

POLICY PERSPECTIVE

By John Steen

Two issues we have been following will be updated this month.

Specialty Hospitals

Arizona heart doctors who are part-owners of cardiac specialty hospitals were more likely than physicians with no ownership stake to treat low-acuity, high-profit cases in their own facilities and refer the more complex, lower-profit cases to community hospitals, according to a study published on the *Health Affairs* website: “Effects Of Physician-Owned Limited-Service Hospitals: Evidence From Arizona,” Jean M. Mitchell (<http://content.healthaffairs.org/cgi/content/abstract/hlthaff.w5.481>). This study compares practice patterns of physician-owners of limited-service cardiac hospitals and physician-nonowners who treat cardiac patients at competing full-service community hospitals. Analyses of six years of Arizona inpatient discharge data show that physician-owners treat higher volumes of profitable cardiac surgical DRGs, higher percentages of low-severity cases, and higher percentages of cases with generous insurance compared with physician-nonowners who treat cardiac patients in community hospitals. The study appears to confirm the objections of community hospitals, which have complained that the growth in the number of limited-service specialty hospitals in recent years has diverted profitable cases away from their operating rooms and limited their ability to absorb the costs of uninsured or money-losing patients.

Two accompanying Perspectives offer commentary on physician entrepreneurship and the policy issues involved: One by Jack Hadley and Stephen Zuckerman (Urban Institute), and the other by Allen Dobson and Randall Haught (Lewin Group). They can be read at content.healthaffairs.org/cgi/content/abstract/hlthaff.w5.491 (Hadley/Zuckerman) and content.healthaffairs.org/cgi/content/abstract/hlthaff.w5.494 (Dobson/Haught).

PCI and Cardiac Surgical Backup

Nineteen states currently allow community hospitals to do PCI (percutaneous coronary intervention -- angioplasty) without onsite cardiac surgical backup. The American Heart Association and the American College of Cardiology issued new guidelines in November reiterating that angioplasty should never be done except in medical facilities that can do cardiac surgery.

A study of over 16,000 patients in about 10 states undergoing angioplasty in community hospitals without open heart surgical backup is being directed by Dr. Thomas Aversano, a prominent cardiologist at Johns Hopkins University School of Medicine. Hospitals in Alabama, Georgia, Illinois, New Jersey, Ohio and Pennsylvania will participate in the study, and health officials in Connecticut, Maryland, Michigan and New York are considering granting permission for their hospitals to join, according to Dr. Aversano.

Already, opposition to the study on the part of medical centers doing open heart surgery has arisen in some of these states, but nowhere so vociferously as in New Jersey whose health commissioner has decided to allow nine community hospitals to participate. The state has 18 hospitals licensed for cardiac surgery, and their opposition has given rise to a group called the Committee for Safe Angioplasty in New Jersey, which has run newspaper ads, also posted on its Web site (<http://www.njhearts.com>), showing a mourning boy and black-clad mother standing beside a casket under the words, "Tell him New Jersey didn't think his dad would need a heart surgeon."

Dr. Aversano noted that well under 1 percent of patients undergoing emergency angioplasty, such as after a heart attack, at a community hospital need to be transferred to a bigger one for emergency surgery. This is confirmed in the Dec. 6, 2005, issue of the *Journal of the American College of Cardiology* in which a new study* using data from the Mayo Clinic evaluates the changes in incidence, clinical characteristics, and indications for emergency coronary artery bypass grafting (CABG) in patients undergoing percutaneous coronary intervention (PCI) from 1979 to 2003, indicating that the need to send patients to emergency surgery has dropped sharply in recent years.

"Our review of almost 25 years of data on angioplasty suggests that there has been a dramatic reduction of almost 90% in the incidence of coronary artery bypass graft surgery following angioplasty; and this is despite the fact that more recently we are performing angioplasty on very high risk patients," said Mandeep Singh, M.D., F.A.C.C., from the Mayo College of Medicine in Rochester, Minnesota. The bypass surgery rates, which were close to 3% in the "pre-stent era" (1979-1994), came down to 0.3% in the most recent time period (2000-2003). Dr. Singh said the fact that angioplasty is being offered to sicker patients now makes the reduction even more remarkable. Patients requiring emergency surgery in the most recent study period had a higher prevalence of high blood pressure and heart failure, and they were more likely to have undergone previous procedures, compared to patients in the earlier study periods. Dr. Singh said he believes stents may be responsible for much of the reduction in the rate of life-threatening problems during angioplasty procedures.

