

Henry J. Aaron

## The Plight of Academic Medical Centers

Depending on whom you talk to, America's academic medical centers are in a financial crisis that threatens their viability, or are undergoing a market shakeup that is punishing past loose financial practices. Clearly, many of the nation's academic medical centers are financially stressed. What is unclear is how extensive the problem is and what public policy can do about it.

This paper describes the general structure of academic medical centers, recounting how they came to be, the problems they now face, and why current public policy instruments have only limited potential to help them.

### What is an Academic Medical Center?

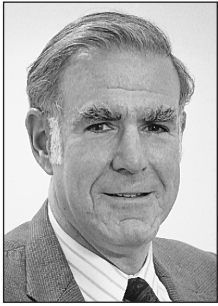
An academic medical center consists of three related enterprises: a medical school that trains physicians; research activities involving laboratory science, clinical investigation, or both; and a system for delivering health care services that may include one or more hospitals, satellite clinics, and a physician office practice. These three functions may be organized in many ways. In many—perhaps most—cases, a single organization owns and operates all three. But there are numerous exceptions.

George Washington University, for example, sold a controlling interest in its hospital to a for-profit hospital chain. Harvard University runs no clinical practice and owns no hospital. Instead, it places its students in various hospitals in Boston.

Academic medical centers follow many patterns. As the CEO of one center put it: "If you have seen one academic medical center, you have seen one academic medical center." Some urban medical centers operate in competitive markets that have too many beds. Many confront large managed care plans with close to sole purchasing power. On the other hand, some specialty hospitals may enjoy some market power, as do medical center hospitals in small communities where competition is geographically distant.

The linkage of education, service delivery, and research typical of the U.S. academic medical center provides important benefits to each. After the first two years of classroom instruction, budding medical practitioners embark on a series of clinical rotations. After receiving their MD they may have postgraduate education consisting of internship, residency and sub-specialty fellowship. Those who are laboratory research oriented go through a similar apprenticeship, usually under the guidance of a senior mentor.

Linking functions also raises the quality of health services that teaching hospitals provide. The medical superiority of teaching hospitals rests in some measure on the presence of low-paid junior



Henry J. Aaron is a senior fellow in the Economic Studies program at The Brookings Institution.

## Teaching Hospitals Face Financial

staff, undergraduate interns, and graduate student residents. In recognition of the superior services made possible by these medical students, Medicare pays about \$6 billion a year extra to teaching hospitals. But no one knows how to measure or value the quality difference, which is the first step in determining whether these payments represent a reasonable price. As a result, the extra payment is based on cost.

Without discounting the part U.S. wealth and size plays in scientific excellence, linking teaching, research, and service delivery by talented, relatively inexpensive assistants has contributed greatly to the preeminence of U.S. medical science in the latter half of the 20th century (see figure 1).

### The Financial History of the Academic Medical Center

With the exception of tuition and fees, which have never accounted for a large share of medical school income, the revenue mix flowing to medical schools has changed dramatically over four decades (see figure 2).

Following World War II, the U.S. expanded and built many hospitals with the help of federal subsidies. Today, tax-exempt bonds continue to support hospital construction. As the hospitals were being built, however, medical advances caused average lengths of stay in hospitals to decline steadily—by about one quarter in the past 25 years.

Other developments increased hospital use. Advances in medical technology lengthened the menu of hospital-based services. Teaching hospitals benefited because prices of new technologies typically get set high and come down more slowly than costs. The growth of private and then public insurance also increased hospital usage by enabling more people to afford it. Before the early 1990s, fee-for-service reimbursement under private insurance and cost-based reimbursement under public insurance enabled hospitals to cover all their costs, variable and fixed. In fact, weak limits on reimbursable costs meant that hospitals connected to academic medical centers became cash cows generating surpluses that could be used to expand faculty and research.

The number of hospital beds peaked in 1983, just two years after hospital occupancy rates began a decline which has been only briefly interrupted in the period since (figure 3). Despite the steady, if slow, drop in the number of hospital beds, occupancy rates have continued to fall. New technology enables physicians to provide services that once required hospital admission in out-patient clinics or their offices. And, especially since the early 1990s, managed care organizations, which hold hospitalization rates dramatically below those of other payers, have come to serve an increasing portion of the population.

