

# Scrutiny Prompts Drop in Nosocomial Infections

BY ALICIA AULT  
Contributing Writer

Recent demands for disclosure of data on hospital infection rates have spurred efforts not only to measure and publicize the numbers but also to demonstrate progress in controlling infections. With many insurers, state and federal regulatory agencies, employers, and consumer groups viewing infection control as a proxy for quality and patient safety, the pressure is on to improve performance.

During the past year, 39 states introduced legislation and 6 states passed laws requiring hospitals to disclose nosocomial infections to the state, and—in many instances—also to the public (N. Engl. J. Med. 2005;353:225-7). But most surveillance and measurement efforts have been made behind closed doors. For example, the Centers for Disease Control and Prevention lets hospitals compare infection rates with other hospitals through the National Healthcare Safety Network, but this information is not available to the public.

The Joint Commission on Accreditation of Healthcare Organizations says it does not maintain statistics on hospital infections, although it recently published a study tracking how well hospitals did in giving antibiotics to pneumonia patients, among other quality of care measures (N. Engl. J. Med. 2005;353:255-64). And the Centers for Medicare and Medicaid Services (CMS) sponsored a pilot project in which hospitals that focused on improving infection control were able to decrease the overall infection rate by 27%.

Robert A. Weinstein, M.D., recently said that those efforts are “a reality” and could lead to improved performance (N. Engl. J. Med. 2005;353:225-7). But to allow for meaningful comparisons among facilities and to spur better quality care, the measures should include such assessments as timely administration of perioperative antibiotic prophylaxis, vascular catheter insertion practices, and hand hygiene, said Dr. Weinstein, chairman of infectious diseases at the John H. Stroger Hospital of Cook

County (Ill.). Infection control report cards should also track rates of infection in the ICU that are associated with central vascular catheters; reoperation or rehospitalizations for surgical site infections; rates of nosocomial influenza; and infections caused by multidrug-resistant organisms, he added.

## Focus Brings Improvement

Many of those suggested measures were used to track performance in a group of hospitals that participated in the National Surgical Infection Prevention Collaborative. The collaborative was sponsored by CMS and managed by Qualis Health, a Medicare Quality Improvement organization that monitors quality for Washington state, Idaho, and Alaska. Of the 56 hospitals that joined the 12-month project, 44 reported enough data to draw conclusions (Am. J. Surg. 2005;190:9-15).

At each hospital, a team identified a limited set of surgical procedures or surgeons and tracked them for at least 30 days post procedure to determine the proportion of patients getting prophylactic drugs within an hour before the incision, the proportion getting appropriate agents, and the proportion who had prophylaxis discontinued within 24 hours. After identifying the procedures or surgeons to be monitored and gauging a baseline rate for each process to be measured, interdisciplinary teams worked on instituting ways to improve processes.

Over the year, 35,543 patients were tracked. The infection rate was 2.3% in the first 3 months (215 infections among 9,435 cases during that time period); it fell to 1.7% by the last 3 reporting months, constituting a 28% reduction.

Lead author E. Patchen Dellinger, M.D., chief of the division of general surgery at the University of Washington's Eastside Specialty Center, said in an interview that the collaborative focused partly on getting hospitals to more closely identify and monitor infections such as having a nurse check on a patient a set number of times post procedure, or conducting telephone follow-

up to ask about problems with wound healing.

The hospitals did not receive any financial assistance for participation; for most, it cost the equivalent of a full-time nurse for the year, estimated Dr. Dellinger.

Getting initial progress is the easy part, he said. “The hardest thing is spreading the gains beyond the pilot population and then holding the gains and not backsliding.”

## Spreading and Holding the Gains

Evergreen Hospital is one facility that has managed to keep improving, said Stuart Schrader, R.N., director of surgical services for the 244-bed community facility in Kirkland, Wash.

The hospital did not have a grasp on baseline infection rates, although they appeared to be low (about 0.25% in 1999), Mr. Schrader said in an interview. But the rate climbed each year, hitting 0.7% in 2001. After joining the project and learning some new surveillance techniques, the hospital found that its rate was closer to 1.1%.

