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Case Study

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Memorial Hermann Memorial City Medical Center: Excellence in Heart Attack Care Reduces Readmissions

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Vital Signs

Hospital: Memorial Hermann Memorial City Medical Center

System: Memorial Hermann Healthcare System

Location: Houston, Texas

Type: Private, nonprofit teaching hospital

Beds: 427

Distinction: Top 3 percent in low readmission rates for heart attack 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 Memorial Hermann Memorial City Medical Center. It is based on information obtained from interviews with key hospital personnel, publicly available information, and materials provided by the hospital during April through June 2010.

SUMMARY

Memorial Hermann Memorial City Medical Center (Memorial City) achieved superior readmission rates in two of the three clinical areas reported to the Centers for Medicare and Medicaid Services (CMS). Its readmission rate for patients with acute myocardial infarction (AMI) and pneumonia surpassed the best 10 percent of hospitals in the country for the selection period. Its readmission rate for heart failure was not as strong, outperforming the national average only by a narrow margin (Exhibit 1).

Memorial City's achievement of low readmission rates for heart attack and pneumonia appears to be related to the Memorial Hermann Healthcare System's efforts to improve quality and patient safety for all patients. At each of the sys-

tem's hospitals, staff have sought to provide high-quality, safe care consistent with the highest clinical standards and to avoid problems such as infections or falls that can exacerbate patients' underlying health problems. Memorial City, in particular, has achieved exceptionally high standards in AMI care. They also have increased attention to educating and supporting patients and linking patients—even the uninsured—to needed care after discharge, which likely reduces readmissions.

Specifically, the following efforts and patient-focused interventions, which were initiated by the system and implemented at the hospital, seem to contribute to Memorial City's low readmission rates:

Organizational efforts

- Emphasis on quality, with a clear leadership vision that is communicated to all clinical staff and backed up by the commitment of needed resources. The health system aims to "do the right thing the first time."
- Concurrent review of performance on core measures during a patient's stay to monitor achievement of goals, with findings reported to physicians.
- Extensive employee training related to the system's top priorities to make sure everyone is "rowing in the right direction."

Patient-focused interventions

- Planning for discharge begins upon admission, with staff actively educating patients about their disease and connecting patients with a source of ongoing care, even if they lack insurance coverage. The hospital offers a community-based disease management program for uninsured patients with chronic illness.
- Risk-assessment software helps case managers establish the appropriate level of care and assess a patient's readiness for discharge.
- Pharmacists are located in high-risk units to provide medication education to patients and help simplify home medication regimens.
- Iterative process improvements in AMI care have resulted in a lower door-to-balloon time, which preserves heart muscle, thus reducing complications and the risk of readmission. Memorial City's average door-to-balloon time is around 65 minutes, compared with the Joint Commission's standard of 90 minutes.[1]

WhyNotTheBest.org
Readmissions Case Study Series

Nearly one of five elderly patients who are discharged from the hospital in the U.S. 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 their 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 failure, heart attack, 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.

[1] The Joint Commission standard is based on evidence-based guidelines recommending early initiation of primary coronary intervention in AMI patients. See Specifications Manual for National Hospital Quality Measures, AMI Measure Information Form, Set Measure ID#: AMI-8a (Version 3.2).

Exhibit 1. 30-Day Readmission Rates for Memorial Hermann Memorial City Medical Center

Condition	National Average	Top 10%	Memorial Hermann Memorial City Medical Center
Heart Attack	19.97%	18.40%	18.00%
Heart Failure	24.74%	22.40%	24.60%
Pneumonia	18.34%	16.50%	14.30%

Note: All-cause 30-day readmission rates for patients discharged alive to a non-acute care setting with principal diagnosis. Reporting period: Q3 2005 to Q2 2009.
Source:www.WhyNotTheBest.org, accessed September 28, 2010.

INTERNAL AND EXTERNAL ENVIRONMENT

The Hospital

Memorial Hermann Memorial City Medical Center is a 427-bed community teaching hospital serving the western suburbs of Houston, Texas. The hospital was built in 1971 and recently completed a 33-story expansion to accommodate a growing community.

The hospital has many specialty care centers, including a heart and vascular institute—one of three in its health system—that was recently expanded and updated. The hospital's stroke center is certified by the Joint Commission. Just 2 percent of the hospital's medical staff, mostly internists, are employees. The rest, including hospitalists and emergency physicians, are independent community physicians. The hospital's clinical and administrative staff—both employed and not—consider themselves to be a tight-knit group, which they believe distinguishes Memorial City from other hospitals in the system. The average tenure of hospital personnel at Memorial City is eight years, and many have worked at the facility for more than two decades.

