HOSPITAL QUALITY: INGREDIENTS FOR SUCCESS—A CASE STUDY OF MISSION HOSPITALS

Jack A. Meyer, Sharon Silow-Carroll, Todd Kutyla,
Larry S. Stepnick, and Lise S. Rybowski

July 2004

ABSTRACT: As part of their study on quality improvement initiatives in U.S. hospitals, researchers at the Economic and Social Research Institute and The Severyn Group conducted in-depth site visits at four top-performing hospitals from around the country to identify the factors that drive and challenge these institutions in their realization of quality goals. Mission Hospitals, a large health system located in Asheville, N.C., was one of the institutions selected for the study. Mission receives most of its revenues from government payers, with less than 20 percent of all revenues coming from managed care organizations. Key factors in Mission's success include the integration of physicians into the leadership structure—with physicians leading the quality improvement process and being held accountable for effecting change—and the reliance on consultants who have a blend of clinical and analytical skills.

Click here to see the overview report.

Support for this research was provided by The Commonwealth Fund. The views presented here are those of the authors and should not be attributed to The Commonwealth Fund or its directors, officers, or staff.

Additional copies or this (#764) and other Commonwealth Fund publications are available online at www.cwmf.org. To learn more about new Fund publications when they appear, visit the Fund's website and register to receive e-mail alerts.

CONTENTS

Acknowledgments iv

About the Economic and Social Research Institute iv

About the Authors iv

About The Severyn Group v

About the Authors v

Summary 1

Background 2

External Pressures Driving Quality and Quality Improvement 4

Internal Factors Driving Good Quality 5

Tools and Processes That Support Quality and Quality Improvement 15

Challenges in Maintaining and Improving Quality Performance 26

Conclusion and Lessons for Other Hospitals 31

Notes 32

LIST OF FIGURES

Figure 1 Project Access: Extending Mission's Reach into the Community 5

Figure 2 A Formal Commitment to Quality: Mission's Mission, Vision, and Value 7

Figure 3 The Committee Structure at Mission 9

Figure 4 How Decisions Get Made 11

Figure 5 Sample Report: APR-DRG Performance Opportunities—Mission versus NC9 16

Figure 6 Example of the PI Process in Action 20

Figure 7 PI Consultant Creates Buy-In Through Project Charter 21

Figure 8 Three-Phase Approach to Building Electronic Clinical Information System 25

ACKNOWLEDGMENTS

The authors gratefully acknowledge the support of The Commonwealth Fund, and the guidance of Dr. Anne-Marie Audet and Dr. Stephen Schoenbaum. We are also grateful to Eugene Kroch at CareScience in Philadelphia and Sir Brian Jarman at Imperial College School of Medicine in London, who provided important data analysis for this study. We would like to thank the representatives of the hospitals profiled in this report who were so generous with their time and willingness to share information about procedures, strategies, and visions. While these individuals are too numerous to name, we would like to acknowledge our key contacts at the hospitals who made our site visits successful: Dr. Ken Sands, vice president and medical director, health care quality, Beth Israel Deaconess Medical Center; Susan Bukunt, director of clinical effectiveness, El Camino Hospital; Marc Irwin, director of performance improvement, Jefferson Regional Medical Center; and Tom Knoebber, director, management engineering/performance improvement, Mission Hospitals. We would also like to thank representatives of other hospitals who have shared information and insights about quality improvement.

ABOUT THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

The Economic and Social Research Institute (ESRI) is a nonprofit, nonpartisan organization that conducts research and policy analysis in health care and in the reform of social services. ESRI specializes in studies aimed at improving the way health care services are organized and delivered, making quality health care accessible and affordable, and enhancing the effectiveness of social programs. For more information, see http://www.esresearch.org.

About the Authors

Jack A. Meyer, Ph.D., is the founder and president of ESRI. Dr. Meyer has conducted policy analysis and directed research on health care access issues for several major foundations as well as federal and state government. Many of these projects have highlighted new strategies for building quality measurements and improvement into health care purchasing. Dr. Meyer has also directed studies on overcoming barriers to health care access and innovative designs for extending health insurance coverage to the uninsured. He is the author of numerous books, monographs, and articles on topics including health care, welfare reform, and policies to reduce poverty.

Sharon Silow-Carroll, M.B.A., M.S.W., is senior vice president at ESRI. Ms. Silow-Carroll's areas of expertise include health care reform strategies and meeting the needs of vulnerable populations. Her recent projects include: analyzing the factors behind successful state coverage expansions and the obstacles hindering such efforts; reviewing state

approaches to improving quality within Medicaid; and reviewing community-based health coverage and oral health programs. She is the author of numerous reports and articles analyzing public and private sector initiatives aimed at enhancing access, containing costs, and improving quality of health care.

Todd Kutyla, M.L.A., is a research associate at ESRI, where he works on health care cost and quality issues. He has conducted extensive research on the cost-effectiveness of medical innovation, helped develop and administer surveys aimed at determining attitudes toward health reform proposals, and worked on several projects that assess the effectiveness of programs that provide coverage to underserved populations. Prior to working at ESRI, Mr. Kutyla managed several projects focusing on quality of medical care at Harvard Medical School's Department of Health Care Policy.

ABOUT THE SEVERYN GROUP

The Severyn Group, Inc., specializes in conducting qualitative and quantitative research, and writing and producing publications on a wide range of health care management issues. In addition to printed materials, The Severyn Group has created Web site content and electronic presentations for training and education purposes. Severyn's clients include a broad spectrum of organizations that represent virtually all aspects of health care, including financing, management, delivery, and performance measurement.

About the Authors

Larry S. Stepnick, M.B.A., is vice president of The Severyn Group, Inc. He specializes in researching and writing about best practices in the financing and delivery of health care, including such topics as health care reform, quality improvement, physician-hospital relations, hospital governance, and managed care. Prior to co-founding Severyn, Mr. Stepnick served as a senior vice president and director of The Advisory Board Company in Washington, D.C. Mr. Stepnick received his M.B.A. from The Wharton School of the University of Pennsylvania, where he graduated with honors.

Lise S. Rybowski, M.B.A., is president of The Severyn Group, Inc. She specializes in researching and writing about best practices, including such topics as quality measurement and reporting, employer and public purchasing, business coalitions, and the privacy and confidentiality of health care data. Prior to starting The Severyn Group, Inc., in 1994, Ms. Rybowski was a consultant with The Advisory Board Company in Washington, D.C. Ms. Rybowski received her M.B.A. from Columbia University.

HOSPITAL QUALITY: INGREDIENTS FOR SUCCESS— A CASE STUDY OF MISSION HOSPITALS

SUMMARY

Mission Hospitals (formerly known as Mission St. Joseph's Health System) is a large health system based in Asheville, North Carolina. While there are other, smaller hospitals in the region, Mission is the primary provider of tertiary care in the Blue Ridge Mountains. Based in a market dominated by small businesses, the hospital's financial position is relatively strong. It receives most of its revenues from government payers, with less than 20 percent of all revenues coming from managed care organizations.

Data from CareSciences, which is supported by information from other sources, indicate that Mission is a high-quality institution. The hospital has qualified a few times for Solucient's lists of Top 100 Hospitals and was recently designated a "Distinguished Hospital" by HealthGrades, a private, Web-based performance reporting organization.

Our research uncovered several organizational factors, as well as tools and processes, which contribute to Mission's strong performance. Organizational and structural drivers of quality include the following:

- Commitment from the top;
- Physicians organized into service lines;
- Physicians integrated into leadership structure;
- Balanced composition and approach of Performance Improvement Department;
- Accountability and motivation built into system;
- A well-credentialed and committed staff; and
- Financial health.

Tools and processes that support quality and quality improvement (QI) include the following:

- Quality measures packaged for multiple needs;
- A systematic and well-supported QI process;
- A commitment to standardizing care and adopting best practices; and

- Large investment in information systems.

At the same time, Mission is making a significant effort to recognize and overcome several challenges to its quality and cost performance, including:

- Transitioning from being provider-centered to being patient-centered;
- Standardizing health care practices;
- Communicating and implementing change;
- Getting paid for quality; and
- Moving beyond measuring processes to measuring outcomes.

BACKGROUND

Mission Hospitals (formerly known as Mission St. Joseph's Health System) is a large health system of 775 licensed beds in the small city of Asheville in Buncombe County (population of 68,000), which lies in the Blue Ridge Mountains in western North Carolina.[1] In addition to serving the health care needs of a county population of about 206,000, the health system provides nearly all of the tertiary and quaternary care for the nearly 400,000 residents of western North Carolina.

The health system grew out of the October 1998 merger of Mission Memorial and St. Joseph's Hospital, which are located across the street from each other. While the merger went through the usual rough spots, the two hospitals were a good fit since each had been developing complementary capabilities over the years. One administrator, who had been with one of the hospitals prior to the merger, noted that the two institutions had not competed on cost—primarily because both were fairly dependent on Medicare with its fixed prices—as much as they competed on quality.

There are 14 other hospitals in western North Carolina, but Mission St. Joseph's is the only provider of tertiary care services. The hospitals compete to provide primary and outpatient care, but Mission is by far the biggest provider of care in the region.

