Case Study Series on Surgical Care Improvement Measures: Improvement Strategies of Top-Performing Hospitals

The following synthesis of performance improvement strategies is based on a case study series published on The Commonwealth Fund Web site, WhyNotTheBest.org. The hospitals profiled in this series were identified based on their performance on the surgical care improvement measures that are reported to the Centers for Medicare and Medicaid Services. Please see the case studies for a full description of the selection methodology.

The case studies describe the strategies and factors that appear to contribute to performance improvement on the surgical measures. It is based on information obtained from interviews with key hospital personnel and materials provided by the hospitals.[i]

The hospitals profiled in the case study series are:

- United Hospital Center, Clarksburg, W.V.
- Sycamore Hospital, Miamisburg, Ohio
- St. Charles Hospital, Port Jefferson, N.Y.
- Ridgeview Medical Center, Waconia, Minn.
- Texas Health Harris Methodist–Cleburne, Cleburne, Tex.
- Reid Hospital and Health Care Services, Richmond, Ind.

Theme	Category	Strategy	Example
Management and Culture	**Leadership** Strong messages from CEO and Board that quality is a top priority, and resources are aligned to support that vision. Leadership actions and policies set tone and expectations that entire hospital and all staff must contribute to excellent patient care.	Engagement of CMO, CEO, and the Board, which sends a clear signal to all staff of the importance of the work	· CEO provides assistance breaking down silos or removing roadblocks, such as longstanding hospital policies that inhibit change, or moving an IT request to the front of the line (Reid). · CEO or COO meets with physicians individually to determine obstacles to achieving goals and offer encouragement (United). · CMO regularly presents clinical evidence at medical staff meetings to obtain physician support of quality initiatives (St. Charles).
		Incorporate quality into corporate vision and strategic planning	· Organize strategic plans around quality based priorities, such as world-class outcomes and unparalleled patient safety (Ridgeview).
		Derive knowledge and momentum from national learning opportunities	· Participate in a national improvement collaborative, such as those sponsored by the Institute for Healthcare Improvement (United; Ridgeview, Sycamore). · Participate in CMS Premier Demonstration and QUEST (United; Sycamore). · Get ideas from listservs, such as the SCIP listserv (Sycamore).

Theme	Category	Strategy	Example
		Commit resources and maintain adequate personnel	· Create a full-time staff position devoted to daily management of quality indicators (Texas Health; St. Charles). · Over 100 people are devoted to measuring, improving, and monitoring quality across two hospitals in the Kettering Health Network (Sycamore). · Use your "stars" to bring others on board. Select the most effective staff in these efforts (Reid).
		Reinforce quality focus with ongoing communication, feedback, and dissemination of results	· Leaders believe in reporting quality improvement results both as an institution and at the provider level. Regular feedback to keep quality improvement in the forefront (United; Ridgeview). · CEO talks about scores at leadership meetings and with the board (Reid).
	Physician Engagement in Quality Improvement Achieving high performance requires physician participation in process design and improvement. Hospital must develop strategies for engaging	Involve physicians in the design and implementation	· Educate physicians about the need for change and clinical evidence supporting the change. Present information as a quality of care issue and opportunity for the hospital to distinguish itself from competitors (St. Charles). · Engage physicians in open dialogue about a proposed practice or initiative to obtain consensus and buy-in (Ridgeview).

Theme	Category	Strategy	Example
	both community- and hospital-based physicians.		· Put leading physicians on quality improvement teams and establish physician champions (United; Reid). · Make it easy for medical staff to participate in improvement efforts, and heap on recognition for their contributions (Reid). · Show doctors the evidence for core measures (Sycamore).
		Urge adoption of practice standards	· Begin each initiative by sharing clinical evidence that the best practice yields a better patient outcome (St. Charles; Ridgeview). · Rely on other specialties as necessary to validate need for change and to discuss clinical evidence supporting change (St. Charles; Ridgeview). · Provide copies of latest studies and share doctors' own outcomes data. "When they understand the rationale behind the practice and see the need for improvement in their own statistic, they become personally invested in making changes" (Sycamore).
		Make core measures part of the physician credentialing	· For many hospitals in this case series, core measures performance and instances of non-compliance are maintained in the physician credentialing files.

Theme	Category	Strategy	Example
		Alter traditional physician relationships	· Augment traditional medical staff structure with a service line structure, in which each service line is co-managed by at least one physician leader and one administrative leader (Ridgeview). · Pair physicians and administrators in partnerships to lead improvement teams (Reid). · Charge the physician leader and administrative leader with enhancing the level of service provided, improving health care outcomes, and enriching the patient experience (Ridgeview).

