

## ARTICLE

# Organizational Models for Medical School–Clinical Enterprise Relationships

Bryan J. Weiner, PhD, Richard Culbertson, PhD, Robert F. Jones, PhD, and Robert Dickler, MHA

## ABSTRACT

Changes in the organization, financing, and delivery of health care services have prompted medical school leaders to search for new organizational models for linking medical schools, faculty practice groups, affiliated hospitals, and insurers—models that better meet the contemporary challenges of governance and decision making in academic medicine. However, medical school leaders have relatively little information about the range of organizational models that could be adopted, the extent to which particular organizational models are actually used, the conditions under which different organizational models are appropriate, and the ramifications of different organizational models for the academic mission. In this article, the authors offer a typology of eight organizational

models that medical school leaders might use to understand and manage their relationships with physicians, hospitals, and other components of clinical delivery systems needed to support and fulfill the academic mission. In addition to illustrating the models with specific examples from the field, the authors speculate about their prevalence, the conditions that favor one over another, and the benefits and drawbacks of each for medical schools. To conclude, they discuss how medical school and clinical enterprise leaders could use the organizational typology to help them develop strategy and manage relationships with each other and their other partners.

*Acad. Med.* 2001;76:113–124.

**T**he organizational relationships between medical schools and the hospitals, physician groups, and other components of the clinical delivery systems that support the academic mission have always been important issues in academic medicine. However, a wide variety of simultaneous changes in health care organization, financing, and delivery have rendered the manage-

ment of these organizational relationships increasingly problematic and time-consuming for medical school leaders. Managed care, market consolidation, reductions in reimbursement arising out of the private sector, the Balanced Budget Act of 1997, and escalating costs for new technology and pharmaceuticals threaten to unravel the intricate web of revenue streams, transfer payments, and cross-subsidies that support academic medicine.<sup>1–3</sup>

Yet, for many medical school leaders, it is far from clear how they should respond to the myriad mixed signals emanating from the health care market. On the one hand, for example, the number of physicians contracting with Aetna Healthcare as a managed care partner now exceeds the number of physicians holding personal memberships in the American Medical Association.<sup>4</sup> On the other hand, the percentages of specialty and primary care physicians whose incomes are based on capitated payment methods have declined in the last two years with a return to more conventional fee schedules or discounted systems.<sup>5</sup> UnitedHealth's recent decision to drop its requirement for prior authorization has merely heightened the ambiguity of managed care

**Dr. Weiner** is assistant professor, Department of Health Policy and Administration, School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina; **Dr. Culbertson** is associate professor, Department of Health Systems Management, Tulane University Medical Center, New Orleans, Louisiana; **Dr. Jones** is associate vice president and director, Section for Institutional and Faculty Studies, Association of American Medical Colleges (AAMC), Washington, D.C.; and **Mr. Dickler** is senior vice president, Division of Health Care Affairs, AAMC.

*The opinions expressed here are those of the authors and do not necessarily represent the views of the Association of American Medical Colleges.*

Correspondence and requests for reprints should be addressed to Dr. Weiner, Department of Health Policy and Administration, School of Public Health, UNC–Chapel Hill, 1102-C McGavran–Greenberg Hall, CB #7400, Chapel Hill, NC 27599; telephone: (919) 966-7375; fax: (919) 966-6961; e-mail: <bryan.weiner@sph.unc.edu>.

and the uncertainty surrounding its future.<sup>6</sup> Similarly, the prospects of integrated health care delivery also seem in doubt. Although health care systems continue to grow in size and complexity,<sup>7</sup> many are reporting significant financial losses, including several prominent university-owned health care systems.<sup>8–18</sup>

In the midst of this uncertainty, leaders in academic medicine are searching for new organizational models for linking medical schools with affiliated clinical providers and provider organizations—models that seem better suited to the challenges of market volatility, organizational complexity, and resource constraints now facing academic medicine. In this search, the following questions arise:

- What organizational models are potentially available for governing and managing medical school relationships with faculty practice plans and affiliated clinical delivery organizations?
- Which organizational models are prevalent today, and which will become more prevalent in the future?
- Under what conditions are some organizational models more appropriate than others?
- What ramifications do different organizational models hold for the academic mission?

This article represents the first in a series that seeks to address these questions. We offer below a typology of organizational arrangements that medical school leaders might use to govern and manage their relationships with physicians, hospitals, and other components of clinical delivery systems needed to support the mission of academic medicine. (Hereafter, we collectively refer to these clinical providers, delivery organizations, and other components as the “clinical enterprise.”) In addition to illustrating the models with specific examples from the field, we speculate about the prevalences of particular models, the conditions that favor different models, and benefits and drawbacks of various models for medical schools.

## BACKGROUND

In 1996, two of us (RC and RD) and Leslie Goode published a typology that described four possible organizational models of medical school–clinical enterprise relationships.<sup>19</sup> Although at that time it was made clear that no one model was inherently superior to any other, we now observe that the single-owner model has captivated many medical school leaders. In this model, the university or medical school parent structure owns an integrated clinical enterprise that brings together all of the financial, capital, human, and other resources necessary for meeting the service needs of a defined population. The medical school leader not only holds the traditional responsibilities of a dean or vice president (or

both), but also exercises executive authority over the business operations of the organized delivery system, including establishing corporate goals, setting budgetary targets, allocating capital, and appointing service chiefs.

Culbertson and his colleagues observed that while the single-owner model sounds enticing, the capital requirements and financial risks associated with this design make it an unlikely and undesirable choice for all but a handful of medical schools.<sup>19</sup> Yet, a surprising 30% of the 64 medical school deans recently surveyed by Farrell<sup>20</sup> reported that the single-ownership model best describes their school’s relationship to its affiliated clinical enterprise. Further, 26% of the 64 schools reported that they played the role of CEO, presumably over the integrated delivery system of the single-owner model. Although we cannot ascertain the accuracy of these self-assessments, we believe these figures over-report the actual use of the single-owner model. Even if that is true, these figures offer a powerful testimony to the perceived desirability of having, claiming to have, or aspiring to have an academic enterprise–clinical enterprise relationship governed by the single-owner model.