The lasting commitment to the organization by hospital personnel has fostered a strong sense of teamwork, which hospital leaders believe has been a factor in the success of its quality improvement efforts. Clinical documentation specialists perform concurrent review of care provided to patients for whom process measures are reported to CMS: those with AMI, heart failure, or pneumonia or who are undergoing surgery. This timely chart review helps Memorial City ensure it is providing appropriate care. The hospital also employs two Six Sigma Black Belts, whose advanced training in quality improvement methods supports its improvement work.[2]

The System

Memorial Hermann Healthcare System is the largest nonprofit health care system in Texas. Its facilities are concentrated in the greater Houston area and include 11 hospitals (nine acute care hospitals, one children's hospital, and one rehabilitation hospital), 10 ambulatory surgery centers, 12 laboratories, 21 imaging centers, 27 sports medicine and rehabilitation centers, three managed acute care hospitals, one nursing home, one home health agency, a substance abuse treatment center, the city's only burn treatment center, and a health plan offering self-funded and fully insured plans for individuals and employers. Memorial Hermann also operates an air ambulance program that serves Houston and surrounding areas within a 150-mile radius of the city, a service that is particularly relevant to AMI care. The system has 3,514 licensed beds, 19,500 employees, 4,178 medical staff, and 26 residency programs.

Memorial Hermann's Texas Medical Center is a teaching hospital for the University of Texas Medical School and is the country's busiest Level I trauma cen-

[2] A Six Sigma Black Belt is trained in quality improvement methods that emphasize redesigning care to render a process virtually error-free and using statistical analysis to measure and promote improvement. "Six Sigma" refers to the standardization of processes to reduce defects to fewer than four per million, a term the Motorola Corporation first coined for their manufacturing process goals.

ter. The system runs a citywide Chest Pain Center network, as well as the largest Stroke Network in the region. Memorial Hermann hospitals perform more brain and neurosurgeries than other hospitals in the area, as well as a very high volume of heart procedures.

Systemwide efforts to improve quality and patient safety, and to promote individual accountability and innovation, have helped to create a culture of quality improvement at Memorial City. Patient safety and the core measures are high priorities in the Memorial Hermann Health System. In particular, it aims for 100 percent compliance in each core measure set. The system makes resources such as a robust electronic medical record (EMR) system and employee safety training available to its member hospitals.

The Environment

Nearly one-third of Houston residents are uninsured—among the highest rates of any city in the nation. The majority of the uninsured and underinsured are served by the Harris County Hospital District, a tax-supported government entity that administers three hospitals, 14 community health centers, a dialysis center, and many school-based clinics. Memorial Hermann hospitals share in the burden of caring for the uninsured by providing about $300 million each year in uncompensated care and community benefit programs, in part through its network of school-based health centers, neighborhood health centers, and a mobile dental van.

Memorial City itself sees a large volume of uninsured and underinsured patients, more than other private hospitals in the immediate area, in part because of its location and in part because of its strong reputation. The hospital has contracted with an outside entity to help patients apply for state or federal assistance programs they may be eligible for. Houston has a large number of new home health companies willing to serve uninsured and underinsured patients.

In the Houston area, payers have started to penalize hospitals for avoidable readmissions. The Medicare intermediary will not pay for readmissions within 30 days of discharge. Two commercial payers—Cigna and Blue Cross and Blue Shield of Texas—will not pay for readmissions for the same cause within three days.

PRIMARY FOCUS ON CLINICAL EXCELLENCE

Memorial City's vision is to be a facility "for a lifetime of care." Its leaders focus on the "big dots," performance measures they believe are most strongly connected to meaningful improvements in quality, such as the hospital's readmission or infection rate. The hospital's EMR system tracks 60 performance measures, of which 40 connect to the big dots.

Administrators are involved in daily operations and make themselves accessible to hospital employees and physicians. "Our leaders want to know everything about all that is happening in the hospital," Rhonda Kitchen, R.N., M.S.N., CPHQ, director of quality and patient safety explains. They conduct administrative rounds on a daily basis, encouraging employees and physicians to raise issues needing their attention. Top administrators, including the chief clinical operations manager, also meet with the hospital's nursing and ancillary directors each morning. The 20-minute briefings are a way to bring hospital leaders together and to announce issues that will affect the day's operations.[3] Town hall-led meetings by the hospital's chief executive officer and the CEO's weekly newsletter focusing on customer service, quality, and patient safety are additional opportunities for leaders and staff to be connected.