Theme	Category	Strategy	Example
		Incentivize desired physician behavior	• Compensate community based physicians for management activities and their participation in quality improvement initiatives. Such compensation recognizes the competing demands of physicians, helps engage physicians, and strengthens their relationship with the hospital (Ridgeview). • Surgeons managing the inpatient and outpatient operating rooms, for example, can earn quarterly bonuses for achieving SCIP and other targets (Reid).
	Motivating Staff Recognition and education can motivate staff to achieve higher performance	Provide constant feedback and communication	• Display and discuss data throughout the hospital to create transparency and accountability (St. Mary's Health Center; Reid). • Provide weekly e-mail updates regarding department and hospital performance (St. Charles). • Post data where it will be seen (United; Ridgeview). • Use in-services to hold discussions with nursing staff about the reasons why a case fell out of compliance (St. Charles).

Theme	Category	Strategy	Example
		Celebrate successes	• Celebrate often. In data tracking, Reid uses green to indicate a measure has reached high quality levels. Some of their celebrations are all green (green M and M's, green pom poms) as well as cakes with the scorecard results for all staff, served by the administrators. • Feedback should not be punitive and achievements must be celebrated (St. Charles, Sycamore; Ridgeview). • Personal face-to-face thanks and written notes convey to staff that they are valued and appreciated (Sycamore). • Start with the low-hanging fruit to achieve success and gain momentum for larger initiatives (Ridgeview).
		Provide quality improvement education to clinical staff	• Provide in-services to educate practitioners about the links between the core measures and optimal reimbursement rates, improved outcomes, and enhanced patient satisfaction (St. Charles).

Theme	Category	Strategy	Example
Monitoring and Measurement	**Monitoring adherence to standards** You can't change what you can't measure	Perform a daily audit or concurrent review of care, often a manual process, with one or more designated medical/ record abstractors. Feedback while patients are still in the hospital eliminates the challenge of physician recall and allows providers to change treatment decision in real time.	· Almost every hospital in this series has a method of concurrent review—giving them time to intervene if they find deficiencies (Texas Health; St. Charles; Sycamore).
		Establish other checks on medical record accuracy	· Both nurses and anesthesiologists keep record of antibiotic administration time. If the anesthesiologist fails to document administration time, the hospital will rely on the nursing record (Texas Health). · Before failing a chart for non-compliance, record is shared with nursing to check for any inaccuracies in the documentation. The review engages nursing staff and helps ensure accuracy of data (St. Charles). · More than one individual reviews "failed" cases to ensure that the failure is not related to improper documentation or data abstraction (United).

Theme	Category	Strategy	Example
		Form interdisciplinary committees to review data and establish foundation for quality improvement	· A Performance Analysis subcommittee was created to review performance data from across the hospital, identify problem areas and potential solutions, and set goals. Managers from all departments are included (United).
	Electronic monitoring systems Tools that reduce staff time spent preparing data	Track details of patient care needed to monitor CMS surgical care measures	· The PIsCiS Operating Room system is used by nursing to track adverse events, antibiotic administration, incision time, and other variables (Sycamore). · Reid's EMR tracks measures and sends reminders to help nurses achieve compliance (Reid). · United uses the McKesson Horizon Expert Documentation System to flag patients whose treatment is related to the core measures and highlight missing documentation or deviations from recommended processes (United).
	Widespread use of data to benchmark and motivate	Create and disseminate system and regional benchmarking	· Use electronic system such as MIDAS to store patient data and benchmark performance against other hospitals (St. Charles).
		Feedback data at physician, department, and hospital levels	· All hospitals in this series provide frequent performance reports to management and individual departments.

Theme	Category	Strategy	Example
			· Maintain open and transparent lines of communication. Any employee can access the results of any quality improvement initiative via the hospital's Intranet, and progress reports are posted in surprising locations, such as the employee restrooms, to keep staff interested (Ridgeview). · Performance reports are color-coded to indicate when care is out of compliance with standards. These reports are reviewed by the Surgery Section at monthly meetings (Reid Hospital). · Reid reports on statistics and explanations of variance at surgical staff meetings (Reid).
	Accountability	Provide ongoing communication and follow up	· All hospitals in this series notify and follow up with individual physicians when a patient case falls out of compliance with the core measure standards. A record of the non-compliance is typically maintained in the physician's credentialing file (United; Texas Health; St. Charles; Sycamore). · Compile and distribute report cards that track individual physician performance (Texas Health). · Require corrective action plan for each

Theme	Category	Strategy	Example
			instance of non-compliance (St. Charles). · Refer case to chief of surgery or anesthesiology (Sycamore). · When a physician deviates from a pre-printed order, the physician must provide supporting documentation for the deviation on a pre-printed variance sheet (St. Charles). · When one individual continues to bring down the performance of the group, use peer pressure by announcing that the name of the underperforming surgeon will be disclosed if improvements are not made (United).
Problem Identification and Solving	**Improvement Methods** The most valued techniques	Teach and use the Plan-Do-Study-Act cycle or other improvement methods	· Many hospitals in this series rely on the Plan-Do-Study-Act cycle to design improvement processes and test change (Sycamore; Ridgeview). · Constantly tweaking the system to work better, even without a formal PDSA cycle. Keep pushing staff to improve (Reid).
	Collaboration and partnerships	Establish interdisciplinary task forces, work groups, teams, and standing committees to tackle problems, brainstorm solutions, and share ideas.	· Establish a diverse SCIP team (doctors, nurses, pharmacists, quality staff, IT staff, administrators) to lead improvement efforts in the SCIP core measures. Reid Hospital stresses the

