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Baldrige Award winner

Collaboration brings rapid improvement at SSM Health Care

Because it has 21 acute care hospitals in four states and more than 22,000 employees, you might imagine that performance improvement at SSM Health Care would be unwieldy. But by using a collaborative model that relies on dozens of teams working together, changes in several clinical areas have been smoothly implemented across the entire health care system.

SSM Health Care, based in St. Louis, MO, owns, manages, or is affiliated with hospitals and nursing homes in Missouri, Illinois, Wisconsin, and Oklahoma. The culture within SSM is so attuned to quality improvement that the not-for-profit organization recently won the 2002 Malcolm Baldrige National Quality Award, making it the first health care organization to receive the honor from the U.S. Commerce Department.

Judges for the Baldrige Award cited SSM's commitment to improving community health, its extensive organizational learning and planning processes, and its use of continuous quality improvement. A major part of the health system's effort involves a Clinical Collaboratives program, in which physicians work with other caregivers, administrators, and staff to make rapid improvements in clinical outcomes.

The Clinical Collaboratives began in 1999, after SSM participated in the national Institute for Healthcare Improvement Breakthrough Series, says **Andy Kosseff**, MD, physician consultant to SSM's Quality Resource Center in Madison, WI. In the Breakthrough Series, 20 to 40 hospitals from across the country work together for six to eight months on improving a certain clinical or operational area.

SSM officials thought the concept could be used by their own hospitals. "It was an appealing idea to us. Based on the very good results the individual hospitals had in those collaboratives, we thought we might be able to devise such a system to use within the SSM Health Care system," says Kosseff.

With a long-standing commitment to quality improvement techniques, SSM had the expertise within its hospitals to make the collaborative process work, he continues. "Literally everybody in the SSM Health Care system had some form of quality improvement training, so we did not have to do a lot of work to get this program off the ground."

A Physician Leadership Council was created to advise which clinical areas would be the most appropriate targets for the collaboratives. One criterion for inclusion is adequate evidence-based information to support quality improvement efforts, says Kosseff. "We try to be sure the changes or improvements we are recommending are on a very solid basis."

The performance improvement efforts must also address service lines important within SSM, such as cardiac care. "We do a lot of work ahead of time deciding what would be an important issue on a systemwide basis," says Kosseff. The ideal subject would result in better patient outcomes, improved patient-physician relations and employee satisfaction, and better financial performance.

Once the Physician Leadership Council has reached consensus, it seeks approval of SSM's system management. The first year of a collaborative usually involves working at an intense pace to make improvements. Work after that typically slows down, but as long as the collaborative is producing useful results, it can continue indefinitely, Kosseff says.

Targeting ischemic heart disease

The first topic selected for a collaborative was secondary prevention of ischemic heart disease, which involves administering medication to myocardial infarction patients to reduce morbidity

and mortality. That collaborative began in January of 1999 and is still going strong, Kosseff reports. Other more recent topics have included congestive heart failure and patient safety.

The most important thing that SSM hopes to gain from the collaborative effort is better patient care, he says, but there are several other objectives.

“We are creating a network of experts within the system, and the value of that is when any new information comes up in a particular collaborative topic, we have this group of people together who can evaluate that information and decide whether it is important to incorporate into the way we do things within the system,” he says.

The ability to respond rapidly to changes in the health care environment is another benefit, Kosseff says. When the Institute of Medicine issued its ground-breaking report on patient safety, for example, SSM was able to begin quickly on improvements it suggested.

How collaboratives work

Once a collaborative effort has been designed, the prework stage continues with an invitation to all the SSM facilities (see **Figure 1**). It outlines the relative significance of the topic to SSM and justifies the need for improvements. Interested staff members sign up to join the collaborative.

“We have some baseline data we want to collect from each of the organizations participating,” says Kosseff, such as information about each hospital’s performance in evidence-based therapies or procedures.

The active phase begins with a one-day session in St. Louis, a site chosen because it is central for the far-flung health system. During the six-hour meeting, experts outside SSM educate the staff members on the chosen topic and project leaders share baseline data from the hospitals to illustrate their current performance.

