

## NEWS RELEASE

Media Contact:  
Elizabeth Eaken Zhani  
Media Relations Manager  
630.792.5914  
[ezhani@jointcommission.org](mailto:ezhani@jointcommission.org)

**FOR IMMEDIATE RELEASE**

View the [multi-media news release](#)

### **New Solutions Decrease Risk of Colorectal Surgical Site Infection**

*Solutions also Reduced Time in Hospital for Patients with Colorectal Surgical Site Infection*

(OAKBROOK TERRACE, IL – November 28, 2012) A project to reduce colorectal surgical site infections (SSIs) saved more than \$3.7 million in costs for 135 avoided SSIs. The two-and-a-half year project included seven hospitals and was directed by the [Joint Commission Center for Transforming Healthcare](#) in collaboration with the [American College of Surgeons](#).

The participating hospitals were able to reduce superficial incisional SSIs, which affect skin and underlying tissue, by 45 percent and all types of colorectal SSIs by 32 percent. The average length of stay for hospital patients with any type of colorectal SSI decreased from an average of 15 days to 13 days. In comparison, patients with no SSIs had an average length of stay of eight days.

The seven health care organizations and systems that volunteered to address colorectal SSIs as a critical patient safety problem were:

- [Cedars-Sinai Medical Center, Los Angeles, California](#)
- [Cleveland Clinic, Cleveland, Ohio](#)
- [Mayo Clinic-Rochester Methodist Hospital, Rochester, Minnesota](#)
- [North Shore-Long Island Jewish Health System, Great Neck, New York](#)
- [Northwestern Memorial Hospital, Chicago, Illinois](#)
- [OSF Saint Francis Medical Center, Peoria, Illinois](#)
- [Stanford Hospital & Clinics, Palo Alto, California](#)

Colorectal surgery was identified as the focus of the project because SSIs are disproportionately higher among patients following colorectal surgeries. Colorectal surgery is a common procedure across different types of hospitals, can have significant complications,

presents significant opportunities for improvement, and has high variability in performance across hospitals. The project addressed preadmission, preoperative, intraoperative, postoperative and post discharge follow-up processes for all surgical patients undergoing emergency and elective colorectal surgery, with the exception of trauma and transplant patients and patients under the age of 18. Project participants studied the potential factors that contribute to all three types of colorectal SSIs – superficial incisional, deep incisional and organ space SSIs, which affect organs and the space surrounding them.

The project addressed the problem of colorectal SSIs using Robust Process Improvement™ (RPI) methods. RPI is a fact-based, systematic, and data-driven problem-solving methodology that incorporates Lean Six Sigma and change management. Using RPI, project participants measure the magnitude of the problem, pinpoint contributing causes, develop specific solutions that are targeted to each cause and thoroughly test the solutions in real life situations. The hospitals in the SSI project identified 34 unique correlating variables that increased the risk of colorectal SSIs, including patient characteristics, surgical procedure, antibiotic administration, preoperative, intraoperative and postoperative processes, and measurement challenges.

Examples of some of the targeted solutions to reduce superficial incisional colorectal SSIs include standardizing the preoperative instruction to patients and caregivers for applying the preoperative skin cleaning product; and establishing specific criteria for the correct management of specific types of wounds, which promotes healing and helps decrease the risk of developing SSIs. Examples of some of the targeted solutions to reduce all types of colorectal SSIs include warming interventions to ensure that the patient's temperature is consistently maintained at the recommended range for optimal wound healing and infection prevention; and establishing solutions such as a weight-based antibiotic dosing protocol in order to address the inadequate administration of antibiotics.

The project used SSI outcomes data from ACS's National Surgical Quality Improvement Program (NSQIP) to guide the improvement effort. NSQIP data on outcomes of surgery are highly regarded by physicians as clinically valid, using detailed medical information on severity of illness and comorbidity to produce data on risk-adjusted outcomes. SSI is one of the most prevalent negative outcomes reported by NSQIP hospitals.

