OSF HealthCare: Promoting Patient Safety Through Education and Staff Engagement

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ABSTRACT: OSF HealthCare, an integrated health care delivery system serving parts of Illinois and Michigan, was an early leader in promoting a collaborative approach to patient safety improvement. OSF has enhanced these efforts during the past five years by continuing to build awareness of safety risks through systemwide error reporting and local risk assessment, by identifying clinicians who can serve as models for their peers, and by engaging staff in intraorganizational learning and competition to spur improvement. It also has raised performance expectations by educating hospital- and system-level board members about patient safety issues and quality improvement techniques. Exemplary facility-level results include: an 80 percent reduction over six years in the rate of ventilator-associated pneumonia among intensive care patients; an increase from 39 percent to 100 percent in compliance with a standardized medication administration process; and a nine-percentage-point increase over one year in surgical patients receiving evidence-based treatment to prevent infections.

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OVERVIEW

In the decade since the Institute of Medicine (IOM) issued its landmark report, *To Err Is Human,* there have been a number of successful efforts made to improve patient safety in the United States.[1] Nevertheless, the nation appears far from realizing the vision of eliminating harm to patients from care that is meant to help them.[2] A series of Commonwealth Fund case studies conducted on the fifth anniversary of the IOM report identified several health care organizations that had taken promising steps toward realizing one of the IOM's key recommendations: creating an organizational culture of safety.[3]

This case study, part of a new series documenting the progress that can be achieved with sustained effort, provides a fifth-year update on patient safety initiatives at one of the sites profiled earlier[4]: OSF HealthCare (OSF), an integrated

health care delivery network headquartered in Peoria, Illinois. OSF created a patient safety collaborative for its system in 2001 to address concerns raised by the IOM report. Each OSF hospital contributed a team—which included an administrator, a physician, a nurse, and pharmacist—to the collaborative, and, together with system staff, the teams developed strategies to heighten staff awareness of safety, encourage the reporting of errors, and promote thinking about systemic reforms centered on error prevention.

This case study describes how OSF's efforts have evolved over the past five years and highlights how the organization has spread and sustained the program's effectiveness by:

- Encouraging employees to identify and report risks to patient safety to a systemwide database, which triggers patient safety officers to investigate whether their facilities are at risk of experiencing similar events. One hospital increased safety event reporting almost threefold by promptly investigating and taking action on calls to a patient safety hotline.

- Educating its hospital- and system-level board members about patient safety and quality improvement techniques, which has the effect of raising performance expectations for hospitals in the system.

- Engaging staff in internal competition and intra-organizational learning to spur improvement in quality and safety—activities that helped the worst-performing OSF hospital on surgical infection prevention to rise to the level of the best-performing hospital.

- Standardizing the medication administration process to help prevent adverse drug events, by ensuring that the right patient receives the right drug in the right dose, through the right route, and at the right time. Through this process, one hospital increased compliance from 39 percent to 100 percent.

- Using "bundles" of evidence-based practices to reduce hospital-acquired infections, resulting in an 80 percent decline over six years in one hospital's rate of pneumonia among intensive care patients on mechanical ventilation.

Together, these efforts demonstrate the importance of identifying clinicians who can serve as models for their peers and engage staff in implementing patient safety efforts; providing timely feedback, education, and recognition to spur improvement; and adapting care redesign to eliminate opportunities for human error in the local setting.
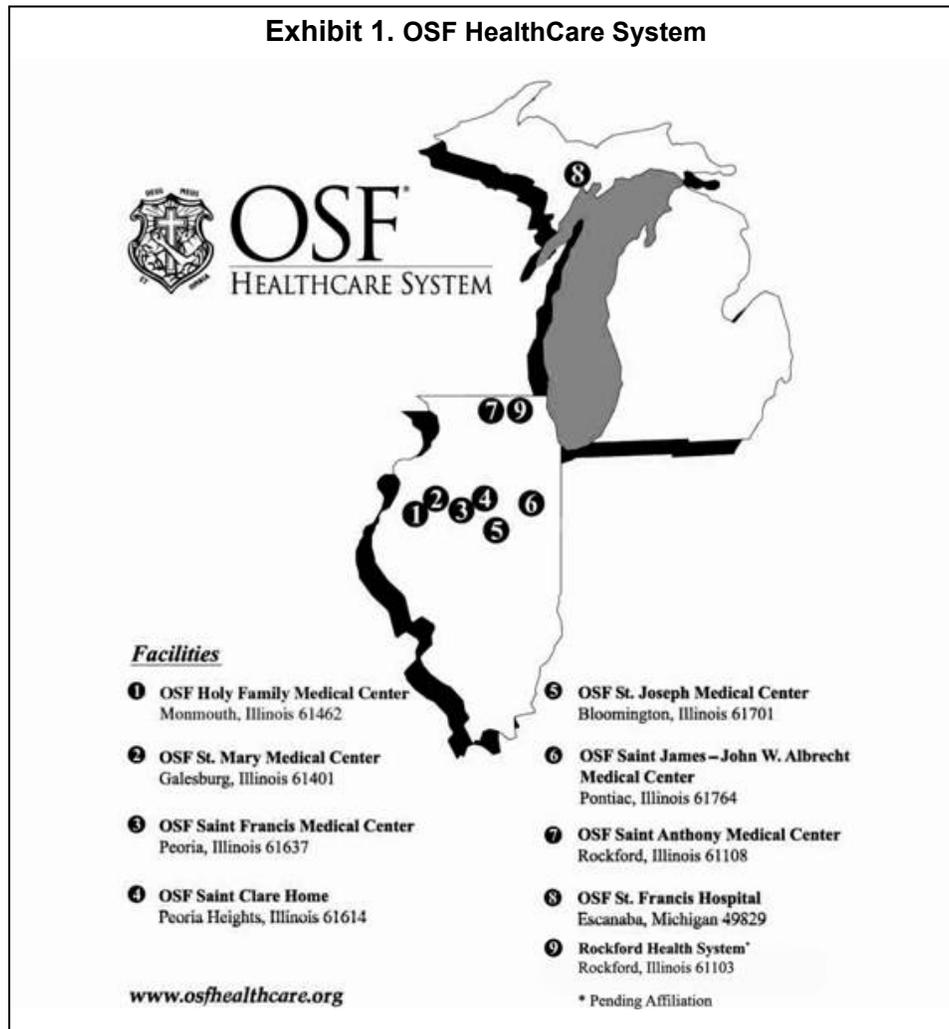
ORGANIZATIONAL CONTEXT FOR PATIENT SAFETY IMPROVEMENT