The Local Market

The local market is primarily fee-for-service, with numerous discounts and some diagnosis-related group (DRG) based payments. The government is the dominant payer, with Medicare and Medicaid accounting for approximately 61 percent of revenues.

Nationwide, the public sector represents 50 percent to 60 percent of the market. Neither Medicare nor Medicaid offer managed care plans in the area.

The remainder of revenues (39%) comes from commercial payers and other sources, such as workers' compensation and self-pay plans. Managed care represents less than one-half of those revenues, or roughly 18 percent of the total. There are no major HMOs in the local market, and no capitation. Most commercial purchasers in the area are self-insured employers with generous plans and little in the way of innovative benefit designs.

Evidence of Strong Performance

Mission ranked sixth among nearly 2,700 hospitals in an analysis of quality and efficiency by CareScience, Inc. The CareScience database covers 18 states that report data for all payers and contains close to 20 million inpatient records from 1999. A minimum threshold of 100 beds was used to create the sample. For each hospital, quality scores are calculated by ICD9-code (56 disease categories are used), and incorporate risk-adjusted adverse outcomes rates for mortality, morbidity, and complications. Length of stay (LOS) is used as a proxy for cost or efficiency because hospitals are presumed to spend more on patients who stay longer. While there are some clear limitations to using this variable, the strength is that LOS is recorded very accurately for each patient. Hospitals that score in the top two quintiles on both cost and quality are considered to have achieved "Select Practice" within that specific disease category. Mission attained 31 Select Practice designations (the maximum in the sample was 34), indicating that it performed very well across a large number of diseases.[2]

Based on assessments of its quality and cost, Mission has also qualified for some of Solucient's (formerly HCIA's [spell out acronym]) lists of top 100 hospitals. Specifically, the health system was listed on the Cardiovascular list in both 2000 and 2002, and the ICU list in 2000. The hospital has also received a "Distinguished Hospital Award for Clinical Excellence" from HealthGrades, a private, Web-based performance reporting organization, for its performance in cardiac services and in three service lines.

Finally, it is worthy to note that Mission was one of a dozen finalists out of 250 proposals for the Pursuing Perfection grants, but was ultimately not one of the six selected for the grant. The Pursuing Perfection program supports hospitals in implementing projects intended to further the six aims of health care as defined in the Institute of Medicine's (IOM's) report, Crossing the Quality Chasm: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity.

EXTERNAL PRESSURES DRIVING QUALITY AND QUALITY IMPROVEMENT

External forces do not appear to have a major impact on the quality focus at Mission. Payers and purchasers are not engaged in quality or performance issues. This may be because they take it for granted that Mission provides good care or because quality has an indirect impact on their bottom line.

Cost as Dominant Concern

Hospital costs are big issues and become crucial as the economy weakens. Especially since the merger, the health system battles the perception that it charges monopoly prices. The health system operates under a Certificate of Public Advantage, which means that it is subject to the oversight of the State attorney general. Each year, the hospital has to submit data on costs and charges; if the hospital's prices are not consistent with those of a comparison group, the institution has to submit a plan explaining how it will get back in line in a year's time.

Still, the hospital has had to take steps to explain and justify its charges. It hired a consultant, for example, to analyze and report on the factors contributing to costs. These factors include the impact of local demographics—the region has a relatively high proportion of retirees (18 percent of western North Carolinians are 65 or older, versus 12 percent nationwide)—and economic factors related to the loss of manufacturing jobs.

The health system is also trying to help local purchasers control utilization and rein in costs at the front end by educating them about disease management. A disease management program for diabetics that Mission implemented with the city of Asheville has recently caught the attention of other employers, who are increasingly interested in ways to reduce health care expenses. There are two intriguing points about this program. First, it does not generate income for the health system, because the employer pays for outpatient services for employees at cost. Second, the program is part of the hospital's commitment to improving the health status of the region by reaching beyond its own walls.

The disease management program is one of several examples of Mission's efforts to improve the health of the community and lower overall costs. Another example is Project Access, a collaborative effort to improve access to care for the poor in Buncombe County (see Figure 1).

Figure 1. Project Access: Extending Mission's Reach into the Community

Project Access involves the local medical society, the county health department, Mission Hospitals, the city of Asheville, and local pharmacies. All hospital staff members participate at some level—by volunteering at the clinic, accepting referrals from the clinic, or contributing financial support. Now in its fifth year, the program provides care for people with income of up to 200 percent of the poverty level, which amounts to about 15,000 people. Not surprisingly, it appears to have resulted in measurable declines in the demand for primary and urgent care in the emergency departments (EDs) at Mission.

The Joint Commission's Contribution: Another Piece of the Puzzle

The Joint Commission's reviews and quality measures are not regarded as primary drivers of quality, but they do play some behind-the-scenes roles. Like many other hospitals, Mission has internalized the Joint Commission's standards and requirements within its quality process. At the time of our interviews, Mission was preparing for a visit from the Joint Commission's surveyors. While senior managers issued some last-minute reminders and were ensuring that everything would be in compliance, they appeared confident about institution's ability to get through the accreditation process.

Like other hospitals, the health system has been collecting clinical outcome data for the ORYX program[3] and is now gathering data for the core measures that the Joint Commission has recently added to its requirements. Information from these collection efforts, as well as data from the Joint Commission surveys, is regarded as useful input. It provides another piece of the quality puzzle and helps to focus the institution on national priorities, like the use of unapproved abbreviations. It also offers Mission another set of data to use in assessing its service lines (e.g., by comparing such measures as unplanned returns to the operating room across service lines).

Mission recently received its first round of benchmarking information for the core measures, which are a narrow set of indicators intended to represent steps along clinical pathways for specific diagnoses. The hospital expects that these measures will be useful for focusing on care for high-impact diagnoses (e.g., heart attacks and pregnancy).

INTERNAL FACTORS DRIVING GOOD QUALITY

Mission is an excellent example of how a variety of factors can come together to promote quality of care in a large institution. This section reviews organizational and structural drivers of quality, as well as the tools and processes that Mission has installed to ensure that it continually improves its ability to provide the best care.

Organizational and Structural Drivers of Quality

Commitment from the Top

At Mission, the drive to do whatever it takes to provide the best possible care seems to permeate the organization, from the Board to the executive levels to the bedside. Managers report that the Board is interested in quality issues and is supportive of the QI process and the willingness to provide the resources needed to provide good-quality care. The Board's Quality Committee is the most active committee, meeting every month for one-and-a-half hours to receive a progress report and question the managers on how well their areas are doing. These meetings are highly substantive and packed with management reports and discussion; senior managers noted that one of the committee's challenges is to cull items from the agenda.

Due to a reorganization instigated by the medical staff after the merger, the CEO is highly involved in issues that affect the quality of the institution, from the governance level to the level of specific events and initiatives in the clinical departments. He attends all of the Board's quality committee meetings, as well as the regular meetings of the clinical and administrative leadership. He plays a major role in providing direction for the Performance Improvement Department, creating an agenda that radiates throughout the organization.

One administrator noted that one of the biggest challenges hospitals face is having CEOs and physicians who emphasize quality. In our interviews, we heard consistently that both the CEO and chief medical officer at Mission are strong champions of quality—not just reacting and responding to problems but taking action to move the institution ahead and keep it strong. They set high expectations and reinforce a culture of quality at every opportunity. In his weekly orientation for new employees, for example, the CEO emphasizes the importance of quality care and its prominence in the health system's mission and values.

The commitment of the institution's Board and leaders to quality and improvement is reflected in the health system's mission, vision, and values (Figure 2). Managers and staff are constantly reminded to act in accordance with these tenets. The agenda for a leadership meeting, for instance, had these quality-related mission and vision statements at the top of the front page. This emphasis on quality is also illustrated in the health system's five-part strategic plan, which has quality and performance improvement in its first section.

Complementing the formal mission and vision statements is an implicit but widely shared belief that, in the long run, high quality is linked to lower cost. This subtext helps to explain the top-to-bottom embrace of the health system's goals, as well as the effectiveness of its performance improvement process.

Figure 2. A Formal Commitment to Quality: Mission's Mission, Vision, and Value

- Mission Statement: Mission St. Joseph's is western North Carolina's center for advanced, quality medical care provided by compassionate staffs who are dedicated to making health care accessible and affordable.
- Vision Statement: Mission St. Joseph's will be a model of excellence in quality, safety, innovation, integrity, and collaboration.
- Values: Mercy, Excellence, Respect, Integrity, Trust

Physicians Organized into Service Lines

After the merger, the 600 physicians on staff organized themselves into service lines defined by 12 physician specialties, plus four clinical service or ancillary departments.[4] Service lines are structured around the specialties of the physician groups rather than by specific DRGs. If the hospital had organized the physicians by DRGs, some medical groups would have been divided into different service lines, which would complicate communications. Organizing service lines by physician group specialties creates accountability at the group level and gives the performance improvement department a captive audience of physicians in a given service line.