We suspect that the significant financial losses reported by several leading academic institutions will dampen popular enthusiasm for single-owner and subsidiary models.<sup>21</sup> Concomitantly, we expect to see growing interest among medical school leaders in alliances, coalitions, and other more loosely structured models for organizing medical school–clinical enterprise relationships. Toward this end, we build upon Culbertson and colleagues’ typology by better defining the array of design options that imply neither direct ownership and control over the clinical enterprise nor subsidiary status on the part of the medical school. In addition to describing a wider array of organizational models potentially available for governing and managing medical school–clinical enterprise relationships, we discuss how medical school leaders could use this expanded typology in forming strategy and managing relationships with clinical partners.

## CONCEPTUAL FRAMEWORK

Our conceptual framework uses three dimensions to characterize the organizational relationships between medical schools and their associated clinical enterprises:

- *Clinical enterprise organization.* This dimension captures the degree to which the clinical enterprise resembles an “organized delivery system.” An organized delivery system is one that integrates hospital services, physician services, and insurance functions through the use of equity or contracts and provides, or arranges to provide, a wide range of services along the continuum of care.<sup>22</sup> We use the term “organized delivery system” rather than “integrated delivery system” for two reasons. First, the latter term connotes a level of clinical

integration and accountability for population health that few delivery systems have achieved to date. Second, in common use, the latter term implies “vertical,” or ownership-based, integration and thus diverts attention from the possibility of “virtual” integration through tightly linked contracts and other forms of coordination among legally distinct entities.

At the opposite end of the spectrum from “organized delivery system” are clinical enterprises that are relatively fragmented. Here the institutional provider organizations, physician groups, and insurers to which the medical school relates remain separate legal entities bound together formally, if at all, by non-exclusive contracts of limited scope and duration. Although some components of the clinical enterprise may reside under a common ownership structure (e.g., hospitals and physician groups), no single organization provides or arranges to provide a full range of services along the continuum of care.

- *Academic–clinical enterprise integration.* This dimension captures the degree to which the medical school organizes the clinical practice activities of its faculty and integrates itself with other components of the clinical enterprise. We focus on three aspects: (1) the legal relationship between the medical school and the faculty practice plan, (2) the legal relationship between the medical school and other components of the clinical enterprise, and (3) the functional interdependence of the academic enterprise and the clinical enterprise. Functional interdependence refers to the degree to which the academic and clinical enterprises are dependent on one another for meeting their respective financial, clinical, research, and teaching needs.
- *Authority position of the chief academic officer.* This dimension captures the degree of authority of the chief academic officer (CAO) over the clinical enterprise. We define the CAO as the highest-ranking official in the medical school or the health science center who is responsible for the academic mission. In many cases, this official is the medical school dean. In other cases, it may be a vice president or vice chancellor for health care affairs. In the case of freestanding health science centers or health science center campuses, it is the president or chancellor. We focus on two aspects: (1) the role of the CAO in clinical enterprise governance,\* and (2)

the CAO’s authority in budgetary decisions, investment decisions, and appointments involving the clinical enterprise.

Our framework differs in three respects from that articulated by Culbertson and his colleagues.<sup>19</sup>

First, we do not assume that the clinical enterprise is a unified and well-developed entity. Although Culbertson and his colleagues acknowledged that most clinical enterprises do not possess organized structures, they did not attempt to include variation in clinical enterprise organization in their conceptual framework. We attempt to do so because this dimension has assumed increasing importance as a descriptor of medical school–clinical enterprise relationships in today’s world.

Second, we treat the authority position of the CAO as a dimension separate from common ownership and legal structure. By doing so, we can identify several organizational models implicit in the *general partner* and *limited partner* quadrants in the framework described by Culbertson and colleagues. Finally, we give somewhat greater emphasis to the formal authority position of the CAO in order to remain consistent in our focus on the structural aspects of medical school–clinical enterprise relationships. We recognize that influence is often inherent in formal authority, but not always so. Also, influence may flow from “non-structural” sources such as reputation, expertise, relationships, and other personal and interpersonal capabilities. In our future work, we intend to empirically assess the degree to which formal authority and influence co-vary.

Several points should be kept in mind in reviewing the organizational models described below. First, the models should be considered archetypes rather than descriptions of empirically observed medical school–clinical enterprise relationships. The models are ideal types that accentuate reality in a one-sided manner for purposes of analytic clarity. Actual medical school–clinical enterprise relationships may approximate the organizational models described below, but few, if any, are likely to perfectly resemble these pure forms. Although they are essentially abstractions of reality, ideal types create value by helping analysts and decision makers look beyond the myriad, surface-level differences that exist in organizational arrangements and instead focus on underlying similarities and differences in key organizational characteristics. These underlying similarities can indeed be found, even in the relationships between medical schools (which are notorious for their individuality) and their clinical enterprises. For although medical schools are not alike, neither are they completely different.

Similarly, the three dimensions of our conceptual framework should be viewed as continua rather than as categories. Clinical enterprise organization, for example, is not an either–or condition, but rather a spectrum along which any

\*Our organizational model descriptions presume that chief academic officers (CAOs) who serve on clinical enterprise boards do so by virtue of the office they hold (i.e., in an ex-officio capacity). This presumption is consistent with our emphasis on the “structural” aspects of medical school–clinical enterprise relationships. Ex-officio involvement represents a more formal (i.e., impersonal) source of CAO authority vis-à-vis the clinical enterprise. Most CAOs who serve on clinical enterprise boards do so in an ex-officio capacity. However, we know of several instances where this is not the case. This does not pose a problem for describing the models conceptually. Nonetheless, this difference makes a difference when empirically assessing the degree to which a particular medical school–clinical enterprise relationship resembles the organizational models that we describe.

number of positions may be occupied. The eight models described below anchor the end points of the dimensions of our conceptual framework. However, the models do not possess firm boundaries. Thus, for example, the point at which a clinical enterprise moves from “fragmented” or “loosely organized” to “highly organized” is somewhat arbitrary. This poses little problem for describing the models conceptually. However, it does introduce an element of judgment in the task of assessing the degree of resemblance of a particular medical school–clinical enterprise relationship to the eight models that we describe.

