuum of care—facilitating effective transitions between care settings and helping to avoid readmissions. It thus may be beneficial for hospitals to own an affiliated physician group, home health care agency, and hospice program. Many medical directors of area nursing homes are MercyCare physicians, which facilitates communication between the hospital and nursing homes about common patients and community needs. Mercy's electronic medical record system also supports communication by giving all community physicians access to patient records. Still, Mercy staff note that many patients cannot afford home health care and thus may return to the hospital with conditions that could have been managed with such care.

Mercy's palliative care program, as well as its support of Cedar Rapids' IPOST tool, help capture patients' end-of-life preferences and appear to reduce acute care readmissions. The IPOST directives travel with individuals across health care settings. Hospitals in other communities could strengthen their palliative and hospice care efforts and reach out to other institutions and policymakers about starting a similar initiative.

Many of Mercy's heart failure readmissions are nursing home patients. Despite the availability of the IPOST tool and overlap between nursing facility medical directors and MercyCare physicians, it can be

challenging for the hospital to avoid these readmissions because patients' care is in another facility's hands. Also, many nursing homes send patients back to the hospital when certain complications occur as a precaution to avoid regulatory compliance issues. To address some of these issues, Mercy's hospice nurses provide care in nursing homes, making it more likely that when a patient is transferred to the hospital, the transfer is appropriate and according to the patient's wishes.

Be willing to test new ideas.

Mercy Medical Center illustrates the benefits of being a leader and thinking outside the box. Since its early adoption of AHA's "Get with the Guidelines" initiative, it has been a champion of evidence-based practices and the standardization of care. Mercy adopted the guidelines before most hospitals, and when many of its own physicians were still wary of "cookbook medicine," but early successes in acute myocardial infarction care supported efforts to implement evidence-based practices in other areas and created a culture of clinical excellence.

Improving health is a community effort.

Mercy staff recognize the benefit of being located in Cedar Rapids. The Cedar Rapids community is known for low costs and high quality of care, and its providers have a spirit of cooperation—sometimes referred to as having a sense of responsibility for the "health commons." Primary care physicians are engaged and confident in their ability to manage patients. The hospital actively participates in collaborative initiatives with its main competitor, St. Luke's, and other area providers, such as designing and implementing the IPOST program and developing a standard antibiotic order set for pneumonia patients that is used at all Cedar Rapids hospitals. Providers from both Mercy and St. Luke's, as well as many area community physicians, donate their time and services to a free clinic that helps divert patients from the emergency department and provides access to needed care before a patient reaches crisis mode.

The importance of collaboration is recognized at the highest levels of the hospital. Tim Charles, CEO, acknowledges that if the hospital continues "to think simply within our own silo as an acute care facility, we won't be effective in managing the [readmission] issue." Other hospitals and hospital systems would be well served to adopt this approach and reach out to their colleagues in their communities.

FOR FURTHER INFORMATION

For further information, contact Rose Allen, M.S., R.N., senior director of clinical improvement and accreditation, at RAllen@mercycare.org.

Appendix A. Selection Methodology

The primary selection criterion for case studies of high-performing hospitals in readmissions was: the hospital was in the top 3 percent of hospitals with 50+ beds in terms of lowest readmissions for at least two of three clinical areas (heart attack, heart failure, and pneumonia).

The calculations were based on data reported on the CMS Hospital Compare Web site and The Commonwealth Fund's WhyNotTheBest.org Web site. Readmission rates are based on Medicare patients readmitted to a hospital within 30 days of discharge from a previous hospital stay for heart attack, heart failure, or pneumonia. Readmission rates used for selection were based on the October 2007 through September 2008 period.

According to the CMS Hospital Compare site:

- The three readmission models estimate hospital-specific, risk-standardized, all-cause 30-day readmission rates for patients discharged alive to a non–acute care setting with a principal diagnosis of heart attack, heart failure, or pneumonia. For each condition, the risk-standardized ("adjusted" or "risk-adjusted") hospital readmission rate can be used to compare performance across hospitals. The readmission measures for heart attack, heart failure, and pneumonia have been endorsed by the National Quality Forum (NQF).
- For each of the three principal discharge diagnoses (heart attack, heart failure, and pneumonia), the model includes admissions to all short-stay acute-care hospitals for people age 65 years or older who are enrolled in Original Medicare (traditional fee-for-service Medicare) and who have a complete claims history for 12 months prior to admission.

For more information see the CMS Hospital Compare Web site.

While low readmission rate was the primary criterion for selection in this series, the hospitals also had to meet the following criteria: ranked within the top half of hospitals in the U.S. on a composite of Hospital Quality Alliance process-of-care measures and in the percentage of survey respondents giving a 9 or 10 rating of overall hospital care, as reported in the Hospital Consumer Assessment of Healthcare Providers and Systems to CMS; full accreditation by the Joint Commission; not an outlier in heart attack, heart failure, and/or pneumonia mortality as reported by CMS; no major recent violations or sanctions; and geographic diversity.

