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Organizational Structure

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We now have an unparalleled opportunity to make healthcare better for the people we serve and to make it better for the people who choose this noble profession. Each of you who are involved in healthcare have a demanding and stressful job. But when you go home tired, and spent, and stressed out, ask yourself, ‘What would I rather be doing?’ What could be more worthwhile than caring for the thing others consider to be the most precious—their lives? (Charles Sorensen, MD, former president, Intermountain Healthcare)

Selected attributes of the organization, management, and financing of healthcare services differentiate this industry from all others in the United States. These unique attributes create challenges for those conducting research and analysis focused on enhancing health outcomes, improving operational efficiencies, expanding patient access, and optimizing the financial performance of healthcare delivery systems. A firm grasp of these attributes, coupled with an understanding of the organizational design of healthcare services, will provide a foundation for the conduct of research and analysis focused on improving performance, outcomes, and patient satisfaction.

1.1 Introduction to the Healthcare Industry

The healthcare industry is among the most regulated industries in the United States.^{1,2} Federal and state statutes and regulations, along with licensure and industry accreditation requirements for hospital services, physician services, and services provided by other healthcare professionals (nurses, therapists, pharmacists, technicians, etc.), create a complex web of requirements that define the context within which patient care is delivered. Such regulations dictate where, how, when, and by whom healthcare services are provided. For the most part, these industry regulations and licensure/accreditation requirements have evolved over the past 100 years and are focused on ensuring the safety and efficacy of services provided to patients.

The healthcare industry encompasses numerous entities that interact (sometimes efficiently and sometimes inefficiently) to enhance or preserve the health status of patients. These entities include

- Physicians
- Hospitals
- Post-acute facilities and services
- Payers
- Other types of providers such as ambulatory surgical centers

Each of these entities plays a critical role in healthcare delivery. However, hospitals are likely the most complex among these entities and are central to the delivery of the most sophisticated care provided to patients.

Before we consider the operational complexity of hospitals, it is useful to review the various types of hospitals that operate in the United States. Hospitals can be classified in many ways, and multiple classifications can be attributed to a single institution. Outlined below are key types of hospitals.

- **General Acute Care Hospitals.** Most hospitals in the US are general acute care hospitals that provide care across many specialties such as adult care, pediatric care, surgical care, obstetrical care, etc.
- **Specialty Hospitals.** Selected facilities provide highly specialized care to targeted patients such as orthopedic patients, children, women, psychiatric patients, etc.
- **Public Hospitals.** The Veterans Administration (VA) operates dozens of hospitals. Public universities with medical schools sometimes own and operate university hospitals. Some cities and counties operate public

1 Field, R.I. (2007). *Healthcare Regulation in America: Complexity, Confrontation, and Compromise*. Oxford University Press.

2 Cochran, J. (May 2014). "Who Regulates and Oversees Healthcare Facilities in California?" California Healthcare Foundation. May 2014. <http://www.chcf.org/publications/2014/05/regulate-oversight-tool>

hospitals that often provide care to underserved populations. Some regions of the country have formed tax districts to support the budgets of local public community hospitals. And some states operate public psychiatric hospitals. Approximately 22% of US hospitals are public hospitals.³

- Not-for-Profit/Tax-Exempt Hospitals. Many community hospitals operate as not-for-profit/tax-exempt institutions. Approximately 58% of US hospitals fall into this category.
- Investor-Owned Hospitals. Approximately 20% of US hospitals are investor owned. Most investor-owned hospitals are operated by large hospital corporations that operate facilities in multiple states.
- Teaching Hospitals. There are approximately 400 teaching hospitals in the US, comprising about 7% of US hospitals.

Individual hospitals can be categorized by multiple typologies. For example, most specialty hospitals and public hospitals are also teaching hospitals. Some general acute care hospitals are investor-owned facilities. And teaching hospitals can be categorized into every typology cited above.

The mission of a hospital is in part a function of its type. Obviously, VA hospitals exist to meet the healthcare needs of US veterans. But most VA hospitals also maintain affiliations with medical schools and as such conduct educational programs for medical students, residents, fellows, and others. Similarly, teaching hospitals exist to provide patient care and to educate medical students and train residents, fellows, and other healthcare professionals. Public hospitals often exist to care for underserved populations, but many also operate teaching programs—all of which is reflected in their missions. And one public hospital (National Institutes of Health Clinical Center) exists exclusively for the conduct of clinical research. The missions of investor-owned hospitals can become somewhat muddled by virtue of the possible conflicts that may emerge between the investors' objectives and the missions to provide patient care to an underserved population and operate teaching programs as the principle teaching hospital of a medical school. The complexities attributable to such intersecting missions have implications for every aspect of an institution's operations, strategy formulation, financial performance, and public perception.

Beyond the comprehensive regulation of healthcare services and the multifaceted components of health delivery systems, the structure, economics, and financing of healthcare delivery differentiates healthcare from other industries in several important ways, as briefly outlined below.