One downside of this approach is that generalists (family practitioners, internists) cross service lines, which makes it harder to involve them in the QI process. Perhaps the biggest challenge involves managing quality problems that cross service lines. This can happen because multiple services deal with similar processes or because diagnoses fall across service lines. Congestive heart failure, for example, is covered by both the cardiac and adult medicine service lines, with internists typically providing most of the care for patients with this diagnosis.

In these cases, it can be difficult to organize the QI process and assign accountability. First, if multiple services lines are focusing on the same issue, it can be hard for them to coordinate their improvement efforts. Second, there is no established process for disseminating changes. The service line structure creates a "silo mentality" that undermines the diffusion of ideas.

However, various aspects of the organization help to overcome this challenge:

- Consultants based in the Performance Improvement Department review cross-line issues with each other on a regular basis to coordinate their work and maintain consistency across the service lines.
- The executive-level committees, which include physician leaders from the various service lines, often discuss cross-line issues.
- Finally, the clinical vice presidents or the nursing committee can facilitate the QI process across service lines and push changes made in one area into other parts of the organization. For example, a performance improvement initiative related to critical care would affect multiple service lines. An existing group, in this case the critical care group (composed of nurse managers from the different intensive care units), would take the work done by an individual service line and apply it to different areas.

One of the health system's officers commented that the service lines that work best are the ones composed of homogeneous groups delivering a narrow product, like cardiology, where a limited number of services are delivered. The leadership debates the appropriate number of service lines. First, there may be some redundancy, which suggests that some service lines could be grouped with others. But the bigger problem is that it takes a great deal of effort to communicate across all 11 service lines and the four clinical departments, which vary in their degree of importance to the hospital.

Physicians are elected by their peers to be service line leaders, a position they hold for a few years. The service line leader is responsible for communicating with the physicians in the service line, leading the performance improvement projects, and attending committee meetings. Although it is possible that some physicians would take on this role without pay, the health system compensates these leaders for their work. Paying service line leaders is regarded as instrumental in creating accountability because it validates the position as a real job and not just a title.

Also, each service line leader is assigned a clinical vice president to link the goals of the service lines with those of the administration. This team reports on its progress to the executive committees and to the Board.

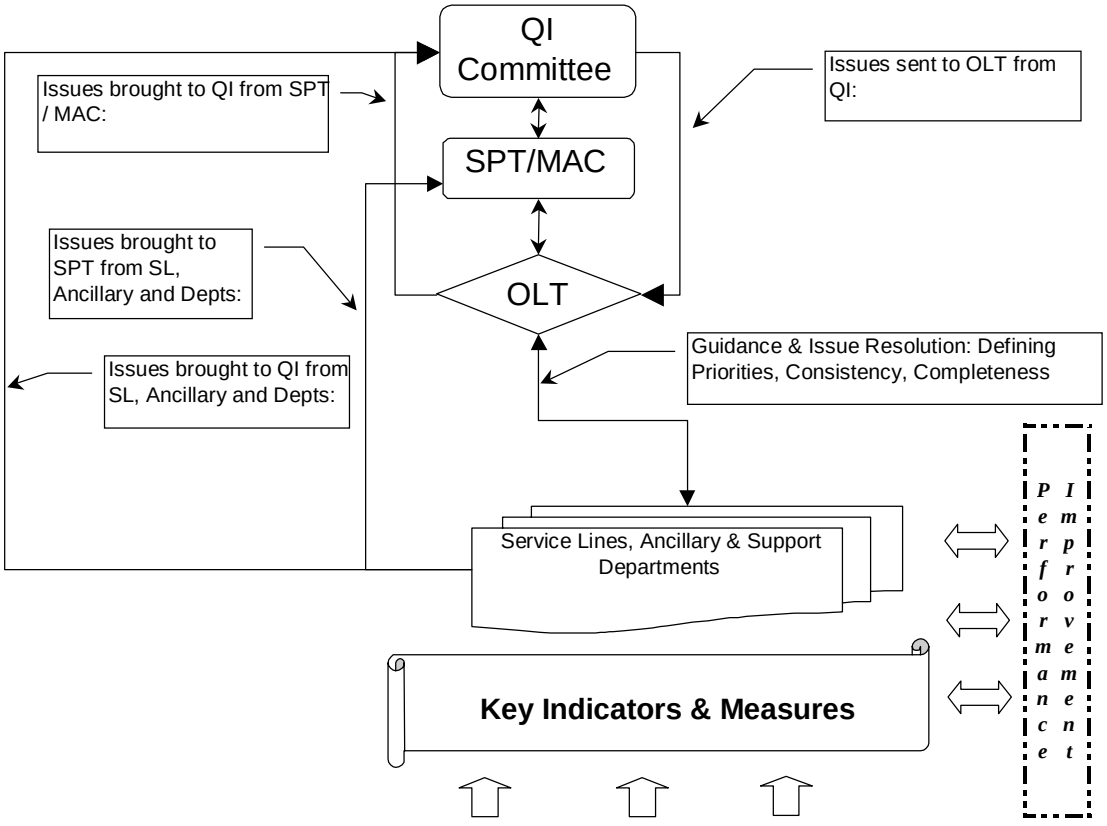
The service line structure and the system of accountability built into it play a major role in the health system's ability to engage the physician leaders in specific performance improvement (PI) projects. However, it is still a challenge to get individual physicians involved, since each service line leader represents a large number of physicians.

Physicians Integrated into Leadership Structure

Physicians at Mission are very much involved in high-level decision making regarding quality and the day-to-day work of QI. But this level of formal engagement is a fairly recent phenomenon. Several of the administrators we interviewed pointed out that the medical staff has consistently been the primary driver of the hospital's efforts to maintain and improve quality. But prior to and during the merger period, the relationship between physicians and administrators was characterized more by conflict than by collaboration. Physicians had little opportunity to play roles in management decisions, including those related to PI. In fact, the PI department reported to the operational vice presidents rather than to the physicians.

Discontent with this situation came to a head during the merger, prompting the Board to intervene in 1998 by reorganizing the decision-making process at the executive level. This compromise resulted in the service line structure discussed earlier and in the structure of standing committees of physicians and administrators, which will be discussed later.

Figure 3. The Committee Structure at Mission



Physicians and administrators come together in several committees, which are responsible for moving performance-related decisions up to the Board level. The committees also serve as a means of disseminating decisions throughout the organization, since all areas are represented. One senior executive noted that one of the strengths of Mission is that doctors and administrators can disagree in a reasonable way and the committees are the forum in which these disagreements are hashed out. Another executive commented that the committee structure was the best thing that came out of the reorganization after the merger.

The first element of this new structure is the Operational Leadership Team (OLT), which is essentially the quality committee for the administrative staff. Members include:

- The service line leaders (composed of physicians);
- Four senior managers (the CMO, CEO, COO, and CFO);
- The elected chief of staff;
- The seven operational vice presidents; and
- The PI director.

The OLT coordinates programs, oversees service lines, and prescribes organization-wide activities. Any decision going to the Board level goes through this committee first, so everyone has a chance to comment before items move up. In particular, this group is expected to ensure that decisions are consistent with the quality objectives of the institution. For example, as part of a discussion about temporarily moving neuro-trauma beds during a construction project, one of the first issues the committee discussed was which of several options would be best from a patient-centered perspective, both for the neuro-trauma patients and for those patients in the departments that would have to give up or rearrange their beds. They also looked at the decision from the perspective of what would be best for the doctors and for the nursing teams, in addition to looking at cost implications.

The establishment of the OLT has been very effective in bringing physicians into the PI process. It also provides an objective, peer-oriented venue for discussing and coming to agreement on various issues related to quality and improvement. While the OLT may not eliminate the politics endemic to decision-making in health systems, it has helped the participants work through the kinds of conflicts that would have stopped them in the past.

The second element of the committee structure is the Medical Administration Committee (MAC), which is composed of the service line leaders and chief of staff. It deals with purely medical matters, such as credentialing and quality issues.

Finally, the System Planning Team (SPT) combines most of the MAC and the OLT. The SPT includes 10 members of management and 27 physicians. This group takes a hospital-wide view and deals with medical and economic issues. It is responsible for decisions about anything that costs over $50,000 or crosses service lines, like decisions about capital expenditures and investments in information systems. From there, decisions move up to the Board level. Figure 4 presents an example of the flow of decisions through the committee structure.

Figure 4. How Decisions Get Made

To illustrate how decisions flow through the committee structure, consider the example of developing a new breast cancer center.

Stage	*Outcome*
1. To the OLT	The participating service lines presented the idea to the OLT, reviewed its benefits, and laid out the resources they would need to move forward, such as teleconferencing capabilities.
2. To the SPT	Once the OLT gave its approval, the decision went to the SPT, which had to sign off on the proposal. The SPT reviewed the health status indicators and the costs, and asked about the impact on multiple service lines, the institution, and the community.
3. To the Board	The proposal was presented to the Board, which agreed to provide funding of $300,000 per year.

