

extensive volume-outcome literature, they used explicit criteria to identify the single highest-quality study for each surgical procedure or clinical condition that could be considered for regionalization. (The volume-outcome literature is too heterogeneous for formal meta-analysis.) Statistically significant relationships between hospital volume and mortality were identified for 10 procedures and 1 medical condition (care for patients which human immunodeficiency virus infection/acquired

Two cautions are necessary in interpreting the findings of this study. First, the authors' estimates of the benefits likely to be achieved by regionalization are no more reliable than the volume-outcome studies on which they are based. Much of this literature is outdated or skewed by results from a small number of national referral centers. Additional generalizable, population-based studies are needed. Second, analysis of California data may overestimate the decrease in mortality rates likely to be achieved by regionalization elsewhere. Because California has few restrictions on where surgical care may be delivered, more patients may be undergoing high-risk surgery in low-volume hospitals there. In 1 study, 65% of coronary artery bypass graft operations performed in California in 1989 occurred at low-volume hospitals (<200 procedures/year).¹⁰ In New York State, which has stricter Certificate of Need regulations based in part on volume criteria, only 20% of these procedures were performed at low-volume hospitals that year.¹⁰ More information is needed about how other high-risk procedures are being delivered in other parts of the country.

Concentrating surgery in selected referral centers would facilitate the monitoring of outcomes at individual hospitals. Many high-risk procedures are performed too infrequently to achieve statistical precision with mortality rates, particularly at low-volume hospitals. For example, what inferences could be made about outcomes at a hospital performing 3 esophagectomies a year? By concentrating selected procedures in a relatively small number of high-volume hospitals, it would be more feasible to measure outcomes aside from mortality, such as nonfatal complications, patient functional status, and costs. The ability to monitor surgical outcomes systematically would make hospitals more accountable and create ideal platforms for quality improvement initiatives.

How can the proportion of elective but high-risk procedures being performed in high-volume hospitals be increased? The least intrusive approach may be to focus on educating patients about the importance of hospital volume for specific procedures and to recommend that patients acquire this information from the hospital that they are considering for surgery. Although many hospitals do not have data on their own procedure-related morbidity and mortality rates, all hospitals

More active strategies also could be implemented. Leaders of large, integrated health plans could designate referral centers for selected procedures and enforce their appropriate use. Professional societies also could take a role in regionalization. For example, the American College of Surgeons Committee on Trauma has established regional trauma networks, encouraging referral of the most severely injured trauma patients to designated trauma centers that meet established process and volume criteria.¹¹ Through reimbursement mechanisms, large payers (both government and private) have

substantial leverage to limit surgery to high-volume hospitals. For example, the Health Care Financing Administration is currently exploring the development of exclusive contracts with "centers of excellence" for cardiac surgery and total joint replacement for Medicare patients.¹² In addition, through the Certificate of Need process, states can reduce the proportion of surgery being performed in low-volume hospitals by limiting the proliferation of new surgical centers.¹³

Many would argue that regionalizing high-risk surgery would have adverse effects, particularly in rural areas. For patients living far from referral centers, elective surgery could create unreasonable logistical problems for patients and their families. With excessive travel burdens, some patients may even decline surgery altogether.¹⁴ Regionalizing surgery also could interfere with continuity of care because many aspects of post-operative care, including dealing with the late complications or other sequelae of surgery, would be left to local physicians who were not involved with the surgery. Regionalization could reduce access to health care for rural patients by threatening the financial viability of local hospitals or their ability to recruit and retain surgeons. Even if regionalization had no effect on the availability of local clinicians, it could reduce their proficiency in delivering emergency care that must be handled locally. For example, the local general surgeon no longer allowed to perform elective repair of abdominal aortic aneurysms could be less prepared for emergency surgery involving a ruptured aneurysm.

However, these problems may not be as important as they were once assumed to be. Most low-volume hospitals are not located in sparsely populated rural areas; they are more commonly located in hospital-dense metropolitan areas, often in close proximity to high-volume referral centers.¹⁰ In the analysis by Dudley et al.,⁹ 75% of California patients undergoing surgery at low-volume centers in 1997 would have needed to travel fewer than 25 additional miles to the nearest high-volume hospital. In fact, 25% of patients traveled farther to undergo surgery at a low-volume hospital. These data suggest that a substantial degree of regionalization could occur without separating patients and surgeons or surgical centers by prohibitive distances.

With any regulatory attempt to regionalize high-risk surgery, policy makers need to be ready for a political firestorm. Many low-volume hospitals, already under

Although some physicians and some institutions would resist regionalization, the potential benefits for patients are too large to ignore. Given the current ad hoc approach to delivering high-risk surgery, it seems that almost any effort aimed at concentrating these procedures in high-volume hospitals would be an improvement.

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IN HONOR OF MY FRIEND, THE LATE DICK SELBY

HON. SAM FARR

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, March 21, 2000

Mr. FARR of California. Mr. Speaker, today I honor a man who dedicated his life to democratic causes and was an avid participant in local Democratic Party politics. Richard Selby passed away unexpectedly on January 6, 2000 at the age of 73.

A native of Oakland, Dick was involved in national as well as international affairs. He was a former representative of the International Monetary Fund and also served as a U.S. Foreign Service Officer. On the national front, Dick was a retired lieutenant colonel in the Air Force Reserve and was active in both the National Association of Retired Federal Employees (NARFE) and the Retired Officers Association. In his capacity as legislative liaison for the local NARFE Chapter, Dick kept the membership well-informed about current federal legislative issues. Locally, Dick was the chairman of the Santa Cruz Veterans Memorial Building's board of directors.

Dick was a tireless volunteer in community affairs and Democratic campaigns. He was an avid letter writer and was known for his candor and wit.

Richard Selby will be greatly missed by those who knew him personally and professionally. Dick is survived by his wife Mary Selby of Aptos; five daughters, Leigh and Anne Selby, both of Aptos; Lynn Selby of San Francisco; Cindy Shaner of Wooster, Ohio; Robyn Barker of Sugarland, Texas and his brother Alan Selby of Santa Rosa.