Organization

OSF HealthCare (OSF) is an integrated health care delivery system that includes seven acute-care hospitals in Illinois and Michigan, ranging in size from a 25-bed critical-access hospital to a 616-bed teaching facility (Exhibit 1).[5]

The system also encompasses a medical group, two colleges of nursing, a long-term care facility, home care services, and other related businesses. The network is owned and operated by the Sisters of The Third Order of Saint Francis, based in Peoria, Ill.

The medical staff of the hospitals in the system includes employed physicians, such as radiologists and pathologists, and credentialed community physicians. Most of the system's hospitals also employ hospitalists. The OSF Medical Group employs nearly 500 physicians and 150 midlevel providers in 50 clinical practices located throughout Illinois and Michigan.

This case study focuses on patient safety interventions at three of the network's hospitals (and among their affiliated medical staff): OSF Saint Francis Medical Center, the system's flagship 616-bed teaching hospital in Peoria, Ill.; OSF St. Joseph Medical Center, a 155-bed facility located in Bloomington, Ill.; and OSF St. Francis Hospital and Medical Group, a 98-bed facility in Escanaba, Mich.

Exhibit 1. OSF HealthCare System

Facilities

❶ OSF Holy Family Medical Center
Monmouth, Illinois 61462

❷ OSF St. Mary Medical Center
Galesburg, Illinois 61401

❸ OSF Saint Francis Medical Center
Peoria, Illinois 61637

❹ OSF Saint Clare Home
Peoria Heights, Illinois 61614

❺ OSF St. Joseph Medical Center
Bloomington, Illinois 61701

❻ OSF Saint James – John W. Albrecht Medical Center
Pontiac, Illinois 61764

❼ OSF Saint Anthony Medical Center
Rockford, Illinois 61108

❽ OSF St. Francis Hospital
Escanaba, Michigan 49829

❾ Rockford Health System*
Rockford, Illinois 61103

www.osfhealthcare.org

* Pending Affiliation

In 2010, OSF began implementing a new systemwide electronic health record (EHR) that is expected to help integrate information recorded in hospitals and ambulatory settings. At the same time, OSF began using computerized physician order entry and a barcode medication system. This health information technology, which replaces an existing EHR in some locations, can help improve patient safety—for example, by checking for potential drug and allergy interactions when new prescriptions are written.

Laying the Foundation

At the outset of its patient safety efforts, OSF focused most intently on reducing medication errors. By using medication reconciliation strategies to ensure the safe use of high-risk medication and by implementing greater controls on medication dispensing, the health system reduced its overall rate of adverse drug events detected by 53 percent within the first 20 months of the initiative.

OSF also made wide use of three strategies to enhance communication and reinforce the importance of patient safety: having hospital executives perform "walk-rounds" to obtain input about safety practices and elicit ideas for needed improvement; encouraging nurses to conduct safety briefings at shift changes; and asking physicians to discuss patient safety issues during departmental meetings. These initiatives were designed to encourage deeper thinking about the latent causes of safety incidents.

