Academic Medical Centers And Managed Care: Uneasy Partners
by Peter D. Fox and Jeff Wasserman

Academic medical centers (AMCs)—the medical school, the teaching hospital, and the faculty practice plan—depend heavily on patient revenues. Growth in managed care is changing AMCs’ revenue streams and creating stresses that are already apparent in areas with a high penetration of health maintenance organizations (HMOs). The prevalence of managed care requires that AMCs adapt to survive and also raises public policy issues related to the financing of medical education. This Commentary discusses the problems facing AMCs that stem from the advent of managed care.

Definitions of managed care differ; for our purposes here, it encompasses any measure that, from the perspective of the purchaser of health care, favorably affects the price of services, the site at which the services are received, or their rate of use. Managed care assumes many forms and is becoming the predominant force in the health care marketplace. For example, enrollment in HMOs reached 38.8 million in June 1992, compared with 10.2 million ten years earlier. Although enrollment estimates for preferred provider organizations (PPOs) vary widely, by all accounts the number of persons under PPO arrangements has surpassed HMO enrollment; PPOs were only a nascent force ten years ago. Inpatient precertification and concurrent review—bold measures a decade ago—have become the norm in indemnity plans. Specialized programs have evolved to control costs of services such as mental health care and prescription drugs. Managed care also is becoming an integral part of Medicare and Medicaid—critical revenue sources for AMCs. Finally, most reform proposals embrace competitive health plans or other vehicles to promote managed care.

Teaching hospitals and faculty practice plans can relate to managed care entities in multiple ways: (1) AMCs can contract for an individual specialty service, which might be reimbursed on either a discounted fee-for-service basis or a capitation basis; (2) AMC hospitals and physicians can be paid a

Peter Fox is a consultant and researcher specializing in managed care and other health financing and delivery issues, located in Chey Chase, Maryland. Jeff Wasserman is vice-president for ambulatory care at Rhode Island Hospital in Providence, the primary teaching hospital for the Brown University School of Medicine.
single, global fee for selected services (for example, cardiovascular services and transplants); and (3) using comprehensive contracting, the faculty practice plan and the hospital can jointly agree to deliver most or all medical services in return for capitation payments. Also, several AMCs own HMOs, which they may have either started or acquired.

Because of the diversity in managed care arrangements, this Commentary focuses on comprehensive contracting arrangements between an HMO and both the hospital and the faculty practice plan, since the most salient issues arise under this scenario. In addition, the focus is on AMCs that include a medical school, not just residency programs.

**Costs Of Academic Medical Centers**

Managed care induces providers to compete on the basis of price and efficient use of services. AMCs tend to be more expensive than their community counterparts, which leaves them with the disadvantage of having to absorb greater discounts. Some of the factors that result in higher costs can be readily described; quantifying their impact is more problematic.

**Teaching function.** High costs are an inescapable part of AMCs’ teaching function. The typical faculty physician allocates many hours to academic pursuits in addition to patient care, and the training of medical students and residents requires that faculty be available to supervise. The teaching function reduces clinical productivity, although residents in their third year or after may enhance clinical productivity. In addition, residents are commonly believed to order tests or keep patients in treatment longer for didactic purposes. The extent to which the additional services are integral to the training process or simply reflect long-ingrained habits is difficult to measure. Also, to meet its teaching obligations, the AMC is required to offer a broad range of services, irrespective of their profitability.

In an open-ended fee-for-service system, the costs associated with the reaching mission have typically been recovered through higher charges to patients, who in turn submit claims to traditional insurers, which reflect the costs in their premiums. Some HMOs are willing to pay AMCs above community rates as part of a marketing strategy to associate with high-profile institutions. Also, a number of HMOs are owned or were originally formed by AMCs. For these HMOs and a small number of others, reliance on the AMC is intrinsic to their mission and identity. Most HMOs, however, are not willing to pay a premium and may view any marketing advantage that accrues from the cachet of the AMC as more than offset by the potential of the affiliation to attract sicker-than-average enrollees.