1. Resource management and consumption. Physicians serve as the gatekeepers of patient access to most healthcare services. Patients cannot be admitted to a hospital, obtain ancillary services such as radiology and laboratory services, or obtain prescription medications without an order from

³ <http://www.aha.org/research/rc/stat-studies/fast-facts.shtml>

a physician. As such, physicians control access to the most sophisticated and expensive healthcare resources. Yet, interestingly, although the healthcare industry is highly regulated, the manner by which physicians order healthcare services for their patients (i.e., consume expensive resources) is generally not highly regulated. In fact, the practice styles of physicians and associated costs can vary dramatically, not only from physician to physician, but also from one region of the country to another.⁴ Furthermore, physician practice styles drive hospital financial performance, yet hospitals can exercise only modest influence over how physicians consume expensive hospital resources. Most physicians are not employees of hospitals and consequently hospitals exert little managerial control over physician practice styles and resource consumption. Moreover, hospitals are dependent upon physicians who admit patients to the hospital. Without an adequate supply of physicians who admit patients to a hospital and who perform surgeries and other clinical procedures at that hospital, the patient census and associated patient care revenue will be inadequate to support the hospital. In summary, the organizational relationship between doctors and hospitals is complex, symbiotic, and potentially challenging to manage.

2. Payment for healthcare services. Only 11%⁵ of healthcare expenses (~\$330 billion in 2014) are paid for directly by patients out of pocket. In fact, patients are generally insulated from the direct financial implications of decisions they and their physicians make regarding their care and associated resource consumption. Some have argued that this dynamic is contributing to escalating healthcare costs⁶. Accordingly, some employers who pay much of the cost of health insurance premiums for their employees, as well as insurance companies and government payers who bear the financial burden for resource consumption decisions made by physicians and patients, have begun to seek strategies to shift some of the financial burden for such decisions to patients. For instance, employers shifting an increasing portion of premium costs to employees and insurance companies increasing policy deductibles and patient co-payments represent strategies for shifting this dynamic. Additionally, insurance companies have become increasingly selective regarding the physicians and hospitals that are included in their networks of approved providers in an effort to exclude those that are deemed too costly. In summary, physicians drive many of the patient care decisions that affect cost, while hospitals, insurance companies, government payers, and employers who finance insurance premiums incur

4 Gawande, A. "The Cost Conundrum." *The New Yorker*. June 1, 2009. <http://www.newyorker.com/magazine/2009/06/01/the-cost-conundrum>

5 Centers for Medicare and Medicaid Services. <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html>

6 Cleverly, William O; Cleverly, James O; Song, Paula H. *Essentials of Healthcare Finance*. Jones and Bartlett Learning, LLC, Sudbury, MA, 2011. Page 140.

the expenses, and patients are generally insulated from much of the cost attributable to their care.

3. Initiatives to control costs. Policy experts, third-party payers, large employers, congress, and others have been seeking strategies to reduce the rate of increasing healthcare costs for decades. In 1971, President Richard Nixon imposed caps on healthcare wages and other healthcare expenditures. In 1978 and 1979, President Jimmy Carter proposed legislation to limit hospital cost increases. In 1982, the Tax Equity and Fiscal Responsibility Act created the framework for the Prospective Payment System to replace cost reimbursement for Medicare payments to hospitals⁷. During the late 1980s and throughout the 1990s, large employers collaborated with third-party payers in a failed effort to shift health insurance to a capitated model of payment to hospitals and physicians. And in 2010, President Barack Obama signed into law the Patient Protection and Affordable Care Act (ACA). In addition to its many provisions related to the availability of health insurance, the act established the Center for Medicare and Medicaid Innovation within the Centers for Medicare and Medicaid Services of the Department of Health and Human Services. Among the initiatives of the Innovation Center was development of bundled payments for care improvement. This innovative payment model has been applicable to three targeted categories of Medicare cases: joint replacements, some cardiac cases, and selected neurosciences cases. Under bundled payments, Medicare makes one payment to a participating health delivery system for a covered procedure, and that payment encompasses reimbursement for pre-procedure testing, hospitalization, physician/surgeon services, implant and device costs, and usually post-discharge care. It is then incumbent upon the delivery system to allocate the bundled payment accordingly, including payment to the involved physicians. Bundled payments are designed to align the financial interests of the physicians and the hospital, incentivize quality outcomes, and cap Medicare expenditures for applicable cases.⁸
4. Complexity of hospital operations and finance. The missions of hospitals contribute the complexity of their organizational design, operations, and financial structures; moreover, there is variability among these missions. Large teaching hospitals and academic medical centers, for instance, embrace a tripartite mission of patient care, teaching, and research. Community hospitals exist principally to meet selected patient care needs of their local communities. A research hospital, the National Institutes of Health Warren Grant Magnuson Clinical Center in Bethesda, Maryland, exists solely to conduct research to advance medical science and clinical

⁷ <http://www.commonwealthfund.org/publications/from-the-president/2009/bending-the-health-care-cost-curve>

⁸ Conversation with Jim Donohue, ECG Management Consultants, Inc., Boston MA. January 18, 2017.

care. And almost 20% of hospitals in the United States are investor owned,⁹ which suggests that they operate, at least in part, to benefit shareholders. Thus, the organizational design, management structures, financing, and operations of these institutions vary considerably. Furthermore, some challenges and complexities are common among all hospitals and some challenges and complexities are unique to each category of hospital. The remainder of this chapter will describe the organizational design of healthcare delivery systems with a focus on the organizational design of hospitals and their interface with physicians. In light of the complex role, scale, and importance of teaching hospitals and academic medical centers (AMCs), much of the chapter will focus on those institutions.

Two basic financial data points will establish the context for this review. National health expenditures reached \$3 trillion in 2014, or \$9,523 per capita. The two largest categories of expenses included hospital expenses (32.1%) and physician and related clinical services (19.9%).¹⁰ Hospitals and physicians are not only key components of the cost equation, but they also tend to drive the other elements of the healthcare cost equation, such as prescription drug costs (9.8% of national health expenditures) and nursing and other post-acute care facility costs (5.1%). Furthermore, much of the most sophisticated and therefore expensive healthcare services are provided at AMCs/teaching hospitals that generally provide care to the sickest patients.

