



Case Study

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Texas Health Harris Methodist–Cleburne: A System Approach to Surgical Improvement

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Vital Signs

Location: Cleburne, Texas

Type: Private, not-for-profit hospital

Beds: 137

Distinction: Top 2 percent in composite of five surgical care improvement process-of-care measures, among more than 2,300 hospitals (more than half of U.S. acute-care hospitals) eligible for the analysis.

Timeframe: April 2007 through March 2008. See [Appendix](#) for full methodology.

This case study describes the strategies and factors that appear to contribute to high performance on surgical care improvement measures at Texas Health Harris Methodist–Cleburne. It is based on information obtained from interviews with key hospital personnel, publicly available information, and materials provided by the hospital during May through June 2009.



SUMMARY

Texas Health Harris Methodist–Cleburne is one of the top performers in the country on the surgical care process-of-care measures, often referred to as the “core” or Surgical Care Improvement Project (SCIP) measures. The measures, developed by the Hospital Quality Alliance and reported to the Centers for Medicare and Medicaid Services (CMS), relate to achievement of recommended treatment in four clinical areas: heart attack, heart failure, pneumonia, and surgical care. In addition to its high performance on surgical measures, Texas Health is performing in at least the top 15th percentile in these other areas.

This case study focuses on Texas Health’s achievement in providing recommended treatment related to surgical care. The hospital has relied on concurrent review, changes to care processes, and preprinted order sets to improve. It also has benefited from being a part of a larger health system. After the SCIP measures were introduced in 2004, an interdisciplinary workgroup aimed to identify opportunities for improving the hospital’s performance on these measures.

ORGANIZATION

Texas Health Harris Methodist–Cleburne, formerly known as Walls Regional Hospital, is located in Cleburne, Texas. It has 137 acute care beds and over 80 physicians on its medical staff. It is part of Texas Health Resources, a large, nonprofit health care delivery system in north Texas with 14 hospitals and annual revenues of \$2.6 billion.

In 2008, Texas Health provided 864 inpatient surgeries and 2,439 outpatient surgeries. It has received honors and awards for clinical quality, including the 2007 Quality Award from Premier and the 2007 Texas Health Care Quality Improvement Award from the TMF Health Quality Institute, the state's Medicare quality improvement organization.

HOSPITAL-WIDE STRATEGIES

System-Wide Collaboration

Texas Health is performing in the top 15th percentile in all four clinical areas of the core measures. Some of its success can be attributed to the support it receives from Texas Health Resources, its parent organization. The health system employs a chief clinical and quality officer to lead quality and patient safety initiatives across the system. It also has a performance improvement department and data management department that provide support for quality improvement activities at the hospital level. For example, the data management department will benchmark member hospitals against the system, state, and nation upon request.

Texas Health Resources hosts an annual quality conference, at which staff are recognized by their peers for their efforts in improving the quality and safety of care. It also participates in projects such as the [Hospital Quality Incentive Demonstration](#) and QUEST, a nationwide quality collaborative overseen by Premier.

The health system's commitment to quality trickles down to its member hospitals, each of which has its own chief quality officer. Most member

hospitals perform well on the core measures, though not all have reached levels as high as Texas Health. Hospitals within the health system come together to tackle problems and implement new processes. Workgroups are frequently convened, with the smaller rural hospitals and large urban hospitals forming breakout groups to focus on their particular challenges.

The system hosts a monthly Performance Improvement and Patient Safety Council, with time devoted to discussion about the core measures. The system also hosts a Clinical Operations Performance Improvement Council to discuss operational issues and establish new processes to improve performance in the core measures. For example, the council established system-wide educational and training materials to help hospital staff discontinue antibiotics within 24 hours. These materials were provided to staff in member hospitals' patient care units, pharmacies, and operating rooms. Staff now administer the first dose of antibiotics when patients come out of the operating rooms, and do not restart the 24-hour clock when they are transferred to patient care units.

Texas Health Resources approaches continuous quality improvement by measuring success as an all-or-nothing achievement. In this view, a patient must have received all recommended surgical care to be counted as compliant with the SCIP core measures. To prepare for CMS' release of new quality measures, the system forms multidisciplinary teams that strive to elevate performance levels from the outset. It also seeks to improve performance throughout the system by building proven processes into the staff's daily routines.

Texas Health Resources is in the process of implementing a system-wide electronic health record system—an investment expected to help hospitals improve the quality of care by providing real-time access to integrated patient records, medication alerts, and evidence-based clinical decision support. It was rolled out to Texas Health in June 2009. Thus, the improvement strategies discussed in this case study predate the electronic health record implementation.