STRATEGIES AND TOOLS FOR CHANGE

In the past five years, OSF has continued to introduce techniques designed to improve staff's ability to recognize patient safety risks and to implement strategies for mitigating patient harm. These include:

- Enhancing organizational learning;

- Enabling board accountability;

- Engaging the staff;

- Using simulation to define team roles;

- Standardizing the medication administration process; and

- Reducing hospital-acquired infections.

Enhancing Organizational Learning

OSF developed a Web-based adverse event response system to enhance the ability of patient safety officers to identify and report incidents that pose a risk to patients in OSF hospitals. All patient safety officers are expected to report sentinel events—as well as events at risk of becoming sentinel events—through the Web site. In addition, all OSF board members can access the site.

Patient safety officers are alerted immediately when a colleague files an event on the adverse event reporting Web site so that they can investigate whether their institutions are at risk of having a similar event. The operating unit that files the report is responsible for:

- determining where a similar event could also occur;

- performing a root-cause analysis;

- developing and implementing a corrective action plan; and

- monitoring the effectiveness of the actions taken.

Measures are audited until targets have been met for four consecutive months. Additionally, the facility audits the same measures at a later date to ensure that corrective actions have been sustained. OSF provides its board with a monthly report of all serious safety events that have occurred and what actions have been taken to address them.

The Web site has enabled OSF to track events and look for patterns among them. In addition, OSF uses noteworthy events at other institutions to trigger its hospitals to investigate potential risk. For example, a recent fire in an operating room of a non-OSF hospital prompted a team of OSF operating room professionals, anesthesiologists, and surgeons to review recommendations from the ECRI Institute, the American Society for Healthcare Risk Management, the Association of periOperative Registered Nurses, the American Society of Anesthesiologists, and other national professional and safety organizations. From that review, the group developed preventive recommendations for all OSF facilities, which were presented to and approved by the board.

To further improve reporting, OSF St. Joseph Medical Center implemented in March 2009 a four-digit patient safety telephone hotline for its employees so they could report incidents, near-misses, or concerns about patient safety. The hospital's patient safety specialist follows up with the staff member who called in the incident and sends a report to his or her manager. Other OSF facilities also use a similar system to promote the reporting of safety concerns.

Calls to the OSF St. Joseph Medical Center hotline revealed a recurring problem with falls among patients who had knee surgery. Upon investigation, the hospital discovered that patients were controlling their post-surgical pain using nerve-block pumps at the bedside, but they had not been given knee immobilizers. Consequently, when the patients got out of bed for physical therapy, many fell. In response, the hospital began using knee immobilizers on every patient and switching to a pump that was not controlled by the patient. The hospital also educated staff that these patients were at high risk for falls.

The patient safety hotline at OSF St. Joseph Medical Center has dramatically increased the number of reports of adverse drug events, near-misses, and patient safety concerns. Calls have more than doubled, increasing from a range of 28 to 38 calls per month to 85 to 95 calls per month, according to Debra Dalton, R.N., the center's director of quality resource management. This increase in reporting suggests that the hospital is achieving success in engaging staff in safety awareness.

To help more staff and more OSF hospitals learn from these incidents, OSF created an electronic listserv that links its patient safety officers. The system's patient safety officer posts questions for each individual facility's patient safety officer to answer—for instance, "What process do you use to assure accurate specimen labeling in your facility?" The facility-level patient safety officers also have begun to post their own questions to the listserv. "That's what we really want to happen," said Kathy Haig, R.N., OSF's corporate patient safety officer. "An advantage of being part of a system is transparency among members. We all share and we all learn."

Enabling Board Accountability

OSF's leaders educate the system-level board members about patient safety and quality improvement research and techniques, and in doing so help raise the board's expectations for OSF hospitals. A board subcommittee that focuses on quality and patient safety devotes one three-hour meeting to these topics each month; the results are shared with the full board of directors, which has its own quality-and-safety session lasting from one to two hours.

The OSF board also meets with external experts from other major health care systems that are leaders in patient safety, and its members have attended Institute for Healthcare Improvement forums to acquaint themselves with leading quality improvement and patient safety initiatives.

Such education is particularly helpful for board members who do not have clinical experience, said OSF HealthCare president and board member Sister Diane Marie McGrew, who is an accountant by training. "I am much more sensitive to the complexity of patient safety–related issues [and know] there is not just one easy fix or one easy solution to prevent harm. I'm also better educated to ask questions related to patient safety and to have an opinion when I don't feel the answers are up to par with what I find acceptable," she said. The training has also made McGrew realize that "to go to the next level of improved quality and safety, we really have to engage the physicians much more than we are doing today."

In 2008, the board of directors set the expectation that every OSF facility would complete the Hospital Survey on Patient Safety Culture developed by the Agency for Healthcare Research and Quality (AHRQ), use the results to assess and act upon opportunities for improvement, and provide the board with a quarterly progress report.[6] This formal assessment of safety culture was repeated in 2010. Each facility uses the survey results, as well as information from incident reports, employee opinion surveys, and focus groups, to better understand how employees perceive the culture. The surveys are also used to evaluate the effectiveness of action plans stemming from the previous survey.