1.2 Academic Medical Centers

There are approximately 400 teaching hospitals in the United States,¹¹ yet they constitute only 7% of all US hospitals. However, these ~400 teaching hospitals account for:

- 75% of burn care units
- 40% of neonatal intensive care units (ICUs)
- 61% of pediatric ICUs
- 61% of Level I trauma units
- 50% of surgical transplant services
- 44% of Alzheimer centers
- 22% of cardiac surgery services

9 American Hospital Association. <http://www.aha.org/research/rc/stat-studies/fast-facts.shtml>

10 National Center for Health Statistics. Centers for Disease Control and Prevention. <http://www.cdc.gov/nchs/fastats/health-expenditures.htm>

11 Defined as members of the Association of American Medical Colleges' Council of Teaching Hospitals.

- 41% of all hospital charity care
- 25% of Medicaid hospitalizations¹²

Teaching hospitals are one organizational component of AMCs; the other two are medical schools and faculty practice plans. These three organizational components share a tripartite mission of teaching, research, and patient care. However, each organizational component of the AMC plays a unique role and therefore places different levels of emphasis on the elements of the tripartite mission. Moreover, within the AMC, teaching, research, and patient care can all take place simultaneously in the same setting, involving the same patients, clinicians, researchers, students, and others. Clearly, these overlapping and simultaneous functions contribute to a highly complex organizational, managerial, and financial construct.

Although there can be some limited variability from one AMC to another, generally speaking, the role of each component of an AMC can be described as follows.

1. Medical schools exist to provide undergraduate (post-baccalaureate) medical education to medical students. Almost all medical school curricula require four years and include approximately two years of basic science/preclinical study and two years of clerkship/patient-related experience in a clinical setting.¹³ The clinical setting may include the teaching hospital, community hospitals, clinics, and physician offices. Medical schools also serve as the site for most of the basic science and clinical research conducted at AMCs. In summary, the focus of medical schools is to direct and advance the academic enterprise: teaching and research. However, as we will address later, the clinical enterprise (i.e., the remaining two components of the AMC) finances much of the budget of medical schools, creating an important synergy for sustaining the AMC.
2. Teaching hospitals serve as the clinical site for much of the teaching and clinical research that occurs at AMCs. Medical students conduct clerkship rotations at teaching hospitals (undergraduate medical education) and resident physicians and fellows¹⁴ continue their clinical training at teaching

12 Association of American Medical Colleges' Council of Teaching Hospitals <https://www.aamc.org/download/47496/data/howdothservecommunities.pdf>

13 In recent years selected medical schools have blended the preclinical and clinical components of the curriculum, and a few schools have implemented a three-year curriculum.

14 Resident physicians are medical school graduates who are continuing their training in a specialized field, such as internal medicine, pediatrics, general surgery, etc. A medical school graduate must complete a residency training program in order to practice medicine. Fellows are physicians who are continuing their training beyond residency in a sub-specialty field such as hand surgery, hematology-oncology, pediatric cardiology, etc.

hospitals (graduate medical education). In fact, teaching hospitals are the principle site for resident and fellow training, and Medicare reimburses teaching hospitals for some (but not all) of the costs associated with such training programs. However, the principle focus of teaching hospitals is to provide inpatient and outpatient care. In summary, teaching hospitals manage and finance the overlapping, integrated, and sometimes competing functions related to graduate medical education and patient care.

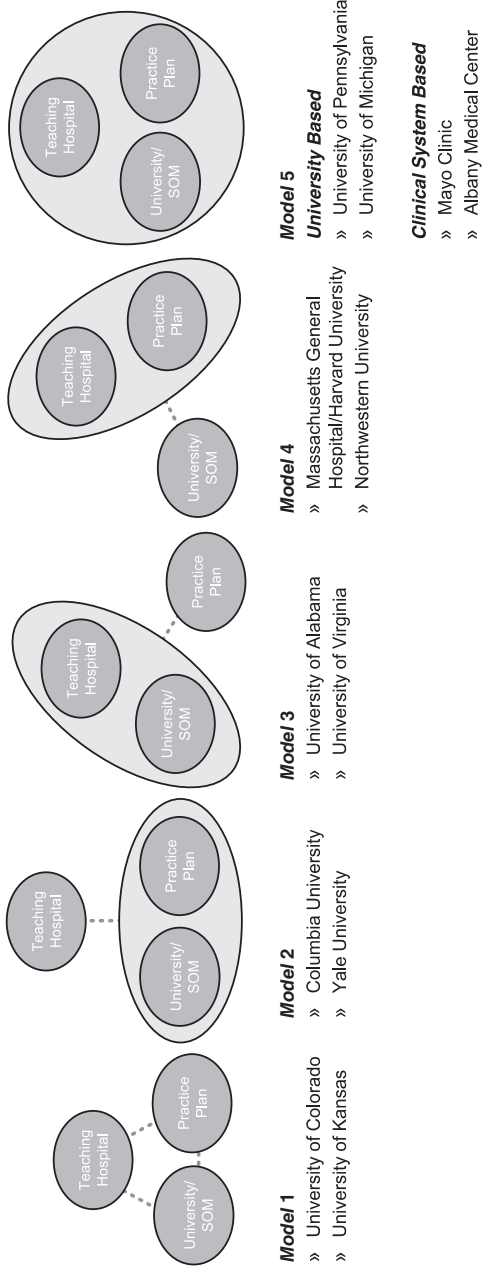
3. Faculty practice plans are the organized medical practices of the full-time faculty of medical schools. The faculty physician members of practice plans treat patients as a component of their responsibilities to teach medical students and supervise the clinical activities of residents and fellows. Some of the patient care and teaching activities take place in the hospital, and some of those functions take place in clinics, doctor offices, and other outpatient settings. Faculty practice plans provide the infrastructure necessary to support the faculty's clinical functions, including billing and collecting the professional fees generated through the patient care functions conducted by faculty physicians. Practice plans also compensate the faculty physicians for the patient care they provide.¹⁵ In summary, faculty practice plans manage and finance the clinical activities of faculty physicians as they provide patient care services in association with their teaching activities.

