CULTIVATING QUALITY

CQI Helps a System's Members Provide Efficient, Effective Care to Their Clients

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The challenge of providing high-quality healthcare services today demands nothing less than a transformation of the way in which healthcare organizations are managed and operated. The St. Louis–based SSM Health Care System (SSMHCS), which operates 21 entities in 5 states, is making such a transformation through continuous quality improvement (CQI).

System leaders officially introduced CQI to employees at the annual leadership conference in May 1990. The implementation process, which began the following summer, will extend into the next decade and represents a major shift in the system's management paradigm. System leaders have initiated CQI because they are convinced that the five CQI principles (see **Box**) will provide a necessary structure of support for advancing the ministry's mission and values.

EARLY PREPARATION

SSMHCS has been preparing for the implementation of CQI for the past four years. The first step, in 1988, was to initiate the concept of "intrapreneurship" systemwide, challenging employees to take hands-on responsibility for creative innovation. In 1989 the system focused on "servant leadership," defined by a moral principle that "the only authority deserving one's allegiance is that which is freely and knowingly granted by the led to the leader in response to and in preparation of the clearly evident servant stature of the leader." And in 1990 the system introduced its employees to CQI, a management paradigm focusing on process, customers, and statistical thinking.

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Summary In 1990 the SSM Health Care System (SSMHCS), St. Louis, introduced its employees to continuous quality improvement (CQI), a new management paradigm focusing on process, customers, and statistical thinking.

For nearly a year before the introduction of CQI, a system implementation team studied CQI and its impact on businesses and healthcare providers. Team members were struck by the close correlation between the system's own mission and CQI principles. When it had completed its study, the team began to develop strategies for implementing CQI.

System leaders committed themselves to ensuring that CQI would address both clinical and managerial processes, encouraging managers and medical staff to support CQI, establishing a structure at each entity to support involvement in the process, fostering a high level of awareness in CQI, recognizing employees who make significant contributions to the effort, offering education programs, and communicating successes and encouraging their replication. Before any facility appointed a quality improvement team and began to apply CQI principles, its administrative council (leadership team) was required to work through a series of readiness screens.

The implementation process has involved redefining the manager's role as one of empowering employees, cultivating and securing physician involvement, and educating employees and physicians about processes. In the early phases of implementation, the major barriers the system has faced have involved time—the time required of administrators and managers to teach CQI courses and the time it takes teams to work through the SSMHCS CQI model and adapt the system to CQI implementation.

physician studied CQI and its impact on businesses and healthcare providers. With the help of an independent management consultant, the team explored the theories of W. Edwards Deming, Joseph Juran, and other management experts whose work was successfully adopted in Japanese industry following World War II. It also learned from the experiences of American companies such as Florida Power & Light, Miami, and healthcare providers such as Massachusetts Respiratory Hospital, Braintree, and Brigham and Women's Hospital, Boston, which had already used quality management to improve services.

Members of the implementation team were struck by the close correlation between the system's own mission and values and the CQI principles. But they also recognized the need to develop the system's own concept of CQI.

At this point, the team began to develop several strategies that today characterize the system's CQI implementation process:

- Full-scale systemwide implementation
- Top-down management commitment
- Inclusion of physicians
- Emphasis on education and planning
- Dedication to building a solid infrastructure to support CQI activities

CQI and System Values

A strong correlation exists between the five CQI principles, as adopted by SSMHCS and the eight values that guide the system's work.

Patient as First Priority The first CQI principle, that "patients and other customers are our first priority," supports two system values: "give primary importance to those we serve" and "provide competent and caring service."

Using CQI techniques, the system's employees will analyze how well various processes deliver service to those in their care, as well as to those with whom they work. If they feel a process is not providing the appropriate quality of service, is not focusing sufficiently on the patient's or other customer's needs, or is not building a healthy environment to support the ministry, the system's employees are empowered to improve that process. Through CQI, every employee and physician will learn how to observe, chart, and analyze processes; how to recognize ways to continuously enhance those processes; and how to create new processes when they are needed.

Quality through People The second CQI principle, that "quality is achieved through people," fosters three system values: "promote in ourselves and others optimal function of body, mind, and spirit"; "generate a growth-producing climate"; and "foster communication, collaboration, and networking."

Each time system employees seek new ways to do something better, they increase their skill and competence. As they stretch their abilities to learn more and to provide better care, they grow both professionally and spiritually. And the teamwork needed to solve problems and design new processes will require that employees exercise

SSM HEALTH CARE SYSTEM'S CQI PRINCIPLES

Patients and Other Customers Are Our First Priority We learn about and address the ever-changing needs of our patients and other internal or external customers, and provide the care and services necessary to meet or exceed their expectations.