Since then, the hospital has adopted quality improvement measures, such as using a convective warming blanket on patients preoperatively and requiring the anesthesiologist to shake hands with each patient—the “warm hands” test—to make sure he or she is normothermic during surgery. Patients are kept warm with the same blankets post procedure in order to ensure proper blood flow to the wound area and thus prevent infection. The hospital has also increased the temperature in its eight operating rooms, and purchased jackets and vests with pockets for cold packs to keep the staff and surgeons comfortable, said Mr. Schrader.

To ensure that patients always receive antibiotics an hour before the procedure, the anesthesiologist is required to call the holding room nurse, who administers the antibiotic.

Razors have been mostly replaced with clippers for shaving hair around surgical sites, which reduces nicks that could invite infection, Mr. Schrader said.

Evergreen has cut its infection rate to 0.85%.

Mr. Schrader expects infection control to continue to be an area of focus. “The hard part was putting the energy into making the changes,” he said. “Once the changes were made, it became a normal way of life.” ■

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# Quality Measures Up in JCAHO Study of Hospital Data

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A set of process measures established by the Joint Commission on Accreditation of Healthcare Organizations has helped hospitals to improve performance, according to a study of the first 2 years of implementation.

The study, by Scott C. Williams, Psy.D., and his colleagues at the commission, found that improvements were made in 15 of 18 standardized measures and that there was no deterioration of quality in any of those areas (N. Engl. J. Med. 2005;353:255-64).

In 2002, the commission began measuring performance in the 18 measures at 3,377 of 4,644 hospitals accredited by the organization. Nonparticipating hospitals either did not offer the services being measured or had an average daily census of fewer than 10 patients. The facilities could choose to submit data on at least two of the following conditions: acute MI, heart failure, pneumonia, and pregnancy and related conditions.

They did not track the pregnancy measures, as two of the measures applied to

rare events, and the third, vaginal birth after cesarean section, is controversial, the authors wrote.

The study covered hospitals that submitted data from the third quarter of 2002 to the second quarter of 2004—a total of 3,087 out of the 3,377 hospitals initially identified as study participants.

Of those, 1,473 submitted data on heart attack measures, 1,946 on heart failure, and 1,797 on pneumonia.

One of the measures looked at death in the hospital after acute myocardial infarction, and the other 17 assessed processes of care.

There was no improvement in the death measure, but the authors said most of the improvements in the process measures being assessed would not have had an impact on mortality. And there was no significant improvement in the mean time to thrombolysis for patients with acute MI or in mean time to administration of antibiotics for pneumonia.

For acute MI, researchers looked at measures such as whether aspirin was given within 24 hours of admission and prescribed at discharge, if an ACE inhibitor was prescribed at discharge for those with left ventricular systolic dysfunction, and the mean time from arrival to thrombolysis or percutaneous coronary intervention.

For heart failure, the hospitals were tracked on whether they had given patients smoking cessation counseling and discharge instructions on medication, diet, weight, and worsening of symptoms. The hospitals were also tracked on the prescription of an ACE inhibitor at discharge for patients with left ventricular systolic dysfunction.

For pneumonia, the commission monitored whether there was an oxygenation assessment within 24 hours of admission and whether pneumococcal screening, vaccination, or both had been given at discharge, or if blood specimens were cultured before starting an antibiotic.

The biggest improvement was seen in offering smoking cessation counseling. Rates were 1%-7% at baseline and 57%-68% by study's end.

By the end of the study period, more than 90% of MI patients at most hospitals received aspirin at admission. Although only 74% of patients received ACE inhibitors at discharge at the lowest performing hospitals, 83% received them at the highest performing facilities.

The biggest improvement was seen in offering smoking cessation counseling. Rates went from a range of 1%-7% at the lowest performing hospitals at baseline to a range of 57%-68% at the study's end. At high-performing facilities, however, rates dropped from an 80%-98% range at baseline to a range of 74%-85% at the end.

Even after improvement, pneumococcal vaccination rates were still low, ranging from 35% in the lowest performing hospitals to a high of 66% at the highest performing facilities.

The authors noted that one potential drawback of the study was its reliance on self-reported data, which could introduce bias.

They also said that the data should not be viewed as static. The picture could change as public reporting of hospital data becomes more prevalent and pay for performance spreads. ■