At the learning session, coaches from within SSM link up to four-person teams participating in the collaboratives. The clinical areas represented on a given team depend upon the topic at hand. If the topic involves a medication issue, for example, a team may consist of a pharmacist, a nurse, a physician, and a data analyst.

Each team also has a management contact person, Kosseff explains. As a liaison with hospital administration, this person helps secure the resources necessary for the project. “It has

occurred to us as we have run more and more of these collaboratives that that kind of connection with the administration is extremely important,” he says.

In the afternoon of the learning session, coaches meet with their teams to discuss goals and develop timelines for planning improvements.

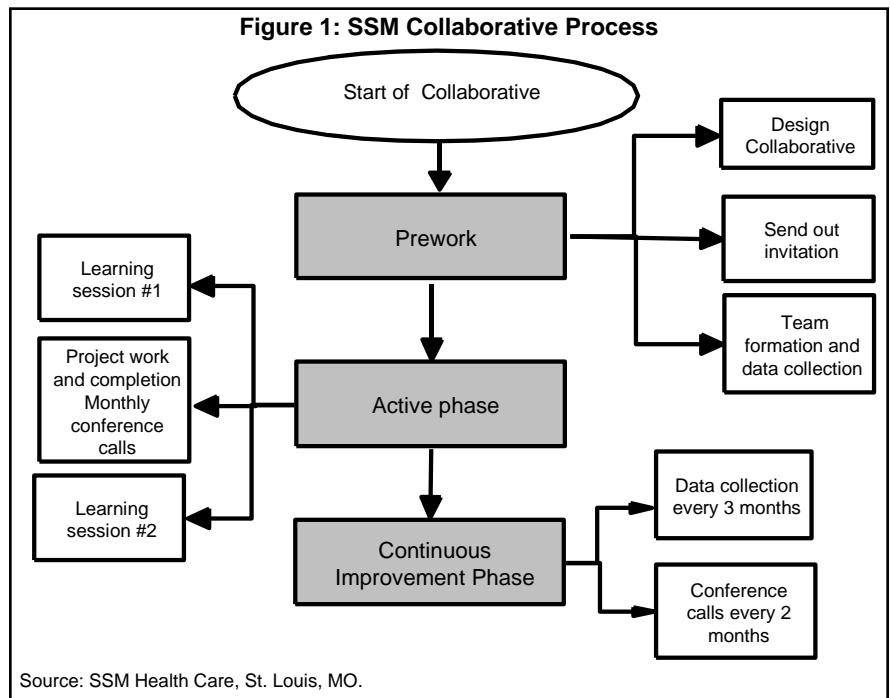
After the initial meeting, teams spend six months working in their own facilities. Monthly conference calls keep the various teams in touch with each other, so that they can discuss successful interventions or problems that they are having. Teams also use the Internet to discuss issues and exchange literature.

After six or eight months, the teams gather for a second learning session. They use the meeting to celebrate the work that has been accomplished, Kosseff says. Additional external speakers may present new information. This meeting also sets the agenda for a continuous improvement phase of the project, in which gains are maintained and expanded upon. Managers collect data every three months and participate in a conference call every two months.

Local teamwork

The Clinical Collaboratives movement within SSM has grown to 85 teams working to improve patient care in six areas (see **Figure 2**).

Each facility is asked to supply a team for a topic, but in some cases there may be more than one team per facility taking on an issue. *Performance Improvement Advisor* asked why it is impor-



tant to have a team from each facility, rather than using one team to develop solutions for the entire system.

"I think the reason we have teams in each hospital is basically that health care really is local," says **Paul Convery**, MD, chief medical officer at SSM Health Care in St. Louis and director of the system's patient safety collaborative. "Health care quality improvement, while it can be designed and supported at a system level, needs physician leaders, nursing involvement, pharmacy involvement, and executive support at every hospital to make this performance improvement stick."

