The Cri$i$ in Academic Medicine

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Abstract Many believe that academic medicine is failing to meet all of its responsibilities and is in crisis. We interviewed a number of distinguished academicians and, while they held different views, found agreement that academic medical centers in the USA have gradually changed during the past half century from small, cloistered, scholarly institutions to large, complex, corporate-style organizations. These changes were fueled by large contributions of funds for research and great research accomplishments. However, these institutions seem to have insatiable needs for more money, which refocuses institutional culture, making them behave more like business corporations. The result is very high tuitions, enormous student debt burdens, and pressure on young academicians to become self-supporting more quickly. Almost all non-compensated activities, especially teaching, suffer. Since clinical care pays an increasing portion of school operating revenue, those who teach and do research are under increasing pressure to provide more clinical care, to see more patients per unit of time and do more procedures, resulting in fatigue, less time for teaching and research, and less gratification for doctors and patients. Attention to community needs and providing help to academic medicine in less developed nations are very low priorities. Academic medicine appears on the surface to be vigorous and healthy but is at risk of imploding. The heads of academic centers, working together, must be charged to create plans to restore a healthy culture.

In 2003, the British Medical Journal (BMJ), together with other journals, launched an international discussion of the state of academic medicine (1). They and others (2-4) proposed the possibility that a crisis of academic medicine exists (Box 1).

The very nature of academic medicine has been challenged. Medical educators and leaders have expressed these concerns for many years but the problems now seem to have reached crisis proportions.

We solicited the views of a number of senior colleagues in a wide variety of U.S. universities, beginning with the question: Is there really a crisis in academic medicine? At first, the responses appeared to be like those in the old story about blind men who were asked to describe an elephant based on touching various parts of the animal – some thought there was definitely a crisis, others thought there were “stresses” to the system, whereas others thought there were simply a continuum of longstanding problems. We initially found ourselves in the latter category, thinking that “crisis” was too strong a word, agreeing with Bosman, who said that we have more medical students, more demand for physicians, bigger health care budgets, more journals, and more papers being published; so how can we say there is a crisis (5)?

However, as we talked with our colleagues in greater depth and reviewed what others have written, we have come to believe that there are major problems that, in the aggregate, represent challenges that threaten academic medicine and that no one has ready solutions for these chal-
challenges. Furthermore, we have come to believe that money is at the root of most of the problems.

How Scholarly Academic Medicine Morphed into Big Business

Prior to World War II, even the most prestigious medical universities were relatively small. They were clustered around a "teaching" hospital in a few buildings with small numbers of full-time faculty, relatively small classes of medical students, and similarly modest numbers of residents, nursing students, and graduate students in biomedical sciences. Research, teaching, and patient care were, for the most part, done contemplatively and enjoyably, all with limited resources. This began to change after World War II with major increases in federal government spending for research.

In the USA, federal spending for undergraduate medical education has been limited to support of various loan funds and assistance to those willing to make commitments to later military or public service programs (e.g., The National Health Service Corps). Reluctance to have government directly support education stems in part from concerns about its potential control of the content and methods of education. In state or publicly supported medical schools, there is dedicated government support for undergraduate medical education. In private institutions, undergraduate medical education is supported primarily by tuition payments and income from endowments. Both public and private institutions have found ways to apply patient care service revenue and research funds to help support the faculty costs of undergraduate medical education. This diversion of research and patient care dollars to support undergraduate medical education has been tolerated because academic medicine has made major contributions to advancing knowledge and has disproportionately contributed to the care of the disadvantaged.

Payback in the form of successful research leading to dramatic advances in knowledge and technology was prompt, recognized, and appreciated, leading to even greater governmental support of research and increasingly greater private support. However, these advances seem to feed upon themselves and tend to grow exponentially in size and complexity. Like some insatiable creature, they demand ever-increasing resources at a faster and faster pace.