Quality Is Achieved through People People are our most important resource. The work environment that is built on mutual respect, trust, learning, cooperation and teamwork fosters the capacity of the individual for self-motivation and creativity, ultimately ensuring continuous quality improvement and the success of the system.

All Work Is Part of a Process Work functions are processes which can be continuously improved to benefit patients and other customers. Every process has customers and suppliers. These processes are the focus of CQI.

Decision Making by Facts Our decision making processes take into account system values and the collection and analysis of objective data, thus minimizing options and politics in decision making.

Quality Requires Continuous Improvement Any process or service can be improved. By commitment to a continuous improvement process we will satisfy needs, grow as a system, be recognized as a force in the health care industry, and better carry out the mission of the system.

skills in communication, collaboration, and networking.

Work as Process The third CQI principle, that "all work is part of a process," clearly supports two system values: "act with justice and fairness" and "cultivate a community spirit."

CQI teaches that poor quality is often caused by the processes people use rather than by the people who use them. CQI techniques will enable system employees to avoid blaming people for problems and instead examine processes to determine the source of problems. Eventually, all the system's processes will have been designed or redesigned by the people who use them every day.

Decision Making by Facts "Decision making by facts," the fourth CQI principle, supports the system's values of justice and fairness, as well as those of communication, collaboration, and networking. CQI techniques provide information and facts, rather than opinions, on which to base decisions. Teams throughout the system are learning to conduct Pareto analyses (which are based on the assumption that only a few elements contribute significantly to a given effect) and to use flow charts, cause-and-effect diagrams, run charts, histograms, scatter diagrams, and control charts to obtain hard data on the causes of problems. This information will allow employees to set priorities for problem solving, to pinpoint areas in which controls are needed in a process, and to reduce variations in the process. The data's objectivity will help ensure that people are not penalized for faulty processes.

Quality through Continuous Improvement The fifth and final CQI principle, "Quality requires continuous improvement," supports SSMHCS's value of being able to "change with the times to serve those in greatest need." This value has always demanded openness and flexibility in management style. But the CQI management paradigm also requires regular reviews of processes to determine how they must be altered to accommodate changes in the larger healthcare environment.

As CQI teams throughout each of the system's entities become more adept at incorporating CQI techniques, they will begin to anticipate which processes need to be changed to match new conditions (e.g., a billing process affected by a new reimbursement policy).

The Journey Begins

Recognizing the potential value of CQI in supporting SSMHCS's mission and values, the sys-

THE NEW ORGANIZATION: CHANGES IN MANAGEMENT PERSPECTIVE

Old Way	New Way
Quality is fine.	Quality can and must be improved.
Poor quality and defects come from people.	Poor quality and defects come from complex processes.
Checking and data reporting, exhorting people, and giving incentives ensure quality.	Analysis and understanding of processes ensure quality.
Use intuition and the latest technology to address problems.	Collect data and act with knowledge to address problems.
Improvement must occur within functional areas.	Improvement must occur between functional areas, as well as within them.
Customers are problems.	Customers are partners.
Suppliers are problems.	Suppliers are partners.
Quality costs money.	Quality saves money.
We don't have time to improve quality.	We don't have time not to improve quality.

tem's steering team and board of directors initiated the journey into the next century. System leaders committed themselves to:

- Ensuring that CQI would address both clinical and management processes
- Encouraging managers and medical staff to support and actively participate in CQI at all levels
- Establishing a structure at each entity to support involvement of everyone in the system's CQI process
- Fostering a high level of awareness to ensure individual interest and commitment
- Recognizing individuals (employees and physicians) and teams that apply the problem-solving methodology
- Offering education programs
- Communicating successes and encouraging their replication

The system followed the same method in initiating CQI that it had used successfully for other systemwide changes: plan, seek input and make changes in the plan, and then educate all employees about the plan.

Implementation Plan SSMHCS is implementing CQI through a structured process consisting of three phases. The first phase, which began following the 1990 leadership conference, involved the formation of quality improvement teams at five of the system's entities and at its corporate office.

The teams, made up of employees, physicians, and managers, are charged with designing, redesigning, and improving selected processes to increase the quality of services provided. All the system's entities joined the first phase of implementation in 1991. During the second phase, which begins in 1993, the system will integrate CQI into policy development and strategic planning at the corporate and entity levels. In 1995 the third and final phase will begin as some 14,000 employees and 4,000 affiliated physicians throughout the system begin to apply the principles of CQI to their daily work.