Appendix B. Performance Data from WhyNotTheBest.org for Mercy Medical Center

	Top 10% of U.S. hospitals	National average	Mercy Medical Center
Overall Recommended Care	98.10%	95.14%	96.95%
Overall Heart Attack Care	99.72%	97.11%	99.86%
Aspirin on arrival	100.00%	98.10%	100.00%
Patients given aspirin at discharge	100.00%	97.68%	100.00%
ACEI or ARB for LVSD	100.00%	95.56%	N/A
Adult smoking cessation advice/counseling	100.00%	99.39%	100.00%
Beta-blocker prescribed at discharge	100.00%	97.76%	100.00%
Fibrinolytic therapy received within 30 minutes of hospital arrival	87.10%	74.47%	N/A
Primary PCI received within 90 minutes of hospital arrival	97.78%	88.54%	98.08%
Legacy: Beta-blocker on arrival	N/A	89.00%	100.00%
Overall Pneumonia Care	98.03%	92.42%	93.24%
Pneumococcal vaccination	100.00%	90.84%	90.38%
Blood cultures performed in the ED prior to initial antibiotic	99.28%	94.48%	97.98%
Smoking cessation counseling	100.00%	97.35%	90.70%
Given initial antibiotic(s) within 6 hours after arrival	99.26%	94.61%	92.66%
Initial antibiotic selection for community-acquired pneumonia (CAP) in immunocompetent patients	97.73%	90.69%	94.44%
Influenza vaccination	100.00%	89.94%	91.43%
Legacy: Pneumonia patients given initial antibiotic(s) within 4 hours after arrival	N/A	81.00%	89.77%
Legacy: Oxygenation assessment	N/A	99.00%	100.00%
Overall Heart Failure Care	98.96%	91.19%	91.44%
Discharge instructions	99.08%	85.45%	81.68%
Evaluation of LVS function	100.00%	95.38%	97.91%
ACEI or ARB for LVSD	100.00%	93.84%	88.24%
Adult smoking cessation advice/counseling	100.00%	98.78%	N/A
Overall Surgical Care	98.78%	92.04%	98.15%
Presurgical antibiotic given at the right time	99.11%	95.08%	98.09%
Surgical patients who were given the right kind of antibiotic	100.00%	96.92%	98.86%
Preventive antibiotics stopped at right time	98.13%	92.30%	96.02%
Cardiac surgery patients with controlled 6 A.M. postoperative blood glucose	98.39%	92.05%	N/A
Surgery patients with appropriate hair removal	100.00%	98.79%	100.00%
Surgery patients with recommended venous thromboembolism prophylaxis ordered	99.14%	92.34%	100.00%
Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery	98.57%	90.44%	97.70%
Surgery patients on a beta-blocker prior to arrival who received a beta-blocker during the perioperative period	100.00%	90.80%	93.64%

Patient Experience (HCAHPS)—Rating 9 or 10			
Percent of patients highly satisfied	78.00%	66.19%	74.00%
Doctors always communicated well	87.00%	79.99%	79.00%
Nurses always communicated well	83.00%	75.22%	76.00%
Patients always received help as soon as they wanted	75.00%	63.23%	58.00%
Staff always explained about medicines	68.00%	59.57%	61.00%
Pain was always well controlled	76.00%	68.82%	64.00%
Patient's room always kept quiet at night	71.00%	57.38%	67.00%
Patient's room and bathroom always kept clean	81.00%	70.35%	69.00%
Patient given information about recovery at home	87.00%	81.12%	82.00%
Patient would definitely recommend this hospital to friends and family	81.00%	68.67%	81.00%
Readmission			
30-day readmission rate for heart attack	18.40%	19.97%	17.20%
30-day readmission rate for heart failure	22.40%	24.73%	20.10%
30-day readmission rate for pneumonia	16.50%	18.34%	14.90%
Mortality			
30-day mortality rate for heart attack	14.10%	16.17%	18.50%
30-day mortality rate for heart failure	9.40%	11.28%	9.60%
30-day mortality rate for pneumonia	9.50%	11.68%	10.40%

Source: WhyNotTheBest.org, accessed January 6, 2011.

Appendix C. Iowa's IPOST Form

Iowa's IPOST Form Side 1 #4

HIPAA PERMITS DISCLOSURE OF IPOST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY

Iowa Physician Orders for Scope of Treatment (IPOST)

First follow these orders, THEN contact physician or nurse practitioner. This is a Physician order sheet based on the person's current medical condition and wishes. Any section not completed implies full treatment for that section. Everyone shall be treated with dignity and respect.

Last Name

First/Middle Name

Date of Birth

A Check one

CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse AND is not breathing.

☐ CPR/Attempt Resuscitation

☐ DNR/Do Not Attempt Resuscitation

B Check one

MEDICAL INTERVENTIONS: Person has a pulse AND/OR is breathing.