Reduced payments also occur when an AMC contracts with an HMO having a Medicare risk contract. Under Medicare’s prospective payment
system (PPS), teaching hospitals receive special Medicare payments to reflect teaching costs. However, a hospital that establishes risk contracts with an HMO does so on whatever basis it negotiates, most commonly per diem payments, and competitively set reimbursement levels do not in general reflect teaching costs. As a result, the hospital in effect loses the teaching adjustments, even though the amounts involved are included in the capitation payments that Medicare pays HMOs.

**Sicker mix of patients.** A second reason for AMCs' high costs is that they attract a sicker mix of patients because of their emphasis on tertiary care. The extent to which the AMC suffers financially as a result of accepting a market-determined price for this population depends upon the HMO’s payment methodology. The impact may not be significant if the HMO pays fee-for-service, thereby not placing the AMC at risk for utilization. The situation is different, however, for an AMC that is capitated for a comprehensive array of services. Certain types of HMOs, notably so-called network and individual practice association (IPA) plans, commonly contract with individual providers or groups of providers and require enrollees to select one of its provider units. Each provider unit is responsible for delivering or arranging for a full range of services and in return receives capitation payments for each person that it enrolls.

An AMC entering into such a contract is likely to face adverse selection; that is, it will attract enrollees who are sicker on average. A patient with cancer, for example, may find the AMC attractive because of its specialized services not available elsewhere. HMOs are generally unwilling to compensate the AMC for the higher costs associated with adverse selection, both because the phenomenon is difficult to measure and because, rather than draining existing enrollees from other provider units, the AMC's participation in the HMO may attract new enrollees who are sick.

**Inefficient practice styles.** A third reason for AMCs' high costs may be inefficiency in administrative processes and, more importantly, in the productivity of its faculty. Under a capitated arrangement, inefficient practice styles—such as in ordering tests, making referrals to colleagues for consultations, and using the inpatient setting—result in reduced income for individual physicians and higher costs for the teaching hospital.

Unfortunately, studies comparing the relative efficiency of faculty practice plans with other settings have been inadequate. However, we can reasonably hypothesize that the organizational and structural characteristics of AMCs render them less efficient than their community counterparts. In particular, the amount of laboratory and other diagnostic testing is likely to be high, as is the rate of consultations with other physicians.

The issue of efficiency is distinct from that of uncompensated care. Many AMCs have large uncompensated care commitments, requiring them to
shift their costs to those who can pay. However, growth in the proportion of patients who generate revenues based on contractually set prices reduces the opportunities to shift costs. For inpatient care, both Medicare and Medicaid make supplementary payments to hospitals with high indigent care volumes. As with payments for teaching, the hospital in most instances loses the uncompensated care payments when it contracts with an HMO under these two public programs, even though the payments are included in the community averages upon which capitation payment levels are based.

Differences In Mission And Culture

The high cost of AMCs reflects their mission and culture. Because of their research and teaching roles, AMCs often epitomize the “technological imperative”: the desire to use all available technology. Much new technology is developed and tested in AMCs. What might to some be expensive, marginally useful, or partially developed technologies may to the AMC faculty member be scientific progress and perhaps tomorrow’s medical miracle, not to mention grounds for academic advancement. In contrast, HMOs generally are cautious about paying for experimental treatment.

Furthermore, professional recognition and financial rewards accrue heavily to specialists and subspecialists who are pioneering in their respective fields and who are renowned beyond their institutions. Although variable among AMCs, the contributions of primary care physicians to the overall goals of the institution are not always highly valued; subspecialists tend to be the most rewarded, not only within the AMC but also externally by the National Institutes of Health (NIH) and through opportunities to speak here and abroad. In contrast, primary care physicians in HMOs manage the medical care process and are responsible for most resource allocation decisions; their endeavors are rewarded accordingly.