Although the functional roles of the three components of AMCs are generally consistent from one AMC to another, there is variability in the organizational design of AMCs. Much of this variability is a function of history. However, recent market dynamics, changes in hospital and physician reimbursement by Medicare, Medicaid, and commercial insurers, and other elements of health reform have begun to cause shifts in the organizational design of AMCs.

Figure 1.1¹⁶ depicts the five organizational constructs of AMCs. Each construct represents a unique set of organizational interrelationships and implies variability in the roles of the CEOs. Model 1 indicates that each component of the AMC is organized independently of the others. In other words, the teaching hospital and the faculty practice plan are both organizationally

15 The employment status of faculty physicians varies at AMCs. Some are employed solely by one organizational component of the AMC. At other AMCs, the faculty may be employed by multiple AMC entities. Accordingly, the flow of funds necessary to compensate faculty physicians for their teaching, research, and clinical activities is often quite complex and generally reflects elements of compensation directly attributable to their clinical and academic responsibilities. It is typical that faculty physician compensation consists of a modest base salary augmented by compensation that reflects clinical and academic productivity/performance. It is important to note that compensation for clinical activities is substantially more lucrative than for academic activities. It is well recognized by faculty that an hour spent in the operating room is much more lucrative than an hour spent conducting research in a laboratory.

16 Levine, J. "Considering Alternative Organizational Structures for Academic Medical Centers." *Academic Clinical Practice*. Association of American Medical Colleges. Washington, DC. Summer 2002. 14:2.



..... Affiliation and/or buy-sell arrangements.

Figure 1.1 AMC Organizational Structures.

and corporately separate from the medical school and its parent university. A series of affiliation and buy-sell agreements defines the working and financial relationships among the entities. For example, the teaching hospital requires the services of the faculty physicians to supervise the residents and fellows and to carry out selected administrative and clinical functions on behalf of the hospital. Consequently, there is a flow of funds from the hospital to the medical school and/or the faculty practice plan for those clinical and academic activities of the faculty. Although model 1 indicates the separate relationship of the faculty practice plan from the medical school, in many of these types of structures, the medical school dean either serves as the CEO of the practice plan or retains selected reserved authorities over key strategic and financial decisions of the practice plan. Clearly, model 1 represents the weakest affiliation among the AMC entities and presents key challenges to coordinated strategy development, coordinated operations, efficient patient flow, effective risk management, coordinated investment, etc.

Selected AMCs employ a model in which the faculty practice plan is an organizational component or operating unit of the medical school/university, and the teaching hospital is a separate corporate entity. This example is depicted as model 2 on Figure 1.1 and often fosters a greater integration or coordination of the faculty's academic and clinical functions, because there is generally no question regarding the role of the medical school dean in the oversight of the clinical and academic activities of faculty. Further, the assets of the practice plan are clearly university assets facilitating their use in support of the medical school's academic programs. As with model 1, there is a buy-sell agreement that describes the provision of faculty clinical, academic, and administrative services to the hospital by the medical school and its faculty practice plan.

Model 3 on Figure 1.1 depicts the faculty practice plan outside of the corporate structure that encompasses the medical school/university and the teaching hospital, yet the hospital is a component of the university. As with model 1, the medical school dean is usually but not always the practice plan CEO or retains selected reserved authorities over the faculty practice plan. And, as do models 1 and 2, model 3 presents important challenges regarding coordination of the clinical enterprise because the teaching hospital and practice plan are in separate corporations and operate with less integration.

As the forces of health reform have accelerated and the providers of clinical services assume greater financial risk for the health of patients, physicians and hospitals have become more closely aligned in an effort to effectively manage clinical resource consumption, obtain the advantages of scale, attain market strength, and seek efficiencies in the delivery of healthcare services. This phenomenon is occurring both at AMCs and community hospitals and among community physicians. Model 4 on Figure 1.1 depicts teaching hospitals and faculty practice plans in a single organizational construct that is separate from the medical school/university. Due to the practice plan's

integration with the teaching hospital, the medical school dean may not retain a role in the clinical practice of the faculty physicians. The dean's role is focused principally on the academic enterprise, and the hospital CEO exercises leadership over the clinical enterprise, that is, the hospital and the faculty practice plan. In recent years, selected AMCs have transitioned from model 1 (e.g., Northwestern University/Northwestern Medical Faculty Foundation /Northwestern Memorial Hospital) and model 2 (e.g., University of Massachusetts/UMASS Memorial Medical Center) to model 4. It is not unreasonable to expect the trend toward greater integration/consolidation of the clinical enterprise to continue at both AMCs and community hospitals.