All employees complete a patient safety training course during their orientation. They learn techniques such as the "STAR" method to avoid circumstances that lead to human errors. "STAR" ("Stop, Think, Act, and Review"), which encourages employees to take a moment to stop and think before acting, has been

[3] For example, the briefings were used to discuss the recent nationwide shortage of radioisotopes, explain how the shortage was affecting the hospital, and inform department leaders of steps the hospital was taking to address problems caused by the shortage.

shown to reduce error rates in other industries, including the energy industry.[4]

Memorial City's "Breakthrough Awards" also encourage quality. Each quarter, two $1,000 awards are given to departments that demonstrate operational excellence and clinical quality.

Memorial Hermann's investment in information technology is evidence of its commitment to quality and patient safety. The system was an early adopter of electronic medical records (EMRs), beginning their implementation in 2002. Today the system's EMR provides electronic access to medical records, physician and nurse ordering, patient alerts, and electronic order sets. The order sets are developed by physician members of a systemwide committee and related specialty subcommittees. They support standardization and the spread of evidence-based practices across the system. Physician offices and nonmember hospitals will soon be able to access laboratory and radiology results thanks to the health system's participation in a health information exchange.

An affiliated independent physician's organization, the Memorial Hermann Physician Network, makes available to its member physicians an EMR that is hosted by the Memorial Hermann system. The EMR supports improvements in chronic care by notifying physicians when a patient is not up to date with required tests or needs to be seen for prescription updates. It also monitors timely receipt of preventive and primary care and patient outcomes.

Memorial City pays close attention to its performance compared with health system and national benchmarks. Each month, hospital administrators meet with the system's leaders to review a patient quality dashboard, in which Memorial City's performance on 60 quality measures is compared with the health system's standard, other member hospitals, and national data. Data are collected by the health system's quality department from the EMR and administrative databases. In turn, Memorial City provides feedback to its physicians about their performance. Measures are primarily about the quality of care, though the hospital is beginning to access data that will enable them to examine issues of efficiency as well.

Improving Care for AMI Patients

Cardiac care is one of Memorial City's areas of expertise. Achieving success in AMI care, in particular, is a matter of high importance and a source of great pride. Publicity in the community about its national recognition for cardiac care helps the hospital attract patients, and its certification by the Society of Chest Pain Centers means ambulances may bypass other hospitals to bring a patient with chest pain to Memorial City.[5]

The hospital earned the Society of Chest Pain Centers designation in part because of its superior door-to-balloon time for patients undergoing a heart attack (i.e., the time from admission to the emergency room to treatment in the catheterization lab). The hospital averages 65 minutes, 25 minutes better than the Joint Commission standard. Shorter door-to-balloon time results in better long-term outcomes and fewer complications for patients because more heart muscle is saved. Published research has shown that shorter door-to-balloon times are associated with much lower risk of death or readmission.[6]

Memorial City began focusing on AMI care improvement after a 2005 comparative analysis of heart attack patients showed that the hospital's average door-to-balloon time was between 105 and 110 minutes. Hospital leaders felt that this time was not satisfactory and shortly thereafter—when the Joint Commission decreased its door-to-balloon time standard from 120 minutes to 90 minutes—they formed an

[4] "Taking a Page from Nuclear Power to Improve Patient Safety: How Sentara Healthcare Used Concepts Like Behavior Expectations and Red Rules to Change Staff Attitudes," *Today's Hospitalist*, March 2005, available at http://www.todayshospitalist.com/index.php?b=articles_read&cnt=285.

[5] The hospital was featured in a *New York Times* article about AMI care, has been recognized by the Texas Medical Foundation Health Quality Institute for high-quality AMI care, and is listed as a Top 100 heart hospital by Thompson-Reuters.

[6] L. Lambert, K. Brown, E. Segal et al., "Association Between Timeliness of Reperfusion Therapy and Clinical Outcomes in ST-Elevation Myocardial Infarction," *Journal of the American Medical Association,* June 2, 2010 303(21):2148–55.

