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Impact on Health Care by a Metropolitan University Medical School

The State University of New York at Buffalo medical school, in conjunction with its eight affiliated teaching institutions and local community leaders, has taken a leadership role in designing a regional approach to providing graduate medical education and tertiary health care. Strategies have evolved through two consortia, one designed to focus on graduate medical education programs, the other on improved cooperation in the delivery of patient services. From 1983 through 1991 the GME programs have been strengthened through the process, and the concept of a coordinated regional academic medical center has been formalized. The resulting changes should also have a salutary impact on economic development in western New York through reducing the costs associated with duplicating services and through developing programs designed to enlarge the region's patient base and research development.

Introduction

The United States has maintained a preeminent status in medical education, biomedical research, and health care delivery throughout the world since World War II. In these roles it has developed an undergraduate and graduate medical education enterprise unexcelled elsewhere, contributed to the eradication of many curable and preventable diseases, and developed academic medical centers in which the highest of technological and quality intensive care is available. Like all advances, these have been made at a significant cost. Our health care system absorbs approximately 10 to 11 percent of the gross national product, 25 to 100 percent more than the proportion in other industrialized nations. The dilemma of an inflationary system that operates independently of the remainder of the country has given rise to increasing demand for cost containment and additional efficiency in the health care enterprise, and to growing frustration with the system's failure to obtain desired results.

Despite its many successes, the American system of medicine and health care has many problems compared to its counterpart in other developed countries. For example, the life expectancy for Americans is lower than that of some peer countries; we have a tremendous maldistribution of professional talent both by specialty and by geography; we have an extraordinarily high infant mortality rate;

and in some regions populated by an excess number of physicians there is an appalling lack of service and access, especially at the primary care level.

The nation's problems appear compounded by a leadership vacuum. Neither federal or state governments nor the private sector are assuming leadership for change. In the resulting stagnation, survival rather than reorganization of the health care enterprise is the driving motivation. As the public and private sectors grapple with the issue of health, both tend to place the blame for our failures on the health system itself and point toward the nation's 126 medical schools and their affiliated teaching hospitals as a focus for leadership and direction. While the focus may be appropriate, many of these centers are not yet ready to respond to the challenges. This article will present some of the unique problems and opportunities that face the School of Medicine and Biomedical Sciences of the State University of New York at Buffalo (UB) and its affiliated teaching hospitals. Some of the developments being forged at UB to foster a more economically viable enterprise can serve as models which other academic medical centers might wish to evaluate and emulate.

Buffalo's Academic Medical Enterprise

The UB medical school was founded in 1846 by Millard Fillmore and a group of five physicians. It remained a private institution until 1962 when the entire university was merged with the State University of New York (SUNY) system. Over its 145-year history the school was unique in that it formed affiliated relationships with its community hospitals and never owned nor operated a major clinical facility. Today, it has a core network of eight teaching hospitals dispersed throughout the community. Over the years each hospital affiliated independently with UB and little effort was made to coordinate or integrate the system. Clinical faculty and staff developed their loyalties and identities around the various hospitals with which they associated.

Buffalo and its region have undergone significant economic changes since 1950. Once a major industrial area, it has witnessed a major decline of heavy industry and a gradual but steady growth of white collar and service activities. The population of the inner city has declined at the rate of 1 percent per year, while the population in the suburbs has grown. Buffalo's fertility rate is among the lowest in the nation, and its proportion of 15 percent of its citizens aged sixty-five and above is among the highest. For the health care system, these changes present enormous challenges. The area tends to have an excess of hospital beds for acute care services, but inadequate facilities for chronic and alternative health care services. Although it is a relatively inexpensive area for health care of all kinds, its major hospitals have the highest debt-to-equity ratios of any in the United States. And like other urban centers, the distribution of primary health care services to the inner city and rural counties is inadequate.

UB, on the other hand, has fared well since its merger with SUNY.

It grew from eight thousand to almost thirty thousand students, and is a major employer in western New York. The medical school increased its class size, developed a strong biomedical research faculty and program, and has a full-time clinical faculty of about five hundred physicians dispersed through its hospital system.

The Graduate Medical Dental Consortium of Buffalo (GMDECB)

The first major initiative designed to establish and foster a collegial academic medical center organization in Buffalo began in 1982 for educational rather than economic considerations. The stimulus was provided by major changes in the guidelines promulgated by the Accrediting Council on Graduate Medical Education (ACGME). These guidelines would have required that the medical school and the eight affiliated hospitals form nine distinct institutions of record. The clearly preferable alternative was the formation of a single organization in which UB's medical and dental schools and each teaching hospital held membership. In 1983, the GMDECB was formed as a membership consortium, and has since then managed all ACGME-approved residency and fellowship training in Buffalo.