Balanced Composition and Approach of PI Department

Since 1998, the PI department has evolved from focusing on measurement and reporting to a broader agenda of driving and supporting the improvement process for each service line and ancillary department. This department has several unusual features, including:

- **Size.** Compared to other hospitals, Mission's PI department is relatively large. The department is structured around core activities: six full-time-equivalents (FTE) for clinical data abstraction; one FTE for patient safety; one FTE for patient satisfaction; one FTE for management engineering; one FTE for clerical duties; seven FTE service line–based consultants.
- **Emphasis on management engineering.** The PI department has developed a systematic approach to balancing the methods and principles of management engineering with the needs and concerns of clinical practice. This balance is

apparent in its staffing and information output, which reflects the application of engineering concepts to financial issues as well as quality issues.

- **Combination of standardization and customization.** Rather than rely on staff members who have patient responsibilities, the PI department assigns dedicated individuals—called consultants—to support specific clinical departments in measuring and improving the quality of care they provide. This approach is essential in achieving two goals. First, it ensures that each clinical department approaches the QI process in a standardized and systematic way. Second, it allows each department to use the consultant to get support and detailed data that may be unique to their needs.

Staffing of the PI Department

The department staff consists of a director, consultants, and analysts. The director and one of the staff members are management engineers. They bring a perspective and an approach to analyzing data that are unusual in a clinical environment. Few hospitals have industrial engineers look at management issues, redesign systems, and educate clinical staff on how to use data effectively.

Most of the consultants have clinical backgrounds as either registered nurses or respiratory therapists. The clinical experience of the consultants gives them credibility with the service lines and helps them to be regarded as resources. The analysts, who are responsible for abstracting the medical records, are nurses and coders.

This staffing structure creates a dynamic where consultants have the technical tools and data they need to conduct objective analyses and identify where the situation could be better (from a cost or quality perspective), and the skills and experience to cross into the clinical world to help the service lines dig deeper and develop practical solutions.

Accountability and Motivation Built into System

Mission's Board and executives have taken steps to ensure that quality and QI are more than words in a mission statement. Both upper management and the physician leaders are held accountable for the performance of the clinical areas. These executives are responsible for interpreting the data they are given by the PI department, developing and implementing changes, and achieving specific goals. They are expected to document their activities (with help from the PI consultant) and report on their progress to both the OLT and the Board. Specifically, the service line physician leader and the service line vice president make quarterly presentations to the OLT to share qualitative and quantitative data on problem areas they have identified, discuss how they plan to address those problems,

and review the progress they have made in addressing problems identified previously. Presentations to the Board are the responsibility of the CMO, the chief strategic planning and QI officer, and the director of PI.

Additionally, the health system's incentives at the executive level are aligned with the kinds of quality-oriented activities and achievements it hopes to encourage. As noted earlier, Mission pays a salary to the service line leaders to encourage and reward them for the QI work they do. In addition, the Board ties the goals it has set for the institution to bonuses at the vice president and department director levels. These incentives are tied to quality, service, people, growth, and costs. The people category encompasses various assessments of patients and staff, including satisfaction ratings, market share, staff satisfaction ratings, turnover rates, and vacancy rates. Twenty percent of potential bonuses are tied to each of these elements. For senior executives, the achievement of goals can be worth 15 percent to 20 percent of their total compensation.

The Board would like more compensation to be at risk and for the incentives to operate at additional organizational levels. However, there are concerns regarding tying compensation to goals that staff may not be able to influence and the Board has not yet determined how to implement further incentives.

Finally, the institution recognizes the achievements of specific clinical areas both publicly and within the organization. One of the first items on Mission's Web site, for example, is a listing of the successes of service lines and staff (e.g., Mission's Heart Services program has been included in a nationwide, top-100 cardiovascular hospital ranking three times since 2000). In addition, senior managers use the committee meetings as forums for touting the achievements of specific clinical areas.

Like many hospitals and health systems, the PI process at Mission also succeeds by channeling the competitive nature of physicians. Staff members do not want to be outliers, unless they are the best at what they do. The PI department helps the physicians figure out what the best among them are doing, and displays the information in different ways to help them see the solutions themselves.

Nursing Staff Dominated by RNs

In a time when most hospitals are struggling with nursing shortages, Mission boasts a high registered nurse (RN) skill mix, with a 22-to-1 ratio of RNs to licensed practical nurses (LPNs). Managers clearly regard the quality of the nursing staff as one reason for the institution's high quality and low costs. The population of RNs is primarily due to the presence of a nursing school in a local college that feeds its graduates into the hospital. The

health system also enjoys a low nurse turnover rate of 12 percent, a low vacancy rate of 5 percent, and an average of 2.9 RNs per patient.

Nurses appear to be respected and valued at Mission. They have a strong voice at the service line level and at the administrative level, where four of the vice presidents are nurses, and always attend physicians' meetings.

However, while Mission has no problem lining up fresh graduates, it is experiencing the same problems that other hospitals have in recruiting experienced nurses. Also, most of Mission's registered nurses have graduated from two-year programs, which means that they do not have bachelor's degrees. While administrators were not concerned that the lack of undergraduate degrees might affect the quality of care, a few noted that these graduates may not have sufficient training in research techniques or data analysis. Also, a bachelor's degree is required for any administrative role in the health system.

Physicians with Strong Backgrounds and Commitment

Because of its attractive location in the mountains, the local lifestyle, and the institution's good reputation, the health system has succeeded in attracting highly qualified physicians from top schools and other top-ranked institutions. Ninety-three percent of its physicians are board certified. Also, Mission's family practice residency enjoys the top match of any family practice residency in the country—a strong statement about the quality of the institution and its physicians.

Mission's credentialing process, which is structured in accordance with the Joint Commission's standards, focuses on continuing medical education, references, training, and licensing. While Mission is looking for ways to improve this process (e.g., by drawing out individual performance information from the aggregated data the PI department currently produces), it believes it currently has one of the toughest processes in the state.

Mission's location in the mountains of North Carolina also seems to contribute to high quality, by creating a sequestered community of physicians who take a long-term view of the institution and its needs. Also, because they cannot really avoid each other, they are well-positioned to apply peer pressure effectively.

Financial Health

Unlike many hospitals and health systems, Mission is not struggling financially. While its financial soundness does not, in itself, make the health system a better institution, it does enable the organization to focus attention and resources on quality-oriented objectives and

programs that other institutions may not be able to afford. It also contributes to an emphasis on long-term goals rather than short-term survival.

TOOLS AND PROCESSES THAT SUPPORT QUALITY AND QUALITY IMPROVEMENT

Quality Measures Packaged to Meet Multiple Needs

Mission has developed a coherent quality measurement and reporting strategy that supports the sharing of information throughout the organization and, to lesser extent, beyond its walls. This strategy is built upon the principles of transparency, comparability, and usability.

Responsibility for performance data lies with the PI department, which produces and presents data on the performance of the system at the DRG level. This "performance dashboard" is reported up to senior management and the Board and cascades down to the service lines, which are then held accountable for addressing any problem areas identified by the data.

At the Board level, the dashboard is reviewed by the Quality Committee. This process helps to educate Board members. It also forces the vice presidents to really understand what is happening in their areas because they have to explain their performance to the Board. This process is designed to be highly transparent—the Board can easily see both successes and failures.

The data are presented in a way that makes it easy for the service lines to identify potential problem areas and opportunities to improve. Performance reports show benchmarks, where available, and are designed to help each clinical area establish priorities. For instance, the sample report below shows Mission's performance relative to peers in North Carolina; the columns at right highlight opportunities in terms of reducing LOS, costs, complication rates, or mortality rates.

Figure 5. Sample Report: APR-DRG Performance Opportunities—
Mission versus NC9 (FY2001 ending September 2001)

					Variance of Avg from Peers				Opportunity							
Apr	Sev	Apr Desc	Msj Cases	Peer Cases	Los	Chg	Comp	Mort	Los	Chg	Comp	Mort	Los	Chg	Comp	Mort
21	2	Craniotomy X for	73	497	0.71	($357)	-0.05	-0.05	52.10	$ (26,032)	-3.51	-3.97			x	x
133	3	Pulmon edema & resp	111	569	0.00	($1,323)	-0.03	-0.05	-0.30	$ (146,887)	-2.85	-5.25		x	x	x
140	2	COPD	505	1799	-0.46	($755)	0.00	0.01	-234.51	$ (381,197)	-2.16	6.30	x	x	x	
165	2	CABG w/o malfunct w cath	351	1693	-0.23	($4,189)	0.05	0.00	-79.18	$ (1,470,380)	17.21	0.83	x	x		
165	3	CABG w/o malfunct w cath	102	965	-0.48	($5,616)	0.04	-0.01	-49.29	$ (572,875)	3.61	-0.99	x	x		
166	2	CABG w/o malfunct s cath	235	1201	-0.02	($3,923)	0.06	-0.01	-4.72	$ (921,800)	15.24	-2.00		x		x
192	2	Cardiac cath for IHD	505	3288	-0.19	($107)	-0.01	0.00	-97.83	$ (53,885)	-3.71	-2.00	x		x	x
304	1	Dorsal/lumbar fusion NEC	247	885	0.02	($7,154)	0.08	0.00	6.00	$ (1,766,983)	20.42	0.00		x		
304	2	Dorsal/lumbar fusion NEC	126	542	0.70	($2,737)	0.08	0.00	87.90	$ (344,853)	10.34	0.00		x		
591	4	NB BWT <750 g w/o maj	9	148	-26.20	($112,871)	NA	NA	-235.84	$ (1,015,840)	NA	NA	x	x		
602	4	NB BWT 1000-1499g w RDS	20	87	-6.31	($57,757)	NA	NA	-126.10	$ (1,155,146)	NA	NA	x	x		
634	4	NB >2499gm w RDS	25	74	-13.17	($56,108)	NA	NA	-329.36	$ (1,402,690)	NA	NA	x	x		

Source HCIA database 12 months ending September 2001

Measurements

Mission's approach to measurement combines the classic model of quality, with its emphasis on outcomes, satisfaction, costs, and process improvement, with the six IOM aims listed earlier.

