
Surgical Care Improvement Project: From SIP to SCIP

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Postoperative surgical complications are a major cause of patient injury, mortality, and healthcare costs. The Surgical Care Improvement Project (SCIP) is a national quality partnership of organizations focused on improving surgical care by significantly reducing surgical complications. SCIP was initiated by the Centers for Medicare and Medicaid Services (CMS) with key stakeholders—hospital and professional associations, healthcare organizations, and other government agencies. SCIP's goal is to save lives by reducing the incidence of surgical complications nationally by 25% by the year 2010. In 2005, a multiyear national campaign was launched focusing on the prevention of surgical site infections, perioperative myocardial ischemia, and venous thromboembolism (pulmonary embolism and deep vein thrombosis).¹

SCIP partner organizations coordinate their efforts through a steering committee that includes representatives from the American Hospital Association, American College of Surgeons, American Society of Anesthesiologists, Association of periOperative Registered Nurses, Joint Commission, Institute for Healthcare Improvement, Department of Veterans Affairs, Agency for Healthcare Research and Quality, CMS, and Centers for Disease Control and Prevention (CDC).¹ Three technical expert panels on infection, cardiac risk, and venous thromboembolism with members from professional organizations, academic institutions, and government agencies supplement the expertise of the partners. The expert panels ensure that SCIP quality measures are supported by evidence-based research. The partners in SCIP believe that a meaningful reduction in surgical complica-

tions depends on surgeons, anesthesiologists, perioperative nurses, pharmacists, infection control professionals, and hospital executives working together to make surgical care improvement a priority.

The Institute of Medicine, in its 2000 report *To Err Is Human*, highlighted a study of more than 44,000 operations at a large medical center from 1977 to 1990. It revealed that 5.4% of patients (more than 2400) suffered complications, nearly half of them attributable to error.² Among surgical patients, surgical site infections (SSIs) account for 40% of all hospital-acquired infections. On average, hospitals spend an additional \$3152 and extend the length of stay by 7 days for each patient developing a SSI.³ A 2003 study found that postoperative complications accounted for up to 22% of preventable deaths among patients, depending on the complication.⁴

SCIP Builds on the SIP Project

SCIP builds on and expands the previous Surgical Infection Prevention (SIP) project, which sought to reduce SSIs by promoting appropriate timing and selection of prophylactic antibiotics.¹ The SIP project, implemented by CMS and the CDC in August of 2002, grew out of the CDC's extensive experience in SSI surveillance through the National Nosocomial Infection Surveillance system and in quality improvement and performance measurement.⁵

Quality Improvement Organizations

CMS funds 53 Quality Improvement Organizations (QIOs) in all US states and territories and Washington, DC, to work directly with hospitals to improve surgical care for Medicare beneficiaries.¹ QIOs operate under contracts with CMS called Scopes of Work (SOWs). The SOWs outline the quality improvement work to be performed during a 3-year period. Currently, the QIOs are implementing the 8th Scope of Work (8th SOW), which details quality improvement activities to be implemented from August 2005 through July 2008.

The QIOs work at the local level to assist hospitals¹:

- Measure and report clinical performance using the standardized quality measures listed below
- Adopt information technology such as computerized physician

order entry systems, bar coding, and electronic health records (EHRs)

- Redesign care processes using proven tools and strategies and a systems approach
- Transform organizational culture into a culture that strives for high-quality care with support from leadership, acceptance by staff, and shared commitment to common goals and visions

The QIOs assist providers with quality improvement through educational programs, performance meas-

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urement, evidence-based tools for process redesign and organizational culture change, individual consultation, and organization of or participation in healthcare collaborations.

SCIP Quality Measures

Currently SCIP includes 10 quality measures (Table 1) for prevention of postoperative complications from infection, myocardial ischemia, venous thromboembolism, and placement of AV fistulas.