Engaging the Staff

Enhancing employee awareness of safety issues is another key element of OSF's patient safety program. To engage staff in reducing surgical site infections, for example, OSF monitors the extent to which surgical teams meet all of the defined measures for the Surgical Care Improvement Project (SCIP), a national effort to reduce complications from surgery. Results are reported using a cumulative summary chart, or CUSUM, which demonstrates variance over time between actual and expected behavior. Such charts can help clinicians discern the impact of safety processes, although some frontline staff find them difficult to interpret.

To make performance data more meaningful to clinicians, William R. Scharf, M.D., a surgeon and OSF's physician change agent, modified the chart to indicate the number of days a surgical team provided "perfect care"—meaning it met all of defined SCIP measures for 100 percent of patients that day. Staff rallied to sustain the results and were very interested in understanding what had happened when the count fell to zero, he said.

OSF also ranks its facilities according to performance on core measures, including the percentage of patients who receive perfect care. After OSF began doing this, Scharf showed the results to the worst-performing facility at the time (OSF St. Francis Hospital in Escanaba, Mich.). After pointing out that

Exhibit 2. Surgical Care Improvement Project Composite Performance: OSF St. Francis Hospital (Escanaba, Mich.) Compared to Benchmarks

Percent of appropriate services provided to prevent surgical complications
among eligible surgical patients
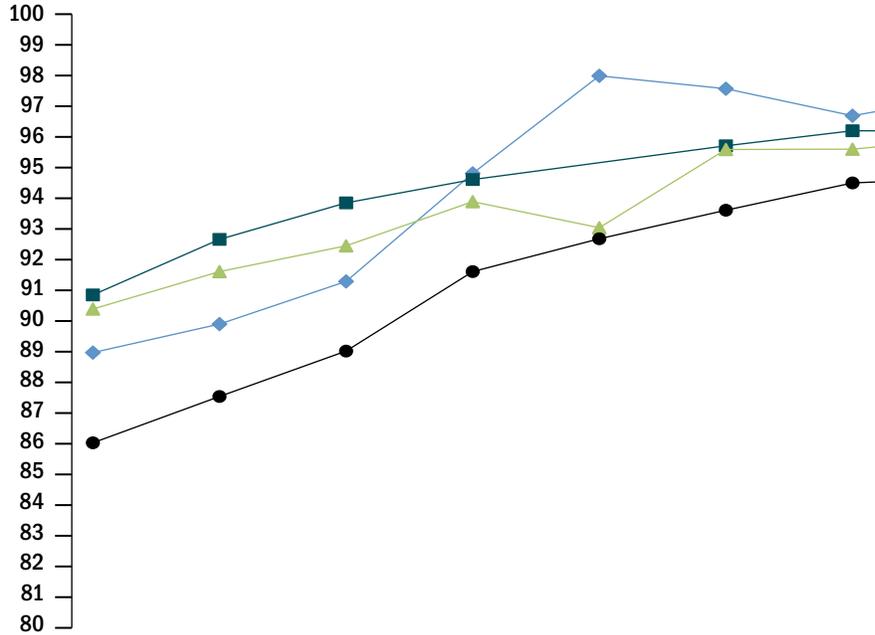
	3/31/08	6/30/08	9/30/08	12/31/08	3/31/09	6/30/09	9/30/09	12/31/09
OSF St Francis Hospital	88.97	89.90	91.29	94.81	97.99	97.57	96.69	97.42
OSF Healthcare System	90.85	92.66	93.85	94.61		95.71	96.20	96.19
Michigan State	90.39	91.61	92.45	93.89	93.04	95.59	95.60	95.99
National Average	86.03	87.54	89.02	91.61	92.68	93.61	94.50	94.67

Source: The Commonwealth Fund Web site www.whynotthebest.org, which compiles data from the federal Hospital Compare Web site. Data represent a composite of process of care measures to prevent surgical complications for rolling one-year periods ending on the quarterly dates shown. The composite is calculated as the number of times a hospital performed the appropriate action across all measures, divided by the number of opportunities the hospital had to provide appropriate care.

the hospital did not perform poorly compared with hospitals nationwide, he then asked the gathered surgical team why it did not perform as well as its peers in the OSF system. As they explored the issue, several problems came to light: 1) some of the surgical staff at the facility were not aware of the SCIP program; 2) others found it troublesome that the data appeared six weeks later, when, as Scharf said, "the trail has gone cold"; 3) many did not realize they had to examine their defects to improve their rates; and 4) success was not rewarded.