The result has been a transformation of academic medical centers into big business ventures, more and more resembling large corporations. In the course of discussing an issue of patients, a Wall Street Journal writer said (6), "These days, big research universities use their formidable powers for far more than teaching or scholarly inquiry. They invest in top scientists, create big labs, team up with companies, and spawn commercial spin-offs. They and their scientists lure grants from foundations and federal agencies." One can easily see parallels in academia to the management hierarchy of corporations: the Chief Executive Officer (CEO), President, Sr. Vice Presidents, Vice Presidents, Executive Directors, and department heads. Universities often have development offices to seek donations from local and state governments, alumni, celebrities, and wealthy benefactors of all sorts. Experts develop marketing and advertising programs to develop strategic and tactical plans to compete with other academic centers and community hospitals. The funds acquired can exceed a hundred million dollars per year for a single institution. Whereas these funds are used to build and maintain larger and more sophisticated laboratories, to endow chairs that lure outstanding researchers, and to subsidize students who cannot afford tuitions, they are not enough.

Clinical departments are now viewed as "profit centers" and clinical care as products to be sold to customers (once known as "patients"). New products are developed in keeping with popular culture; e.g. "wellness" clinics, "alternative" thera-

Box 1

Failures of academic medicine:
- failing to adequately enlist good new candidates for academic careers
- making it too difficult for those who chose to go into academic medicine to succeed
- presenting an impossible challenge to academics by expecting excellence in teaching, clinical care, and research from one person
- overemphasizing publications and inadequately recognizing or rewarding excellent teachers
- failing to modify curricula or teaching methods to prepare students for 21st century practice
- failing to meet community needs to improve quality of care
- failing in industrialized nations to assist those in less developed nations
pies, lectures, and clinics that focus exclusively on women’s health issues— all seemingly designed with good intentions but at least in part to attract more patients and contributions. Community hospitals and private practices are acquired to create chains of supply for the academic centers.

Problems in the New Corporate Culture

An increasing burden is being exacted on patient care services to provide money. In the past 35 years, the percentage of medical school operating revenue derived from clinical care has increased from 5% to more than 50%. Reflecting the need for ever-increasing dollars, competition has become prevalent and is fierce. Superstar physicians and whole teams of physicians with large research grants or clinical groups with large practices are lured from institution to institution similar to the way in which star athletes are enticed to change teams.

The demand for increased revenue from clinical care is particularly pernicious and a major cause of distress for academic physicians, threatening their ability to do research and teach. A number of forces have converged to adversely impact clinical practice, especially for academic physicians. Payment for clinical care comes mainly from insurance, HMOs, and government (e.g., Medicare and Medicaid), and all of these payers have been demanding more efficiency and reducing their payments at a time when the costs of providing care have been increasing. Furthermore, new technology and drugs that improve the quality of care are especially expensive. Concerns about malpractice lawsuits add to the cost of care delivery in two ways—the costs of premiums are extraordinary and must be made up for in greater clinical revenue, and the fear of lawsuits leads to unnecessary, expensive, and potentially dangerous testing.

A subtler factor in the costs of clinical care relates to bureaucratic issues. Some are related to the large amount of money the government provides and some are related to the increased size and complexity of academic centers. In a bureaucracy, something exists only if it is documented on paper and does not exist if not on paper, regardless of the reality. Payers demand proof of the services charged for and this ultimately means more paper work. The attending physician must actually provide every billable service personally and document it.

Thus, where the academic physician could previously simply write a brief note to follow a detailed note written by a resident or fellow, it is now necessary to personally document the entire history. While an attending physician could be consulted by phone late at night and decide to see a new patient in the morning, it is now necessary to see the patient at the time of admission in order to receive payment. The result is that senior physicians are virtually on call as they were when they were fellows or residents and spend much more time documenting procedures for the benefit of the bureaucratic bean counters. This is not only stultifying and wearing, but it takes away time previously available for teaching and research. A study by Schindler found that 20% of academic physicians were depressed (7). In addition, the residents and fellows have less autonomy, which may result in their completing training with reduced capacity to function independently.

The need to increase income from clinical care is relentlessly pushing academic physicians to be more “productive”; i.e., to see more patients, do more procedures, and bring in more money. Time to spend learning more about their patients and strengthening the doctor-patient relationship is diminished. Time to reflect on the care they are rendering or to use clinical care opportunities to teach or to do their research is compromised. Even the opportunity to stop by a colleague’s office to discuss research, teaching, or care is much diminished.

There is a strongly held belief that anything that does not directly produce revenue has to be sacrificed. For example, an experienced pathologist had to forgo attending teaching rounds in the department of medicine, where he was a valued contributor and teacher, because there was no reimbursement for that activity. Unfortunately, that applies to almost all teaching, which traditionally has not been directly compensated.