# Problems: Why? How Serious?

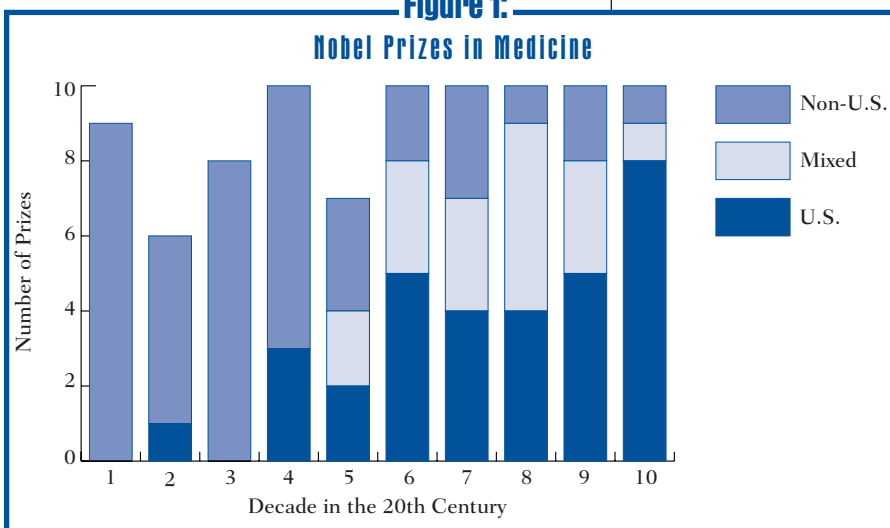
Although medical school faculties have treated patients for a long time, their practices contributed little to medical school revenues until the 1960s, when medical school deans and university presidents recognized that physician practice plans and hospital revenues could generate sizeable surpluses. These surpluses, in turn, could be used to support faculty expansion and research and other activities. Various medical services currently account for roughly half of medical school revenues and about 90 percent of hospital revenues. Because the surpluses generated by practice plans and hospitals are the difference between very large costs and very large revenues, even small adjustments in these gross flows matter enormously.

## What is the Problem?

All but one of the forces that made academic medical centers a remarkably good business have reversed. The one seeming exception has been federal spending on health research and training, which jumped 64 percent in constant dollars between 1990 and 2000. But federal grants, too, can be financial losers. Academic medical centers complain that reimbursement for research fails to cover all their indirect costs, and that a federal cap on reimbursement for direct salary costs is well below actual salaries.

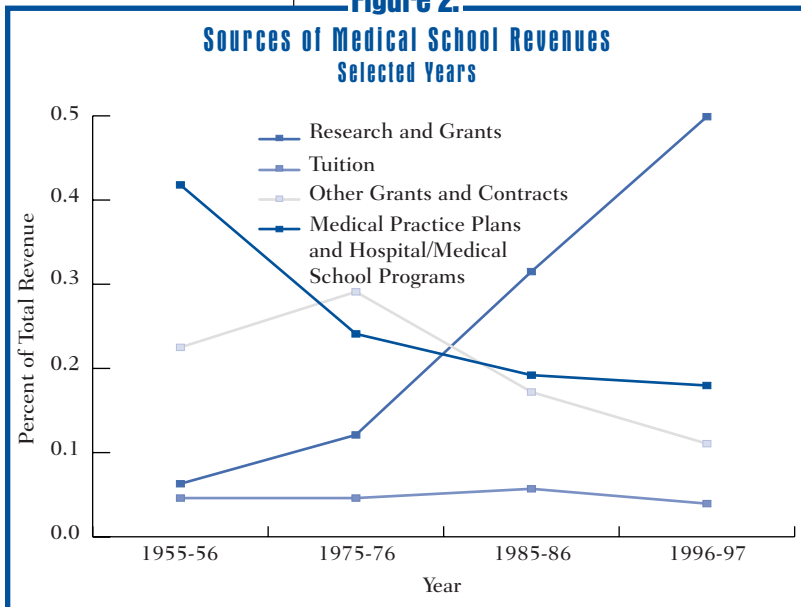
All other major sources of hospital revenue have come under increasingly strict control (figure 4). In 1983, Congress amended the payment rules for Medicare inpatient hospital services. Instead of reimbursing hospitals for actual costs incurred, the Health Care Financing Administration established prospective payment amounts related to patients' diagnoses at time of admission. The initial payments and annual increases more than covered costs attributed to Medicare patients. But, in 1997, as part of the Balanced Budget Act, Congress scaled back payments to hospitals by about 10 percent for the succeeding four years. There is some dispute about whether these cuts were so severe that Medicare payments ceased to cover costs of Medicare patients or merely reduced margins. At the same time, states have increasingly shifted to contracts with managed care organizations to serve the Medicaid population. The 1997 legislation also mandated prospective payment for out-patient services. Regulations implementing this law are expected soon. In addition, private insurance, which once paid what hospitals charged, was replaced by negotiated contracts with managed care organizations. Hospitals entered into such contracts mistakenly expecting Medicare payments to remain at pre-1997 levels.