While the primary function of the AMC is training and the advancement of medical knowledge, that of the HMO is the efficient delivery of high-quality care. The marketplace establishes within a narrow range the premiums that HMOs, whether for profit or nonprofit, can charge. Most faculty members are accustomed to treating the specific medical problems of individual patients at the time they present themselves rather than thinking in terms of a fixed amount of money available under capitation arrangements to care for a defined population of enrollees.

Structural Incompatibility Of AMCs And Managed Care

Individual “fiefdoms.” The mission and orientation of AMCs, facilitated by traditional fee-for-service financing of patient care, have fostered
organizational structures that are inimical to a managed care environment. Perhaps the foremost problem is the lack of coherent decision-making processes. In particular, faculty practice plans are organized by department and then further divided by subspecialty. The departments (and often the divisions or sections within them) operate independently of one another and are commonly labeled by the faculty and AMC administrators themselves as “fiefdoms.” Each department and section has broad latitude regarding its priorities, the programs it establishes, the research grants it solicits, and its business practices. Furthermore, managerial and resource allocation decisions emanate from a variety of sources, including the dean or vice-president for health affairs, the department chairs, the executive committee of the faculty practice plan, and research funding sources such as the NIH unit to which the individual faculty member relates.

By contrast, HMOs prefer to deal with a unified multispecialty group practice. Whereas many AMC faculty members want to be great soloists, HMOs seek highly coordinated symphonies. Although HMOs may contract with individual departments for specific services, they often prefer to contract with a multispecialty group practice for the full range of medical services, and AMCs place themselves at a disadvantage in competing for comprehensive contracts. Many faculty practice plans are becoming more centralized in their decision making, but changes have been gradual.

Distribution of patient revenues. Fundamental to the difficulties of AMCs in dealing with HMOs and other managed care entities is the manner in which revenues from patients are distributed to individual faculty physicians. Typically, a portion of revenues, say 5 to 20 percent, is allocated to the medical school to support academic endeavors; this amount is often referred to as the “dean’s tax.” This and other financial payments by the faculty practice plan represent a growing share of medical school budgets, having risen from 6.7 percent in 1971 to 29.8 percent in 1990. Another portion of patient revenues is retained to finance central administration, and the balance accrues to the individual departments. After the departments cover their administrative costs and, often, other obligations, remaining revenues are distributed to the clinical faculty.

Distribution to the faculty can occur in a variety of ways. Faculty may be salaried, or they may receive a base amount for patient care plus an incentive payment that reflects “productivity,” generally measured by service volume. In some medical schools, departments within the faculty practice plans cross-subsidize one another; others have an “every ship on its own bottom” philosophy, whereby each department is self-supporting, although cross-subsidization may occur within departments. Furthermore, individual departments within a school may differ in how they pay physicians. For example, wide variability exists in the proportion of compensation that is
salary versus incentive payment and, concomitantly, in the motivation to increase the volume of clinical services.

Let us consider the barriers, flowing from the financial arithmetic, that the HMO and AMC face in entering into a comprehensive contract. As discussed above, the HMO starts with a fixed pot of money based on premiums that are determined in a competitive marketplace. A certain percentage, perhaps 85 percent, might be available for medical care, with the balance allocated to administration and retained earnings. The AMC, then, has to deliver care within the 85 percent allotment.

The first challenge the AMC confronts is to devise, without protracted and divisive discussion, formulas for allocating revenues in a manner that is fair and that incorporates the desired incentives. In our experience, most AMCs have difficulty doing this. Debates commonly ensue between the practice plan and the hospital on the two parties’ appropriate shares, and fiercer debates occur among the various specialty departments. Some departments or individual faculty members may be ideologically antagonistic to HMOs; as a bargaining strategy, they may take a hard line on the terms they will accept; or they may be reluctant to participate because they either do not want additional patients or desire a different patient mix (commonly, patients requiring tertiary care) than the HMO will generate. As a result, decision making is protracted, more so than is typical of a multi-specialty group practice, leaving the HMO frustrated or disinclined to engage in discussions in the first place.