AMI team charged with improving door-to-balloon time. The team included the emergency department director, catheterization lab director, AMI process improvement coordinator, emergency department medical staff, and cardiologists.

The AMI team began its work with a retrospective review of patient records from the previous two years. The team examined the time it took to move a patient through each of 20 major steps involved in getting a patient to the catheterization lab. It designated these factors as potential opportunities for improvement, and presented its findings to emergency department and cardiac physicians. With their input, the AMI team narrowed the 20 potential opportunities for improvement to 10 components of the door-to-balloon process. By focusing on these 10 components, the team was able to make several changes to care processes that, together, resulted in a much shorter average door-to-balloon time.

Sharing Information Faster

The local emergency medical services (EMS) partnered with Memorial City to reduce its average door-to-balloon time. Over the course of several meetings, information provided by EMS helped the hospital reach a decision to purchase a mobile electrocardiogram (ECG) machine that sends results from ambulances to the hospital while the patient is en route. Early access to ECG results enables Memorial City's emergency department physicians to make an initial diagnosis and activate the cardiac team before the patient has arrived, saving 11 to 13 minutes in door-to-balloon time. In addition, the hospital now pages the entire cardiac team to the emergency department, rather than only paging emergency department doctors. The heart and vascular coordinator is also paged so he can supervise the process and troubleshoot any problems.

Physician Response Time

Among the cardiac team are on-call cardiologists who may be off site or with other patients at the time a new patient reaches the emergency department. The hospital instituted a new standard that the on-call cardiologist must arrive at the emergency department within 30 minutes of being paged about an AMI case. With pages now coming while the ambulance is en route, the cardiologist is able to arrive and assess patients much faster than before. Though data on the impact of this change on door-to-balloon time are not available, hospital leaders feel that it has been a significant contributor to the improvement.

> *The focus on quality goes from "the Board to the bedside."*
>
> Juan Inurria, FACHE, FABC, CPHQ,
> system executive of quality and patient safety

If a cardiologist fails to comply with the 30-minute standard, he or she faces sanctions. First-time offenders receive a warning letter. An additional occurrence triggers a 30-day suspension of on-call service. Third-time offenders are suspended from on-call service for one year. These penalties have been taken seriously by all involved, although Memorial City did not wish to report the number of times they have been used.

Serving Outlying Communities

Memorial City's success in improving AMI care has brought with it certain responsibilities to the greater Houston community. In addition to being a designated regional chest pain center, Memorial City has helped establish a regional AMI care network that includes rural facilities located within 150 miles of the hospital, rural EMS providers, and Lifeflight, Memorial Hermann's air ambulance program. Based on an established protocol, rural patients will be transported directly to Memorial City, even if it is not the closest facility. A separate protocol governs the transfer of AMI patients from other facilities to Memorial City. On average, the door-to-balloon time for patients admitted to Memorial City according to AMI care network protocols is 96 to 97 minutes, possibly because their condition has deteriorated in the time it took to get them to Memorial City The hospital is aggressively focusing on ways to reduce the average time to receive treatment for patients who arrive through the regional

AMI network. The initial feedback from the community has been positive; rural patients in particular reportedly feel fortunate to have access to Memorial City.

Achieving senior leaders' buy-in to make the changes to AMI care processes was relatively easy, according to Byron Auzenne, R.T., M.S., heart and vascular service line leader at Memorial City. Memorial City's achievements in AMI care have been a source of great pride for the entire cardiac team. They believe they are having a positive impact on the health of the community by improving patients' long-term chances of survival following a heart attack, and opportunities to further improve AMI care are met with support from the emergency department, cardiology, and the catheterization lab.

CARE TRANSITION STRATEGIES

Avoidable readmissions are viewed by Memorial City's leaders as clinical and financial failures. As noted above, the hospital's first line of defense against readmissions is to ensure overall clinical excellence. In addition, the hospital targets patients at risk for readmission and helps them prepare for discharge and post-discharge care.

Care Coordination and Discharge Planning

In 2000, the Memorial Hermann Healthcare System identified the need across its member hospitals to ensure patients were receiving the right level of care. They reorganized the case management program to play a coordinating role in discharge planning, including coordinating community-based services to improve patients and families' experiences after discharge. The case management program had initially focused on heart failure and uninsured populations, but it now works with all patients in need of services. Nursing staff use risk stratification software to assess patients' readiness for discharge or transfer and to ensure provision of the appropriate level of care. As described by Kathy Nipper-Johnson, R.N., B.S.N., CCM, director of case management, "We pay close attention to the comorbidities and knowledge base of each patient to form a community plan of care."