Following these revelations, Scharf provided education and more timely data and OSF implemented a recognition system: for every 30 cases of perfect care, the administrative team would buy lunch for the staff to celebrate their success. As a result, the hospital's performance on the provision of a composite of SCIP measures rose from 89 percent of surgical patients during a "baseline" period (April 2007 through March 2008) to 98 percent the following year (April 2008 through March 2009) (Exhibit 2).[7] This nine-percentage-point gain was greater than the corresponding increase in national and state averages for the composite measure during the same period (6.65 and 2.65 percentage points, respectively).

On the heels of this improvement, the formerly worst-performing hospital in the OSF system became the best-performing one, Scharf noted. The facility has also surpassed its counterparts in its market area and now performs within the top quartile of hospitals

> **Exhibit 3. Steps Followed to Standardized Medication Administration**
>
> 1. A patient chart check is completed by a registered nurse.
> 2. The patient's electronic health record (EHR) or paper chart is compared with the order in the automatic medication dispensing cabinet.
> 3. The EHR, or the paper chart, and the automatic medication dispensing cabinet are opened to the correct patient.
> 4. If the medication is highlighted in blue on the automatic medication dispensing cabinet, the nurse must verify the order on the paper chart.
> 5. The medication is pulled from the dispensing cabinet and checked to see that it matches the EHR/paper chart order *(right medication, right dose, right route, right time, right patient).*
> 6. The automatic dispensing cabinet receipt is printed after all medications have been removed.
> 7. The medication is taken to the patient room in a prepared container along with the printed receipt.
> 8. Patient identification is verbally confirmed or the patient's armband is checked *(right patient).*
> 9. Medication packets are opened one at a time.
> 10. The patient is educated about the new medications.
> 11. The dose/route is verified with the automatic medication dispensing cabinet receipt *(right medication, right dose, right route).*
>
> Source: OSF St. Joseph Medical Center.

nationally on the composite of SCIP measures. To sustain the achievement, OSF extended the target for the reward: after the group reached 30 perfect cases, OSF increased the number of perfect cases necessary for the recognition to as many as 50 or 75 cases. OSF has since implemented the program in another hospital.

Using Simulation to Define Team Roles

Simulation labs enable OSF to identify weaknesses in communication and teamwork that affect patient safety. As an example, OSF St. Joseph Medical Center uses mannequins in simulations of "code blue" incidents, in which patients need resuscitation. "We found the codes outside of the critical care areas were rather chaotic," said patient safety specialist Cindy Archer, R.N., M.S., who added that staff roles were undefined, leading to the inefficient use of personnel. To improve teamwork during these critical incidents, the hospital began to assign team roles based on job titles.
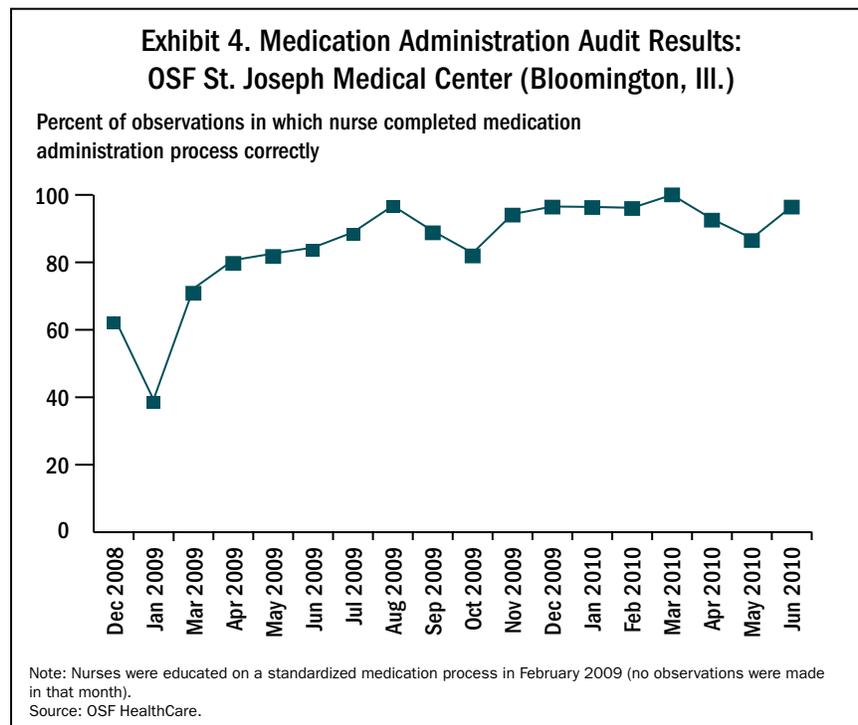
OSF Saint Francis Medical Center, in Peoria, Ill., has used simulation in a number of other areas, including control of hemorrhage and avoidance of shoulder dystocia, a critical event that occurs during birth when the baby's shoulder gets stuck behind the mother's pubic bone. With the proceeds of a $25 million donation, Saint Francis is building an operating room simulation and education center, which is scheduled to open in 2012.