Reporting and Monitoring Structure

In early 2006, Texas Health Resources gave Texas Health permission and resources to create a new position, clinical outcomes specialist, to focus on daily management of core measure performance. The clinical outcomes specialist, Beverly Barton, R.N., dedicates about 80 percent of her time to the core measures and spends the rest helping with physician credentialing activities. She teaches new staff about the core measures and their relationship to improving patient care, and speaks with other quality improvement staff at monthly staff meetings.

Nursing leaders, medical staff, and corporate leaders receive regular reports on core measure performance, broken out at the physician, department, and hospital levels. Each time a case falls out of compliance, Barton sends a letter to the responsible staff person. Barton also provides one-on-one coaching to non-compliant physicians, and alerts a manager if their performance fails to improve after coaching. Physician performance also is tracked on report cards that are included in their credentialing file. With the exception of a hospitalist group that is under contract with the hospital, all of the hospital's physicians are community-based with admitting privileges. One-on-one coaching and report cards help them feel invested in Texas Health's performance improvement efforts, even though they are not hospital employees.

Because Texas Health is a small hospital, it must pay attention to every case that meets the criteria for inclusion in the core measures; according to Cindy Stepp-Gann, M.S., C.C.C., director of quality, its "numbers can easily change." The hospital relies on concurrent chart review to optimize performance and provide ongoing education and reinforcement about the core measures to the staff. Each day, the quality department generates a report outlining which cases meet the criteria for inclusion in the core measures. Nurses review the identified charts to check for compliance and address problems prior to discharge. According to Barton, it is critical to "look at every chart every day."

SURGICAL CARE IMPROVEMENT STRATEGIES

Texas Health relies largely on concurrent review, changes to care processes, and preprinted order sets to improve performance in the SCIP core measures. In implementing a change, Stepp-Gann has found that communication and feedback from staff are critical.

Collaboration and Redefining Roles

When the SCIP core measures were introduced by the Joint Commission, Texas Health convened an interdisciplinary SCIP workgroup of pharmacists, anesthesiologists, nurses, and medical staff. Its goal was to provide recommendations for improving performance in the surgical improvement measures, such as administration of antibiotics within one hour before surgery, discontinuance of antibiotics within 24 hours after surgery, and administration of appropriate antibiotics.

Before the workgroup members could design improvements, they had to understand the existing practices. They created a flowchart outlining the process of antibiotic administration and discussed each step. At that time, members of the outpatient surgery department, which prepares patients for both inpatient and outpatient surgeries, were in charge of administering antibiotics prior to surgery. However, as the flowchart illustrated, situations beyond the department's control often resulted in the first incision occurring more than one hour after antibiotic administration. For this reason, the workgroup decided to transfer responsibility for administering antibiotics to the anesthesiology department. Anesthesiologists are well positioned to ensure compliance with this measure because they are assigned to specific patients and part of the time-out process used by the surgical team prior to surgery to verify that the right procedure is being performed on the right patient. Based on the workgroup's recommendation, initial antibiotic administration is now part of the time-out process and performance on this measure is included in anesthesiologists' report cards.

Exhibit 1. Core Measure Reference Sheet

CMS/JCAHO – HOSPITAL QUALITY OF CARE MEASURES

ACUTE MYOCARDIAL INFARCTION

- ❖ ASA on arrival
- ❖ Beta Blocker on arrival
- ❖ Thrombolytic agent within 30 minutes of arrival (if not transferred downtown)
- ❖ PCI within 90 minutes of arrival (Pt's must be transferred downtown within 90 min)
- ❖ ASA Rx discharge home with patient
- ❖ Beta Blocker Rx discharge home with patient
- ❖ Smoking Cessation Handout (must be documented)
- ❖ LDL Cholesterol Assessment (test measure)
- ❖ Lipid Lowering Rx discharge home with patient (if LDL is elevated)

HEART FAILURE

- ❖ Echocardiogram
- ❖ Smoking Cessation Handout (must be documented)
- ❖ ACEI or ARB for LVSD (Ejection Fraction below 40%)
- ❖ Discharge Instructions:
 - D/C Medications
 - Diet
 - Activity Level
 - Weight Monitoring
 - What to do if symptoms worsen
 - Physician Follow Up

PNEUMONIA

- ❖ Blood Culture before Antibiotic
- ❖ Appropriate Antibiotic within 4 hours of arrival (See Antibiotic Selection on: Med/Surg vs ICU admission and IV vs PO)
- ❖ Smoking Cessation Handout (pt's that have smoked in the last year must sign form)
- ❖ Pneumococcal Vaccination (all patients 65 yr or Older)
- ❖ Influenza Vaccination (50 yr or Older (Oct-March))