Figure 1:



As occupancy rates fell, hospitals' power to resist managed care organizations weakened. Managed care plans could offer any price over marginal cost to underutilized facilities with many empty beds. If hospitals in competitive markets refused the offer, the managed care plans could shop elsewhere. Hospitals accepted these deals, but found that overhead charges rested on a smaller and smaller base. Operating margins narrowed and turned negative for many hospitals.

**Figure 2:**



Finally, the proportion of the population with private health insurance fell five percentage points between 1987 and 1993. Although the drop in private coverage was partly offset by increases in Medicaid and Medicare, the share of the population without insurance, and therefore dependent on charity care, grew. After 1993, private insurance coverage leveled off, but the share of people with employer-sponsored insurance rose five percentage points by 1998. The move from individual to group coverage shifted demand from weak to strong bargainers.

### The Consequences

Academic medical centers and other hospitals responded to the worsening financial environment in various ways. A few tried to cut costs by reducing staff and closing beds. But most added faculty—41 percent during the 1990s. Many centers tried to increase occupancy rates by underbidding competitors. To generate revenue and channel more cases to the parent hospital, others opened satellite primary care clinics or purchased physicians' practices. Many hospitals merged as managers sought economies of scale and increased market power.

While some hospital executives responded to the new price-sensitivity with imagination and astuteness, others blundered. Perhaps the most egregious case was the Allegheny Health, Education, and Research Foundation. Between 1986 and 1997, it grew by acquisition and merger from a single hospital with 740 beds and revenues of \$195 million to a consortium of 14 hospitals operating throughout Pennsylvania with 4,601 beds and revenues of \$2.2 billion. The company also amassed \$1.3 billion in debt and 65,000 creditors. In 1998 it declared bankruptcy.

This medical bankruptcy, the largest in history, led bond rating agencies to reassess academic medical centers. By early 1999, bond rating agencies had either downgraded the bonds or projected a negative outlook for many medical centers, including the Harvard Caregroup, Johns Hopkins, the University of Pennsylvania, Washington University, Baylor University, and Duke University. Even worse, some hospitals found it impossible to buy bond insurance, which they need to float new issues at reasonable cost.

A year before the Allegheny debacle, a careful study reported that from 1986 through 1994, hospitals that merged began with higher revenues and costs but that their costs and revenues rose less rapidly than those of stand-alone hospitals. The authors concluded that mergers and alliances were a promising way to bring down costs. Yet, just two years later, in the wake of the Allegheny collapse, a review of nearly half of 750 hospital mergers and alliances formed between 1993 through 1997 found that few had achieved intended economic advantages. Another study confirmed that partners in health alliances had slightly higher revenues per bed and per discharge, but also had higher costs. Then, a much-heralded alliance between the University of California at San Francisco and Stanford University that promised to cut staff and lower costs actually raised costs and added 1,700 positions. The alliance was dissolved, and heads rolled.

Part of the increased efficiency from mergers comes from consolidating functions and firing people, which are particularly troublesome at a university with tenured faculty and staff. Fewer problems arise when non-profit academic medical center hospitals are acquired by investor-owned chains. A study of three such mergers found no adverse effects on teaching, research, or indigent care.