To support the more traditional perspective on quality, the PI department focuses primarily on four basic indicators:

- Mortality;
- Complications;
- LOS; and
- Costs per discharge, or charges per discharge. The department can look at actual costs through the hospital's internal cost-accounting system.

The comparative information is drawn from Solucient's All Patient Refined Diagnostic Related Group (APR-DRG) database, which ranks the hospitals based on their actual performance versus expected performance. This database reports performance indicators for DRGs at specific severity levels, thus adjusting for risk.

Using data from Premier, a national co-op of hospitals that offers consulting and data services, Mission also benchmarks financial and quality indicators against comparable health systems in North Carolina (known as the NC9). Because this data is drawn from a different source, it enables Mission to further explore any concerns raised by the Solucient data.

Like most hospitals, Mission collects patient satisfaction measures and tracks its performance against national benchmarks. The measures are used for both improvement and marketing purposes. Some of the service lines track patient satisfaction within their areas and compare their performance against that of the other service lines. The emergency department also compares its performance to other institutions.

Mission's system panels—displays of performance data across the health system and within the service lines—also reflect the six IOM aims. Some of the six aims do not translate well to the service lines, but the PI department tries to track them where relevant. Transitioning to a focus on the IOM aims has required a cultural shift at Mission. The institution sent key administration leaders to the Institute for Healthcare

Improvement to understand how to use the contemporary model. Since mid-2001, leaders of PI projects have looked at the IOM parameters as well as the more classic measures.

The health system's program to prevent premature births offers an example of how the new focus on quality can be combined with more traditional measures. This program, which costs the hospital $200,000 annually, relies on telephone management, a help line, and home visits to improve care for high-risk cases. It has succeeded in reducing the frequency of low-birthweight babies born to black mothers, thus improving equity in care across the races—one of the IOM's six quality aims. In addition, the health system reduced the number of premature babies, reduced LOS for those babies, and removed beds from the neonatal intensive care unit.

Data Sources and Systems

To produce performance measures, Mission relies on sophisticated data systems, which also offer the institution a detailed look at practice patterns and resource utilization. Clinical data are collected on a quarterly basis by analysts in the PI department as well as by decision support staff.

Mission also relies on outside vendors that can deliver pertinent benchmarks. Medmarks, for example, provides the health system with detailed data on medication errors from a national database. This information system enables the hospital to analyze the data, identify trends or repeated problems, and compare itself to benchmarks.

Systematic and Well-Supported QI Process

Through the PI department, Mission has developed a QI process that combines consistency with autonomy. The PI department feeds the service lines information similar to that which senior management receives in the dashboards to encourage a consistent focus on system-level goals. It asks the service lines to look at the data, review related quality measures, and determine where to focus. This process is designed to address the "If it ain't broke, don't fix it" mentality. Service lines cannot rest on their laurels—they are always encouraged to think outside the box.

Guided by the data, each service line establishes its own goals and performance initiatives. Priorities are driven by clinical opportunities to improve care for patients, not by financial prospects. As one operational vice president noted, "If you tell them to do it for the money, they'll shut down." Priorities for improvement projects do not always come from the PI department; sometimes they bubble up from within service lines or reflect priorities from other service lines and departments.

No one dictates what project an improvement team must work on; the process is more of a negotiation. The PI department flags problems for the service line, and then the team responds by validating or refuting what the data from PI show. The team is free to question the data (although this may seem counterintuitive), examine the data in its own way, and follow-up by selecting a QI project and developing an action plan (i.e., designing the intervention). In some cases, the team explains why seemingly worrisome results may, in fact, be appropriate; for example, certain conditions are necessarily high cost.

Each service line must be working on two projects focused on quality data and two focused on financial data. Of those four initiatives, at least two must be driven by the APR-DRG data. For example, one of the quality projects could be based on patient satisfaction or other data. Also, senior managers exert peer pressure by sharing information on what other service areas are doing.

Role of the PI Consultant

The linchpin of this process is the consultant from the PI department who is assigned to each service line. This person is responsible for keeping the QI process going:

- She helps the service line come up with a variety of pertinent quality indicators.
- She constantly monitors what is happening in the clinical area to help the team identify problems at the APR-DRG level and set priorities.
- She meets monthly with the team and with the VP for the clinical service area.
- She serves as a facilitator for the team.
- She handles all the logistics for the QI process.
- She motivates the teams by focusing their attention on measures that are relevant to them.

Although the PI department may be concerned about costs in a given area, the consultants do not emphasize that concern at the service line level. They recognize the potential to offend clinical staff by focusing too much on costs, so they focus on the clinical issues that are most important to the clinicians. For example, in cancer care, the PI consultant helped the team focus on the goal of improving patient care by reducing nausea and vomiting—a goal that eventually translates into a lower cost per case.

While the consultant supports the team and enforces some degree of consistency and standardization across projects and service lines, she does not "own" the process. The system is designed so that the clinicians are accountable for implementation of the QI projects (Figure 6).

Figure 6. Example of the PI Process in Action

One PI consultant showed the neonatal intensive care unit (NICU) that, compared to peer groups, its patients had a higher-than-average incidence of chronic lung disease, which is associated with being on ventilator support for some period of time. The team first reviewed a database of 1,400 NICUs, which confirmed that its incidence rate was high. It then brought together nurses, neonatalogists, and respiratory therapists to develop an appropriate intervention.

The team developed and implemented protocols that involved earlier administration of drugs (in the delivery room rather than in the NICU), the use of pressure gauges on the respiration bags, and more aggressive weaning from the ventilator. This program resulted in a dramatic decrease in the incidence rate of chronic lung disease from far above the mean to far below it. One key to its success was that the project was implemented for a small population in a closed unit—the process of care did not involve other units or service lines.

From the perspectives of the project teams, the consultants are a valuable resource. The consultants have the analytical skills to approach problems in ways not familiar to clinicians, as well as the clinical backgrounds needed to speak their language. They also make the QI process go more smoothly. In the ED, for example, the PI consultant created a single binder to hold information on everything that the ED was doing so that everyone could see what was happening. Previously, the data were going to different people at different levels of the organization, so it was hard for anyone to see the big picture. The new process also made it easier for staff to learn about the different projects.

Involvement of Multidisciplinary Teams at Every Level

Like the committees at the executive level, QI project teams are multidisciplinary, with both administrative and clinical representatives. The reliance on multidisciplinary teams was consistently highlighted as the key to the high quality of the institution. Specifically, PI initiatives are driven by a triumvirate comprising an administrative champion (an operational vice president), a physician leader from the functional area, and a consultant from the PI department who facilitates and imposes order on the process. This structure reflects Mission's culture, which prizes collaboration and emphasizes the idea that the best solutions come from those involved in making the changes.

In most cases, the nurse manager or case manager is also involved in the project. Like the physician who leads each service line, these staff members are also paid to support process improvement within their areas. In many cases, the nurses do much of the work,

even if the ideas come from physicians. However, this effort is not regarded as a burden because the nurses understand the purpose and value of the process, are committed to what they do, and are able to choose the projects to work on.

Once the team agrees on a problem area and an intervention, it draws up a project charter that explains exactly what the team is going to do and why (Figure 7). The PI consultant is responsible for producing charters for every project. The team leader, the administrative champion, and the team facilitator (i.e., the consultant) must all sign this document.

Figure 7. PI Consultant Creates Buy-In Through Project Charter

Mission Performance Improvement
Project Charter

Team: ED/LAB Turn-Around-Time
Facilitator: *(name of PI Consultant)*
Administrative Champion: *(name)*
Project/Team Leader: *(name)*
Team Members: *(multiple names—includes nurses and physicians)*

Opportunity Statement:
Observed the following opportunities to decrease the time it takes to evaluate, diagnose, and treat ED patients:

- Improve ED/lab turnaround times.
- Improve communication between ED and lab.
- Increase staff efficiency.
- Decrease incidence of hemolyzed specimens.
- Improve collection methods.
- Decrease incidence of unnecessary lab repeats.

Goal or Charge of the Team:
Decrease ED/lab turnaround time as evidenced by:

- Data sources reflect increased patient satisfaction related to ED visit time.
- ED/lab turnaround times more in line with benchmark sources.
- Staff report improved communications between ED and lab.
- Physicians report increased satisfaction related to receipt of lab results.

Benefit Analysis:
Decreasing ED/lab turnaround time will allow patients to be evaluated, diagnosed, and treated in a timelier manner.