Case management is provided by certified case managers and master's-level social workers. Case managers develop care plans tailored to the needs of patients and their families, including an appropriate mix of home health nursing, home health aides (who provide assistance with activities of daily living), respite care, and transportation.

Memorial City maintains a ratio of one case manager for every 25 patients, but they expect to move to a 1:20 ratio in the future. The process begins with a nursing assessment, which is conducted within eight hours of a patient's admission. The assessment is 80 percent electronic and uses branching logic (meaning that certain responses trigger automatic referrals for case management and/or social work consults). Any nursing assessments associated with a prior admission are available in the record for the case managers and social workers' review. All case managers are assigned to a specific hospital unit, which enables them to become familiar with the physicians on that unit, the patients' specific needs, and the most appropriate resources in the community.

> *We pay close attention to the comorbidities and knowledge base of each patient to form a community plan of care.*
>
> Kathy Nipper-Johnson, R.N., B.S.N., CCM, director of case management

Patient Education and Engagement

Memorial City's strong patient education and engagement efforts stem from their belief that patients' fear and lack of knowledge about their conditions contribute to avoidable readmissions. Patients with comorbidities are believed to be at greatest risk for readmission. To address these issues, the case manager assesses risk factors for readmissions and the nurse assesses the patient's knowledge of their condition.

Nurses educate patients about their disease throughout their hospital stay. "[Our nurses] are constantly teaching their patients about the disease pro-

cess," says Nipper-Johnson. They also carefully review discharge instructions with patients and their families. Patients and their families must demonstrate their understanding of the instructions by repeating the instructions back to the nurse or by demonstrating the prescribed activity, which reinforces their understanding and identifies issues that require additional attention.

Another way that Memorial City seeks to reduce patients' fear and uncertainty is by ensuring proper medication management at discharge. The hospital recently standardized its medication reconciliation form to make it easier to provide information in anticipation of patients' questions. The hospital has also placed pharmacists in high-risk units to review all of a patient's prescriptions in an effort to reduce the number of medications and provide education to patients prior to discharge.

Post-Discharge Follow-Up

Although the hospital would like to schedule follow-up appointments for all of its patients prior to discharge, it discharges approximately 300 patients a week and has not had the resources to do so. On an ad hoc basis, case managers occasionally schedule follow-up appointments for patients. However, case managers and social workers routinely follow up with heart failure and uninsured patients after discharge to ensure they have been seen by their doctor. Additionally, patients and their families are encouraged to contact their case managers if they have any questions after discharge.

Follow-up care is available for patients referred for home health care, including the uninsured. Memorial Hermann employs home health liaisons, who follow recently discharged patients to confirm that the ordered services have been received and to answer any questions they may have.

Memorial City has a nascent community-based disease management program to help underserved patients with chronic illnesses learn about their disease and find a medical home. The program targets emergency department "frequent flyers" and uninsured patients with heart failure, chronic obstructive pulmonary disease, or diabetes. The hospital identifies patients by screening emergency department claims for certain chronic conditions; those identified receive telephone-based disease management education and help finding a medical home. The hospital has seen a drop in emergency department visits and admissions among participants. It is trying to expand the program beyond the few participating clinics.

Maintaining Communication Through Rounding

Memorial City's low readmission rates are likely related to better communication of patients' changing needs. Two years ago, the hospital instituted "one-minute rounds" to give nurses opportunities to communicate with each other every day about each patient on their unit. During the rounds, bedside nurses discuss what the patient was admitted for, the plan of care, and other pertinent information. Case managers participate and often contribute background information in instances when patients had been admitted previously. Home health liaisons make rounds with case managers to meet patients who have been referred for home health care following discharge. Home health liaisons, too, are often able to provide information about patients who have been prescribed home health care services in the past.

RESULTS

Memorial City's performance on CMS process-of-care measures have improved over recent years, concurrent with its focused quality improvement efforts. The hospital has performed well above national averages for the last three years on measures of AMI and pneumonia care, and is currently in the top 10 percent for these conditions (Exhibit 2). Year-to-year improvement has been the strongest in pneumonia care, for which Memorial City increased its compliance with the measure gauging antibiotic administration within six hours of arrival from 78 percent in 2006 to 100 percent in 2008. Performance on some measures has fluctuated, but remains relatively strong. Appendix B shows

Memorial City'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.