Over the course of the project, it became apparent that the "one size fits all" approach in measuring and reducing the different levels of colorectal SSIs would not have the same success for all types of colorectal SSIs, especially organ space SSIs. These particularly challenging SSIs require more in-depth investigation, especially in surgical techniques and protocols. Further

work is being conducted by pilot organizations to validate measurement tools to identify significant correlating factors that can be improved upon to reduce these more severe types of SSIs.

“Reducing surgical site infections is a very real challenge, but one that must be addressed if we want to make health care more reliable in terms of patient safety,” says Mark R. Chassin, M.D., FACP, M.P.P., M.P.H., president, The Joint Commission. “These seven organizations are leading the way in finding specific solutions to the complex problem of surgical site infections.”

“ACS NSQIP uses rigorous data to produce risk-adjusted outcomes. By collaborating with the Joint Commission Center for Transforming Healthcare on this surgical site infection project, we’ve made meaningful progress in learning how we can reduce the SSI rate in colorectal surgical patients and concomitantly produce a savings in costs at the same time. These results give the surgical community further impetus to continue working to solve this critical surgical care quality issue,” says Clifford Y. Ko, M.D., M.S., M.S.H.S., FACS, director, American College of Surgeons National Surgical Quality Improvement Program and the ACS Division of Research and Optimal Patient Care. “The problem has been identified, and the targeted steps we’re taking are helping us to solve it. As increasingly more hospitals and individual providers get involved to study, learn, and improve upon their results, the benefits will be enormous for everyone, but most importantly, for our patients.”

“This vital project has rendered measureable results in reducing surgical site infections – a major source of preventable patient harm and greater health care costs,” says David B. Hoyt, M.D., FACS, executive director, American College of Surgeons. “Our partnership with the Joint Commission Center for Transforming Healthcare to reduce surgical site infections is helping participating hospitals save millions of dollars annually, and it is engaging surgical teams to become more effective in promoting a culture of surgical patient safety, which is our foremost priority.”

Solutions for colorectal SSIs will be added to the Targeted Solutions Tool (TST) in 2013 after the learning and tools from this project are pilot tested in other health care organizations. The TST provides a step-by-step process to assist Joint Commission accredited health care organizations in measuring performance, identifying barriers to excellent performance, and implementing the Center’s proven solutions that are customized to address specific barriers. Targeted solutions are now available for improving hand hygiene, hand-off communications and wrong site surgery. Accredited organizations can access the TST and solutions on their secure Joint Commission Connect extranet.

### **Statements from the Center's participating organizations**

"Projects like this allow us to develop and test creative, sustainable solutions to addressing issues that hospitals nationwide face every day. The Surgical Site Infection project also gave us the opportunity to partner with the American College of Surgeon's National Surgical Quality Improvement Program to use clinical outcome data to help drive our improvement. The TST then will provide the platform for us to share our learnings broadly with our peers while also learning from others who have tackled the same issues in new ways. Together with the Joint Commission Center for Transforming Healthcare, we can identify solutions and implement them faster to ultimately deliver the best care to our patients."

***Guido Bergomi, senior director of Quality Improvement, Cleveland Clinic, Cleveland, Ohio***

"Strategizing with other health care providers that have similar challenges offers helpful insight on infection prevention strategies that will potentially lead to better patient care. As a partner with the Joint Commission Center for Transforming Health Care, North Shore-LIJ is committed to pursuing targeted solutions to reduce the risk of surgical site infections."

***Michael Dowling, president and CEO, North Shore-LIJ Health System, Great Neck, New York***

"Cedars-Sinai is pleased to be a partner in the Surgical Site Infection collaborative. This work has provided an important opportunity for surgeons, nurses, hospital staff and patients to further enhance our efforts to improve outcomes and save lives. As a result of its participation, Cedars-Sinai has introduced significant new protocols before, during and after colorectal surgeries that have dramatically reduced surgical site infection rates. We are proud of the results and thankful that we can share them with our partners who are all working diligently to produce better clinical outcomes."