☐ **COMFORT MEASURES ONLY** Use medication by any route, positioning, wound care and other measures to relieve pain and suffering. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. ***Patient prefers no transfer*** *to hospital for life-sustaining treatment.* ***Transfer*** *if comfort needs cannot be met in current location.*

☐ **LIMITED ADDITIONAL INTERVENTIONS** Includes care described above. Use medical treatment, cardiac monitor, oral/IV fluids and medications as indicated. **Do not** use intubation, or mechanical ventilation. May consider less invasive airway support (BiPAP, CPAP). May use vasopressors. ***Transfer*** *to hospital if indicated, may include critical care.*

☐ **FULL TREATMENT** Includes care described above. Use intubation, advanced airway interventions, mechanical ventilation and cardioversion as indicated. ***Transfer*** *to hospital if indicated. Includes critical care.*

Additional Orders: _____

C Check one

ARTIFICIALLY ADMINISTERED NUTRITION Always offer food by mouth if feasible.

☐ No artificial nutrition by tube.

☐ Defined trial period of artificial nutrition by tube.

☐ Long-term artificial nutrition by tube.

D

MEDICAL DECISION MAKING

Directed by: (listed in order of Iowa Code/Statute for Priority of Surrogates; check only one)

☐ Patient

☐ Durable Power of Attorney for Health Care

☐ Spouse

☐ Majority of Adult Children

☐ Parents

☐ Majority rule for nearest relative

☐ Other: _____

Rationale for these orders: (check all that apply)

☐ Advance Directives
Year AD completed: _____

☐ Patient's known preference

☐ Limited treatment options

☐ Poor prognosis

☐ Other: _____

Physician/ARNP/signature (mandatory)	Print Physician/ARNP/ Name	Date	Phone Number

Patient/Resident or Legal Surrogate for Health Care Signature (mandatory)	Date

SEND FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED

Iowa's IPOST Form Side 2

Use of original form is strongly encouraged. Photocopies and Faxes of signed IPOST forms are legal and valid

HIPAA PERMITS DISCLOSURE OF IPOST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY

Information for Person named on this Form Person's Name (print) _____

This form records your preferences for life-sustaining treatment in your **current** state of health. It can be reviewed and updated by your health care professional at any time if your preferences change. If you are unable to make your own health care decisions, the orders should reflect your preferences as best understood by your surrogate.

Contact Information

Surrogate (optional)	Relationship	Phone Number	Address

Directions For Health Care Professionals

Completing IPOST

- Must be completed by a health care professional based on patient preferences and medical indications.
- IPOST must be signed by a physician or nurse practitioner to be valid. Verbal orders are acceptable with follow-up signature by physician or nurse practitioner in accordance with facility/community policy.
- Use of original form is strongly encouraged. Photocopies and FAXes of signed IPOST forms are legal and valid.

Using IPOST

- Any section of IPOST not completed implies full treatment for that section.
- A semi-automatic external defibrillator (AED) should not be used on a person who has chosen "Do Not Attempt Resuscitation."
- Deactivate internal defibrillators if comfort measures only are in effect.
- Medications by alternative routes of administration to enhance comfort may be appropriate for a person who has chosen "Comfort Measures Only."

Reviewing IPOST

- This IPOST should be reviewed periodically and a new IPOST completed when the person's treatment preferences change. Review may also occur when the person is transferred from one care setting or care level to another.

Voiding IPOST

- A person with capacity, or the valid surrogate of a person without capacity, can void the form and request alternative treatment.
- Draw line through sections A through C and write "VOID" in large letters if IPOST is replaced or becomes invalid.

Prepared by:

Health Care Professional Preparing Form	Preparer Title	Phone Number	Date Prepared

ORIGINAL TO ACCOMPANY PERSON IF TRANSFERRED OR DISCHARGED

Revised 01/21/09, 1/30/09, 07/6/09

About the Author

Sharon Silow-Carroll, M.B.A., M.S.W., is a health policy analyst with nearly 20 years of experience in health care research. She has specialized in health system reforms at the local, state, and national levels; strategies by hospitals to improve quality and patient-centered care; public–private partnerships to improve the performance of the health care system; and efforts to meet the needs of underserved populations. Prior to joining Health Management Associates as a principal, she was senior vice president at the Economic and Social Research Institute, where she directed and conducted research studies and authored numerous reports and articles on a range of health care issues.

Aimee Lashbrook, J.D., M.H.S.A., is a senior consultant in Health Management Associates' Lansing, Mich., office. Ms. Lashbrook has six years of experience working in the health care industry with hospitals, managed care organizations, and state Medicaid programs. She provides ongoing technical assistance to state Medicaid programs, and has played a key role in the development and implementation of new programs and initiatives. Since joining HMA in 2006, she has conducted research on a variety of health care topics. Ms. Lashbrook earned a juris doctor degree at Loyola University Chicago School of Law and a master of health services administration degree at the University of Michigan.

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