Third, we do not expect the eight models to have equal representation in the real world. Some models may describe the vast majority of the medical school–clinical enterprise relationships that exist today, while other models are seldom, if ever, used. It is important to recognize, however, that the appropriateness and applicability of a specific model may shift over time as medical school–clinical enterprise relationships respond to changing internal and external conditions.

**ORGANIZATIONAL MODELS**

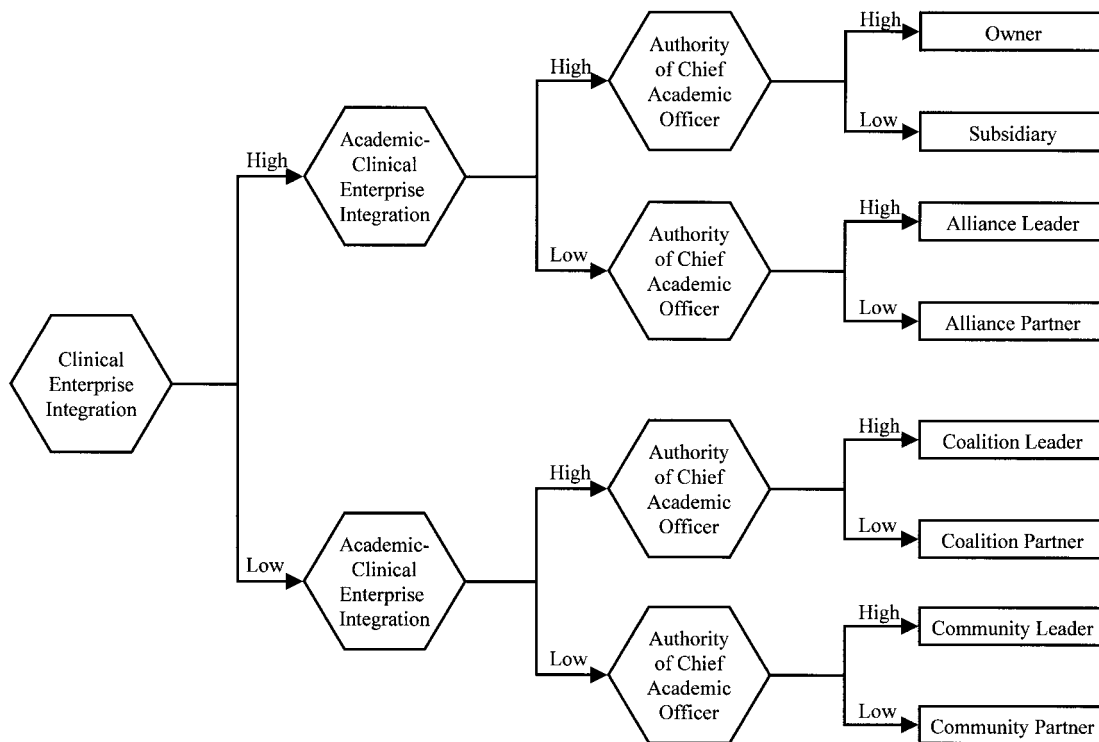
Figure 1 shows how the eight organizational models described below compare in terms of the three dimensions of

our conceptual framework. Table 1 provides a convenient way to compare the models on specific attributes.

**Type 1: Owner**

This organizational model closely resembles the single-owner model described by Culbertson and his colleagues. High clinical enterprise organization, high academic–clinical enterprise integration, and high academic authority over the clinical enterprise characterize the owner model. Specifically, the clinical enterprise posited in this model resembles the archetypal organized delivery system in the sense that it structurally integrates hospital services, physician services, and insurance functions through the use of equity or tightly linked contracts and provides, or arranges to provide, a full range of services along the continuum of care.

Further, a common ownership structure—typically a university or medical school parent holding structure—presides over the medical school, the faculty practice plan, and the clinical enterprise. The owner model operates as a relatively self-contained, or “closed,” system in which the elements of system finance, hospital and institutional services, professional services, and medical education are delivered under a single governance and administrative structure. Much of the



**Figure 1.** Diagram of eight ideal organizational models of medical school–clinical enterprise relationships described in the text (named in the eight ovals on the right side of the figure). This diagram shows how the models compare in terms of three dimensions proposed in this article to characterize the organizational relationships between medical schools and their associated clinical enterprises. These dimensions are named in the three six-sided boxes on the left side of the figure. See also Table 1.

Table 1

Summary of the Organizational Characteristics of Eight Ideal Organizational Models of Medical School–Clinical Enterprise Relationships								
Organizational Characteristic*	Organizational Model							
	Owner	Subsidiary	Alliance Leader	Alliance Partner	Coalition Leader	Coalition Partner	Community Leader	Community Partner
Clinical enterprise (CE) organization	Highly organized	Highly organized	Highly organized	Highly organized	Loosely organized	Loosely organized	Loosely organized	Loosely organized
Medical school–CE relationship	School or university owns CE	CE owns medical school	Separate, contractual	Separate, contractual	Possibly own with separate FPP	Possibly own with separate FPP	Separate consortium	Separate consortium
Medical school–FPP relationship	Internal	Internal? CE aligned	Internal	Separate or CE-aligned	Possibly own with separate CE	Possibly own with separate CE	Separate	Separate
Financial interdependence	High	High	High	High	Limited	Limited	None	None
Functional interdependence	High, symmetrical	High, asymmetrical	High, symmetrical	High, asymmetrical	Moderate, symmetrical	Moderate, asymmetrical	Low, symmetrical	Low, symmetrical
CAO budgetary authority—CE	Approves budget	Receives allocation	Participates in budgeting	Requests support	Participates in budgeting	Requests support	Participates in budgeting	Requests support
CAO budgetary authority—FPP	Approves budget	Receives allocation	Approves budget	Receives allocation	Approves or receives	Approves or receives	Participates in budgeting	Receives allocation
CAO allocation authority	Absolute	Nonexistent	Negotiated	Negotiated	Negotiated	Negotiated	Negotiated	Negotiated
CAO role in CE CEO appointment	CAO hires in line relation	System board	Participates significantly	Consulted	Vetoes in owned; participates in others	Participates in owned; consulted in others	Consulted	Consulted
CE role in CAO appointment	University board	CEO hires in line relation	University board	CE CEO consulted	University board	CE CEO(s) consulted	University board	CE CEO(s) consulted
CAO role in chairs/chiefs appointment	Appoints chairs and chiefs	Consulted on chairs and chiefs	Appoints chairs, vetoes chiefs	Appoints chairs, consulted chiefs	Appoints chairs, vetoes chiefs	Appoints chairs, consults on chiefs	Appoints chairs, consults on chiefs	Appoints chairs
CAO role in CE governance	Chair of system board	Not a board member or non-voting member	Board leader	Voting board member	Board leader	Voting board member	Voting board member	Not a board member or non-voting member