We Acquire Best and the Brightest, but Can We Keep Them?

Almost all of our colleagues agree that we are still able to select very highly qualified applicants for admission to medical school and also...
for postgraduate training in academic medicine. However, again it is clear that economic issues are creating problems. The high cost of medical school tuition is a major stress. Even in publicly supported institutions, where tuition is lower, students graduate with staggering debt. Tuition rises every year, often considerably faster than inflation but does not meet academic center needs. Although a fraction of the tuition monies are returned to students as financial aid and some directly pay for medical student education, the schools depend on net tuition revenue as a source of discretionary income to support institutional growth and development, which creates the need for even more money to support it (8).

High tuition costs and debt levels are discouraging some students from applying to medical school and other students and residents from pursuing academic teaching and research careers or family practice, general internal medicine, and pediatrics in favor of higher paying clinical specialty practice (9).

Our colleagues also agree that we still have top quality graduates entering academic careers, but they often become discouraged by the following interactive pressures that make faculty retention a problem (Box 2).

Even among those who succeed in academic medicine, there is significant frustration and disappointment. This applies to surgeons and interventionalists as well as the purely medical specialists. For example, a very successful vascular surgeon, head of the department in a leading university, explains that he is seeing more patients and working longer hours and more night-call than since his residency days and yet has to fight with administrators to purchase a commonly used and not excessively expensive stent. His time available for research is diminishing because of the demands for clinical care. The administrative bite on his grants exceeds 50%. Although his mortality rate for carotid angioplasty is about 1% for uncomplicated cases and 3% for complicated cases, he worries about lawsuits, having anguished through four frivolous suits (none required payment to anyone other than his lawyers). Additionally, his income has been going down the past few years. I heard a similar story from another vascular surgeon at another university and from an interventional cardiologist heading a catheter lab.

**Patient Care and Student Education**

Drossman has used gastroenterology as an example of the problems seen throughout academic medicine and to illustrate how the business demands of medicine today have led to diminished instruction in and use of well executed history and physical examinations, replacing them with technology and adversely impacted doctor-patient relationships and research (10).

Bedside teaching, which focuses on the patient and illness, rather than on disease alone, is being sacrificed, because it does not provide income. Almost everyone says that the day of the “triple threat” physician, who can do excellent research, teach, and provide superb patient care is gone. A few such superstars still exist but the prevailing belief is that most can only be expected to do two of the three functions well. Those who are less inclined to do research may be excellent teachers, and some outstanding teachers do get recognition and awards, but most do not get paid to teach and will not be advanced academically unless they add to the literature. The “publish or perish” problem remains with us, and in only a few institutions has the definition of scholarship been expanded to embrace the broad concept proposed by Ernest Boyer (11).

Patients are often seen by shifts of residents and attending physicians and are too often greeted by groups of physicians, none of whom are recognized as being his or her doctor. This problem is exacerbated by the increasing sub-specialization of medicine and academic departments, resulting in patients having multiple physician consultants, with none clearly identified as assuming overall responsibility. Such teams of physicians seldom explain to the patient who they are, why they are there, and which physician is...
most directly responsible to/for the patient. Particularly in academic health centers, it seems that such considerations and inadequate time for the patient contribute to an impaired physician-patient relationship (12).

Because one cannot explain illness adequately by exclusive focus on disease processes, this failure to know the patient results too often in “efficiently” delivered care, which is, however, unsatisfying to both patient and physician and is sometimes totally inadequate or even incorrect. One must know and understand the person with the disease in order to fully understand and treat the illness (13). Almost all universities claim to know this and insert scattered courses aimed at teaching humanistic approaches to patients and their personal concerns. However, most give only lip service to teaching comprehensive medicine that is truly patient centered and that takes psychosocial issues into consideration as significant factors in determining health and disease.