Although theoretically sound allocation formulas can be devised, there may be no comfortable way to divide the fixed pot. Revenues are commonly allocated in proportion to accumulated standard charges. However, doing so creates a disincentive for an individual physician to be vigilant regarding utilization because providing additional services increases compensation, albeit at the expense of his or her colleagues. In addition, the allocation of revenues in proportion to charges represents an inducement to increase prices. When combined with the effect of the dean’s tax, which community physicians do not face, the discounts relative to billed charges can appear large. As a result, faculty may be reluctant to see HMO patients, even once a contract has been initiated.  

Resistance to medical oversight. Departmental independence in financial arrangements has a parallel in medical practice. To be sure, considerable peer review does occur. Faculty often communicate well within their own division and sections; they collaborate across specialties in treating complex patients; and they interact regularly with interns and residents. However, one department does not generally tell another how to practice medicine, let alone that its use of services is wasteful. HMOs want providers who will cooperate with their utilization management procedures, and
faculty vary in their willingness to do so. Since the HMO may not be able to select faculty physicians with whom it will deal, negative attitudes and performance by one physician can adversely affect the AMC as a whole.

**Contentious coverage decisions.** The determination of which services are eligible for reimbursement also can be contentious. AMCs strive to lead in developing new and experimental procedures; HMOs do not necessarily want to be leaders in paying for them. Even if faculty physicians understand the position of the HMO, they may resent coverage determination processes that are more rigorous than what they experience with self-paying patients or those who are insured by traditional indemnity plans.

**Attitudes toward patients.** Attitudes toward patients are another concern. HMOs frequently complain that faculty physicians, more so than those in the community, fail to make patients feel that they are valued customers, particularly HMO patients, who generate lower revenues than those of self-paying patients. Patient complaints include long waits for appointments, crowded and unpleasant waiting rooms, and curt treatment (“academic arrogance”). Any part of the AMC that is uncooperative or hostile diminishes its attractiveness to the HMO.

**Role of primary care physicians.** Finally, the role of primary care physicians, in number and function, is different in HMOs than in most AMCs. First, HMOs rely heavily on primary care physicians, while AMCs tend to be staffed by specialists and subspecialists. In addition, in most HMOs enrollees elect a primary care physician; all services must be rendered by that physician or upon his or her referral, a situation that may be uncomfortable for specialists and primary care physicians alike. Primary care physicians may find it awkward to decide not only when a referral is necessary but also to determine the appropriate intensity of treatment, including the extent of diagnostic testing and the need for referrals and consultations among specialists. Likewise, the concept of a primary care physician’s having personal responsibility for a panel of patients may be alien to AMC faculty physicians. Specialists are often not oriented to providing feedback, such as written reports regarding the use of medical resources, to primary care physicians and may resent having to do so. In addition, residents, who historically have played important roles in delivering primary care, rotate frequently among departments, and primary care faculty may see patients for only a limited number of hours each week. Both of these factors compromise continuity of care.

**Concluding Observations**

Many AMCs have fared well over the past decade and also have instituted internal reforms. Teaching hospitals have had higher Medicare mar-
gins than nonteaching institutions. In addition, faculty practice plan revenues have increased, in part as a result of improvements in the management of billings and collections. Many faculty practice plans have created more centralized governance structures, although the inherent independence that characterizes individual departments remains. They also have opened new ambulatory care centers away from the main campus, thereby improving the accessibility and ambience of their facilities. More graduate and undergraduate medical education is occurring in outpatient settings. Hospitals have shortened lengths-of-stay and have expanded their outpatient programs. Whether willingly or grudgingly, AMCs have become more accepting of managed care.