\*FPP = faculty practice plan; CAO = chief academic officer.

academic and clinical enterprises' capital, clinical, research, and teaching needs are met internally—that is, they are “made” within the system rather than “bought” from other organizations. In the owner model, the academic enterprise bears substantial financial risk for the performance of the clinical enterprise.

Finally, academic control is high in this model, with the CAO possessing unified authority over the academic and clinical enterprises. The CAO holds the traditional responsibilities of a dean or vice president for the academic mission and also exercises executive authority over the business operations of the organized delivery system. For example, the CAO sets budgetary targets for the system's hospital service providers, faculty physician providers, insurance operations, and other operating units—and holds these units accountable for their performance. Further, the CAO possesses significant authority to allocate capital and other resources across clinical enterprise components and between the clinical and academic enterprises. The CAO typically hires the CEOs (or chief operating officers) of clinical enterprise components and appoints academic department chairs and clinical service chiefs. In addition, the CAO often serves as a board leader (or even board chair) for the combined medical school–clinical enterprise, where such boards exist (e.g., public universities wherein the “owned” clinical enterprise is restructured as a quasi-governmental entity<sup>†</sup>). In any event, the CAO exerts significant influence in major strategic decisions affecting the academic and clinical enterprises.

Private medical schools may be more likely to pursue the owner model than their public counterparts given the significant capital requirements and financial risks involved in building an organized delivery system. However, the owner model may become more prevalent among public medical schools as a growing number of state legislatures grant quasi-governmental legal status to university-based hospitals and health systems. By distancing the university-based hospital or health system from public control, the state limits its own financial exposure and releases the hospital or health system from civil service requirements, state purchasing rules, and other regulations that hinder its ability to compete (e.g., make acquisitions). Hypothesized illustrations of the owner

model include the University of Pennsylvania, the University of North Carolina, and Duke University.

### **Type II: Subsidiary**

The subsidiary model combines high clinical enterprise organization, high academic–clinical enterprise integration, and low academic authority over the clinical enterprise. As in the owner model, the clinical enterprise consists of a single organized delivery system whose corporate structure includes both the medical school and the faculty practice plan. Further, the academic and clinical enterprises are highly interdependent. However, in the subsidiary model, the interdependence is asymmetrical. The medical school and the faculty practice plan conduct most of their clinical, research, and educational activities within the organized delivery system. Yet the medical school faculty's clinical activity may constitute only a small portion of the organized delivery system's total clinical activity. As such, the financial interdependence between the academic and clinical enterprises is also asymmetrical.

As a subsidiary organization, the medical school exercises relatively little power in the governance and management of the clinical enterprise. The CAO (usually the medical school dean) may serve on the organized delivery system board, but, if so, only as a voting member (i.e., one among equals). The medical school's primary role is to support the broader mission and goals of the clinical enterprise. The CAO has no authority to allocate financial and other resources among operating units or between the academic and clinical enterprises. Rather, the medical school receives a budgetary allocation from the parent system that is negotiated and obtained in much the same way as for other operating units. In terms of appointment powers, the medical school dean may be consulted in the selection of a CEO for the organized delivery system, but the system board makes the final decision. Likewise, the dean may be consulted in the appointment of academic department chairs and clinical service chiefs, but the system CEO actually makes the appointments.

The subsidiary model is most likely to be found among medical schools that have grown out of health care systems. Mayo Medical School is an institution whose relationship with its clinical enterprise most closely follows the pattern of the archetype subsidiary model.

### **Type III: Alliance Leader**

The alliance leader model combines high clinical enterprise organization and high academic authority with moderate or partial academic–clinical enterprise integration. As in the previous two models, the clinical enterprise consists of a sin-

<sup>†</sup>The University of North Carolina (UNC) provides an illustration. The state legislature granted UNC Health Care System a quasi-governmental legal status in order to release the system from civil service requirements, state purchasing rules, and other regulations that hindered its ability to compete (e.g., make acquisitions). As a result, UNC Health Care System has its own system board. The dean of the medical school serves as the CEO of UNC Health Care System and as a full-voting member of the system board. UNC Health Care System is evolving toward an organized delivery system. Hence, we believe that UNC approximates the owner model despite the quasi-distinct status of the system vis-à-vis the medical school.

gle organized delivery system. However, the organized delivery system owns neither the medical school nor the faculty practice plan. Instead, the medical school organizes the clinical activity of its faculty and interfaces with other components of the organized delivery system through tightly linked contracts rather than through equity or legal ownership. In a sense, the academic-clinical enterprise relationship in the alliance leader model resembles that of Japanese automobile manufacturers with their sole-source suppliers. Specifically, the relationship entails relatively open-ended, long-term, exclusive contracting bolstered by strong interpersonal ties and institutional linkages. The two enterprises (i.e., the academic enterprise and the clinical enterprise) display high levels of symmetrical interdependence despite their status as legally distinct entities. The academic enterprise accomplishes the vast majority of its clinical, research, and educational activities within a single organized delivery system; further, the clinical activity of the medical school faculty constitutes a significant proportion of the organized delivery system's total clinical activity. Thus, while neither enterprise is legally liable for the financial health, the two enterprises may be so tightly linked that, for practical purposes, the financial health of one depends heavily on the financial health of the other.

