Mandatory Reporting of Surgical Site Infection Prevention Measures

Senate Bill 739 (Health and Safety Code Section 1288.8 (b) requires that, “on and after January 1, 2008, each general acute care hospital shall implement and annually report to the department on its implementation of infection surveillance and infection prevention process measures that have been recommended by the Centers for Disease Control and Prevention (CDC) Healthcare Infection Control Practices Advisory Committee, as suitable for a mandatory public reporting program. Initially, these process measures shall include the CDC guidelines for central line insertion practices, surgical antimicrobial prophylaxis, and influenza vaccination of patients and healthcare personnel.”

The CDC guidelines for surgical antimicrobial prophylaxis (http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/SSI.pdf) that have been recommended as suitable for a mandatory public reporting program are:

1. Administer a prophylactic antimicrobial agent only when indicated, and select it based on its efficacy against the most common pathogens causing SSI for a specific operation and published recommendations.

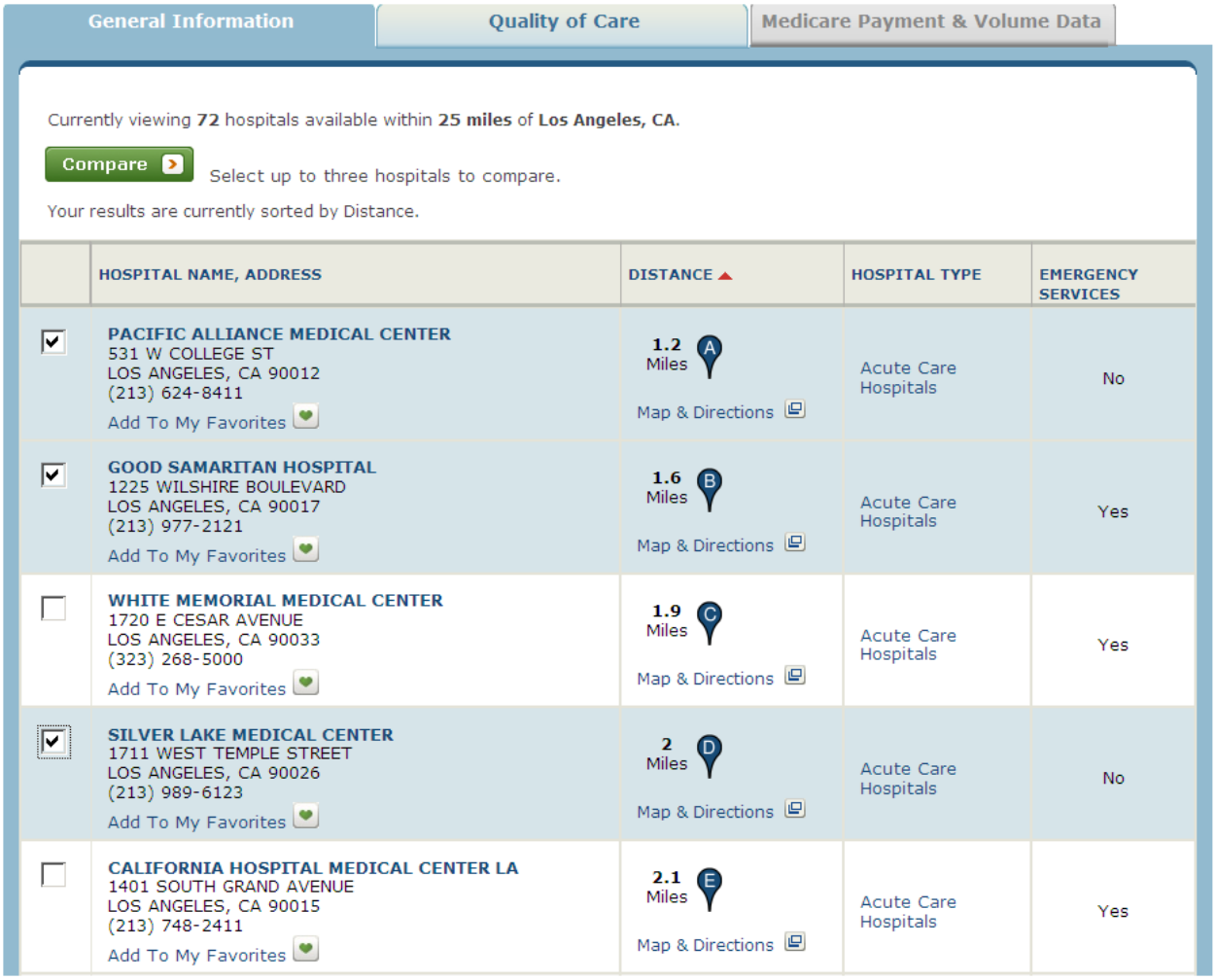
2. Administer by the intravenous route the initial dose of prophylactic antimicrobial agent, timed such that a bactericidal concentration of the drug is established in serum and tissues when the incision is made. Maintain therapeutic levels of the agent in serum and tissues throughout the operation and until, at most, a few hours after the incision is closed in the operating room.