Before any facility appointed a quality improvement team and began to apply CQI techniques to processes, the entity's administrative council (its leadership team) was required to work through a sequence of eight readiness screens:

1. A discernment that the organization's environment is open to initiating CQI
2. Completion of an employee attitude survey oriented toward CQI principles
3. Selection of an entity CQI facilitator
4. Completion of readings and discussion of material on CQI by entity steering team members
5. Completion of education courses and training by the entity steering team
6. Selection and completion of a pilot project by the entity steering team
7. Development of an internal CQI implementation plan, which provides for a budget and the selection of the first three quality improvement projects and teams
8. Approval by the system's steering team to begin implementation

The readiness screens were designed to allow leaders at each entity to fully understand how CQI relates to the system's values and how it needs to be implemented, as well as to develop the commitment necessary to successfully implement it. All system entities are expected to complete the readiness screens by December 1992.

Managers' New Role The role of managers under CQI is to empower employees, who have profound knowledge of the processes with which they work, to improve those processes. Therefore managers throughout the system are learning to become teachers and coaches.

The entire structure for implementing CQI is based on teamwork. A system steering team made up of system managers provides leadership and direction for implementing CQI throughout the system. A CQI implementation team—made up of representatives from system management and system entities and a physician—advises the entities and corporate office. In addition, each entity has its own steering team—made up of the administrative council and one or more physicians—to lead implementation of CQI and to

The structure for implementing CQI is based on teamwork.

monitor progress.

Entity and corporate office quality-improvement task teams, consisting of five to eight employees and physicians, work on specific projects assigned to them. Each team has a leader and a facilitator. These task teams are disbanded as their work is completed. Later in phase I, permanent quality-improvement functional teams (made up of persons from within a department) and cross-functional teams (composed of persons from different departments involved in a particular process) will be established.

> Physicians are comfortable with the focus on statistics and process analysis.

Teams throughout the system use the same CQI model with seven basic steps to improve processes. The model calls for a problem-solving approach when a process exists but needs improving, and a design approach or a process redesign for use when a process does not exist or is not workable. Task teams have formed at various facilities to work on such projects as administrative handling of verbal complaints from patients and families, defining and communicating panic laboratory values, avoiding medication errors, establishing start times for outpatient surgery, and improving turnaround time for chest x-rays.

Physicians' Involvement SSMHCS decided early on that, for CQI to be successful, physicians would have to play a vital role. Therefore physicians have been involved in the implementation of CQI from the beginning. Physicians serve on the local entity teams at all levels. At least one of the first three CQI projects undertaken by each entity approved to implement CQI must focus on a clinical process that involves physicians.

In 1990 the system's first annual retreat for physicians focused on CQI. The retreat was attended by more than 50 physicians representing entities throughout the system. (A second retreat held in 1991 also focused on CQI.) Although it grew out of physician involvement in CQI, the annual retreat is expected to provide an excellent forum for future discussions of other systemwide issues.

In general, physicians throughout the system have been receptive to the idea of CQI and eager to begin improving processes. They find CQI compatible with their own long-standing commitment to high-quality care and are comfortable with the focus on statistics and analysis of processes because of their educational background in science. The challenge for system leaders has not been to secure physicians' commitment but to convince them to remain patient while leaders at system facilities go through the required readiness screens and become thoroughly versed in and committed to CQI prior to implementation.

Another challenge has been to make efficient use of the physicians' limited time. The CQI implementation team conducted a customer-needs analysis with a group of physicians to develop an educational curriculum directly targeted to physicians and their short time commitments. Although the system's leaders do not expect that keeping physician commitment and involvement will be a problem in the future, they are treating the physicians as important customers.

CQI and QA Relationship Another critical step in the implementation process has been integrating CQI with existing quality assurance and risk management activities throughout the system. Quality assurance coordinators and risk managers, for example, were included in the first round of training courses scheduled for system entities following completion of the CQI readiness screens.

Leaders anticipate that quality assurance and risk management will continue to be important within the system because of the nature of the healthcare industry. Ongoing monitoring and review processes are necessary to ensure high-quality services and to meet various licensing, accreditation, and insurance requirements. In addition, quality assurance and risk management activities will support CQI by pointing out processes needing improvement—sending up "red flags"—and by assisting in the measurement of clinical outcomes.

Building a Foundation The system has deliberately structured the implementation process to allow sufficient time to build a solid organizational infrastructure to support CQI through planning and education. It has developed an educational program for employees and physicians consisting of eight courses and "just-in-time" training. Team members will learn about CQI techniques as they need to begin using them.

Continuous quality improvement is a journey, not a destination.

The eight-course curriculum consists of a general introduction for all employees; a one-day training course for team members; a three-day course on managing quality improvement for managers, supervisors, and department heads; a two and a half–day course on leading the entity through CQI phase I for administrative council members; a one-week course for team leaders; and a one-week course especially designed for facilitators. In addition, the system offers a one-day course on control charts and on the new planning and management tools. Most of the courses are taught by system and entity leaders, an approach expected to enhance the success of CQI by showing the understanding and commitment of top leadership.