Standardizing the Medication Administration Process

OSF St. Joseph Medical Center used a failure mode and effects analysis (FMEA) to identify variation in the process nurses used for administering medications. In response to the findings, the hospital assembled a team of frontline nurses who developed a process that every nurse should follow when administering medication to ensure that the "five rights" are met: right patient, right drug, right dose, right route, and right time for drug administration (Exhibit 3).

By January 2009, as the nurses were about to complete their education on the new process, eight staff members from the quality department began conducting audits by watching the nurses administer medication. (The audit tool has been reproduced in Appendix A.) The auditors found that nurses followed every step in the process 39 percent of the time. After 14 months of auditing, the process was completed

Exhibit 4. Medication Administration Audit Results:
OSF St. Joseph Medical Center (Bloomington, Ill.)

Percent of observations in which nurse completed medication administration process correctly

Note: Nurses were educated on a standardized medication process in February 2009 (no observations were made in that month).
Source: OSF HealthCare.

correctly nearly 100 percent of the time (Exhibit 4). While acknowledging that the results may partly reflect the Hawthorne effect—the phenomenon in which subjects improve or alter their behavior in response to being observed—Debra Dalton, St. Joseph's director of quality resource management, said the magnitude of the increase, as well as the decrease in variation, suggests the improvement is also linked to the newly developed medication process.

Today, the quality department conducts from 30 to 35 audits per month. The auditors also serve as coaches for the nurses and address variations in care that they observe.

Reducing Hospital-Acquired Infections and Other Adverse Events

OSF has acted to reduce ventilator-associated pneumonia (VAP) episodes in its hospitals by implementing evidence-based practices for patients on mechanical ventilation in the intensive care unit (ICU). VAP is associated with increased mortality and morbidity, length of hospital stay, and costs per patient.

The elements of the protocol include elevation of the head of the bed, a daily sedation "vacation," assessment of the readiness to extubate the patient,

prophylaxis for peptic ulcer disease and deep vein thrombosis. Additional interventions, which are determined by patient safety officers, ICU charge nurses, and respiratory therapists, may include hand hygiene, increasing the mobility of the patient, and providing oral care frequently for patients who are intubated or have tracheostomies. The teams train staff and audit to determine how consistently they follow the protocol.

At OSF Saint Francis Medical Center, in Peoria, multidisciplinary teams implement the protocol, with a special focus on trauma patients who are frequently admitted to the ICU. These efforts have resulted in a sustained 77 percent reduction in the risk-adjusted rate of VAP (per 1,000 days of ventilator use) from 2003 to 2009 (Exhibit 5).

THEMES AND INSIGHTS

OSF's efforts to sustain and enhance its patient safety initiatives demonstrate the importance of identifying clinicians who can serve as models for their peers and engage staff in implementing safety efforts; providing timely feedback, education, and recognition to spur improvement; and adapting care redesign to eliminate opportunities for human error in the local setting.

Exhibit 5. Rate of Ventilator Associated Pneumonia (VAP): OSF Saint Francis Medical Center (Peoria, Ill.)

Rate per 1,000 ventilator days

Year	Rate
2003	4.4
2004	2.8
2005	2.5
2006	1.4
2007	1.8
2008	1.7
2009	1.0

Source: OSF HealthCare.
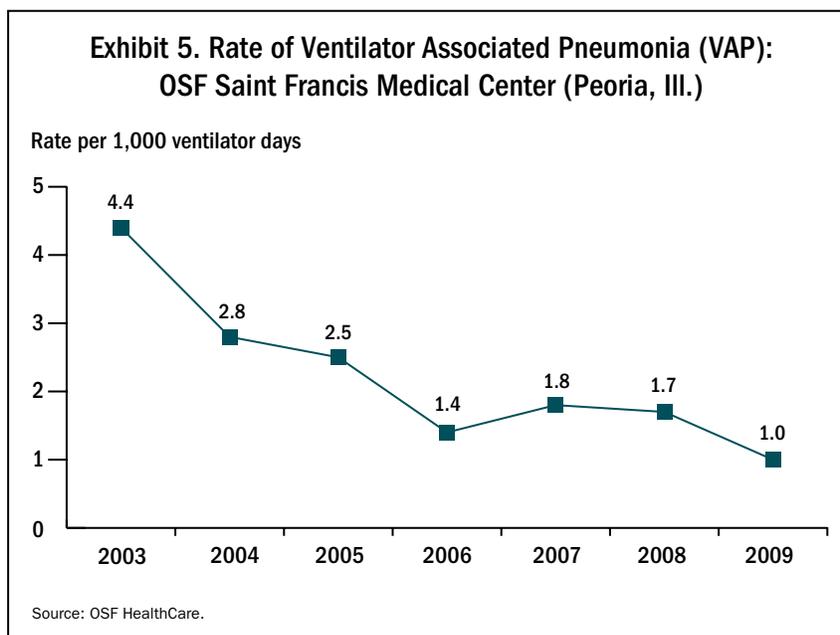
Engage Clinicians as Role Models and Implementation Champions