These measures have been adopted into the Centers for Medicare & Medicaid Services (CMS) Surgical Care Improvement Project (SCIP) and reporting of these measures by hospitals performing surgery on Medicare patients has been required by CMS on a national basis since 2006. In 2007 the CDPH Healthcare Associated Infections Advisory Committee recommended that CDPH use this data, which is available on the CMS Hospital Compare web site, for reporting of this measure as required by Senate Bill 739.

How to Access SCIP Data

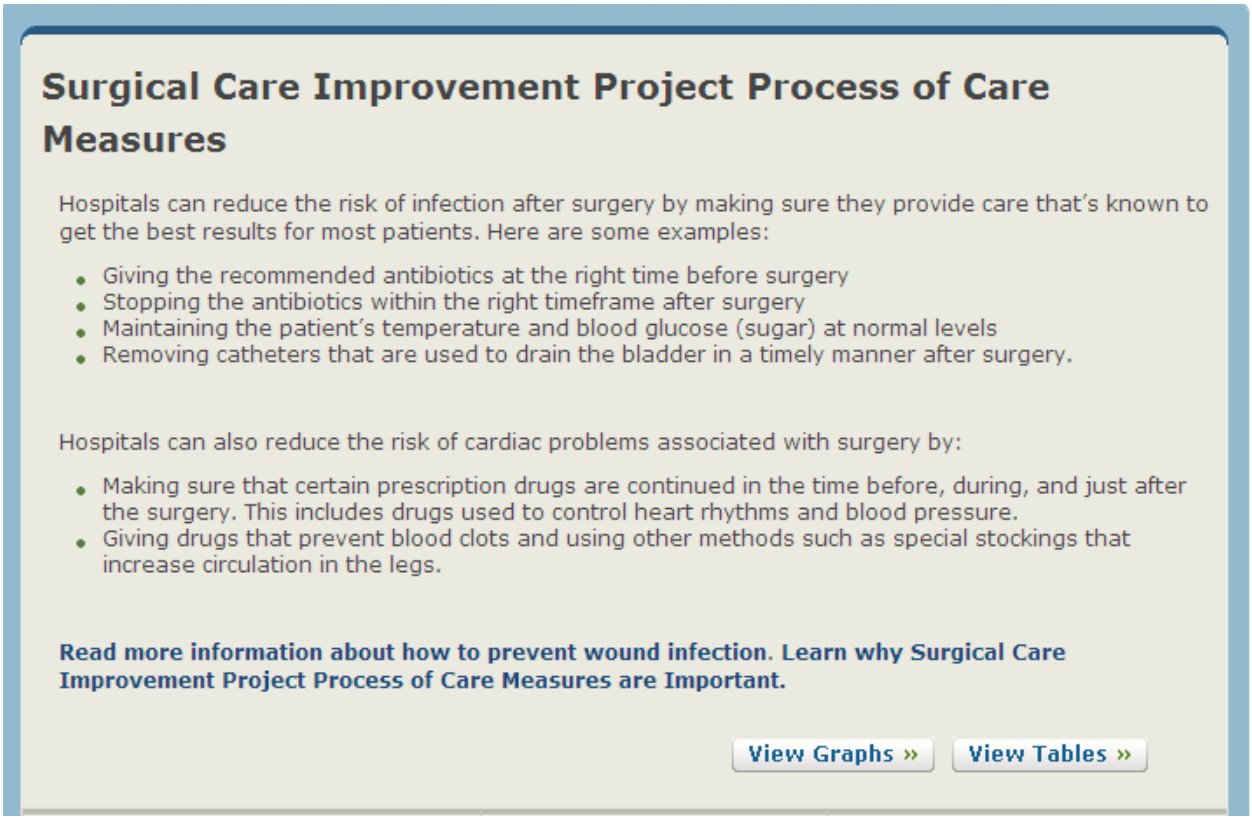
Hospital adherence to the surgical antimicrobial prophylaxis and other SCIP measures are available at http://www.hospitalcompare.hhs.gov/. To access this information, first select a **Location** (for example, Los Angeles, see screen shot, or a zip code), Search type General, and select Find Hospitals.