The most highly integrated AMCs are those represented by model 5 on Figure 1.1. This organizational construct combines all three components of the AMC under a single leader overseeing the academic and clinical enterprises. Model 5 is certainly positioned to avail the AMC of the synergies and efficiencies that can accrue from a close working relationship among the hospital, medical school, and faculty practice plan. Interestingly, most of the AMCs that fit this typology are centered at universities and embrace a highly academic focus with substantial investment in research and other academic initiatives often found at universities. However, a small subset of these highly integrated AMCs are based at clinical systems rather than based at universities (e.g., Mayo Clinic/Mayo Medical School, Albany Medical Center/Albany Medical College, and Geisinger Health System/Geisinger Commonwealth School of Medicine). As we reflect on the tripartite mission of AMCs, it is clear that the mission emphasis may vary in a university-based, integrated AMC (such as University of Pennsylvania) and a clinical system-based AMC (such as Mayo Clinic).

There is substantial synergy and complexity/competition in the interrelationship among the three organizational components of AMCs and between the academic enterprise (research and teaching) and the clinical enterprise (patient care). Much of this complexity can be attributed to

- Financial interdependencies
- Strategic interdependencies
- Operational interdependencies
- Competition for resources

Even a cursory review of the budgets that support medical schools demonstrates the stark dependence of the academic enterprise upon the clinical programs of the teaching hospital and the faculty practice plan. Figure 1.2 shows that in all 136 medical schools accredited by the Liaison Committee for Medical Education, 61% of the schools' revenue is derived from the faculty practice plan (42%) and the teaching hospital (19%). The 42% derived from the practice plan is overwhelmingly devoted to compensation of the medical school faculty physicians. A modest amount of practice plan revenue is used

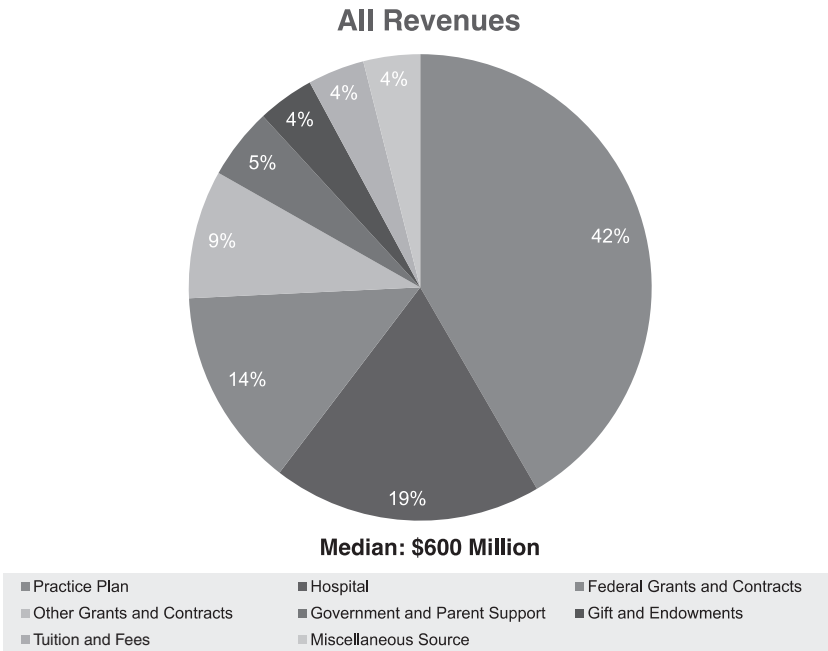


Figure 1.2 Fully-Accredited Medical School Revenue by Source 136 Medical Schools, FY 2016. *Source:* Association of American Medical Colleges Analysis of LCME Part I-A Annual Financial Questionnaire Data, <https://www.aamc.org/data/finance/480314/figures1-2.html>.

by deans and department chairs to finance new programs, to support the unfunded portion of research, and/or to support selected initiatives that are not self-sufficient. Similarly, the funds derived from the teaching hospital compensate medical school faculty who are providing clinical, administrative, and teaching services for the hospital.

High-performing AMC generally recognize this financial interdependence and manage their enterprises accordingly. On the other hand, some AMC are immersed in conflict over the flow of funds from the clinical enterprise to support teaching and research. This conflict can be a major source of tension and distraction for boards, executives, physicians, and others. Specifically, several of the AMC depicted by models 1 and 2 on Figure 1.1 are embroiled in ongoing controversy regarding the magnitude of support for the academic enterprise provided by the practice plan and/or teaching hospital. In cases where the teaching hospital is investor owned and shareholder return on investment complicates the hospital's traditional tripartite mission, it is not difficult to envision protracted conflict between the medical school/university and its affiliated teaching hospital, related to financial support of the shared academic enterprise.

Case I: The AMC is in a relatively depressed urban center. The medical school is a component of a public university, and the AMC is depicted as model 1 on Figure 1.1; however, the medical school dean is president of the practice plan corporation. Due to its role in providing care to an underserved population, the hospital suffers from a poor payer mix and a challenging financial position. In an effort to “turn around” the hospital, it was converted from not-for-profit/tax-exempt to investor-owned and divested to a large national proprietary hospital corporation.

The hospital’s investor-owned status complicates its traditional mission to provide care to the underserved inner city population and foster the academic enterprise. In response to deteriorating financial performance, the hospital reduced its financial support of the medical school (see Figure 1.2), and the medical school responded by indicating that it must seek an alternative teaching hospital partner that is better able to foster a shared academic mission. (The medical school and hospital share a campus and have been AMC partners for a century.) The hospital fears the loss of faculty physicians who admit and care for its patients and began an effort to lure physicians from the medical school to become hospital-employed physicians. The city has no other teaching hospitals of the scale necessary to support the academic programs of the medical school and serve as the practice site for the faculty physicians.