However, among patients who did suffer serious problems during angioplasty and had to be sent into emergency surgery, the researchers did not see an improvement in survival. Death rates among such patients were statistically similar in all three study periods, ranging between 10% and 14%. In an editorial in the *Journal*, John A. Bittl, M.D., F.A.C.C., from the Ocala Heart Institute, Munroe Regional Medical Center in Ocala, Florida, said that while the sharp decline in emergency bypass surgery on angioplasty patients is welcome news, he is concerned the results may be used by some providers to argue that back-up surgical facilities are no longer needed. "Almost every hospital wants a share of the lucrative coronary intervention market and every physician hopes that in-laboratory deaths and the need for emergency bypass will go away completely, but this ideal situation has not been attained," Dr. Bittl said. "The assessment of elective PCI without on-site bypass surgery underway in some states is a step in the right direction. But, choosing the right metrics is challenging. The only meaningful comparison between hospitals with and without on-site surgery is the rate of death or urgent transfer to another

facility within a pre-specified period of time after PCI. One proposal that mixes acute events with late endpoints like repeat revascularizations is manipulative and misleading," he added.

Further complicating the PCI/CABG controversy are the large variations in physician practice patterns across the states. In the November 1, 2005 issue of the *American Journal of Cardiology*, a study** of hospital data from 11 states found wide variation in both treatment of heart attacks and patients' short-term death rates. Multivariate regression models were used to examine the association between geographic location (and other factors) and the likelihood of in-hospital mortality while undergoing coronary artery bypass grafting (CABG) or percutaneous coronary interventions (PCIs). New York had the highest average length of stay (8.2 days, $p < 0.01$), rate of patients being transferred (20.7%, $p < 0.01$), and in-hospital case fatality rate (10.7%, $p < 0.01$). PCI was performed 2 times as often as CABG for patients who had acute myocardial infarction (23.9% vs. 11.3%, $p < 0.01$), with patients who underwent CABG being transferred more often. Multivariate analyses showed that state of residence, age, female gender, transfer status, and number of co-morbidities were predictors of in-hospital mortality and the likelihood of undergoing CABG or PCI.

South Carolina, Maryland, and California had mortality rates that were also close to 11%. Arizona, Colorado, Oregon, and Washington had the lowest fatality rates, in the 8 to 9% range. Rates in Florida, Iowa, and Wisconsin were in-between.

Colorado had the highest rate of angioplasty, at 36%, while Maryland had the lowest, at less than 17%. Heart attack patients who underwent angioplasty had a much lower death rate, so differences in angioplasty rates, according to the researchers, may help explain the discrepancies in death rates across the states.

The researchers also surmised that CON/licensure policies were largely responsible for the wide variation in hospital transfer rates. Iowa's rate, without such policies, was only about 11%, half of New York's. In addition, transfers may be relatively uncommon in largely rural states like Iowa, since many heart attack patients may not be stable enough to make the trip to another hospital.

And isn't this where we came in...?

* "Emergency Coronary Artery Bypass Surgery for Percutaneous Coronary Interventions: Changes in the Incidence, Clinical Characteristics, and Indications From 1979 to 2003." Eric H. Yang, Richard J. Gumina, Ryan J. Lennon, David R. Holmes, Jr, Charanjit S. Rihal and Mandeep Singh. Vol. 46, Issue 11, pp. 2004-2009.

** "A Multistate Comparison of Patient Characteristics, Outcomes, and Treatment Practices in Acute Myocardial Infarction." Shadi S. Saleh, Edward L. Hannan and Larry Ting. Vol. 96, Issue 9, pp. 1190-1196.