What should our surgical infection rate be? The conventional way to answer
is to benchmark your hospital’s rates with data from the Centers for Disease
Control and Prevention (CDC).

But the new answer is likely to be—zero.

It’s been thought that a certain number of hospital-acquired infections are to be
expected. Many patients have conditions that make them vulnerable to infection,
including diabetes, obesity, compromised immune systems, and others.

But that thinking is changing.

“I think people are shifting away from the belief that these infections are to be
expected,” researcher Christopher S. Hollenbeak, PhD, told OR Manager.

An economist at Penn State College of Medicine, Hershey, Pa, Hollenbeak has stud-
ied risks and costs of surgical infection for 8 years. His interest is in refining models that
can be used for public reporting of infections, a growing movement.

Role of hospital practices

His studies and others are beginning to sort out the role of patient susceptibility
and hospital practices in surgical site infections (SSI).

His most recent study, published in a supplement to the American Journal of
Medical Quality, used publicly reported surgical infection data from Pennsylvania for
3 surgical procedures—circulatory, orthopedic, and neurological—to test a statistical
model comparing the role of patient and hospital factors.

The overall infection rates were 0.37% for circulatory conditions, 0.72% for neuro,
and 0.42% for orthopedics.

Both patient characteristics and hospital factors were significant in determining
SSI risk for these procedures, but patient characteristics did not provide a good pre-
dictive model, Hollenbeak notes. Adding hospital effects improved prediction by
23% to 33%.

In other words, patients having one of these procedures were significantly more
likely to develop an SSI at some hospitals than others.

“We come away with the impression that patient characteristics do matter. But it
appears that hospital variability is more important,” he says.

The study didn’t attempt to identify what specific practices influence variability
in hospital infections. Is it handwashing, OR traffic control, preoperative shaving, or
other issues? That is still to be determined.

Getting to zero infections may not be obtainable. Still, “it seems like any hospital
that goes into an effort to reduce infections succeeds. So it seems there is a lot more
that can be done to bring the infection rate down,” Hollenbeak notes.

High cost of hospital infection

Two other articles in the same issue also looked at hospital infection risk.

A detailed analysis of the cost of central line-associated bloodstream infections by
Richard P. Shannon, MD, of Allegheny General Hospital in Pitts-burgh found big
financial losses from these cases. (See editorial.)

In another study, the authors examined differences in mortality, length of stay,
and hospital charges for patients with a hospital-acquired infection and those with-
out. They found the differences in these measures couldn’t be explained by the dis-
ease-specific severity of illness. Patients who acquired infections had mortality rates
up to 5 times higher and stays up to 3 weeks longer than patients with the same dis-
eases who did not acquire infections.
References