Figure 7 (continued)

Project Scope:
This project, expected to benefit patients on the Mission and St. Joseph's campuses, will require collaboration between the ED, lab, and physicians. Improved throughput will allow the ED to continue seeing more than 90,000 patients per year and, at the same time, improve patient/physician/staff satisfaction and increase patient safety.

Proposed Time Line and Key Dates:

- Tracking of ER time-of-order started March 2003.
- Team initiated 4/1/03.
- All ED St. Joseph's Campus lab work sent to Mission Campus as of 4/1/03 (during renovations).
- Lab team currently investigating issues r/t hemolysis.
- Within one year, turnaround times will be in line with benchmark.

Once the charter has been agreed upon, the team implements a QI process using the FOCUS-PDCA methodology: Find, Organize, Clarify, Understand, Select—Plan, Do, Check, Act. Each member of the team gets an assignment and must report back, so everyone participates in the QI process. Ideas for process improvements may come from many sources, including other service lines and other hospitals. ED staff noted that great ideas may also come from contract labor, who introduce practices learned at other institutions.

Training in QI Methodology

The PI department provides all staff at Mission with early and ongoing training in the PI concept and the process of FOCUS-PDCA. Information on this methodology is also available on the hospital intranet so employees can take a refresher course as needed. All training takes place on paid time. When the program was first implemented after the merger, the staff went through a major training process so that the methodology would become a way of thinking about opportunities to improve care.

A Commitment to Standardizing Care and Adopting Best Practices

Since the merger, Mission has been making significant progress toward standardizing clinical processes and practices. Both hospitals had made some effort to collect performance data and standardize processes in the early to mid-1990s, but they lost focus during the merger period. Once things settled down, the health system regained and strengthened its focus on these issues, establishing the PI department in 1998 to push the effort forward.

The internal development of protocols is facilitated by the use of a decision support system that offers very specific details on resource use by each provider. This could include, for example, whether a patient received an antibiotic on day one or day three after surgery. This system enables the clinicians to see what high-performing colleagues are doing that may be different from the ways in which they provide care.

To drive the development of protocols, the health system uses a combination of "carrots" and peer pressure. The physician leader of the service line plays a major role by soliciting the support of the other physicians in developing and using the protocols. The nurse manager or case manager for each service line also plays a critical role by monitoring whether physicians are adhering to the paths and working with them to identify what changes may be needed to keep them on the paths.

Identification of Best Practices

Mission makes an effort to identify best practices both nationally and internally to support the development of its own protocols and rules. For example, the institution recently embarked on a massive effort to make system-wide shifts to better coordinate care, with initial efforts focusing on breast cancer, asthma, and diabetes. (These were three of the seven project areas that were proposed for the Pursuing Perfection grant.) To support its development of coordinated systems of care, Mission sought to identify and adopt best demonstrated practices from around the country.

Another intriguing example of Mission's embrace of best practices is its progress toward two of the three standards of care advocated by the Leapfrog Group. These are computerized physician order entry (CPOE) and the use of intensivists, or in-house intensive care specialists. CPOE is already part of the agenda as one of the planned phases of the new clinical information system. An intensivist program is under serious consideration as a follow-up to a hospitalist program (i.e., the use of in-house internists). The institution may even take the standard one step further by having the intensivist available 24 hours per day. With no public reporting and no pressure from local purchasers or payers, Mission has independently decided to comply with the standards because it believes this is the right thing to do. To Mission, the Leapfrog Group is one more source of good ideas for improving quality of care and reducing costs.

Finally, Mission is committed to sharing best practices with the network of 15 hospitals in western North Carolina. It participates in a nursing collaborative and a quality collaborative. However, this approach is hindered by the differences among the hospitals (particularly Mission's larger size), which limits comparability.

Large Investment in Information Systems

In the past few years, Mission has made a huge investment in a new clinical information system to improve the management and delivery of care. While this new system cannot take credit for Mission's strong performance to date, it is regarded as an important tool for maintaining the health system's position in the future, particularly because Mission is building knowledge into the information system. This investment builds on an institutional commitment to using IT to improve care. As early as 1991–92, St. Joseph's had computers installed in every room so that nurses could enter data.

The Integrated Clinical Information System (ICIS) is an off-the-shelf product by Cerner that has been customized to meet the health system's needs. The health system decided to use off-the-shelf systems because of the high level of costs and complexity involved in developing an in-house system, maintaining and expanding it, and ensuring compliance with all the relevant regulations. Mission also decided to replace its legacy systems rather than work with them. The hospital wanted everyone on a common database.

Clinicians Involved in Information System Selection and Design

Physician administrators noted that Mission chose ICIS because it wanted an integrated system and because the clinicians liked the end-user functionality. Clinical staff played a major role in selecting the information system and establishing the specifications to meet its needs. A team of people who would be using the system reviewed the options to decide which system was best, regardless of cost. This approach helped to generate credibility for the system among the clinicians.

Many people reviewed the system after it was selected and helped build master files and tables for the system. This created a high level of buy-in across the institution. Finally, the health system pulled two nurses out of clinical unit positions and into the Clinical Informatics Department for one year so they take part in building and designing the system. Those nurses had to be replaced in their units. Clinical staff is also used to train other staff and provide technical assistance as part of the clinical informatics groups. The hands-on involvement of clinical staff reflects Mission's commitment to making sure the clinical information system meets the needs of its users.

Phased-in Approach

The health system is currently implementing the multiple modules of the system in three phases: incorporating electronic medical records, nurse order entry, and physician order entry (Figure 8).

Figure 8. Three-Phase Approach to Building Electronic Clinical Information System

Phase 1: Electronic medical records. The first phase involved the development of electronic medical records. At discharge, each patient's medical record is scanned into an electronic chart. The medical records department no longer relies on paper records; over the next one-and-a-half years, all feeders of information for the records will become electronic, too. One goal of this process was to force physicians to become familiar with online charting.

Phase 2: Nurse order entry. In this current phase, nurses are entering orders into computers at the bedside. Physicians can view, but not enter, information. The biggest challenge to this phase is getting the nurses to accept workflow changes. People are typically resistant to change in the beginning, but the health system has found that once staff members get past the three-to-six-month learning curve, they would never choose to go back to their previous ways.

Phase 3: Physician order entry. In this phase, physicians will be able to enter orders and progress notes. In the short term, Mission anticipates that this will be a difficult transition; in the long term, Mission believes this system will make life easier for the clinicians.

To facilitate physician order entry, the hospital is currently building a comprehensive order set. The goal is to make it easier for the doctors to indicate what has to get done and to provide safer, higher-quality care for patients. Rather than scribbling down or dictating their orders, physicians will be able to check or uncheck choices. The system also allows the hospital to build rules into the ordering process to support clinicians in making the best possible decisions. For example, the system will alert physicians if something seems wrong with a treatment plan (e.g., if a prescription is not compatible with another drug the patient is taking).

This effort is driving the development of standardized protocols by the service lines, because the protocols are the basis for the order sets. This is a challenge for Mission because the two merged hospitals are still doing some things differently. However, the services lines are accepting the idea fairly well, so far. The protocols are being developed in-house by experts—who are not required to justify their decisions with evidence—within each service line. However, over time, the system will enable Mission to track the impact of the order sets and flag opportunities to improve. Thus, the implementation of the clinical information system is expected to make a big contribution to quality both by standardizing care processes and by enabling detailed analyses of the effects of standardized care.

In addition to ICIS, the hospital also has other systems in place that contribute to quality of care, including the General Electric Medical Systems Picture Archiving and Communication System, a picture archive system that enables the clinicians to access and share digital images in real time, and a product made by Pyxis that is used for dispensing

pharmaceuticals. In addition, the health system has adopted technology called MD Connect that allows physicians to link to the comprehensive information system from their offices. The hospital is also exploring ways for physicians to connect from home. It is also in the process of negotiating to give all physicians access to a Web-based system called Up to Date, which can be used to see information on evidence-based best practices in specific clinical areas and to search the latest research literature.

CHALLENGES IN MAINTAINING AND IMPROVING QUALITY PERFORMANCE

As Mission looks ahead, its primary challenges revolve around five areas:

- Transitioning from being provider-centered to being patient-centered;
- Standardizing health care practices;
- Communicating and implementing change;
- Getting paid for quality; and
- Moving beyond measuring processes to measuring outcomes.

Transitioning from Provider-Centered to Patient-Centered

As in most hospitals, health care practices and processes at Mission are typically built around the needs of clinicians rather than those of patients. But the clinicians are coming to understand how this approach can undermine quality of care. At Mission, this problem came to light as a result of efforts to improve care for breast cancer patients.

The project to improve breast cancer care involved three service lines and one department: Women's Services, General Surgery, Cancer Services, and Radiology. They were all providing care and services, but not in a coordinated fashion. Additionally, the PI department reported that mortality rates in the county exceeded regional and state averages. The QI team found that care plans for patients were very fragmented. A survey of patients' experiences corroborated that finding, confirming that the care was designed around the needs of the providers rather than their patients. Mission then met with the clinicians to hear their perspectives and share findings from the survey. One surgeon who had questioned the need to "fix what's not broken" became a champion of the program after he saw the data on how patients moved through the system.