SURGICAL CARE IMPROVEMENT PROJECT

- ❖ Appropriate Prophylactic Abx administered within 60 minutes of surgical incision. (See Antibiotic List below)
- ❖ Prophylactic Abx discontinued within 24 hours Post-Op of surgery end time. (Unless documentation of infection by physician is noted pre-op or post-op)
- ❖ Post-Op Normothermia Documented within 15 minutes after leaving OR (greater than or equal to 96.8 F)
- ❖ Appropriate Hair Removal (Never use Razor)
- ❖ VTE Prophylaxis Ordered anytime from hospital arrival to 48 hours after surgery end time (e.g. SCD, Heparin, Lovenox, Coumadin)
- ❖ Documentation of VTE 24 hours prior to surgery and 24 hours after surgery (e.g. SCD, Heparin, Lovenox, Coumadin)
- ❖ All Surgical Patients on Beta Blocker Therapy prior to admission, should continue Beta Blocker therapy during the perioperative period

Prophylactic Antibiotic Selection Regimen For SCIP

- Hip/Knee**---Cefazolin or Cefuroxime
If Penicillin Allergy: Vancomycin or Clindamycin
- Colon**---Cefotetan, Cefoxitin, Ampicillin/Sulbactam or Ertapenem
OR
Cefazolin or Cefuroxime + Metronidazole
If Penicillin Allergy:
Clindamycin + Aminoglycoside or
Clindamycin + Quinolone or
Clindamycin + Aztreonam
OR
Metronidazole with Aminoglycoside or
Metronidazole + Quinolone
-
- Hysterectomy**---Cefotetan, Cefazolin, Cefoxitin, Cefuroxime or Ampicillin/Sulbactam
If Penicillin Allergy:
Clindamycin or Metronidazole

Hardwiring Change

Like many hospitals in this case study series examining best practices in surgical care, Texas Health relies on preprinted order sets to streamline treatment processes and help ensure compliance with the core measures. Each specialty has its own order set specifying the appropriate antibiotics and venous thromboembolism prophylaxis (treatment to prevent clotting). The order sets were developed internally by surgeons in each specialty area, starting with orthopedic, colon, and hysterectomy surgeries. Today, order sets are used in about 80 percent of SCIP cases; the remaining 20 percent are in surgical areas that have not yet adopted order sets, though surgeons in these areas are currently developing them.

While most Texas Health surgeons eventually adopted preprinted order sets for antibiotic administration, a few initially resisted because they disagreed

with the antibiotic selections. To persuade them, Stepp-Gann reached out to the state Quality Improvement Organization to obtain evidence-based literature supporting the selected drugs. According to Stepp-Gann, “it was critical that the information came from the physicians’ peers—otherwise it was just another hospital rule.”

In addition to the preprinted order sets, Barton helps prevent deviation from the core measures by keeping reminders of the standards handy. Core measure reference sheets are placed in every chart on the medical and surgical floors (Exhibit 1).

RESULTS

Texas Health outperforms most other U.S. hospitals on all of the surgical care improvement measures. Exhibit 2 displays the hospital’s recent performance data alongside state and national averages.

Exhibit 2. Texas Health Harris Methodist–Cleburne Scores on Surgical Care Improvement Core Measures Compared with State and National Averages

Surgical Care Improvement Indicator	National Average	Texas Average	Texas Health–Cleburne
Percent of surgery patients who were given an antibiotic at the right time (within one hour before surgery) to help prevent infection	86%	81%	99% of 194 patients
Percent of surgery patients who were given the right kind of antibiotic to help prevent infection	92%	90%	97% of 197 patients
Percent of surgery patients whose preventative antibiotics were stopped at the right time (within 24 hours after surgery)	84%	82%	95% of 185 patients
Percent of all heart surgery patients whose blood glucose is kept under good control in the days right after surgery	85%	79%	0 patients
Percent of surgery patients needing hair removal from the surgical area before surgery, who had hair removed using a safe method (electric clippers or hair removal cream, not razor)	95%	95%	100% of 139 patients
Percent of surgery patients whose doctors ordered treatments to prevent blood clots after certain types of surgeries	84%	79%	98% of 233 patients
Percent of surgery patients who got treatment at the right time (within 24 hours before or after their surgery) to help prevent blood clots after certain types of surgery	81%	76%	98% of 233 patients

Source: www.hospitalcompare.hhs.gov. Data are from April 2007 through March 2008.