The next few years promise to be challenging ones for AMCs. States are reducing their support of medical education in both public and private institutions, reflecting the fiscal pressures they face (caused in no small measure by rising health care costs). Medical schools are highly dependent on patient revenues, as is the faculty practice plan itself. These revenues are threatened as a result of Medicare’s-and, increasingly, private plans’- adoption of the resource-based relative value scale (RBRVS) method of physician payment, which favors primary care physicians over specialists. Also, managed care is constricting revenue streams. In addition, many AMCs bear significant costs in caring for the uninsured, whose numbers are rising. Finally, the Medicare indirect medical education (IME) adjustment for hospitals, which totaled $3.1 billion in fiscal year 1992, is being questioned, in part because the Medicare operating margins of teaching hospitals exceed those of nonteaching hospitals. Furthermore, the hospital loses the IME adjustment for patients it sees under a Medicare HMO risk contract, and Medicare HMO enrollment is growing.

Managed care, notably HMOs and PPOs, is replacing traditional fee-for-service payment as the prevailing financing and delivery mode, and AMCs will have to change to survive. They will need to act like multispecialty group practices, thereby reducing the independence of the individual clinical departments and sections within departments. They also will need to adopt new methods for controlling service use, which in turn will affect their teaching function. Managed care may force greater reliance on community facilities as teaching sites. Medical students and residents will receive more of their experience in ambulatory settings and will become acquainted with HMO practice styles during their training.

The financing of medical education will have to be addressed. Society needs to recognize the higher costs inherent in the teaching function. Medicare is the largest single source of publicly funded patient revenues. It finances medical education through the hospital in a formularistic, rather laissez-faire manner that does not entail an explicit process of setting public
priorities, such as the relative benefit of training primary care physicians versus procedurally oriented specialists. Nor does it appropriately recognize the costs of teaching in the ambulatory setting. The dollar levels as well as the priorities and incentives, implicit or explicit, in the funding vehicles present pressing, and neglected, public policy issues.

The authors gratefully acknowledge comments on earlier drafts by Robert A. Derron, Lynn Etheredge, Martha H. Marsh, John Edward Ott, and Donald B. Tower.

NOTES

1. M. Porter et al., The InterStudy Competitive Edge (Data Book) 2, no. 2 (Excelsior, Minn.: InterStudy, 1993), 14; and InterStudy, A Mid-Year Report on HMO Growth (1986), 1.
2. The terms managed care and competition are not synonymous, and one can occur in the absence of the other. We have assumed that both the HMO and providers compete for patients, although the AMC may be the sole local provider of selected tertiary services.
3. Self-insured groups do not pay a premium as such. However, the principle is the same, and the AMC’s bills have historically been paid with few questions asked.
4. HMOs can contract with the Medicare program on either a risk or a cost basis. This paper addresses HMO risk contracting only.
5. The direct costs of approved medical education programs, such as the stipends of most residents and related supervision costs, are paid separately. Hospitals also receive the IME adjustment, which reflects the ratio of residents to beds, to compensate for “the extra demands placed on the hospital staff as a result of the teaching activity or additional tests and procedures that may be ordered by residents.” Set House Committee on Ways and Means, 1992 Green Book: Overview of Entitlement Programs (Washington: U.S. Government Printing Office, 15 May 1992), 340.
6. Medicare pays HMOs with risk contracts based on the adjusted average per capita cost (AAPCC), which is a measure of estimated per beneficiary fee-for-service expenses by county. The AAPCC includes the teaching and other adjustments, thereby benefiting HMOs regardless of whether they contract with teaching hospitals.
8. Whether deep discounts make physicians on the faculty reluctant to see HMO patients depends on the directness of the relationship between the amount of revenues that the individual physician generates and his or her compensation. This reluctance is something that the authors have observed and is not simply conjectural.
9. In federal fiscal year 1991, “major teaching hospitals,” defined as hospitals having a minimum of 25 residents per 100 beds, had Medicare PPS margins that averaged a positive 7.8 percent, compared with a loss of 3.6 percent for all hospitals nationally. Total margins (encompassing all payers), however, in that year were 2.5 percent for major teaching hospitals and 4.2 percent for all hospitals. See Prospective Payment Assessment Commission, Medicare and the American Health Care System: Report to Congress, June 1992 (Washington: ProPAC, 1992).
10. Ibid., 41.