Based on this information, a team composed of representatives drawn from the relevant service lines and departments decided to create a new breast cancer center that

would bring everyone together to focus on the patients' needs. They also came up with the idea of an interdisciplinary pre-treatment planning conference. Each week, people from all the relevant areas gather to hear a physician's presentation on a specific case and make recommendations, which are documented, for a treatment plan. Innovations included the development of a nurse navigator to lead patients through the system and to serve as an advocate, and an educational program that ensures patients receive consistent information.

The development of the breast cancer center overcame a significant barrier by crossing established, but somewhat artificial, boundaries and by moving away from a model where people think they own specific aspects of the care process to one that focuses on common points of interest. For example, prior to the development of this program, mammography services had little connection to the other service lines that were providing care for cancer patients and now the mammography department is part of the overall breast cancer program.

Little Information on Patients' Experiences with Care

The development of the breast cancer center illustrates the value of focusing on the experiences of patients. However, while Mission boasts of a state-of-the-art information system that provides extremely detailed information on the activities of clinicians, it knows little about its patients. Other than patient satisfaction measures, which are collected at the hospital-level only (and are consistently high, as in most hospitals), the main source of information about patients comes from the complaints of patients and their families or from issues that clinicians may raise through the Clinical Concerns program. Without more information on the experiences of patients, it is not clear how the service lines will make their processes and practices more patient-oriented.

Standardizing Care Practices

While Mission has made a great deal of progress in this area, it has struggled to fight the resistance of physicians to adopt external practices. The physicians have been reluctant to accept protocols they have not designed, which places a huge burden on them to do it themselves. Ten years ago, an effort to develop standardized processes for clinical care faltered because of resistance from the physicians. They only came around after they saw data generated at the hospital that showed the results associated with differences in care.

The development of disease management programs at Mission illustrates the challenges associated with standardizing care. In 1996, the hospital sent physician leaders and administrators to learn about the programs implemented by Lovelace Health System

in Albuquerque. Based on what the team saw there, it decided to initiate disease management programs for the "big three": diabetes, congestive heart failure (CHF), and asthma.

Only the diabetes program got off the ground, primarily because the practitioners could not agree on a consistent treatment modality for either CHF or asthma. The diabetes program, which relies primarily on pharmacists who use physician-generated guidelines, is considered a success. Researchers documented:[5]

- Improvements in clinical indicators such as A1c levels and lipid levels;
- Improvements in satisfaction with pharmacy services; and
- Reductions in costs.

The CHF project is only now getting on track. One problem recently overcome was finding a physician leader to champion the project. Another problem is the number of practitioners who have to buy into the idea: 40 cardiologists and 100 internists. But the biggest issue is that the evidence supporting various practices is still debatable, so it is hard for the physicians to come up with a best practice they can all accept. The current strategy is to share performance data so that the doctors can see how others are delivering care and who the outliers are.

This problem afflicted the breast cancer program as well, even though the program is considered a success. While the search for best practices was influential in shaping the breast cancer program, the providers involved would not accept a program fully based on external best practices, or what they termed "cookbook" medicine. Rather, guidelines have been formed from the process they developed at Mission to improve the quality of care for patients.

Communicating and Implementing Change

Mission is struggling to communicate and manage changes in its culture and practices. For example, like most hospitals today, Mission is going through a difficult cultural change to encourage better reporting of medical errors. This requires removing the stigma associated with errors and reducing the defensive attitude that keeps people from reporting errors and from admitting there may be room for improvement. While medical errors used to occasion punitive repercussions, they now must be seen as an opportunity for education. Getting the staff to provide this information more willingly is a slow process. The message

must come from the top to ensure that managers know how to handle errors and staff are no longer afraid of reporting them.

Senior managers noted that they need to do better jobs of communicating to staff why changes are needed (i.e., how doing things differently may be better for patients). In some cases, changes may not make intuitive sense to the people who implement them. New patient safety rules limiting the use of common abbreviations, for example, have been hard for some staff to accept. One administrator noted that Mission has to do a better job of selling changes within and across service lines and departments. Making changes should not mean that the previous ways were bad, but that the new ways will make care even better.

Another issue is that the hospital environment does not lend itself to easy communication with hospital staff. Communication with physicians is even more difficult. One problem is that there is no good mechanism for communicating with everyone at the same time. Even e-mail does not work well because many staff members do not have time to read it. Also, some changes need to be communicated one-on-one from a trusted colleague or manager, which takes time and effort. One administrator noted that managers must be given the flexibility to communicate in ways that work for them and their staff.

Getting Paid for Quality

Given local concerns about the high costs of health care, Mission has been frustrated in its attempts to get payers and purchasers to value the high quality of care it delivers. Local employers and insurers appreciate that Mission is good, but take the high level of quality for granted. Thus, while a few hospitals in other parts of the country are already being rewarded for strong quality performance, Mission is unlikely to see similar financial incentives. However, it has been making some progress in getting local employers to understand the long-term savings associated with high-quality care (such as the diabetes management program), which is a step in the right direction.

Moving Beyond Measuring Processes to Measuring Outcomes

Another challenge that Mission faces is overcoming the narrowness of quality measures used at the hospital level. This challenge has two related components, as follows:

- First, the service lines are sometimes accused of focusing on process rather than outcomes—primarily because it is harder to measure outcomes than processes.

- Second, as in other hospitals, there is a tendency to focus on care at the micro level (i.e., from entrance into the hospital to exit). As a result, Mission does not pay sufficient attention to what happens outside the hospital.

These problems are endemic to the entire health care system. Hospitals are not funded, for example, to conduct prospective, preventive case management; they are paid to care for the sick. Addressing these issues will require realigning incentives and changing the ways that resources are allocated.

Other Challenges

Other, less global, challenges facing Mission are described below.

Identifying the Best Organizational Home for the PI Department

The PI department has had several homes during its existence. For PI to be effective, it must maintain a level of credibility with clinicians. While some clinicians preferred the department under the CMO, where it once resided, its current slot under Strategic Planning is designed to maintain links with physician leadership. For example, the department works though a physician leadership team, a subgroup of the OLT group described earlier. Another physician OLT group is the primary group for approval of quality projects and issues.

Implementing Physician Order Entry

Many hospitals are struggling to overcome the challenges involved in physician order entry. Some of the challenges noted by Mission administrators include the following:

- **Getting everything on the system.** The physicians will not really reap the benefits of the system until everything they need is on the computer. Until then, the computer system will just be one more place they have to go.
- **Providing access.** The health system is trying to determine how many computers it will need and where they need to be so that the physicians have sufficient access to the system. Neither Mission nor the doctors want the clinicians to be lining up to enter orders.
- **Making it quick.** Mission is working on ways to make the system fast and easy to use. One way it is doing this is by minimizing wasted steps (e.g., providing check boxes for order choices, requiring fewer steps in the log-on process).However, it must weigh this goal against other considerations, including the security of the system, patient safety, and the confidentiality of patient information.

CONCLUSION AND LESSONS FOR OTHER HOSPITALS

1. **Align activities and practices meant to support quality so they complement rather than compete with each other.**
   Mission's strength seems to come from various organizational factors and from tools it has in place, as well as from the alignment of these pieces up and down the organization. All the elements that contribute to high quality and to an effective PI process appear to be well coordinated to push and reinforce each other. Incentives are aligned with goals, accountability is built into the system, and reported data are consistent and comprehensive.

2. **Make sure physicians are heard and make them accountable for effecting change.**
   At Mission, physicians participate at the executive committee level, lead the PI process for the service lines, and take responsibility for driving the quality agenda with the peers they represent. They are paid for this effort and are expected to report on their progress on a regular basis.

3. **Let people do what they are best equipped to do.**
   One of the more impressive elements of Mission's PI process is its reliance on consultants who blend clinical experience with analytical know-how. Because consultants take care of analyzing and packaging the data, as well as the logistical work involved in QI initiatives, the clinical teams are freed up to focus on developing and implementing solutions to clinical problems and are not as distracted from their main objectives of delivering high-quality patient care.

RELATED PUBLICATIONS

In the list below, items that begin with a publication number can be found on The Commonwealth Fund's website at www.cmwf.org. Other items are available from the authors and/or publishers.

#754 *Beyond Return on Investment: A Framework for Establishing a Business Case for Quality* (forthcoming). Michael Bailit and Mary Beth Dyer.

#751 *Achieving a New Standard in Primary Care for Low-Income Populations: Case Studies of Redesign and Change Through a Learning Collaborative* (forthcoming). Pamela Gordon and Matthew Chin.

#731 *Recommendations for Improving the Quality of Physician Directory Information on the Internet* (forthcoming). Linda Shelton, Laura Aiuppa, and Phyllis Torda, National Committee for Quality Assurance.

#767 *Exploring the Business Case for Improving the Quality of Health Care for Children* (July/August 2004). Charles Homer et al. *Health Affairs,* vol. 23, no. 4. *In the Literature* summary forthcoming; full article available at http://content.healthaffairs.org/cgi/content/full/23/4/159.