In the alliance leader model, the CAO holds considerable authority in the governance and management of the clinical enterprise. The CAO participates in system governance as a leader on the system board and, as such, participates significantly in the selection of the organized delivery system's CEO. The CAO has the power to appoint academic department chairs and veto appointments of clinical service chiefs. Since the faculty practice plan is owned by the medical school or university, the CAO has the authority to approve the faculty practice plan budget and allocate (or redistribute) financial and other resources between the school and the plan. Further, the CAO participates significantly in the organized delivery system's budgeting process and negotiates for capital and other resources from the system from a position of relative strength.

#### Type IV: Alliance Partner

The alliance partner model combines high clinical enterprise organization with low academic-clinical enterprise integration and low academic authority. In one variant of this model, the clinical enterprise consists of a single organized delivery system that owns neither the medical school nor the faculty practice plan but relates to both through tightly linked contracts. Further, the faculty practice plan operates as a separate for-profit or nonprofit corporation linked by contracts to the medical school or its parent university. In another variant, the clinical enterprise resembles an orga-

nized delivery system and owns the faculty practice plan but relates to the medical school through tightly linked contracts. In both variants, functional interdependence is high but asymmetrical, much like in the subsidiary model. Thus, an important difference between the alliance leader model and the alliance partner model is that the former model presumes a relationship among relative equals whereas the latter model makes no such presumption. Referring again to the Japanese automobile manufacturing analogy, from the perspective of the clinical enterprise, the medical school functions as a preferred, but not a sole-source, supplier in the alliance partner model.

In this model, the CAO possesses modest authority in the governance and management of the clinical enterprise. The CAO may serve on the organized delivery system board, but, if so, only as a voting member (i.e., one among equals). The system board might consult the CAO in the selection of the system CEO; however, the system board makes the final decision. Reflecting the relatively high power position of the clinical enterprise, the university board might even consult the system CEO in selecting a CAO. The CAO retains the authority to appoint academic department chairs. However, the CAO's role in clinical service chief appointments is largely consultative, especially in those situations where chairs do not routinely serve as chiefs. The CAO has no formal authority to allocate (or redistribute) financial and other resources among the medical school, the faculty practice plan, or the organized delivery system. Rather, the CAO requests budgetary support from the organized delivery system and negotiates a budgetary allocation (usually a dean's tax) from the faculty practice plan. The CAO may also request and negotiate for capital and other sources from the system, with his or her bargaining position determined partly by the degree of mutual dependence that exists between the clinical enterprise and the academic enterprise.

**Comment on the alliance leader and alliance partner models.** Alliance models may be a logical destination for public medical schools, given the legal, regulatory, and fiscal constraints that they confront in building an owned organized delivery system or becoming a subsidiary of a system. Medical schools pursuing alliance models are most likely to be found in markets where purchaser pressure has prompted consolidation among health care providers or in markets where, despite the absence of purchaser pressure, a small number of health care systems have historically dominated the local market. Illustrations of schools that operate in ways characteristic of the alliance models include the University of Nebraska College of Medicine, the University of Cincinnati College of Medicine, the University of Wisconsin Medical School-Madison, and Texas A & M University Health Science College of Medicine.

### Type V: Coalition Leader

The coalition leader model combines low clinical enterprise organization, moderate or partial academic-clinical enterprise integration, and high academic authority. In contrast to the previous four models, the clinical enterprise consists of multiple provider organizations, physician groups, and insurers—few (if any) of which resemble an organized delivery system.

In the coalition leader model, the academic enterprise exhibits only moderate or partial integration with the clinical enterprise. Two variations prevail. In the first variation, the medical school operates under a common (university) ownership structure with some clinical enterprise component (typically a hospital), but the faculty practice plan operates as a separate legal entity. In the second variation, the medical school operates under a common ownership structure with the faculty practice plan, but affiliated teaching hospitals and other clinical enterprise components operate as separate legal entities. Although other variations exist, these two variations are the most common. In both variations, a moderate level of functional interdependence exists among clinical and academic enterprise components. The medical school and the faculty practice plan perform much of their clinical, research, and educational activities at a “primary” teaching hospital (which may or may not be owned by the medical school’s university parent). However, the relationship is not an exclusive one for either party. Medical school faculty may also practice elsewhere, and community physicians may also practice at the “primary” teaching hospital. Likewise, the medical school may rely upon the “primary” teaching hospital to meet its research and educational needs; however, it may also rely on other clinical enterprise components residing in the community.

In the coalition leader model, the CAO possesses significant authority in the governance and management of the clinical enterprise. The CAO participates as a board leader in the governance of the primary teaching hospital or the faculty practice plan. The CAO has the power to veto CEO appointments in those clinical enterprise components owned by the university, including the faculty practice plan, and participates significantly in CEO selection in those clinical enterprise components that are not owned but nonetheless closely aligned. The CAO has often the power to appoint academic department chairs and veto appointments of clinical service chiefs. In cases where the faculty practice plan is owned by the medical school or university, the CAO has the authority to approve the faculty practice plan budget and allocate (or redistribute) financial and other resources between the school and the plan. In cases where the faculty practice plan operates as a separate legal entity, the CAO negotiates a budgetary allocation from a position of relative

strength. Further, the CAO participates significantly in the budgeting processes of clinical enterprise components and negotiates for capital and other resources from a position of relative strength.