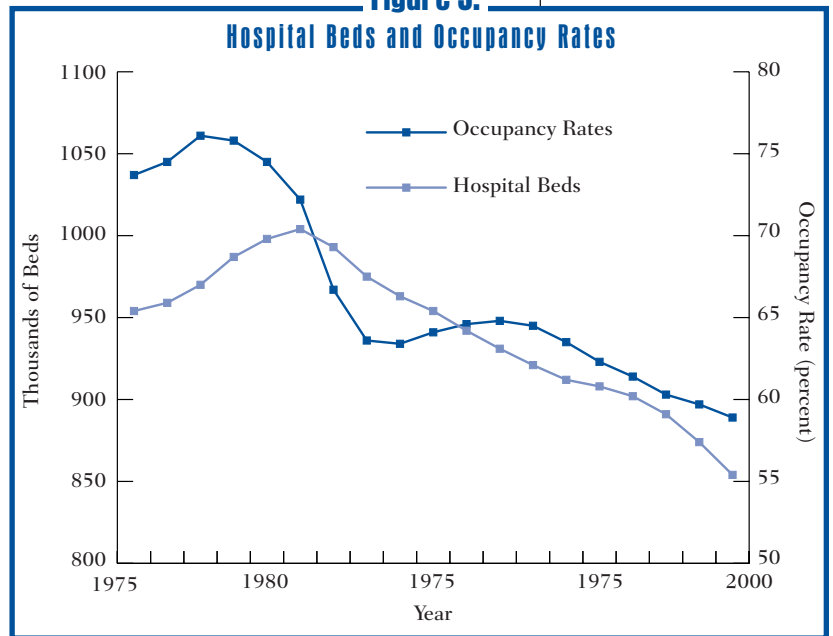
One strategy for improving financial viability—the purchase of physician practices—was pursued with particular vigor and at high cost at the University of Pennsylvania. The idea was that physicians would receive certain services from the medical center. In return, the physicians were expected to refer patients to the medical center. But the University of Pennsylvania administrators failed to foresee that transferring a lot of cash to middle-aged practitioners and reducing incremental compensation for seeing more patients would reduce work effort. In addition, the physicians put the interests of their patients ahead of the interests of hospital administrators by continuing to refer patients based on a hospital's quality and proximity to the patients or to themselves.

Partly because of these errors, the Pennsylvania medical center lost \$180 million last year and the highly esteemed dean joined a lengthy list of academic medical center CEOs who resigned following large losses.

### What It Means, and What Policymakers Should Do

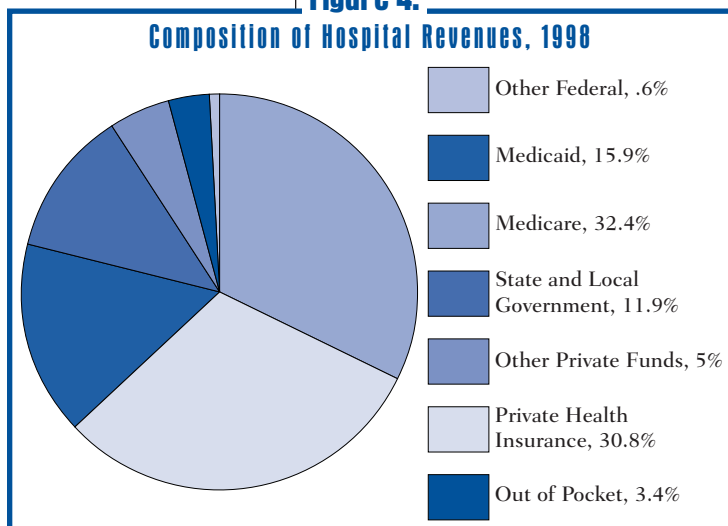
Several academic medical centers are in deep trouble. But, whether medical centers as a group are in deep trouble is much less certain. It is difficult, also, to determine how much of the trouble results from poor administration and ill-considered business decisions and how much from an increasingly unforgiving business environment.

**Figure 3:**



Fragmentary evidence suggests that the financial problems of academic medical centers are serious and widespread. The objective facts—a glut of hospital beds, growing market power of managed care purchasers, and reductions in government payments under Medicare since 1997—all signal a deterioration in the financial condition of hospitals in general and academic medical centers in particular. Downgrades by bond rating organizations and huge losses reported by many academic

**Figure 4:**



medical centers testify to genuine financial distress. Even such strong organizations as the Partners Healthcare System in Boston (Massachusetts General Hospital and Peter Bent Brigham Hospital) report declining margins, which will force them to dip into endowment and reserves, or worse. Faced with such downward trends, academic medical centers seem to differ only in when they will go into the red.

Yet some analysts strongly dispute the allegations that academic medical centers are in trouble. An article published last year in the journal *Health Affairs* pointed out that the proportion of academic health centers with negative operating margins fell between 1989 and 1995 from 35 percent to 19 percent. Between 1993 and 1997

several other financial measures—cash reserves on hand, return on equity, and long-term debt/equity ratios—all improved for hospitals in and outside of academic medical centers.