This controversy has been simmering for years, and in an effort to salvage the hospital-medical school partnership/AMC, the national hospital corporation has replaced the hospital CEO. The issues remain unresolved.

The synergy between the academic and clinical enterprises is critically important to AMCs. Teaching hospitals are dependent upon faculty physicians to admit and care for patients who generate hospital revenue. Without a busy faculty practice plan/medical staff, the hospital patient census and associated revenues will suffer. The most lucrative hospital patients are those who require complex surgeries or other complex medical interventions performed by sub-specialty physicians. Such physicians are generally attracted to AMCs with fellowship training programs in their specialty fields and with research conducted in their areas of expertise. Consequently, teaching hospitals are generally willing to finance the costs of fellowship programs in selected (lucrative) clinical areas as well as research in fields that complement the targeted clinical specialties. Clearly, there is value in coordinating the academic enterprise and clinical enterprise across the organizational components of the AMC.¹⁷ Such balance is more likely to occur at those AMCs reflected in model 5 on Figure 1.1.

Although health reform has caused some AMCs to more closely align the components of the clinical enterprise (teaching hospital and faculty practice

¹⁷ “Synchronizing the Academic Health Center Clinical Enterprise and Education Mission in Changing Environments.” The Blue Ridge Academic Health Group. Report 20. Winter 2016.

plan), AMC faculty physicians remain organized into specialty-based clinical departments: internal medicine, pediatrics, surgery, radiology, etc.¹⁸ The department chair, usually jointly appointed by the medical school dean and hospital president, serves as the department CEO. The clinical department structure contributes to several operational, strategic, financial, and other challenges confronting AMCs due to the following:

- Although AMC policy guides the operation of each clinical department, departments operate with a relatively high degree of autonomy.
- Department chairs are usually evaluated based upon the academic, clinical, and financial performance of their departments. This can foster competition among departments for scarce resources such as space, institutional investment, philanthropy, patient referrals, etc.
- The financial performance of individual departments is, to a great extent, a function of how third-party payers reimburse physicians for patient care services. For example, some clinical services (e.g., anesthesia, surgery, radiology) are reimbursed at higher rates than other services (e.g., pediatrics, general internal medicine, psychiatry).

The clinical organization of faculty physicians creates a series of silos that can impede operational efficiencies, coordinated investment, and integrated strategies.

A closer look at the funds flow within an AMC clinical department will further highlight the interdependencies among the components of an AMC, the competing attributes of the tripartite mission, and the effects of the traditional silo structure of clinical departments. Figure 1.3 shows a typical funds flow for a clinical department. The revenue streams include professional fees attributable to patient care provided by department faculty physicians, hospital payments for graduate medical education (GME), administration of clinical services (e.g., intensive care units) and occasionally patient care that is not reimbursable by professional fees, and grants and contracts for research and special patient care programs. An academic enrichment fund (sometimes called a dean's tax) is charged against professional fees and is the only source of discretionary or flexible funds for the dean. The department pays its operating expenses, including the unreimbursed portion of indirect research expenses.¹⁹

Remaining funds are distributed in part to physicians as incentives for clinical and academic performance. Remaining funds also provide flexible funds

18 The clinical department structure is replicated across the three organizational components of the AMC such that there is, for example, a department of internal medicine in the medical school, in the teaching hospital, and in the faculty practice plan. The department chair directs and coordinates the internal medicine faculty physicians across all three organizational entities.

19 Even the best research grants, such as those from the National Institutes of Health, pay only a portion of indirect costs. The balance must be covered by the institution receiving the grant. At medical schools, the unreimbursed cost is financed by the clinical practice of the faculty physicians.

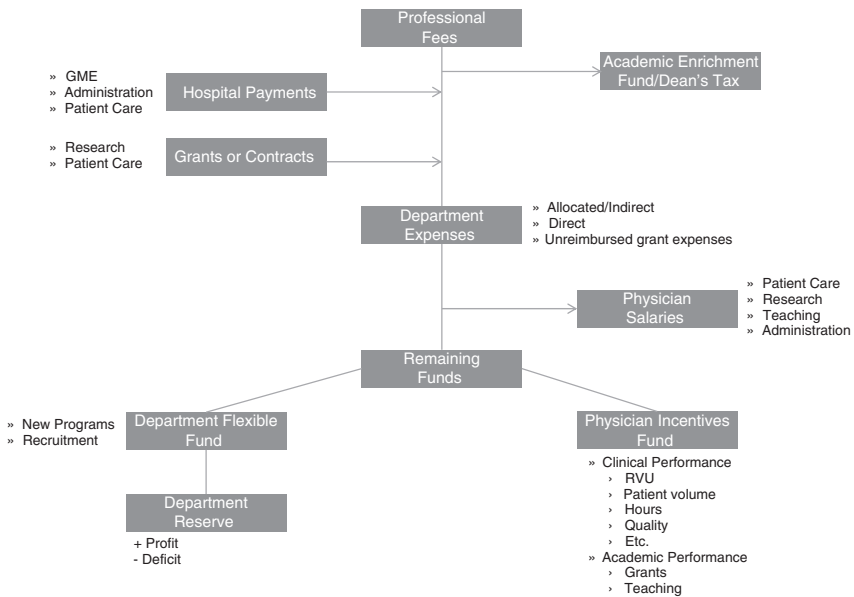


Figure 1.3 AMC Clinical Department Funds Flow.

for the department to finance new academic and clinical programs and to finance new faculty recruitments. Any remaining funds accrue to department reserves and to offset any previous operating deficits. Although there are some exceptions, many clinical departments operate on a razor-thin margin. Further, the vagaries of the professional fee reimbursement system favors some specialties (e.g., anesthesia) at the expense of others (e.g., pediatrics). Often, the dean must use the academic enrichment fund to offset losses in under-reimbursed or underperforming departments.