#768 *Overcoming Barriers to Adopting and Implementing Computerized Physician Order Entry Systems in U.S. Hospitals* (July/August 2004). Eric G. Poon, David Blumenthal, Tonushree Jaggi, Melissa M. Honour, David W. Bates and Rainu Kaushal. *Health Affairs,* vol. 23, no. 4. *In the Literature* summary forthcoming; full article available at http://content.healthaffairs.org/cgi/content/full/23/4/184.

#700 *Quality of Health Care for Children and Adolescents: A Chartbook* (April 2004). Sheila Leatherman and Douglas McCarthy. The researchers use 40 charts and analyses to outline the current state of children's health care, arguing that the health care system has devoted far less attention to measuring the quality of care for children and adolescents than it has for adults. Download the chartbook at http://www.cmwf.org/publications/publications_show.htm?doc_id=225395.

#702 *Use of High-Cost Operative Procedures by Medicare Beneficiaries Enrolled in For-Profit and Not-for-Profit Health Plans* (January 8, 2004). Eric C. Schneider, Alan M. Zaslavsky, and Arnold M. Epstein. *New England Journal of Medicine,* vol. 350, no. 2. *In the Literature* summary available at http://www.cmwf.org/publications/publications_show.htm?doc_id=221468

#701 *Physician–Citizens—Public Roles and Professional Obligations* (January 7, 2004). Russell L. Gruen, Steven D. Pearson, and Troyen A. Brennan. *Journal of the American Medical Association,* vol. 291, no. 1. *In the Literature* summary available at http://www.cmwf.org/publications/publications_show.htm?doc_id=221467; full article available at http://jama.ama-assn.org/cgi/content/full/291/1/94.

#699 *Malpractice Reform Must Include Steps to Prevent Medical Injury* (January 6, 2004). Stephen C. Schoenbaum and Randall R. Bovbjerg. *Annals of Internal Medicine,* vol. 140, no. 1. *In the Literature* summary available at http://www.cmwf.org/publications/publications_show.htm?doc_id=221474

#686 *Obtaining Greater Value from Health Care: The Roles of the U.S. Government* (November/December 2003). Stephen C. Schoenbaum, Anne-Marie J. Audet, and Karen Davis. *Health Affairs,* vol. 22, no. 6. *In the Literature* summary available at http://www.cmwf.org/publications/publications_show.htm?doc_id=221475; full article available at http://www.healthaffairs.org/CMWF/Schoenbaum.pdf.

#636 *Value-Based Purchasing: A Review of the Literature* (May 2003). Vittorio Maio, Neil I. Goldfarb, Chureen Carter, and David B. Nash. From their review of the literature, the authors conclude that value-based purchasing will only be effective when financial incentives are realigned with the goals of high-quality care and performance measures address purchasers' particular concerns.

#635 *How Does Quality Enter into Health Insurance Purchasing Decisions?* (May 2003). Neil I. Goldfarb, Vittorio Maio, Chureen Carter, Laura Pizzi, and David B. Nash. According to the authors, public and private purchasers may be able to hold physicians and insurers accountable for the quality and safety of the health care they provide. Yet, there is little evidence that current value-based purchasing activities—collecting information on the quality of care or selective contracting with high-quality providers—are having an impact.

#614 *The Business Case for Tobacco Cessation Programs: A Case Study of Group Health Cooperative in Seattle* (April 2003). Artemis March, The Quantum Lens. This case study looks at the business case for a smoking cessation program that was implemented through the Group Health Cooperative (GHC), a health system and health plan based in Seattle.

#613 *The Business Case for Pharmaceutical Management: A Case Study of Henry Ford Health System* (April 2003). Helen Smits, Barbara Zarowitz, Vinod K. Sahney, and Lucy Savitz. This case study explores the business case for two innovations in pharmacy management at the Henry Ford Health System, based in Detroit, Michigan. In an attempt to shorten hospitalization for deep vein thrombosis, Henry Ford experimented with the use of an expensive new drug, low molecular weight heparin. The study also examines a lipid clinic that was created at Henry Ford to maximize the benefit of powerful new cholesterol-lowering drugs.

#612 *The Business Case for a Corporate Wellness Program: A Case Study of General Motors and the United Auto Workers Union* (April 2003). Elizabeth A. McGlynn, Timothy McDonald, Laura Champagne, Bruce Bradley, and Wesley Walker. In 1996, General Motors and the United Auto Workers Union launched a comprehensive preventive health program for employees, LifeSteps, which involves education, health appraisals, counseling, and other interventions. This case study looks at the business case for this type of corporate wellness program.

#611 *The Business Case for Drop-In Group Medical Appointments: A Case Study Luther Midelfort Mayo System* (April 2003). Jon B. Christianson and Louise H. Warrick, Institute for Healthcare Improvement. Drop-in Group Medical Appointments (DIGMAs) are visits with a physician that take place in a supportive group setting, and that can increase access to physicians, improve patient satisfaction, and increase physician productivity. This case study examines the business case for DIGMAs as they were implemented in the Luther Midelfort Mayo System, based in Eau Claire, Wisconsin.

#610 *The Business Case for Diabetes Disease Management at Two Managed Care Organizations: A Case Study of HealthPartners and Independent Health Association* (April 2003). Nancy Dean Beaulieu, David M. Cutler, Katherine E. Ho, Dennis Horrigan, and George Isham. This case study looks at the business case for a diabetes disease management program at HealthPartners, an HMO in Minneapolis, Minnesota, and Independent Health Association, an HMO in Buffalo, New York. Both disease management programs emphasize patient and physician education, adherence to clinical guidelines, and nurse case management.

#609 *The Business Case for Clinical Pathways and Outcomes Management: A Case Study of Children's Hospital and Health Center of San Diego* (April 2003). Artemis March, The Quantum Lens. This case study describes the implementation of an outcomes center and data-based decision-making at Children's Hospital and Health Center of San Diego during the mid-1990s. It examines the business case for the core initiative: the development of a computerized physician order entry system.

The Business Case for Quality: Case Studies and An Analysis (March/April 2003). Sheila Leatherman, Donald Berwick, Debra Iles, Lawrence S. Lewin, Frank Davidoff, Thomas Nolan, and Maureen Bisognano. *Health Affairs,* vol. 22, no. 2. Available online at http://content.healthaffairs.org/cgi/reprint/22/2/17.pdf.

#606 *Health Plan Quality Data: The Importance of Public Reporting* (January 2003). Joseph W. Thompson, Sathiska D. Pinidiya, Kevin W. Ryan, Elizabeth D. McKinley, Shannon Alston, James E. Bost, Jessica Briefer French, and Pippa Simpson. *American Journal of Preventive Medicine,* vol. 24, no. 1 (*In the Literature* summary). The authors present evidence that health plan performance is highly associated with whether a plan publicly releases its performance information. The finding makes a compelling argument for the support of policies that mandate reporting of quality-of-care measures.

#578 *Exploring Consumer Perspectives on Good Physician Care: A Summary of Focus Group Results* (January 2003). Donna Pillittere, Mary Beth Bigley, Judith Hibbard, and Greg Pawlson. Part of a multifaceted Commonwealth Fund-supported study, "Developing Patient-Centered Measures of Physician Quality," the authors report that consumers can understand and will value information about effectiveness and patient safety (as well as patient-centeredness) if they are presented with information in a consumer-friendly framework.

#563 *Escape Fire: Lessons for the Future of Health Care* (November 2002). Donald M. Berwick. In this monograph, Dr. Berwick outlines the problems with the health care system—medical errors, confusing and inconsistent information, and a lack of personal attention and continuity in care—and then sketches an ambitious program for reform.

#534 *Room for Improvement: Patients Report on the Quality of Their Health Care* (April 2002). Karen Davis, Stephen C. Schoenbaum, Karen Scott Collins, Katie Tenney, Dora L. Hughes, and Anne-Marie J. Audet. Based on the Commonwealth Fund 2001 Health Care Quality Survey, this report finds that many Americans fail to get preventive health services at recommended intervals or receive substandard care for chronic conditions, which can translate into needless suffering, reduced quality of life, and higher long-term health care costs.

NOTES

[1] Mission has 775 licensed beds; the average daily census is 500 beds.

[2] See the overview report for more detailed explanation of selection methodology.

[3] The ORYX Initiative is a program developed by the Joint Commission on Accreditation of Healthcare Organizations that integrates outcomes and other performance measurement data into the accreditation process, using actual results of care in terms of core measures and non-core measures.

[4] Eleven service lines are defined by physician specialty: heart services (surgical and medical, so there are two physician leaders), adult medicine, oncology, women's health, pediatrics, trauma, urology, orthopedics, neurosciences, surgical services, and psychiatry. An additional four service lines are defined by clinical/ancillary service: emergency, pathology, radiology, and anesthesiology.

[5] For details, see the following two articles in the *Journal of the American Pharmaceutical Association* 43 (March/April 2003)—Carole W. Cranor and Dale B. Christensen, "The Asheville Project: Short-Term Outcomes of a Community Pharmacy Diabetes Care Program," pp. 149–59; Carole W. Cranor, Barry A. Bunting, and Dale B. Christensen, "The Asheville Project: Long-Term Clinical and Economic Outcomes of a Community Pharmacy Diabetes Care Program," pp. 173–84.