***Michael Langberg, M.D., senior vice president for Medical Affairs and CMO, Cedars-Sinai Medical Center, Los Angeles, California***

"The Stanford Hospital & Clinics Surgical Site Infection (SSI) reduction program is the culmination of more than three years of collaborative efforts both within and outside our hospital. A multi-disciplinary team worked closely together to significantly reduce SSIs through the

development of easy to replicate targeted solutions. We all owe a great debt and thanks to the Joint Commission Center for Transforming Health Care. We are aware of the problem and we want to fix the problem. The tools employed in this project will ensure the processes for quality improvement will take place. The knowledge we attained by way of this project will be shared with hospitals across the country, which will lead to better, safer patient care.”

**John Morton, M.D., M.P.H., FACS, director of Bariatric Surgery and Surgical Quality, Stanford Hospital & Clinics, Palo Alto, California**

“Mayo Clinic is committed to collaborative innovation that will create higher-quality, lower cost health care for our patients and for all people. This project is an example of the outstanding work that teams across the country are doing to lead change and quality improvement.”

**John Noseworthy, M.D., president and CEO, Mayo Clinic-Rochester Methodist Hospital, Rochester, Minnesota**

“Northwestern applauds The Joint Commission for this important effort and concept. This project was a catalyst for paying even greater attention to details embedded in our surgical routines and processes. There’s no doubt that participating sparked positive change and fostered an even greater degree of collaboration amongst our surgical teams.”

**Nathaniel Soper, M.D., surgeon-in-chief, Northwestern Memorial Hospital, Chicago, Illinois**

“OSF Saint Francis Medical Center was honored to be selected as a participant in the Joint Commission Center for Transforming Healthcare collaborative to reduce colorectal surgical site infection. OSF Saint Francis has a rich history and culture of clinical care improvement. This project has national importance because colon surgery is the most common procedure in hospitals across the country and, due to its nature, has the highest rate of surgical site infections. OSF Saint Francis Medical Center surgeons and staff were excited to have the opportunity to work with others across the country on this very important project. As a result of our work, a new surgical closing process has been implemented at the medical center.

We are grateful for a team of surgeons, nurses, surgical technicians and sterile processing staff and NSQIP data analysts, as well as our team of Six Sigma professionals, who designed and refined this new process over many hours of discussion, analysis, process design, training and simulation. The team continues to measure surgical outcomes and look for further improvement opportunities. National collaborative efforts such as this will continue to be

important in improving patient outcomes and reducing the cost of care in hospitals across the country.”

***Sue Wozniak, executive leader, OSF Saint Francis Medical Center, Peoria, Illinois***

The Center is grateful for the generous leadership and support of the [American Hospital Association](#), [BD](#), [Blue Cross and Blue Shield Association](#), [Cardinal Health](#), [Ecolab](#), [GE Healthcare](#), [GlaxoSmithKline \(GSK\)](#), [Johnson & Johnson](#) and [Medline Industries](#), as well as the support of [GOJO Industries, Inc](#); [The ARAMARK Charitable Fund](#) and [Federation of American Hospitals](#).

For more information about the Joint Commission Center for Transforming Healthcare, visit [www.centerfortransforminghealthcare.org](http://www.centerfortransforminghealthcare.org).

###

**About the Joint Commission Center for Transforming Healthcare**

Launched in 2009, the Joint Commission Center for Transforming Healthcare aims to transform American health care into a high-reliability industry that ensures patients receive the safest, highest quality care they expect and deserve. The Center's participants – the nation's leading hospitals and health systems – use a proven, systematic approach to analyze specific breakdowns in care, discover their underlying causes and then develop targeted solutions for health care's most critical safety and quality problems. The Center is a not-for-profit affiliate of The Joint Commission, which shares the Center's proven effective solutions with its more than 19,000 accredited health care organizations. Learn more about the Center at [www.centerfortransforminghealthcare.org](http://www.centerfortransforminghealthcare.org).

**About the American College of Surgeons**

The American College of Surgeons is a scientific and educational organization of surgeons that was founded in 1913 to raise the standards of surgical practice and improve the quality of care for surgical patients. The College is dedicated to the ethical and competent practice of surgery. Its achievements have significantly influenced the course of scientific surgery in America and have established it as an important advocate for all surgical patients. The College has more than 79,000 members and is the largest organization of surgeons in the world. For more information, visit [www.facs.org](http://www.facs.org).