### Type VI: Coalition Partner

The coalition partner model resembles the coalition leader model in that both models combine low clinical enterprise organization with moderate or partial academic-clinical enterprise integration. The key difference is that in the coalition partner model, the medical school occupies a low power position vis-à-vis the clinical enterprise. For example, the CAO may serve as a voting board member in the governance of the primary teaching hospital, the faculty practice plan, and other closely aligned clinical enterprise components. However, he or she does so as one among equals rather than as a formal board leader (e.g., chair). The CAO may also play a formal role in the selection of CEOs for those clinical enterprise components owned by the university, including the faculty practice plan. However, he or she does not possess veto power in such decisions. Likewise, the CAO may play a formal role in the selection of CEOs for those clinical enterprise components not owned but nonetheless closely aligned with the university. However, that role is largely limited to consultation. While the CAO has the power to appoint academic department chairs, he or she may only be consulted in the appointment of clinical service chiefs. In cases where the faculty practice plan is owned by the medical school or university, the CAO may have the authority to approve the faculty practice plan budget and allocate (or redistribute) financial and other resources between the school and the plan. In cases where the faculty practice plan operates as a separate legal entity, however, the CAO must request and negotiate a budgetary allocation, which is usually limited to a dean’s tax. Further, the CAO must request and negotiate for budgetary support and capital from clinical enterprise components from a relatively modest, one-among-equals power position.

**Comment on the coalition leader and coalition partner models.** Coalition models are likely to be found among medical schools that have historically owned (either directly or through their parent university) the faculty practice plan or a teaching hospital. Unlike schools pursuing the alliance models, however, schools pursuing the coalition models are more likely to be found in markets with relatively weak consolidation pressures and few historically dominant provider organizations. In addition, coalition models may also be found among community-based medical schools engaged in building a complement of full-time faculty. Schools whose relationships with their clinical enterprises illustrate many features of the coalition models include the Medical College



of Wisconsin, Michigan State University College of Human Medicine, University of Kentucky College of Medicine, and Southern Illinois University School of Medicine.

### Type VII: Community Leader

The community leader model combines the attributes of low clinical enterprise organization, low academic–clinical enterprise integration, and high academic authority. Here the medical school operates in a consortium arrangement with a fragmented clinical enterprise. The provider organizations, physician groups, and insurers with which the medical school relates remain largely separate legal entities bound together formally, if at all, by non-exclusive contracts of limited scope and duration. Although some components of the clinical enterprise may reside under a common ownership structure (e.g., hospitals and physician groups), no single organization provides or arranges to provide a full range of services along the continuum of care.

Further, the academic enterprise exhibits little integration with the components of the clinical enterprise. For example, the medical school does not operate under a common ownership structure with a teaching hospital. Rather, it relies upon community-based hospitals to meet its clinical, teaching, and research needs. Likewise, the medical school and the faculty practice plan(s) remain legally separate entities bound formally, if at all, by non-exclusive contracts of limited scope and duration. Functional interdependence among consortium members is also relatively low. The medical school does not rely on a single community-based hospital as its primary teaching outlet. Similarly, medical school faculty members do not concentrate their practices exclusively in one provider organization, nor do they perform the bulk of clinical volume in any single provider organization.

Within the consortium arrangement, however, the CAO nonetheless has considerable authority vis-à-vis the clinical enterprise. For example, the CAO may serve as a voting member on the boards of affiliated clinical components (e.g., teaching hospitals) and faculty practice plan(s). The CAO possesses the authority to appoint academic department chairs, and clinical enterprise leaders consult with him or her on clinical service chief appointments. Reflecting the power position of the medical school within the consortium, the CAO may also play a consultative role in the selection of clinical enterprise CEOs. While the CAO holds no formal authority to allocate (or redistribute) financial and other resources among clinical enterprise components or between the academic and clinical enterprise, he or she may nonetheless participate in the budgeting process of the faculty practice plan(s) and affiliated clinical enterprise components. Further, the CAO may negotiate from a position of relative strength for capital and other resources from clinical enterprise components.

### Type VIII: Community Partner

The community partner model combines the attributes of low clinical enterprise organization, low academic–clinical enterprise integration, and low academic authority. As merely one among equals in a consortium arrangement, the medical school exercises relatively little authority in the governance and management of the clinical enterprise. If the CAO (usually the medical school dean) serves on the boards of clinical enterprise components, he or she does so only as a non-voting member. The medical school dean retains authority to appoint academic department chiefs, but has little or no formal role in the selection of clinical service chiefs. Clinical enterprise boards may consult with the medical school in selecting CEOs, but the dean's role is largely advisory. In an interesting twist, the university board may in fact consult with clinical enterprise CEOs in selecting a medical school dean. As might be expected, the dean possesses no authority to allocate financial and other resources among clinical enterprise components or between the academic and clinical enterprises. Rather, the dean requests budgetary support from clinical enterprise leaders and negotiates a budgetary allocation (usually a dean's tax) from the faculty practice plan. The dean may negotiate with clinical enterprise leaders for capital and other resources. However, he or she does so from a bargaining position of relative equals, at best.

**Comment on the community leader and community partner models.** Community models are likely to be most prevalent among community-based medical schools. Illustrations of schools whose operations follow these models to some degree include Northeastern Ohio Universities College of Medicine, the University of Missouri–Kansas City School of Medicine, and the University of North Dakota School of Medicine and Health Sciences.

### MAKING USE OF THE TYPOLOGY

As stated earlier, the 1990s brought significant shifts in the organizational relationships between medical schools and their affiliated clinical enterprises. As the new century begins, we expect to see further realignments as medical school and clinical enterprise leaders respond to the resource implications inherent in proposed changes in the level and distribution of federal research funding, reform efforts affecting the payment mechanism and level of funding for graduate medical education, and the effects of the Balanced Budget Act of 1997.

In describing the “alliance,” “coalition,” and “community” models, we sought to increase the descriptive power of an earlier typology developed by Culbertson and his colleagues.<sup>19</sup> Our expanded typology raises many unanswered

questions. How well do the organizational models that we describe accurately depict the range of medical school–clinical enterprise relationships that currently exist? Do additional models exist? Are some models more effective than others? Can hybrid arrangements work? Will medical school–clinical enterprise relationships become more diverse over time, or less? Some of these questions can be answered empirically. In future research, for example, we plan to examine the prevalences of the organizational models described above, the organizational and environmental contexts in which they are commonly found, and the implications that various models have for the academic mission. For other questions, we can offer only theory and speculation (see the Appendix).