Local implementation is essential, but the multi-hospital collaboration helps hold them in place, he adds. "I don't think we would [implement collaboratives] without this systemwide kind of culture and drive and collaboration -- looking at what everybody else is doing, comparing our results and best practices, and learning from each other."

Having multiple teams working on an issue, Kosseff says, also fosters interaction between various hospitals in the SSM system. "At one hospital, they may devise a very ingenious way of implementing an improvement. Sharing that information is where we really make some headway," he says. "It is that dialogue that occurs as people are trying to make these improvements that really adds richness to the collaborative process."

Rapid cycle improvement

SSM's Clinical Collaboratives are encouraged to use the rapid cycle improvement method. In this strategy, a team forms a hypothesis about how an improvement can be made, tests the hypothesis on a small scale, and decides what further improvements need to be made.

"We try to encourage the teams to try small tests, both in the scope of the change as well as where they use it," says Kosseff. "We encourage the use of pilot projects. If they are trying to improve the treatment of patients with heart attacks, they [should] pick one unit or a small section of a unit and see if the change works." If the team feels that the planned change will work, it is rolled out to a larger part of the hospital or the entire facility.

SSM has emphasized the need for teams to analyze the changes very carefully, Kosseff says. "When you are working on a team and you are invested in doing this work, it takes a lot of energy. It is always worthwhile reflecting about the changes, making sure the changes are correct, and that change represents distinct improvement."

Teams also are encouraged to take input from hospital staff members not on the team and

revise changes based on those comments. "We learn an awful lot from the times when our improvements don't work the way we want it to," he says. "The next time we do one of these things, we hope we make it that much more effective."

Achieving 'exceptional safety'

The latest collaborative, Achieving Exceptional Safety in Health Care, began in January 2002. It is expected to be active for at least three years, but Convery suspects it will turn into an ongoing effort.

The goal of the collaborative is to institute the same set of patient safety initiatives and recommendations in a uniform process across all of SSM's hospitals. "When we looked at recommendations from various national services like the Agency for Healthcare Research and Quality and the National Safety Foundation, we found most of our hospitals

Clinical Collaborative -- The Results are In

When SSM Health Care started its Clinical Collaborative on the secondary prevention of ischemic heart disease in January 1999, about 40% of heart attack patients discharged were on lipid-lowering agents. That has since improved to 75%. In another intervention, 95% of heart attack patients are discharged on aspirin therapy.

The collaborative on congestive heart failure has focused on improving patient education and discharge instructions. At the beginning of the effort, 30% of CHF patients left the hospital with detailed instructions for monitoring their weight gain. That has since improved to 70%.

SSM's hospitals have maintained a high level of Coumadin treatment for patients with congestive heart failure and atrial fibrillation in order to prevent blood clots. More than 80% of those patients are on Coumadin, compared to the national benchmark of 60%.

Figure 2: Clinical Collaborative Topics

- Improving the Secondary Prevention of Ischemic Heart Disease (Secondary Prevention) - **1/99**
- Improving Prescribing Practices (IPP) - **5/99**
- Using Patient Information to Improve Care (UPI) - **11/99**
- Enhancing Patient Safety Through Safe Systems (EPS) - **3/00**
- Improving the Treatment of Congestive Heart Failure (CHF) - **11/00**
- Achieving Exceptional Safety in Health Care (AES) - **1/02**

Source: SSM Health Care, St. Louis, MO.

did most of these things, but not all of them did every single thing in the same way," he explains.

"We felt if we wanted to have a system we could point to as an example of patient safety, we needed a series of initiatives across all of the hospitals that follow the national recommendations in a standardized format," Convery continues.

The collaborative began with 15 recommended practices derived from AHRQ and other national groups. These practices were vetted by the SSM's Quality Resource Center and the Physician Leadership Council. One more practice was added, bringing the list for implementation to 16 (see **Figure 3**). The practices are being implemented three at a time, Convery says, "making sure that we measure them and maintain them and they build on each other."