The system has also established a Quality Resource Center at the corporate office to provide systemwide support and consultation for the development and implementation of CQI, as well as technical assistance to the entity CQI teams for the improvement of both clinical and managerial processes. The center assists with education and training, statistical analysis, and organizational development. It houses a library of CQI reference materials, including books, videotapes, audiotapes, articles, reports, research papers, case studies, and speeches. Staff include the corporate director of the center and a secretary.

Barriers Encountered The system has encountered a few barriers during the one and a half years that it has been implementing CQI. Most of these involve time: the time required of senior managers at the system level and of the administrative council at the entity level to teach all the CQI courses, the challenge of sustaining a team's enthusiasm during the lengthy period required to work through the CQI model, and the systemwide adaptation to the time it takes to implement CQI.

These barriers are being addressed primarily through the educational courses. For example, the team leader course deals with group behavior and how to maintain enthusiasm.

Another potential barrier is that CQI might be considered threatening to middle managers. To address this barrier, the system has:

- Included managers in training (Any employee on a team, his or her supervisor, and the middle manager will be trained at the same time.)
- Asked that teams keep middle managers informed of their progress
- Encouraged middle managers to become facilitators

Measuring the Results SSMHCS is using several different strategies to determine whether CQI is being effectively implemented at the team, entity, and system levels.

As it addresses a particular problem in a process, each team will establish a goal and a target and monitor the results of its work against this goal and target. Members of the team will know, therefore, whether they have successfully corrected or improved an existing process or designed a new process. This will allow teams to assess incremental improvement in specific processes.

At the entity level, employee surveys and patient satisfaction surveys were conducted as implementation of CQI began and will continue to be conducted periodically to monitor changes on major indicators that can be traced to the implementation of CQI. The surveys will contain questions specific to CQI.

At the entity and system level, SSMHCS has designated a number of "CQI success indicators." These are based on statistics the system has historically monitored, but which will be organized and reviewed in the future from a CQI perspective. They include such measures as employee turnover rate, market share of acute care, patient

incidents, bond rating, infection rates, days in accounts receivable, and unplanned returns to surgery.

Recently a needs analysis of the five entities that began the readiness screens in May 1990 was conducted. The analysis provided system leaders with information on how well the CQI phase I implementation plan has worked and what additional resources and support are required to continue the implementation of CQI phase I (see **Box**).

A systemwide team has been commissioned by the system steering team to develop the implementation plan for CQI phase II, Quality in Planning and Policy Deployment. During this phase, the strategic and financial planning processes of the system and its entities will be adjusted to ensure that the focus for the future is on quality. This phase will probably be initiated in 1993.

The Transformed Organization

SSMHCS has made a long-term commitment to continuous quality improvement, recognizing that potential benefits may not be fully realized during this decade. The implementation of CQI is viewed as a journey.

As the system's employees and physicians move along on this journey, they carry a vision of the "new" SSMHCS. The vision is of a system focused on quality, a system that continuously improves the processes by which it provides healthcare services, a system that is customer minded and employee minded, a system that is innovative and proactive in the delivery of healthcare. It is the vision of a Catholic multi-institutional healthcare organization that has empowered and enabled its employees to live its values.

In early exploration of quality improvement, SSMHCS benefited from the experiences of other corporations and, especially, other healthcare organizations. Now, SSMHCS is sharing its experiences through its involvement with the Quality Management Network, a national group of 32 healthcare providers and health maintenance organizations that are implementing quality improvement. The network's purpose is to facilitate collaboration and the collective learning of quality management principles, as well as to share experiences, resources, and technical support.

The system has also joined Quality Improvement Network II (QIN II), one of three such networks sponsored by the Healthcare Forum. The purpose of the three Quality Improvement Networks is to enhance leading American healthcare institutions' quality improvement efforts and to provide a link to other pioneering organizations.

SSMHCS is especially interested in working with and supporting the quality management efforts of other Catholic organizations. Readers who wish to learn more about the system's implementation of continuous quality improvement, or quality management in healthcare in general, are invited to write or call either of the authors at SSM Health Care System, Corporate Office, 477 North Lindbergh Blvd., St. Louis, MO 63141, 314-994-7800. □

LESSONS LEARNED DURING THE FIRST YEAR

- Top leaders at both the system and local entity levels must be committed to the process.
- The principles and guidelines that the system develops must be flexible enough to encompass variations at local entities.
- The system and entities should address infrastructure needs early in the implementation process before they form too many quality improvement teams.
- Entities should involve interested medical staff early on—and let others come at their own pace.
- The first quality improvement teams should emphasize patient and other customer satisfaction.
- Employees should identify problems for quality improvement teams.
- Quality improvement teams should work on important chronic problems.
- Middle managers should learn early on what the CQI process means for them.
- Entity leaders should stress that patience is necessary—that CQI is a journey, not a destination.
- CQI requires a significant investment of time and money.