OSF's leaders learned that one of the key steps in changing physician behavior is to identify physicians who are willing to function as leaders for their peers. And once those leaders have been identified, they need support to fulfill their role. A physician trying to influence the behavior of his or her peers may need additional time, or additional revenue to offset the possible loss of referrals. Sometimes physicians need social support. "The worst thing you could do is have a doctor engage in change activity, [and] feel like they have no one to go to to support them when the heat starts getting turned up," said Scharf, the OSF physician change agent. Physicians in that position may never participate in another patient safety activity, he noted. "The important thing to do is to understand what their issues are . . . and then to try to use various levers to support them."

It is also critical to identify nursing leaders who can shepherd a program through implementation and provide advice on the most appropriate time to undertake initiatives. Forcing a project on a department that is overwhelmed with another problem or lacks strong leadership may be worse than not implementing the program at all, Scharf said.

Provide Timely Feedback, Education, and Recognition

Providing immediate, meaningful feedback is important for motivating health care providers as well as administrators. This feedback must be supplemented by education on how to use data for improvement, and it must be reinforced through some type of team-based recognition of success. OSF's experience in improving surgical infection prevention in one hospital suggests that rewards—in this case, a team lunch—do not have to be elaborate to provide positive reinforcement for change, when coupled with healthy competition for achieving the best performance among peers.

Patient safety should also be seen as one pillar in a broader performance improvement strategy. "[Our] goals are to manage the outcomes of care, while improving efficiency and reducing cost," said Haig, the OSF corporate patient safety officer. Public reporting furthers these goals by demonstrating how the institution is seen by those it serves. "We feel some of the components of the Leapfrog Survey, such as the National Quality Forum Safe Practices, are key to our transformative efforts to become a high reliability organization," she said.[8] Data demonstrating the cost-benefit of patient safety programs also helps to generate support from hospital management and spread programs across the system, she said.

Adapt Care Redesign to the Local Setting

Standardization is important in reducing variation in critical safety processes, such as medication administration, that are designed to eliminate opportunities for human error. On the other hand, because OSF facilities range in size and capability, there must be some flexibility in designing programs that can be adapted locally so that they will be effective for each individual setting.

According to R. Michael Gulley, M.D., OSF's senior vice president of strategic effectiveness, institutions must be willing to redesign care processes to make them more efficient and safe. "There's this gap between work as designed and imagined, and work as executed. And it's in that gap where [there are] a lot of the events and missed opportunities," he said. As OSF moves forward in its patient safety efforts, its goal is to encourage greater involvement in care redesign at the unit level. The challenge, Gulley believes, is to make innovation part of the culture, while avoiding "bolt-on solutions" that may weaken the integrity of the process.

CONCLUSION

OSF HealthCare's patient safety work has evolved from its initial focus on the precepts of patient safety, including strategies to improve teamwork and reduce communication errors, to a more complex and collaborative model that encourages employees of hospitals within the system to learn from one another. The health system's focus on enhancing the capability of its staff and its board to engage in critical thinking about patient safety demonstrates how such efforts can increase a system's expectations for patient safety, and, with that, system performance. OSF's emphasis on collaborative learning models also helps the organization glean lessons from other institutions.

OSF's leaders recognize that advancing beyond these accomplishments may require significant work to redesign care processes in an adaptive manner that meets the system's objectives while also reflecting local conditions, and to engage community-based physicians, who play an important role in patient safety. Both are challenges faced by institutions across the nation.

A summary of findings from all case studies in this series, *Keeping the Commitment: A Progress Report on Four Early Leaders in Patient Safety Improvement,* will be available in spring 2011 on www.commonwealthfund.org.

Notes

1   D. M. Berwick, D. R. Calkins, C. J. McCannon et al., "The 100,000 Lives Campaign: Setting a Goal and a Deadline for Improving Health Care Quality," *Journal of the American Medical Association,* Jan. 18, 2006 295(3):324–27; and P. J. Pronovost, G. A. Goeschel, E. Colantuoni et al., "Sustaining Reductions in Catheter Related Bloodstream Infections in Michigan Intensive Care Units: Observational Study," *BMJ,* Feb. 4, 2010 340:c309.

2   R. M. Wachter, "Patient Safety at Ten: Unmistakable Progress, Troubling Gaps," *Health Affairs,* Jan. 2010 29(1):165–73; and C. P. Landrigan, G. J. Parry, C. B. Bones et al., "Temporal Trends in Rates of Patient Harm Resulting from Medical Care," *New England Journal of Medicine*, Nov. 25, 2010 363(22):2124–34.