Next select the hospitals you wish to compare using the check boxes (up to three), then select the **Quality of Care** (center tab at the top) and choose Compare.



Next choose **Process of Care Measures** at the left

and you will see the SCIP data for the hospitals you selected:



which you can also see as Graphs or Tables with comparisons to U.S. and California averages.

What Are Prevention Measures?

Prevention measures are actions that can be taken to help prevent adverse events such as infections from occurring. When a prevention measure has been accepted as an action that should be taken consistently, it can be used as a quality measures to gauge how well an entity provides care to its patients. These measures are based on scientific evidence and can reflect guidelines, standards of care, or practice parameters. Hospitals can reduce the risk of complications like wound infections in surgery patients by giving the right treatments at the right time. For example, studies show a strong association of reduced incidence of post-operative infection with administration of antibiotics within the one hour prior to surgery. After the incision is closed, however, studies show that prolonged administration of prophylaxis with antibiotics may increase the risk of certain other infections at no additional benefit to the surgical patient. These studies led to the development of quality measures for the provision of antibiotics to prevent surgical site infections.

What is the Surgical Care Improvement Project (SCIP)?

The Surgical Care Improvement Project (SCIP) is sponsored by the Centers for Medicare & Medicaid Services (CMS) in collaboration with a number of other national partners, including the American Hospital Association (AHA), Centers for Disease Control and Prevention (CDC), Institute for Healthcare Improvement (IHI), The Joint Commission (TJC) and others. SCIP is an extension of a previous CMS initiative called the Surgical Infection Prevention Project (SIPP).

SCIP was established in 2006 with the goal of reducing surgical complications by 25% in 2010 (*JAMA*. 2010;303:2527-2528). Of the 9 performance measures, 6 are related to surgical site infection prevention. Efforts to reduce surgical site infection are important because this complication results in significant morbidity and additional resource use. To this end, the SCIP was designed to improve adherence for prophylactic antibiotic administration, as well as other processes, in patients undergoing elective surgical procedures. It has achieved this goal to the extent that hospitals have successfully implemented these processes. For example, in 2001, almost 10% of Medicare patients received their first prophylactic antibiotic dose 4 or more hours after surgical incision, and many patients continued to receive antibiotic prophylaxis for days after their operation, while in 2009, adherence to these measures had improved to 88.4%. (JAMA. 2010 Oct 20;304:1670). However, evidence that demonstrates that improved adherence has achieved the goal of reducing surgical complications is lacking. A recent study found that adherence measured through a global all-or-none composite infection prevention score was associated with a lower probability of developing a postoperative infection. However, adherence reported on individual SCIP measures, which is the only form in which performance is publicly reported, was not associated with a significantly lower probability of infection. Scientific evidence shows that the following process of care measures represent the best practices for preventing complications after certain surgeries (colon surgery, hip and knee arthroplasty, abdominal and vaginal

hysterectomy, cardiac surgery (including coronary artery bypass grafts (CABG)) and vascular surgery).