Theme	Category	Strategy	Example
			importance of including both doctors and nurses on the team—doctors have to be part of the team to agree to the care standard, and nurses have to be part of the team to design processes for getting the work done (Reid). • Clinical Outcome Specialists of similarly situated hospitals in the hospital system meet monthly to share ideas and "drill down" to find solutions to large and small problems (Texas Health). • Data discussed and reviewed at bimonthly SCIP Improvement Process Group—eventually a protocol is developed to hardwire successful changes (Sycamore). • Incorporate daily and weekly "huddles" into the performance improvement process. During the 20- to 30-minute huddles, physician leaders, administrative leaders, and key stakeholders gather to review rapid cycles completed in the last week as well as the data. Then the team works together to determine next steps for the upcoming week (Ridgeview).

Theme	Category	Strategy	Example
		Consult external quality improvement resources	· Utilization of the national SCIP listserv to solicit recommendations and research best practices (Sycamore). · Regularly participate in national and statewide initiatives and partner with leading quality organizations, such as IHI, to further surgical care improvement activities (Ridgeview). · Take advantage of resources from state hospital association, such as Minnesota Hospital Association's (MHA) Calls to Action campaigns. Ridgeview Medical Center perceived MHA's initiatives as invaluable because they reinforce internal decisions and provide a roadmap for best practices and an opportunity to learn from colleagues (Ridgeview).
Practice Improvements for Surgical Care	**Develop and utilize pre-printed order sets that make evidence-based procedures the standard or default**	Give physicians a meaningful opportunity to provide input. Physician involvement in the design ensures buy-in and clinical relevance.	· Interdisciplinary committee composed of dietician, pharmacist, nurse, and surgeon helped create deep-vein thrombosis physician order form, which includes a screening tool used to determine patient risk (St. Charles).

Theme	Category	Strategy	Example
	They provide a valuable reference document for other staff, incorporate policy changes into the process and help eliminate the potential for human error	Show physicians the evidence base for the pre-printed orders	· Share evidence-based literature supporting the antibiotics selected in the pre-printed order sets in order to obtain physician buy-in (Texas Health). · Meet one-on-one with surgeons and share clinical evidence to facilitate cooperation in surgical improvement initiatives (United).
	Process redesign and practice changes	Hardwire process improvements	· Reid has medication administration and discontinuation alerts which reach nurses via their beeper (Reid). · Bar-coding medications to simplify medication tracking, prevent errors, and remind nurses about timing of check points in the patient's care (Reid). · "We try to make it easy for all staff to deliver the best care" (Sycamore). · Purchase accurate thermometers and implement a room temperature monitoring system to help keep surgery patients at the appropriate temperature (United).

Theme	Category	Strategy	Example
			· Reid Hospital employs an information system that uses high-level computer logic to align physicians' orders with hospital standards, and provides nursing alerts about the timing of critical care (Reid).
		Test changes in antibiotic administration	· To improve appropriate antibiotic administration scores, the hospital may experiment with a single dose of antibiotics instead of three doses (the logistics of three doses can be challenging). The Pharmacy and Therapeutics Committee will review the suggestion, which other hospitals have found to be as effective in controlling infection while reducing the likelihood of patients developing antibiotic resistance to the *c. difficile* bacteria. If approved, the process improvement will be designed, tested, and put forward for adoption and then audited for outcomes (Sycamore).
	Build reminders and checklists	Time Out sheets and other reminders	· Most of the hospitals in this series mentioned completing the Time Out, which includes numerous patient safety checks and other reminders, prior to each patient surgery (St. Charles). · Keep reminders of the core measures handy. Build core measure reference

Theme	Category	Strategy	Example
			sheets and place in every chart on the medical and surgical floors (Texas Health).
	Cultivate teamwork in the operating room	Establish and train teams to take responsibility and improve care in the OR	· Clinical operations director of perioperative services plays a crucial role in setting the expectations for excellence and developing a sense of teamwork in every operating room suite (Sycamore). · Engage operating room staff in a series of team training exercises focused on creating an improved environment for patient care and efficient dispute resolution process (Ridgeview).
	Transfer roles and responsibilities	Reevaluate responsibility for antibiotic administration and documentation	· Transfer responsibility for administering and documenting antibiotic from the surgeons to the anesthesiology department (United; Texas Health). · Transfer responsibility for administering and documenting antibiotic from anesthesiology to the operating room nurses (St. Charles). · Transfer responsibility for all key processes from the quality department to the frontline staff (Reid).

[i] 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.