This move has had a number of favorable outcomes, including:

1. The importance of UB's academic leadership was confirmed.
2. All necessary record keeping was concentrated in a single office. This reduced operational costs and led to the formation of a single application form, a single personnel file, and centralization of all residency review submissions and subsequent accreditation reports.
3. The state subsequently established a Graduate Medical Education (GME) Council that urged the state's other eleven medical schools to form similar governance organizations for their GME programs. Many of the characteristics used to define a consortium by the GME Council emanated from GMDECB's experience.
4. For the first time UB's GME program directors have a common forum in which to review their programs, identify each program's strengths and weaknesses, and develop cooperative approaches designed to strengthen them.
5. The existence of GMDECB facilitated meeting the newly established credentialing requirements developed by New York State. The consortium developed and implemented a computerized program that documents the verification of credentialing, and ensures that the process need not be repeated when a resident is assigned to another member hospital for the next rotation.

As this consortium experience grew and matured, major changes in attitudes about the conduct of the GME by the faculty have penetrated the community. The orientation has changed substantially from a service to an educational one. More importantly, issues that should be considered institutional rather than strictly programmatic have been accorded proper discussion across all disciplines and at all participant levels. Some of the successful outcomes of this process include:

1. Each first-year resident is required to participate in a week-long orientation in which bedside teaching skills are taught and evaluated, advanced cardiac life support accreditation is provided, and issues of patient confidentiality, ethics, medical legal problems, and medical records keeping are taught.
2. UB and its teaching hospitals made a major commitment to reverse the trend toward overspecialization in training and to move an increasing number of GME experiences into nonhospital settings.
3. The membership has become informed of the medical manpower problems that exist in New York state and have made the following commitments:
   - Fifty percent of resident positions will be in primary care programs by 1994.
   - The resident pool in western New York will be capped at 700 by January 1, 1992, except for 38 new positions in Emergency Medicine and in Preventive Medicine.
   - Enrollment of representatives of minority and socially underrepresented groups will be maintained at a minimum of 11 percent.

While GMDECB was established primarily for educational reasons, many economic benefits to the hospital system and the community have resulted. The need to limit the number of available residency positions is a major public health issue for industrialized states such as New York. Its population base approximates 8 percent of the nation's total, yet it graduates 12 percent of American-trained medical students and supports 16 percent of the nation's total resident pool. The latter situation contributes to a continuing imbalance in the number of specialists educated each year and places a disproportionate financial burden on New York consumers.

The Western New York Health Science Consortium (WNYHSC)

The revitalization of Buffalo and western New York made the business community more aware of the importance of its medical education and major hospital resources. On the one hand, an overhospitalized system is a potential burden that can detract from economic growth and well-being. On the other hand, if patients can either be attracted from other regions or prevented from going to other urban centers for their care, the community can become a major site for medical care.

Buffalo has many assets, which include relatively inexpensive health care, easy transportation, inexpensive housing, a major comprehensive cancer center, a major children's hospital, and a publicly supported medical school. The business leaders recognized some serious deficiencies as well, such as the lack of accountable leadership, a spirit promoting competition rather than cooperation, and patient care configurations that encouraged fragmentation and tended to detract from an emphasis on quality. With the cooperation of the major teaching hospitals and UB, the Greater Buffalo Development Foundation (GBDF)

recruited a consultant group that worked with board, administrative, and faculty leadership to explore options on how to address these critical issues. It recommended the development of a strong consortium governance for the system of patient care delivery, with representatives from the hospital boards, UB, and business community.

In 1987, such a consortium, WNYHSC, was formed, consisting of the same institutions that participate in GMDECB plus three leaders from the business community. Although many of the same people participated in each, the GMDECB maintained its emphasis on GME and the new organization focused on patient service issues. The two cooperate when the two agendas overlap. A business leader serves as the president of WNYHSC, UB's dean as vice president and chief operating officer, and the president of the GBDF as secretary. The consortium conducts its work through a series of task forces, the membership of which includes full-time and volunteer faculty, hospital leaders, and hospital board members and other business leaders. Its board meets monthly.

Early achievements. At least three opportunities in the early months of the new consortium served to demonstrate its importance. The first related to organ transplantation, the second to trauma care, and the third to a regional cancer institute.

The Department of Surgery and the Buffalo General Hospital (BGH) joined to apply for approval by the New York State Department of Health to operate the Upstate New York Heart-Lung Transplant Center. A strong proposal that incorporated education, research, and patient care was developed and all consortium members agreed that only this proposal would go forward because BGH was the recognized center of excellence for cardiovascular surgery in the region. At first UB's neighbor to the east, the University of Rochester (UR), also entered in the competition. But because the state obviously would not permit two such centers to function independently in close proximity, the two communities joined in a cooperative plan for a single multi-institutional transplant center located in both areas. The outcome was that BGH was designated the site for the UB sponsored heart-lung transplant program; the UR was granted the liver-pancreas transplant program. The involved facilities agreed to work cooperatively and to exchange appropriate educational and research opportunities. The costs associated with these programs were spread across at least two regions, and two strong medical schools, one public, the other private, entered into a model of cooperation long encouraged by health policy planners.

The second effort was directed toward centralizing education, research, and care for trauma and burn patients. Efforts to coordinate and centralize the trauma program in Buffalo began in the early 1980s, but a firm resolution was not in place when WNYHSC came into existence. During its first year of operation, the consortium accepted the recommendation that the Level One Regional Trauma Center be based at the Erie County Medical Center (ECMC) with the pediatric satellite at the Children's Hospital of Buffalo (CHOB). ECMC and CHOB were recently designated officially by the state as the Level One Regional Trauma Center.