In the remainder of this article, we focus on a practical question: How could medical school leaders use our organizational typology to improve existing organizational relationships and prepare medical schools for future governance, management, and leadership challenges?

Medical school leaders may find our organizational typology valuable in at least two respects. First, they could use the typology to promote consensus about mission, develop strategy, and manage relationships. We suspect that medical school and clinical enterprise leaders often hold very different perspectives about which organizational model currently applies to their situation and, further, which model *should* apply. Indeed, we find that medical school leaders themselves are often unsure exactly what role they do play, could play, or should play in the governance and management of the faculty practice plan and other components of the clinical enterprise. Medical school and clinical enterprise leaders could use the organizational typology in retreats and strategic planning meetings to reveal points of agreement, contention, and ambiguity. Through self-assessment, medical school and clinical enterprise leaders might create an opportunity to either reaffirm or reconsider the purpose, goals, structure, and dynamics of their organizational relationships.

Second, medical school leaders could use the typology to facilitate organizational learning. By highlighting key organizational similarities and differences, our models may help medical school leaders overcome the “learning disability” associated with the mindset that all medical school–clinical enterprise relationships are unique. Medical school leaders could use the typology to identify other schools taking an approach similar to their own and perhaps learn from their counterparts how they deal with the governance, management, and leadership challenges that they share in common. Further, medical school leaders could use the typology to identify schools that currently employ organizational models that they intend or aspire to adopt. The typology could help them make more informed choices by highlighting the risks, rewards, opportunities, and challenges that accompany the model they choose.

It is our observation that the array of organizational forms that describe the relationship of the clinical enterprise to the medical school has increased in the latter part of the 1990s. Greater emphasis has been placed upon the role of the CAO as a collaborator and negotiator in a variety of organizational relationships, which may best be described as “network” relationships. These organizational forms stand in contrast to more traditional hierarchical organizations in which the CEO (in certain instances, also the CAO) has exercised more traditional command-and-control authority. We believe that this trend toward diversification will continue based on the environmental pressures being placed upon the resource bases of academic and clinical enterprises. We plan for our next effort to be an empirical assessment of the organizational forms currently in use, followed by an analysis of the resource implications and organizational dynamics associated with the models that we have described.

The authors gratefully acknowledge the financial assistance for this study that was provided by the Association of American Medical Colleges.

## REFERENCES

1. Freburger JK, Hurley RE. Academic health centers and the changing health care environment. *Med Care Res Rev.* 1999;56:277–306.
2. Krakower J, Williams DJ, Jones RE. Review of U.S. medical school finances, 1997–1998. *JAMA.* 1999;282:847–54.
3. Association of American Medical Colleges. *The Financing of Medical Schools: A Report of the Association of American Medical Colleges Task Force on Medical School Financing.* Washington, DC: Association of American Medical Colleges, 1996.
4. Winslow R. Kelly, former AMA official, gets Aetna job. *Wall Street Journal.* 1999 Oct 1;Sect. A:3.
5. Robinson JC. Blended payment methods in physician organizations under managed care. *JAMA.* 1999;282:1258–63.
6. Gentry C. UnitedHealth to end ruling on treatments. *Wall Street Journal.* 1999 Nov 9;Sect. A:3,A18.
7. Hoechst Marion Roussel. *Managed Care Digest Series™ 1999.* Kansas City, MO: Hoechst Marion Roussel, 1999.
8. Cochrane JD. The summer meltdown. *Integrated Healthcare Report.* 1999 June;1–7.
9. Goldstein V. GU Medical Center loses \$62.4 million; deficit results in lower credit rating. *Washington Post.* 1999 Jan 7;Metro:B1.
10. Abate T. UCSF, Stanford hospitals brace for cuts. *San Francisco Chronicle.* 1999 Mar 5;News:A–1.
11. Jasper B. University of Illinois at Chicago Medical Center eliminating 250 jobs. *Chicago Tribune.* 1999 Mar 9;News:3.
12. Freyer F. Bradley Hospital announces layoffs. *Providence Journal.* 1999 Mar 18;News:B10.
13. Pham A. MGH will cut 130 jobs, raise prices. *Boston Globe.* 1999 Mar 20;City Edition:C1.
14. Anstett P. Ford Health System plans more layoffs. *Detroit Free Press.* 1999 Mar 24;News:1B.
15. Herzog B. Mercy Health Services will slash 150 jobs by July. *Detroit Free Press.* 1999 Mar 31;News:1A.
16. Jones B. Lifespan slashes 506 positions. *Providence Journal.* 1999 Mar 25;News:A–10.

17. Stark K. How hospital systems bled red ink last year. *Philadelphia Inquirer*. 1999 Apr 11;National D:A01.
18. Van der Werf M. Penn's bond rating is downgraded because of financial losses at its hospitals. *Chronicle of Higher Education*. 1999 Apr 2; Money and Management:A47.
19. Culbertson RA, Goode LD, Dickler RM. Organizational models: medical school relationships to the clinical enterprise. *Acad Med*. 1996;71: 1257-74.
20. Farrell P. Meeting expectations of payers in a changing industry. Paper given at the annual meeting of the AAMC Council of Deans Meeting, Santa Barbara, CA, April 18, 1999.
21. Association of American Medical Colleges. Statement on Medicare Relief for Teaching Hospitals from the Balanced Budget Act of 1997. Presented on October 1, 1999, for the record, to the Subcommittee on Health of the Committee on Ways and Means, United States House of Representatives.
22. Shortell SM, Gillies R, Anderson D. The new world of managed care: creating organized delivery systems. *Health Aff*. 1994;13(5):46-64.
23. Meyer AD, Tsui AS, Hinings CR. Guest co-editors' introduction: configuration approaches to organizational analysis. *Academy of Management Journal*. 1993;36:1175-95.
24. Sokolov J. Organizational forms: the contractual approach. In: McMahon JA (ed). *Organizing and Managing an Integrated Delivery and Financing System*. Durham, NC: Duke University Press, 1995:20-36.

