

Following the crowd

By John D. Birkmeyer, M.D.

You have just been diagnosed with pancreatic cancer. Your physician says your only chance of being cured is surgery. The long, complex operation involves removing part of the pancreas and reconnecting the stomach, liver, intestine, and remaining pancreas. Where would you choose to have the surgery: a hospital where this procedure is performed a couple of times a week, or one where it's performed a couple of times a year? Although the answer seems obvious, more than half of all patients facing

this question wind up having surgery at hospitals where there are fewer than five pancreas operations a year. They pay a steep price for that decision—mortality rates for pancreas surgery are three to four times higher at low-volume hospitals.

Studies: Over the past 25 years, more than 100 large studies have documented that hospitals where lots of high-risk surgeries—especially open-heart surgery, peripheral vascular surgery, certain operations for cancer, and major organ transplants—are performed have better outcomes: lower death rates, as well as lower incidences of bleeding, infection, and other complications. High-volume hospitals have surgeons with more experience in performing certain procedures who are good at both avoiding complications and dealing with those that do arise. They also have more technological resources, larger blood banks, and anesthesiologists and nursing staffs more familiar with high-risk procedures and postoperative care.

Recent evidence indicates that as many as 4,000 patients die in the United States every year because they undergo complex surgery at hospitals with limited experience with the procedure. But if the hazards are so well documented, why do so many patients still choose to undergo high-risk surgery at low-volume hospitals?

Reasons: Convenience has been proposed as one explanation. Patients—particularly those in isolated, rural areas—may decide not to travel to high-volume hospitals, preferring instead to remain in a familiar environment near their family and regular doctors. However, recent studies show that most hospitals with small numbers of high-risk operations are located in hospital-dense, metropolitan areas—often right across the street (literally) from high-volume hospitals. Currently, more than 75% of patients undergoing high-risk operations at low-volume hospitals live within 25 miles of a high-volume hospital. In fact, 25% of these patients travel *farther* to a low-volume hospital. Thus we must consider two alternative reasons: ignorance (on the part of patients) and money and pride (on the part of hospitals).

Patients may simply be unaware that they face steep risks with many operations and that they could reduce those risks by choosing a hospital where there is more experience in a particular procedure.



SUZANNE D'JOHN

More than 100 studies have documented that hospitals where lots of high-risk surgeries are performed have better outcomes.

Despite the media's recent focus on medical errors, people don't seem to have noticed reports in the medical literature about the number of avoidable deaths associated with high-risk surgery. Both the media and physicians can strive to help patients make more informed decisions about where to go for high-risk operations.

The competitive nature of today's health-care environment may be the primary reason so many patients have high-risk surgery at low-volume hospitals.

Already under substantial financial pressures, small hospitals may be reluctant to send away surgical patients. And both hospitals and surgeons may worry about being branded "second class" if they refer patients elsewhere for complex operations.

Payers or regulators may need to intervene to overcome these powerful forces. Through reimbursement mechanisms, large payers—both government and private—have substantial leverage to direct selected high-risk procedures to high-volume hospitals. For example, the federal Health Care Financing Administration is considering exclusive contracts with "centers of excellence" for heart surgery and total joint replacement in Medicare patients. States can also use the Certificate-of-Need process to limit the proliferation of new surgical centers and thereby reduce the proportion of surgery being performed in low-volume hospitals.

Solutions: Policy-makers also need more information about the implications of concentrating high-risk surgery in high-volume hospitals. The Agency for Healthcare Research and Quality is supporting the efforts of several DMS researchers—David Wennberg, M.D., M.P.H., Gilbert Welch, M.D., M.P.H., Therese Stukel, Ph.D., and me—to use national databases to estimate the number of lives that would be saved if 10 different operations were concentrated in high-volume hospitals. We are also using methods developed for the *Dartmouth Atlas of Health Care* to explore how such policies could affect access and how far patients would have to travel for surgery.

Too many patients continue to undergo high-risk surgery at low-volume hospitals and pay the ultimate price. Although regulatory intervention may ultimately be required, physicians should take the lead and pay more attention to where surgery is performed. As a common-sense guideline for appropriate referral, physicians might ask themselves: "Where would I send my mother for this operation?" ■

Birkmeyer is an assistant professor of surgery at Dartmouth Medical School and a general surgeon at Dartmouth-Hitchcock Medical Center and at the VA Medical Center in White River Junction, Vt. This essay is based on an editorial he wrote for the March 1, 2000, issue of the Journal of the American Medical Association; additional supporting data and further detail about his conclusions here are included in that article.