Memorial City received the Magnet hospital designation in recognition of nursing excellence. It also received special distinction from the local Blue Cross Blue Shield plan for quality in its cardiac care program. The system was recently recognized by the National Quality Forum (NQF) as having made sustainable improvements in clinical quality. In 2009, it received NQF's National Quality Healthcare Award. The first medical home in Texas to be recognized by the National Committee for Quality Assurance as a Recognized Medical Home is affiliated with Memorial Hermann.

Based on internal monitoring of their AMI initiative, hospital leaders report that nearly all AMI patients have been treated within 90 minutes in the past three years. In only three cases was the goal unmet. On average, the hospital's time surpasses the Joint Commission's 90 minute standard, and its mean door-to-balloon time in 2010 has been below 60 minutes.

Memorial City's readmission rates for AMI and pneumonia, the criteria for inclusion in this case study series, were among the top 3 percent in the country during the period used for selection, and its AMI readmission rate placed it in the top 1 percent of hospitals for the latest reporting period. Readmission rates for heart failure patients were better than the national average, but not in the top 10 percent.

LESSONS

Memorial City's work to reduce readmissions offers several lessons for other hospitals.

Focus on what is best for the patient.
The hospital and system have committed to improving patient safety and quality of care broadly. Leaders focus on improving the performance measures they believe are most strongly connected to meaningful improvements in patient quality, not on readmissions specifically. These interventions also appear to reduce readmission rates for pneumonia and AMI patients, though not for congestive heart failure patients. It is likely that conditions such as heart failure may require tailored work. See, for example, the strategies Intermountain Healthcare has used to reduce congestive heart failure readmissions.

Exhibit 2. Memorial City's AMI and Pneumonia Care Performance, 2006–09

Clinical Measures	2006	2007	2008	2009
AMI Care				
Aspirin administered within 24 hours	99%	99%	97%	98%
Aspirin prescribed at discharge	98%	96%	95%	99%
ACEI or ARB prescribed at discharge	96%	93%	89%	100%
Counseling for adult smokers	99%	100%	100%	100%
Beta blockers prescribed upon arrival	99%	96%	95%	95%
Beta blockers prescribed at discharge	98%	99%	98%	99%
Pneumonia Care				
Antibiotic w/in 6 hours of arrival	78%	86%	100%	98%
Oxygenation assessment	100%	100%	100%	100%

Source: Memorial Hermann Healthcare System, 2006–08; CMS Hospital Compare, 2009.Other pneumonia measures were not reported over this same time period.

Taking care of patients post-discharge helps keep them from coming right back to the hospital.

Effective case management can decrease the fragmentation that can occur when patients transition from the hospital to home. Although Memorial City has not collected data demonstrating a connection between its case management efforts and low readmission rates, the hospital has focused on case management at a time when readmission rates have been low. Its efforts to support patients in understanding their disease helps reduce the fear and uncertainty that can trigger readmissions. Though the hospital's score on one measure of patient satisfaction—receipt of information at discharge—is only on par with the national average, it has begun to streamline its educational methods to try to improve this. And Memorial City's community disease management program, which targets high-risk, chronic care patients and helps them find a medical home, has helped reduce emergency department visits and admissions.

Medicare and other payers may accelerate the need to achieve efficiency.

Although Memorial City's motivation for reducing readmissions stems mainly from its commitment to clinical excellence, anticipated payment changes from CMS and current payment policies in the Houston area by private payers have also led the hospital to examine readmission rates. National health reform created several vehicles for public payers to pay for care differently, particularly by tying health outcomes, such as readmissions, to payments. Some private payers are already implementing pay-for-performance programs, which are likely to spread if they are shown to be successful.

Leadership must be available and accountable.

Leaders at Memorial City and Memorial Hermann Healthcare System have taken steps to demonstrate their commitment to providing safe, high-quality care to employees and physicians on the front lines. System executives meet with hospital leaders monthly to review the hospitals' performance on 60 measures. Memorial Hermann's ongoing focus on quality and patient safety, plus the system's dedication of health information technology and patient safety training resources, helps establish a culture of accountability and innovation.