Case II: The department of pediatrics is suffering financial shortfalls that may be attributable to one or more of the following factors:

- The department has a large research enterprise that brings prestige to the AMC and university. However, grants support only a portion of indirect costs associated with the research enterprise.
- In order to generate successful grant applications, the department deploys several faculty physicians to develop research protocols and associated grant applications.
- The time that faculty devote to such activities takes them away from patient care functions that generate professional fee revenue. Some faculty physicians devote multiple years to developing research protocols and grant applications, and not all grant applications are funded. Consequently, their

work is not generating revenue, and their salary and other related costs cannot be recouped retroactively on grants.

- The department is responsible for teaching medical students and supervising residents and fellows. As at other AMCs, the funds that support teaching are constrained.
- Pediatricians are generally under-reimbursed by payers for their patient care activities, compared to physicians in other specialties.

The department has generated several years of deficit and is challenged to develop an optimal deployment of faculty that can continue to foster the research enterprise while meeting its teaching obligation and generating sufficient professional fee revenue to offset historic deficits and foster financial viability.

1.3 Community Hospitals and Physicians

Community hospitals are the “hub” of the healthcare resources that support the delivery of care to every region of the country. Most community hospitals are not-for-profit/tax-exempt, although there are many examples of public and investor-owned community hospitals. Not-for-profit/tax-exempt community hospitals generally include the following attributes:

- Governing board composed of community leaders who are responsible for the oversight, operations, and strategic direction of the facility.
- Medical staff composed of voluntary physicians, that is, doctors who are not employed by the hospital or an affiliated entity.

An important synergy, as well as a dynamic tension, exists between voluntary physicians and community hospitals. Voluntary physicians are not hospital employees and in most cases have no direct business or financial arrangement with the community hospitals. Instead, they volunteer their time to serve on a community hospital medical staff. In return for the privilege of admitting patients and practicing medicine at the hospital, voluntary physicians are obligated to participate on selected clinical committees of the hospital, such as infection control, quality assurance, and process improvement. They also agree to take call in the hospital’s emergency department, which means that they agree to treat emergency department patients who require their specialty expertise. Obligations to treat these patients extend to all such patients, irrespective of their ability to pay for physician services. In return for the volunteered time²⁰ and expertise, the hospital bestows upon the physicians admitting, surgical, and other clinical privileges that entitle the physicians to

20 A recent trend has been that some physicians demand compensation by the hospital for taking emergency department call. Additionally, some community hospitals with modest patient

admit and treat patients at the hospital. The hospital imposes limitations on its physicians and provides clinical privileges specific to each physician's training and expertise.

The synergy in this voluntary medical staff structure is that the hospital is dependent upon the voluntary physicians to admit and care for patients, which generates revenue to support the hospital. Further, the physicians are dependent upon the hospital for the provision of sophisticated services (e.g., laboratory, radiology) necessary for the care and treatment of their patients. Physicians are also dependent upon the hospital to provide the clinical setting (e.g., operating rooms, intensive care units) and associated staff required by their patients.

In small and remote communities with a single hospital, the voluntary medical staff arrangement is not particularly complex to manage. However, in larger communities with competing hospitals, it is not unusual for voluntary physicians to maintain privileges at multiple/competing hospitals and admit their patients to the institutions that can provide the most attractive benefits. Such benefits may include easy scheduling of patients for surgery and convenient operating room start times. (Surgery patients are among the most lucrative for a hospital, so it is not uncommon for community hospitals to compete for the busiest surgeons in the community.) The shift of lucrative surgeries from one hospital to another can have a substantial effect on hospital financial performance.

In the voluntary medical staff model, the physicians do not have a financial or employment relationship with the hospital. This has important implications for resource consumption and operating costs for the hospital. To understand such implications, note that among the themes conveyed to medical students and residents during undergraduate and graduate medical education are

- Think for yourself.
- Trust your training and insights.
- You are the responsible party.

These themes can occasionally contribute to challenges for hospital management related to operational efficiencies, resource consumption, and staff morale. The manner in which the physician delivers care in the hospital and interacts with hospital staff has direct implications on hospital costs and operating efficiency. For example, three different physicians may require three different manufacturers of expensive surgical supplies, thereby causing the hospital to increase its inventory. Each physician may require alternative versions of the same medication, driving up pharmacy costs. And certain

volumes must supplement the professional fee revenue generated by hospital-based physicians (anesthesiologists, emergency medicine, pathologists, and radiologists) in order to recruit an adequate number of such physicians to meet the clinical needs of the hospital.

physicians may routinely keep their patients in the hospital beyond the number of days for which Medicare or other payers reimburse the hospital and thereby generate unreimbursed hospital costs.

Voluntary physicians may be reluctant to modify their traditional practice styles or schedules. As a result, scheduling physician access to operating rooms can be highly contentious. For instance, it seems that all surgeons prefer an early start time in the operating room on Monday morning. Conversely, none want the 2:00 Friday afternoon start time—for numerous reasons, including the likely requirement that they see their postsurgical patients during the weekend. Effective/efficient scheduling of surgeries can have dramatic implications for hospital operations and cost performance. The voluntary nature of the medical staff arrangement makes it challenging for hospital management to achieve operational efficiencies and cost savings. In fact, this community hospital dilemma is sometimes characterized as follows: Physicians influence hospital efficiency, operations, and hospital operating costs, but who manages the physicians?