CHALLENGES AND LESSONS LEARNED

Hospitals looking to achieve high performance in surgical measures might take the following lessons from Texas Health's experience:

- Hospitals within a health system can turn to each other as partners in quality improvement efforts and resources to help solve shared problems.
 - Concurrent review identifies noncompliant cases and helps address issues prior to patient discharge.
 - Report cards can be used to provide individual feedback. Quality improvement staff should be willing to provide one-on-one coaching to physicians in need of improvement.
 - Sharing evidence-based literature with physicians can encourage them to accept recommended care practices. Physicians are receptive to information from their peers, as opposed to changes that could be interpreted as “another hospital rule.”
 - Preprinted order sets help standardize practices and improve core measure performance, even prior to implementation of an electronic health record system.
- Familiarizing new staff and physicians with the core measures and their relationship to improved patient care provides a foundation for engagement in quality improvement efforts.

In early conversations with Texas Health, leaders expressed some concern that the implementation of an electronic health record system could disrupt the successful practices they have implemented to date, such as the tools and triggers included in paper-based medical charts. In some cases, hospital staff have had to tweak their processes. For example, nurses developed “e-sticky notes” to replace the identification tags previously used on paper-based medical charts to remind physicians and other staff about a patient's condition or needed services. The health system's Performance Improvement and Patient Safety Council provides an opportunity for Texas Health to learn from hospitals that have already implemented electronic health records.

FOR MORE INFORMATION

For further information, contact Cindy Stepp-Gann, M.S., C.C.C., director of quality at CindyStepp-Gann@texashealth.org.

Appendix. Selection Methodology

Selection of high-performing hospitals in process-of-care measures for this series of case studies is based on data submitted by hospitals to the Centers for Medicare and Medicaid Services. We use five measures that are publicly available on the U.S. Department of Health and Human Services' Hospital Compare Web site, (www.hospitalcompare.hhs.gov). The measures, developed by the Hospital Quality Alliance, relate to practices in surgical care.

Surgical Care Improvement Process-of-Care Measures

1. Percent of surgery patients who received preventative antibiotic(s) one hour before incision
2. Percent of surgery patients who received the appropriate preventative antibiotic(s) for their surgery
3. Percent of surgery patients whose preventative antibiotic(s) are stopped within 24 hours after surgery
4. Percent of surgery patients whose doctors ordered treatments to prevent blood clots (venous thromboembolism) for certain types of surgeries
5. Percent of surgery patients who received treatment to prevent blood clots within 24 hours before or after selected surgeries

The analysis uses all-payer data from April 2007 through March 2008. To be included, a hospital must have submitted data for all five¹ measures (even if data submitted were based on zero cases), with a minimum of 30 cases for at least one measure, over four quarters. Approximately 2,360 facilities—more than half of acute care hospitals—were eligible for the analysis.

No explicit weighting was incorporated, but higher-occurring cases give weight to that measure in the average. Since these are process measures (versus outcome measures), no risk adjustment was applied.

Exclusion criteria and other specifications are available at <http://www.qualitynet.org/dcs/ContentServer?cid=1141662756099&pagename=QnetPublic%2FPage%2FQnetTier2&c=Page>.

While high score on a composite of surgical care improvement process-of-care measures was the primary criteria for selection in this series, the hospitals also had to meet the following criteria: not a government-owned hospital, at least 50 beds, not a specialty hospital, ranked within the top half of hospitals in the U.S. in a composite of HCAHPS core measures and the percentage of patients who gave a rating of 9 or 10 out of 10 when asked how they rate the hospital overall (measured by Hospital Consumer Assessment of Healthcare Providers and Systems, HCAHPS), full accreditation by the Joint Commission; not an outlier in heart attack and/or heart failure mortality; no major recent violations or sanctions; and geographic diversity.

¹ Two additional SCI measures were added in 2007 but were not included in the composite score for selection purposes because data were not available for four quarters.

ABOUT THE AUTHORS

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. Aimee 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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This study was based on publicly available information and self-reported data provided by the case study institution(s). The Commonwealth Fund is not an accreditor of health care organizations or systems, and the inclusion of an institution in the Fund's case studies series is not an endorsement by the Fund for receipt of health care from the institution.

The aim of Commonwealth Fund–sponsored case studies of this type is to identify institutions that have achieved results indicating high performance in a particular area of interest, have undertaken innovations designed to reach higher performance, or exemplify attributes that can foster high performance. The studies are intended to enable other institutions to draw lessons from the studied institutions' experience that will be helpful in their own efforts to become high performers. It is important to note, however, that even the best-performing organizations may fall short in some areas; doing well in one dimension of quality does not necessarily mean that the same level of quality will be achieved in other dimensions. Similarly, performance may vary from one year to the next. Thus, it is critical to adopt systematic approaches for improving quality and preventing harm to patients and staff.