Publicly Reporting Quality Measures

CMS promotes transparency by publicly reporting hospitals' quality of care performance on SCIP measures and other clinical conditions. The measures are aligned with measures required by the

Table 1.

Ten Quality Measures for Prevention of Postoperative Complications

Measure	Measure Description
<i>Infection</i>	
SCIP-Inf-1	Prophylactic antibiotic received within 1 hour prior to surgical incision (2 hours for designated antibiotics)
SCIP-Inf-2	Prophylactic antibiotic selection for surgical patients
SCIP-Inf-3	Prophylactic antibiotics discontinued within 24 hours after surgery end time (48 hours for cardiac patients)
SCIP-Inf-4	Cardiac surgery patients with controlled 6 am postoperative serum glucose
SCIP-Inf-6	Surgery patients with appropriate hair removal
SCIP-Inf-7	Colorectal surgery patients with immediate postoperative normothermia
<i>Cardiac</i>	
SCIP-Card-2	Surgery patients on a beta-blocker prior to arrival who received a beta-blocker during the perioperative period
<i>Venous Thromboembolism (VTE)</i>	
SCIP-VTE-1	Surgery patients with recommended venous thromboembolism prophylaxis ordered
SCIP-VTE-2	Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery
<i>AV Fistula</i>	
VA 1	Proportion of permanent hospital ESRD vascular access procedures that are autogenous AV fistulas

PROVIDER ACTION

Impact to You

Because Medicare recently announced that hospitals will be held accountable for preventable errors that occur during admissions to their facilities, physicians will increasingly be called on to assist in ensuring improved outcomes.

What You Need to Know

SCIP is a national quality partnership of organizations focused on improving surgical care by reducing surgical complications—surgical site infection, perioperative myocardial ischemia, and venous thromboembolism—by 25% by 2010.

What You Need to Do

Working with your local QIO to improve surgical care is increasingly important as Medicare moves to hold hospitals more and more accountable for achieving improved outcomes.

Joint Commission. An individual hospital's performance with surgical care patients may be accessed on the Hospital Compare website (<http://hospitalcompare.hhs.gov>). Measures related to SCIP include SCIP-Inf-1 through SCIP-Inf-3.

Beginning in October 2007, hospitals' performance on VTE1 and VTE2 are also being publicly reported. The National Quality Forum has endorsed all of the publicly reported measures. Ratings are given for individual hospitals and can be compared with ratings of any hospitals in the US.

Progress in Surgical Care Improvement

Although some surgical complications are unavoidable, surgical care can be improved through better adherence to evidence-based practice recommendations and by giving more attention to designing systems of care with redundant safeguards. Research shows, for example, that delivering antibiotics to a patient within 1 hour of beginning surgery can dramatically cut SSI rates, yet this practice is far from universal.¹ Another

method to prevent SSIs is to control postoperative serum glucose levels in patients having major cardiac surgery.¹

Application of the National Surgical Quality Improvement Program (NSQIP) within the Department of Veterans Affairs resulted in a 27% reduction in mortality related to surgery.⁶ The QIOs, working under contract to CMS from March 2002 through April 2003, conducted a surgical infection prevention collaborative that effectively reduced SSIs by 27% at 56 centers across the country.¹

Summary

SCIP is a unique partnership undertaking transformational change in health care. Although some complications are unavoidable, surgical care can be improved through better adherence to evidence-based practice recommendations and more attention to designing systems of care with redundant safeguards. Information about SCIP and other clinical topics of focus, including background literature, links to participating organizations, fact sheets, presentations

and video, a speakers bureau, success stories, members of the partnership, and expert panels, can be found at: <http://www.medqic.org/dcs/ContentServer?cid=1122904930422&pagename=Medqic/Content/ParentShellTemplate&parentName=Topic&c=MQParents>. Information specifically about SSIs is at <http://www.medqic.org/dcs/ContentServer?cid=1089815967030&pagename=Medqic%2FContent%2FParentShellTemplate&parentName=Topic&c=MQParents>. MPM

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