FOR MORE INFORMATION

For more information, contact Rhonda Kitchen, R.N., M.S.N., CPHQ, director of quality and patient safety, at Rhonda.Kitchen@memorialhermann.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 or more 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 Center for Medicare and Medicaid Services (CMS) Hospital Compare Web site and The Commonwealth Fund's WhyNotTheBest.org Web site. Readmissions 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. Readmissions 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, and 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 United States on a composite of Hospital Quality Alliance process-of-care "core" 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 Memorial Hermann Memorial City Medical Center

	Top 10% of U.S. Hospitals	National Average	Memorial Hermann Memorial City Medical Center
Overall Recommended Care	98.10%	95.14%	97.77%
Overall Heart Attack Care	99.72%	97.11%	99.30%
Aspirin on arrival	100.00%	98.10%	100.00%
Patients given aspirin at discharge	100.00%	97.68%	98.97%
ACEI or ARB for LVSD	100.00%	95.56%	100.00%
Adult smoking cessation advice/counseling	100.00%	99.39%	100.00%
Beta blocker prescribed at discharge	100.00%	97.76%	98.93%
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%	97.62%
Legacy: Beta blocker on arrival	N/A	89.00%	94.69%
Overall Pneumonia Care	98.03%	92.42%	97.07%
Pneumococcal vaccination	100.00%	90.84%	98.13%
Blood cultures performed in the emergency department prior to initial antibiotic received in hospital	99.28%	94.48%	99.14%
Adult smoking cessation advice/counseling	100.00%	97.35%	98.72%
Pneumonia patients given initial antibiotic(s) within 6 hours after arrival	99.26%	94.61%	97.85%
Initial antibiotic selection for community-acquired pneumonia (CAP) in immunocompetent patients	97.73%	90.69%	91.30%
Influenza vaccination	100.00%	89.94%	94.32%
Legacy: Pneumonia patients given initial antibiotic(s) within 4 hours after arrival	N/A	81.00%	85.85%
Legacy: Pneumonia patients given oxygenation assessment	N/A	99.00%	100.00%
Overall Heart Failure Care	98.96%	91.19%	95.60%
Discharge instructions	99.08%	85.45%	87.92%
Evaluation of LVS function	100.00%	95.38%	100.00%
ACEI or ARB for LVSD	100.00%	93.84%	98.82%
Adult smoking cessation advice/counseling	100.00%	98.78%	100.00%

	Top 10% of U.S. Hospitals	National Average	Memorial Hermann Memorial City Medical Center
Overall Surgical Care	98.41%	94.67%	98.67%
Presurgical antibiotic given at the right time	99.11%	95.08%	100.00%
Surgical patients who were given the right kind of antibiotic	100.00%	96.92%	99.03%
Preventive antibiotics stopped at right time	98.13%	92.30%	98.13%
Cardiac surgery patients with controlled 6 a.m. postoperative blood glucose	98.39%	92.05%	93.70%
Surgery patients with appropriate hair removal	100.00%	98.79%	100.00%
Surgery patients with recommended venous thromboembolism prophylaxis ordered	99.14%	92.34%	98.71%
Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery	98.57%	90.44%	98.06%
Surgery patients on a beta blocker prior to arrival who received a beta blocker during the perioperative period	100.00%	90.80%	95.88%
Patient Experience (HCAHPS) - Rating 9 or 10			
Percent of patients highly satisfied	78.00%	66.19%	69.00%
Doctors always communicated well	87.00%	79.99%	80.00%
Nurses always communicated well	83.00%	75.22%	70.00%
Patients always received help as soon as they wanted	75.00%	63.23%	57.00%
Staff always explained about medicines	68.00%	59.57%	53.00%
Pain was always well controlled	76.00%	68.82%	68.00%
Patient's room always kept quiet at night	71.00%	57.38%	62.00%
Patient's room and bathroom always kept clean	81.00%	70.35%	69.00%
Patients given information about recovery at home	87.00%	81.12%	78.00%
Patients would definitely recommend this hospital to friends and family	81.00%	68.67%	73.00%
Readmission			
Hospital 30-day readmission rates for heart attack	18.40%	19.97%	18.00%
Hospital 30-day readmission rates for heart failure	22.40%	24.73%	24.60%
Hospital 30-day readmission rates for pneumonia	16.50%	18.34%	14.30%
Mortality			
Heart attack 30-day mortality rate	14.10%	16.17%	17.00%
Heart failure 30-day mortality rate	9.40%	11.28%	10.20%
Pneumonia 30-day mortality rate	9.50%	11.68%	9.40%

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

About the Author

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