What are the SCIP Measures?

Antimicrobial Prophylaxis

- **Prophylactic Antibiotic Received Within 1 Hour Prior to Surgical Incision** - Surgical patients who received prophylactic antibiotics within 1 hour prior to surgical incision. (Is both an inpatient and outpatient measure.)
- **Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time** - Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time.
- **Prophylactic Antibiotic Selection** - Surgical patients who received the recommended antibiotics for their particular type of surgery. (Is both an inpatient and outpatient measure.)

Other

- **Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered** - Surgery patients with recommended venous thromboembolism (VTE) prophylaxis ordered anytime from hospital arrival to 48 hours after *Surgery End Time*.
- **Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery** - Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 Hours prior to *Surgical Incision Time* to 24 Hours after *Surgery End Time*.
- **Cardiac Surgery Patients With Controlled 6 A.M. Postoperative Blood Glucose** - Cardiac surgery patients with controlled 6 A.M. blood glucose (≤ 200 mg/dL) on postoperative day one (POD 1) and postoperative day two (POD 2) with *Surgery End Date* being postoperative day zero (POD 0).
- **Surgery Patients with Appropriate Hair Removal** - Surgery patients with appropriate surgical site hair removal. No hair removal, or hair removal with clippers or depilatory is considered appropriate. Shaving is considered inappropriate.
- **Surgery Patients on a Beta Blocker Prior to Arrival Who Received a Beta Blocker During the Perioperative Period** - Surgery patients who were taking heart drugs called beta blockers before coming to the hospital, who were kept on the beta blockers during the period just before and after their surgery.
- **Inpatients whose urinary catheters were removed within 2 days after surgery to reduce the risk of infections.** - Shows the percent of surgery patients whose urinary catheters were removed on the first or second day after surgery.

Following these measures will help prevent infections

The following table discusses how following each measure helps prevent infections, with the surgical antimicrobial measures highlighted.

Measure	What it does
Percent of surgery patients who were given the **right kind** of antibiotic to help prevent infection	Some antibiotics work better than others to prevent wound infections for certain types of surgery. This measure shows how often hospital staff make sure patients get the right kind of preventive antibiotic medication for their surgery.
Percent of surgery patients who were given an antibiotic at the **right time** (within one hour before surgery) to help prevent infection	Getting an antibiotic within one hour before surgery reduces the risk of wound infections. This measure shows how often hospital staff make sure surgery patients get antibiotics at the right time.
Percent of surgery patients whose preventive antibiotics were **stopped at the right time** (within 24 hours after surgery)	Taking preventive antibiotics for more than 24 hours after routine surgery is usually not necessary. This measure shows how often hospitals stopped giving antibiotics to surgery patients when they were no longer needed to prevent surgical infection.
Percent of all heart surgery patients whose blood sugar (blood glucose) is kept under good control in the days right after surgery	All heart surgery patients get their blood sugar checked after surgery. Any patient who has high blood sugar after heart surgery has a greater chance of getting an infection. This measure tells how often the blood sugar of heart surgery patients was kept under good control in the days right after their surgery.
Percent of surgery patients needing hair removed from the surgical area before surgery, who had hair removed using a safer method (electric clippers or hair removal cream – not a razor)	For those patients who needed to have hair removed to prepare for surgery, this measure tells how often one of the safer methods was used (electric clippers or hair removal cream).
Inpatients whose urinary catheters were removed	Urinary catheters should be removed within two days after surgery to help prevent

within 2 days after surgery to reduce the risk of infection.	infection.

How are SCIP Data Collected?

Hospital Compare shows measures that are based on data from the participating hospitals' patient records. The data are converted to rates that measure how well the hospitals care for their patients. It is important to know that small differences in the percentages usually don't mean that one hospital is significantly better or worse. It is better to look at larger differences. Percentages may be affected by such factors as how many patients are included in the calculation of the rate. This doesn't necessarily reflect the quality of the care you will receive.