The first effort was the establishment of a safety center at each hospital, which serves as a foundation for future efforts, he says. The second was the publication of a quarterly safety report at each hospital, allowing physicians, nurses, and staff to see facility's patient safety performance, what is being measured, and what is being addressed, Convery says.

Other steps include correct surgical site marking, eliminating dangerous abbreviations from physician orders, and eliminating blanket patient orders. "It followed the collaborative framework so that each of our hospitals had each one of these in place. Then we go back and report and build on them and learn from each other as we go along," he says.

The collaborative effort has produced remarkable results in its first year, Convery says, such as reducing the use of four dangerous abbreviations by 50% in the first six months (see **Figure 4**). The abbreviations being targeted include the use of the letter U for units, and the use of the Latin abbreviation q.d. for the term daily. Instead of the shorthand, physicians are asked to write out the words units and daily. Doctors also are asked to eliminate the use of trailing zeros after a decimal point, and to use a leading zero before a decimal point to make their orders for medication dosages clearer.

Hospitals in the patient safety collaborative were given a standard method of establishing a baseline, he says, along with methods for educating physicians, nurses, and staff about the reasons to eliminate the use of dangerous abbreviations. Suggestions were also provided on how to work with physicians to change their order

writing style. The number of dangerous abbreviations is being measured at three-month intervals.

The four abbreviations are a common target for all the hospitals in the SSM system, but Convery says individual facilities have added other abbreviations to their own efforts. That concern shows how much people in the hospitals value the collaborative process, he says, and is evidence that it is being driven from the bottom as well as the top of the organization.

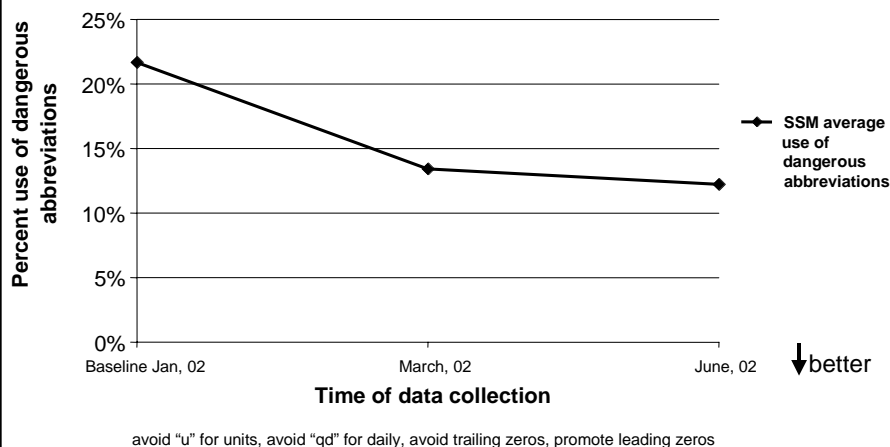
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**Figure 3: Achieving Exceptional Safety in Health Care (AES)
16 Recommended Practices**

1. Implement a near-miss reporting system
2. Eliminate dangerous abbreviations
3. Design and implement an accurate patient medication list at admission and discharge and avoid "home" medication and blanket orders
4. Implement an effective disclosure of unanticipated outcomes process
5. Provide and use protocols for high risk medications
6. Implement a fall reduction process
7. Implement a sentinel event review process
8. Establish an entity Safety Center
9. Provide pharmacy rounding in ICU's
10. Implement all recommended safety information technology advances
11. Implement 24-hour pharmacy coverage
12. Provide a quarterly "state of safety report"
13. Develop a protocol for proper timing of surgical antibiotic prophylaxis
14. Institute a needle less IV system
15. Implement a protocol for glucose management of diabetic patients undergoing surgery
16. Implement a surgical site marking procedure to avoid wrong limb surgery

Source: SSM Health Care, St. Louis, MO.

**Figure 4: Achieving Exceptional Safety in Health Care
Use of Dangerous Abbreviations
Average performance of Collaborative Entities**



Source: SSM Health Care, St. Louis, MO.