## APPENDIX

### *Answers to Questions Raised by Our Organizational Model Typology*

Below we draw selectively on organizational theory and health services research to offer speculative answers to several questions raised by our organizational model typology. We will be glad to supply a complete reference list for this appendix on request.

#### **Can hybrid organizational arrangements exist?**

Yes. In fact, few medical school-clinical enterprise relationships are likely to perfectly resemble the ideal types that we describe. Instead, most probably blend characteristics from two or more models. However, several schools of organization theory suggest that hybrid arrangements are likely to be unstable and ineffective.<sup>23</sup> These schools posit that internal and external imperatives drive organizations to achieve consistency among elements of strategy, organizational structure, power distributions, and reward structures. For example, lack of alignment in a CAO's budgetary authority, appointment authority, and role in clinical enterprise governance creates conflict that disrupts operations and hinders organizational effectiveness. Similar problems occur when authority relationships are incongruent with the level and direction of resource dependency in exchange relationships. In addition to the functional interdependency that exists among elements of organizational structure, cognitive and social processes, market pressures, and regulatory constraints also act to reduce the number of ways in which organizational elements may be combined on a sustainable basis.

Thus, over time, theory suggests that a small number of organizational models will account for a sizeable proportion of the organizational arrangements observed among medical schools and

clinical enterprises. Hybrid arrangements may thus reflect temporary structures as medical schools and affiliated clinical enterprises shift from one organizational model to another. Strong social or political pressures could sustain hybrid arrangements by counterbalancing the internal and external imperatives that would otherwise pull medical schools and clinical enterprises toward purer expressions of the ideal types described above. However, the benefits that result from holding the relationship in an intermediate state may come at the cost of organizational effectiveness. It should be noted that external imperatives sometimes exert contradictory pressures that induce organizations to adopt hybrid arrangements. While hybrid arrangements may offer the best possible adaptation in such situations, they may still be unstable and ineffective due to the intra-organizational conflict and performance impairments that result from incongruent organizational structures and practices. Typically, organizational leaders respond by attempting to reduce contradictory environmental pressures in order to restore or improve alignment in organizational structures and practices.

#### **Which organizational models are most effective?**

Two axioms of contemporary organization theory bear on the question of organizational effectiveness. First organizational design inherently involves tradeoffs. As Culbertson and his colleagues<sup>19</sup> noted, for example, the owner model offers the potential for consistent and relatively quick decision making as a result of a unified and centralized executive authority structure. Further, the owner model offers the potential for financing gains resulting from lower transaction costs or "delivery system arbitrage."<sup>24</sup> These gains could be used to further the academic mission. However, tradeoffs include significant financial exposure for the medical school and its university parent and potential loss of focus on the academic mission. Tradeoffs also occur at the other end of the spectrum. The coalition and community models collectively offer the medical school the potential for greater flexibility and speed of response to changing environmental conditions. While the potential for financial gains is relatively modest in these models, so too is the financial exposure to the medical school. These potential advantages come at the potential cost of slow, laborious, and possibly suboptimal decision making resulting from a lack of unified planning, the absence of a formal coordinating structure, and the need to negotiate decisions among coalition members possessing divergent goals, values, resources, and stakeholder accountabilities.

A second axiom of organization theory is that there is no one best way to organize. Rather, effectiveness depends not only on the degree of congruence among organizational elements, but also the degree of "fit" between organizational structure and environmental requirements. Of critical importance is the degree of environmental uncertainty or unpredictability. Environmental uncertainty threatens organizational effectiveness, and organizational leaders actively attempt to reduce it through a variety of means, including altering the organization's structure to better cope with unpredictable change in environmental requirements. Theory suggests that "organic" organizational structures are more effective in environments in which resources are scarce, change is unpredictable, and competitive and regulatory demands are complex and heterogeneous. Organic structures offer great flexibility and adaptability by stressing

lateral rather than vertical communication, emphasizing influence based on expertise and knowledge rather than on authority of position, having distributed power and control, having loosely defined responsibilities rather than rigid job definitions, and emphasizing the exchange of information rather than giving directions.

In terms of the typology presented earlier, uncertain environments favor more loosely structured models (i.e., types V–VIII) because they offer greater flexibility and speed of response to changing environmental circumstances, even though such benefits come at the expense of greater academic control over the clinical enterprise. By contrast, stable environments favor those organizational models that offer the greatest potential for production efficiencies through economies of scale, high task integration, low transaction costs, and centralized administrative control (i.e., types I–IV), even though such benefits come at the expense of flexibility and responsiveness to change.

#### **Can a medical school change organizational models?**

Yes, change is possible within limits. Organizational leaders have some discretion to alter organizational strategy and structure. How-

ever, this discretion is conditioned by internal and external constraints. The capability of a medical school to move from community leader to owner, for example, requires either significant financial reserves or access to substantial capital through equity or debt markets. Beyond financial considerations, the feasibility of such a move depends on whether the medical school possesses the human resources, organizational capabilities, organizational culture, internal political support, and leadership skills necessary to build and manage a vertically organized academic–clinical enterprise. Further, the medical school would have to operate in favorable market, regulatory, and social conditions. Conditions enabling such a move include increasing penetration of capitated payment arrangements, stable competitive conditions, few legal and regulatory barriers to acquisition and integration, and political support from citizens, public officials, media, and other key stakeholders. Similarly, less dramatic organizational model changes—moving, say, from coalition partner to coalition leader—may be facilitated or hindered by internal and external conditions (e.g., the historical relationships between academic enterprise leaders and clinical enterprise leaders). In sum, in any effort to change a school's organizational model, it is of crucial importance to systematically assess the facilitators and barriers to organizational change.