But some critics said the data in the article preceded the 1997 Balanced Budget Act, which reduced both Medicare and Medicaid payments. Another study, sponsored by the American Hospital Association, estimated that Medicare payments failed to cover hospital costs starting in 1999 and, even allowing for legislation enacted in 1999, the shortfall will increase.

On the other hand, MedPac, a Congressionally mandated commission which oversees Medicare, concluded in 1999 that “hospitals ... appear to be in good financial shape overall” and in 2000 that “there is little evidence that policy changes enacted in the Balanced Budget Act have harmed beneficiaries’ access to care.” My own analysis of data for 1994-98, supplied by the Association of American Medical Colleges, has found little evidence that the finances of academic medical center hospitals have deteriorated over that period.

### **The Policymaker’s Problem and Some Solutions**

The problem for policymakers is that the available facts are consistent with two different stories. The first is that the financial environment of academic medical centers has turned hostile, that the failing hospitals and those with large losses have been canaries in the coal mine, and that other serious problems will follow. Academic medical centers, it is argued, cannot continue to perform all of their traditional functions without help. The unstated premise here is that policy should indeed be changed to help them.

The second story is that for decades academic medicine lived in a hothouse of financial privilege, free from the usual market pressures. It acquired loose financial habits that bring swift punishment in the new Darwinian world. Centers with strong faculties face particular challenges because it is hard to compel people with many career options to sacrifice their quality of life—by seeing more patients or doing fewer tests—simply to improve the medical center’s bottom line. And the evidence that academic medical centers as a group are financially threatened remains equivocal, at best.

The one universally accepted fact is that the U.S. still has way too many hospital beds. Furthermore, new drugs and other advances are likely to continue to reduce demand for hospital beds. Until some hospitals close—and that probably includes some academic medical centers—excess capacity and cut-throat pricing will be inescapable.

On the way to a new equilibrium, many hospitals will doubtless suffer considerable financial distress. There is no guarantee that the right hospitals will fail. Closing hospitals can seriously disrupt the economic life of communities, which will fight ferociously to keep them open. The charitable or religious organizations that run many hospitals may accept low returns or losses indefinitely to provide emergency and primary care to the urban uninsured. In rural areas, a hospital closure can cut people off from medical service entirely.

As for the functions now joined in academic medical centers—medical research, teaching, and patient care—no one knows whether there are other equally effective ways to carry them out. The achievements of U.S. biomedical research, high standards of care, and superior medical education may suffer as hospitals downsize. However, the costs of errors of providing too much help to medical centers or of providing too little are not equal. If too much help is given, money will be wasted. If too little is given, important research and teaching institutions could suffer great damage. That said, it is not clear what policymakers can do to spare academic medical centers the financial suffering that the hospital sector as a whole will have to experience.

Only two instruments now available to federal policymakers can directly help academic medical centers—reform of the Medicare payment system and reform of payment for indirect research costs—and only the first is significant.

Medicare makes two payments to teaching hospitals—direct payments to offset added salary costs and indirect payments to offset the extra costs, such as additional tests, incurred in teaching hospitals. Because of econometric errors, Medicare initially set the indirect payments too high. Congress subsequently has been lowering them, but they are still about \$1.5 billion higher than analysis can justify. These over-generous payments have encouraged an increase in the number of residents from 60,000 to about 100,000. Increasing this assistance to teaching hospitals would be hard to justify. If Congress wishes to support medical education, the program should be financed through general revenues, not Medicare.

*The U.S. still has way too many hospital beds. Furthermore, new drugs and other advances are likely to continue to reduce demand for hospital beds.*

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The cumulative effect of the Balanced Budget Act of 1997 (as modified by the Balanced Budget Refinement Act of 1999) is to lower academic hospital revenues about 3 percent in 2002. The cuts affect all hospitals but not equally. Rescinding some of these cuts would distribute aid among all hospitals, and slow needed down-sizing.

The second reform involves reimbursements to universities for indirect research costs, currently about \$2 billion annually. Replacing the elaborate and expensive cost-accounting approach would free up resources that could be applied to research costs.

Beyond these modest steps, it is hard to make a persuasive case that academic medical centers as a group merit assistance. Even if one could make that case, it is hard to conceive of politically sustainable methods of channeling aid to them. New methods of assistance to academic medical centers will have to be found if some of these institutions are to be spared the rigors of the new health care marketplace.

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