3   D. McCarthy and D. Blumenthal, *Committed to Safety: Ten Case Studies on Reducing Harm to Patients* (New York: The Commonwealth Fund, April 2006); and D. McCarthy and D. Blumenthal, "Stories from the Sharp End: Case Studies in Safety Improvement," *Milbank Quarterly,* March 2006 84(1):165–200.

4   For a synthesis of findings across sites, see D. McCarthy and S. Klein, *Keeping the Commitment: A Progress Report on Four Early Leaders in Patient Safety Improvement* (New York: The Commonwealth Fund, forthcoming).

5   Two OSF hospitals have been recognized by the American Nurse Credentialing Center's Magnet Designation, given to hospitals that excel in the delivery of excellent nursing services to patients, disseminate best practices, and promote quality in a setting that supports professional practice. The program is based on a 1983 study by the American Academy of Nursing, which sought to identify the characteristics of hospitals that attract and retain well-qualified nurses. Since the Magnet program first awarded the designation to a hospital in 1994, the number of institutions that have qualified has risen to 372. The criteria for inclusion have increased as well. Hospitals must not only demonstrate empirical quality outcomes, they must show that they engage in innovative quality improvement programs, have transformational leadership, and provide nursing staff with structure and direction necessary to fulfill professional and organizational goals (Source: American Nurses Credentialing Center).

6   Agency for Healthcare Research and Quality, *Hospital Survey on Patient Safety Culture* (Rockville, Md.: AHRQ, April 2010), http://www.ahrq.gov/qual/patientsafetyculture/hospsurvindex.htm.

7   Performance data can be found at http://www.whynotthebest.org.

8   On two of seven domains measured by the Leapfrog Group, the majority of OSF hospitals report making substantial progress or fully meeting standards for avoiding patient harm and managing serious errors. The Leapfrog Hospital Survey assesses hospital performance on four quality and safety practices that have been endorsed by the National Quality Forum. Data are available at: http://www.leapfroggroup.org.

Appendix A. Medication Administration Performance Audit Tool

Medication Administration Performance Audit Tool

Day	Date	Time	Unit	Nurse	Auditor	

Patient 1:

In Pyxis Room:

1. Carecast/ paper chart and Pyxis both opened to correct patient?	Yes	No	
2. Is Medication highlighted in blue in Carecast?	Yes	No	
3. If yes, refer to chart for order verification?	Yes	No	NA
4. Does the medication pulled match Carecast/ paper chart med order?	Yes	No	

Meds taken to room in prepared container (unopened unless crushed/ split)**?**   Yes   No   NA

Patient Identification/Verification:

1. Verbal confirmation of Name/DOB (NA if sedated/confused)?	Yes	No	NA
(**If NA, circle sedated or confused**)			
2. If sedated or confused, is armband checked?	Yes	No	NA
3. Patient ID Verification Method: **(circle method used below)**			
Carecast Pyxis Receipt Patient Chart None			

Administration:

1. Opened packets one at a time (if applicable)?		Yes	No	NA
2. Provided education for new meds? (patient or family)		Yes	No	NA
3. Dose/ route verified with Pyxis receipt?		Yes	No	
4. Double Checked (if applicable)	Heparin	Yes	No	NA
	Insulin	Yes	No	NA
	PCA Pump meds	Yes	No	NA
	Chemo	Yes	No	NA
	Narcotic Waste	Yes	No	NA

Hand Hygiene used appropriately?	Yes	No
Pyxis receipt disposed of properly?	Yes	No
Was coaching needed to complete process correctly?	Yes	No

Patient 2:

In Pyxis Room:

1. Carecast/ paper chart and Pyxis both opened to correct patient?	Yes	No	
2. Is Medication highlighted in blue in Carecast?	Yes	No	
3. If yes, refer to chart for order verification?	Yes	No	NA
4. Does the medication pulled match Carecast/ paper chart med order?	Yes	No	

Meds taken to room in prepared container (unopened unless crushed/ split)**?**   Yes   No   NA

Patient Identification/Verification:

1. Verbal confirmation of Name/DOB (NA if sedated/confused)?	Yes	No	NA
(**If NA, circle sedated or confused**)			
2. If sedated or confused, is armband checked?	Yes	No	NA
3. Patient ID Verification Method: **(circle method used below)**			
Carecast Pyxis Receipt Patient Chart None			

Administration:

1. Opened packets one at a time (if applicable)?	Yes	No	NA

2. Provided education for new meds? (patient or family)   Yes   No   NA
3. Dose/ route verified with Pyxis receipt?   Yes   No

4. Double Checked (if applicable)

		Yes	No	NA
	Heparin	Yes	No	NA
	Insulin	Yes	No	NA
	PCA Pump meds	Yes	No	NA
	Chemo	Yes	No	NA
	Narcotic Waste	Yes	No	NA

Hand Hygiene used appropriately?   Yes   No
Pyxis receipt disposed of properly?   Yes   No
Was coaching needed to complete process correctly?   Yes   No

THE
COMMONWEALTH
FUND