Most of our colleagues believe that academic centers have been modifying and improving medical school curricula during recent decades. There is lessened reliance on lectures and increased emphasis on individual and group problem solving, more teaching in practice-based settings, increased use of information technology, emphasis on evidence-based practice, and development of life-long learning skills. However, there is widespread concern that there is too much reliance on technology and less instruction in bedside clinical skills. Further, it is difficult to educate students and residents when only critically ill patients, requiring a host of specialists, are seen only briefly in the hospital setting, where the emphasis is on rapid efficient throughput of patients. More attention is given now to having students spend time in community hospitals, outpatient clinics, and doctor’s offices, although in all of these settings the economic and bureaucratic demands on the teachers have reduced the time available for teaching and reduced the educational quality.

Helping Disadvantaged Populations and Nations

The role of academic centers in providing guidance and leadership in improving population-based care, especially for disadvantaged populations in the USA, and the role of such centers in highly industrialized nations helping those in the less developed world have been much smaller than one would expect. A few academic centers make priorities and significant efforts to meet those needs.

The Association of American Medical Colleges offers an award each year to the medical college that has developed a comprehensive approach to improving the health of the community in which it resides. The University of Rochester Medical Center in Rochester, New York, which received the award in 2004, estimates that in 2003 more than 20 departments of the Center led more than 70 community outreach programs. Additionally, 159 Rochester community based research projects, funded at US$39 million, are ongoing. Other medical centers have won the award, including Morehouse School of Medicine in Atlanta, University of California at Los Angeles School of Medicine, University of Washington School of Medicine, New York City’s Montefiore Medical Center, Medical University of South Carolina and the University of Colorado School of Medicine.

An example of what is possible when an academic center in an industrialized nation collaborates with a less developed nation is the success of the University of Rochester Medical Center working with colleagues in Ukraine to improve undergraduate medical education, supported by a large grant from USAID. Significant overall curricular reform was achieved, including the introduction of heretofore non-existent formal clerkship experiences for clinical level students. In addition, Rochester’s Ukrainian colleagues were able to convince government authorities to make passage of US style national board examinations (written with the assistance of Rochester faculty and with the involvement of the National Board of Medical Examiners) mandatory for graduation from medical school throughout the country. One can assume a major improvement in the overall quality of medical education as a result of these interventions. With appropriate funding and the will to undertake such an effort, success is possible, and the results can be gratifying to all.

Nobody wants more to take the high road and solve human problems than academicians, and they will provide the needed leadership and commitment if there is adequate financial support for these activities.
Conclusions and Recommendations

In summary, we believe that academic medicine is continuing to play a leading role in medical research and an overall very good job in training future physicians. However, it is struggling to maintain this level of quality and finding it especially difficult to offer gratifying academic career opportunities and to provide high-quality comprehensive clinical care and teaching. The problems are largely hidden from superficial observation and not being constructively discussed. However, they are truly severe and appear to be getting worse, possibly justifying the claims that a crisis exists and that creative and comprehensive action is called for. It appears to be analogous to a building that appears to be sound, but is being eroded within by termites.

We believe that the problems have been created by the successes of academic medicine and the morphing of scholarly academic centers into big business enterprises with corporate structures and value systems.

A simple and perhaps cynical way to understand the behavior of corporations is to make an analogy with feudal governments. Think of the Chief Executive Officer (CEO) as the KING. Think of those other executives noted above as dukes and earls, and other noblemen. (One may even find some court jesters.) When the king sneezes, everyone rushes to provide tissues. In essence, the executives, and therefore the corporation, behave the way the CEO directs. Since each academic center is a separate and independent outfit, one can only talk about changes throughout academic medicine by convening their CEOs for joint planning and action or by having some centers demonstrate that they have found ways to compete more successfully, thus leading to imitative changes. For practical purposes today, this means solving the cash flow problems.

It would seem reasonable to presume that a convention of CEOs of academic centers might be convinced to work together to spell out the overall cash need to fund education, research, and clinical care and to propose how these needs can best be met from public and private sources. Since the money to support academic medicine comes ultimately from the public sector, private donors, insurance, and foundations, the CEOs might have their marketing and development departments work together to create a comprehensive plan to deal with at least some of the issues we have raised. Solving the money problems should make it easier to deal with academic cultural issues.

We are realistic enough to understand the difficulties of convincing academic health centers to control their size and complexity in a social culture that favors and fuels both. However, if the problems are not confronted, academic medicine and medical centers may implode. If the economic issues can be dealt with creatively, the future of academic medicine will be bright.

References


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