Selected AMCs and Health Maintenance Organizations²¹ have adopted a closed medical staff model that involves employment and management of the physicians by an organization affiliated with the hospital.²² In the case of AMCs, the employing entity may be the medical school/university or faculty practice plan. In the case of health maintenance organizations (HMOs), the employing entity may be an affiliated multispecialty medical group.²³ This physician employment arrangement can provide institutions with the managerial mechanisms to align the interests of the hospital with those of the physicians. In a closed medical staff model, managerial influence can more effectively be brought to bear on issues related to resource consumption, operational efficiency, patient satisfaction, patient outcomes, and other considerations.

Although every hospital devotes substantial managerial expertise to optimizing performance of the physician component of the delivery system, the challenge is most daunting for community hospitals with a voluntary medical staff, especially for hospitals in markets where multiple hospitals compete for physician services and patient admissions. The challenge for such hospitals is to attract physicians and their patients by offering convenience, customer service (keep in mind that the customer is often the patient as well as the physician), and high-quality patient care. As insurers, employers, and others who finance patient care become increasingly concerned with cost, competition now also extends to cost performance.

21 Such as Henry Ford Medical Group and Kaiser Permanente Medical Group.

22 Many state corporate practice of medicine statutes preclude hospitals from directly employing physicians.

23 Such as the Kaiser Permanente Medical Group.

In most, if not all hospitals, convenience, customer service, quality of care, and cost performance are directly related to the composition, training, size, and management of the employed hospital staff. In excess of 50% of hospital operating cost is attributable to labor expense,²⁴ and the largest subset of labor cost is related to hospital nurses. Hospital nurses generally deliver the patient care as specified by the physicians. Of course this physician-nurse dynamic is complicated by the fact that in many cases at community hospitals and at some AMCs, the physicians operate outside of the managerial construct of the hospital, yet their clinical decisions and style of practice have a direct impact on nurse staffing and performance and the staffing and performance of other hospital departments. Furthermore, physicians and nurses interact on a daily basis in operating rooms, intensive care units, nursing units, emergency departments, etc. Those professional interactions are highly complex because they impact patient care, clinical outcomes, operating efficiencies, patient satisfaction, physician satisfaction, employee satisfaction, and other considerations—all of which influence the quality of patient care and financial performance of the hospital.

One of the key indicators that hospital executives monitor on a daily, weekly, monthly, and annual basis is nursing cost and nursing full-time equivalents per occupied bed. Even a slight shift in these ratios can have material impact upon quality of care, patient outcomes, patient safety, patient satisfaction, and hospital financial performance. Complicating this management challenge is the fact that the nursing population in the US is aging, which drives up hourly wages due to the seniority of nurses in the employment pool. Furthermore, a nurse shortage has loomed for decades. In 1980, 54% of nurses were under the age of 40. In 2008, only 29.5% of nurses were under the age of 40.²⁵

1.4 Conclusion

The recent confluence of three related initiatives have brought the healthcare industry into its current era of reform. In 2000, the Institute of Medicine (IOM, but now the National Academy of Medicine) published a landmark report entitled “To Err Is Human.”²⁶ This report drew attention to the opportunities to enhance quality of care, patient safety, and patient outcomes. The report provided a roadmap toward safer health delivery systems and began a national conversation focused on improving the quality of patient care. Eight years after the IOM report, the Institute for Health Improvement (IHI) first described

24 <http://www.aha.org/content/11/11costtrendspricediffreport.pdf>

25 <http://www.nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNursing/workforce/Fast-Facts-2014-Nursing-Workforce.pdf>

26 *To Err Is Human: Building a Safer Health System*. Institute of Medicine of the National Academy of Sciences. Washington DC. 2000

the Triple Aim of simultaneously improving population health, improving the patient experience of care, and reducing per capita cost.²⁷ The Triple Aim entered the lexicon and represented an early expression of the objectives of health reform. In 2010, Congress passed and President Obama signed into law the Patient Protection and Affordable Care Act. In addition to the well-known provisions related to expanded access to health insurance, the new law made substantial changes to how Medicare pays for hospital and physician services. The overarching purpose of these reimbursement changes is twofold: (1) to begin the shift away from paying physicians based upon the volume of services provided to patients; and (2) to begin to consider quality indicators as a component of the reimbursement mechanism. Similarly, hospital reimbursement was revised to place hospitals at modest risk for the continuing health status of Medicare patients who were discharged from the hospital. As has typically been the case for the past 50 years, revisions in Medicare reimbursement to physicians and hospitals greatly influence the reimbursement mechanisms employed by commercial health insurance companies. Likewise, a shift in reimbursement across the healthcare industry has resulted from the Affordable Care Act.

The confluence of these three events has created new and increased pressures for hospitals and physicians. As has occurred in other industries²⁸ disrupted by major regulatory changes, the healthcare industry is currently experiencing significant reorganization that can be characterized by

- New entrants to the market
- Focus on consumers
- Pressure to reduce cost/improve productivity
- Consolidation
- Shakeout

The complexity of healthcare delivery in association with recent regulatory changes and industry disruption has created substantial opportunity for health services researchers to bring their expertise to bear on the challenges confronting the organization, management, delivery, and financing of healthcare. The application of sophisticated analytical approaches will undoubtedly be important to health delivery systems as they are transformed in response to the IOM report, IHI's Triple Aim, and health reform that has been accelerated by the Affordable Care Act.

27 <http://www.ihl.org/engage/initiatives/tripleaim/Pages/default.aspx>

28 Airlines, telecommunications, banking, etc.