The new consortium also contributed significantly to reestablishing the status of the Roswell Park Cancer Institute (RPCI) as a major oncological center for the region, a goal that had been a primary reason for the business community's request that the medical school and hospitals work together more closely and cooperatively. When WNYHSC was created, RPCI recruited a new director, and the governor's office made a major promise of additional funds to renovate and build facilities and to recruit outstanding clinical faculty. A number of major changes have resulted:

1. The governor's office and state legislature enacted legislation that permitted RPCI to appoint approximately forty new faculty at competitive salaries to a corporation owned by UB.
2. A clinical affiliation agreement was negotiated between RPCI and UB that has strengthened the interaction of the RPCI faculty with the school and the teaching hospital community.
3. UB and RPCI formed a new university department of Radiation Oncology. Its chairman will be the first university chair based at the institute and will also be academically responsible for the oncology units at three hospitals.
4. The institute has initiated long-range building plan studies, and in the interim has upgraded several services with state-of-the-art equipment.

Controversial achievements. Not all subsequent developments were achieved as easily. The WNYHSC activated three task forces that regrettably indicated the difficulty of achieving cooperative outcomes without incurring some degree of acrimony. These work groups were charged with the assignments of regionalizing neonatology care, teaching, and research; the distribution of psychiatric services; and, in cardiology, recommending the site of at least one electrophysiology laboratory. A tremendous amount of tension and dissatisfaction in each working group reflected the differing views, not only among the participating institutions, but also within the faculty constituencies, full-time and volunteer, who had differing levels of commitment to each institution and differing views about the WNYHSC approach.

At the formation of WNYHSC there were seven obstetrical units in the metropolitan area, five within consortium institutions and two in community hospitals. The consortium sought to achieve two significant outcomes. The first was to confirm that the Regional Center for Tertiary Neonatology Care was based at CHOB. To that end the medical school, through its Department of Pediatrics and Gynecology-Obstetrics, encouraged both tertiary obstetrical care and neonatology care to occur at CHOB. The work of the task force became encumbered by conflicts that had cumulated over a period of years, institutional distrust among the members, and a differing philosophy by the leadership of pediatrics than was conducive to consortium behavior and success.

It took approximately three and a half years and a change in leadership in pediatrics and neonatology for this task force to develop a fair and comprehensive agreement that resulted in the formation of a single

neonatology program. The agreed-upon program now coordinates the care of infants and education for medical students, residents, and nurses in the five member hospitals with obstetrical services. Children transferred for emergency care to CHOB are now referred back to the unit of origin when stabilized. The single coordinated division serves up to 10,500 neonates per year.

When the task force for psychiatry was appointed, the rationalization of patient care appeared to be relatively easy because psychiatric services were limited to three consortium members. The development of an additional in-patient psychiatric site in the neighboring suburb of Amherst was not anticipated. It soon became clear that there was insufficient preparation for this task force. Not only did serious conflicts arise between UB's chairman and his constituent hospitals, but the chairman and the dean experienced difficulty in formulating a common position. Only with a decision by the Regional Health Systems Agency not to support the suburban proposal could the task force return to more rational behavior and achieve the necessary cooperation among the three participating hospitals. Needed adolescent beds and services were added at one hospital, and a medical psychiatric liaison service and geropsychiatry at another.

Everyone at UB and the hospitals realized that any program deletions or additions in cardiology would be controversial, but all were surprised when the acrimony and controversy over a relatively minor program component grew into a major confrontation among virtually all participants. The decision-making process was aggravated by the fact that the graduate medical education of UB's cardiology program took place at a different hospital from the principal site of the community's clinical medical and surgical cardiovascular activity. It has taken until recently to foster a more cohesive programmatic leadership for the cardiology community and to develop an arrangement that could satisfy all members and constituents of WNYHSC.

Lessons Learned

The lessons learned by UB and its collaborators through their experiences in the 1980s might be helpful to other academic medical centers trying to change the environment for medical education and health care.

1. The Difference between GMDECB and WNYHSC. It was considerably easier to organize and implement the GMDECB because all involved parties shared a common set of goals and objectives around graduate medical education. Furthermore, the participating hospitals never questioned the authority of the medical school and the program directors to manage these programs. Thus, even though the many varying institutional and program objectives were not necessarily congruent with the needs of selected programs or other institutions, it was always possible to develop a rational consensus that strengthened the GME program.

The formation of the WNYHSC was much more controversial be-

cause its success demanded the ability of a diverse set of organizations to share concepts and programs around a less common set of purposes in a highly competitive environment. The members recognized the multitude of economic, social, political, environmental, and quality issues that surrounded them; but to a large degree, each felt confident that their institution was capable of dealing with these issues independently, particularly if they obtained a larger share of the medical school's resources than did their counterparts. In the mid-1980s, it was not yet clear that a competitive health care model was not a viable model for the future, especially in a regulated state.

2. The role of the business community. The formation of WNYHSC represented the first such organization fostered under the stimulus of the Buffalo business community. The academic and practicing medical communities were not at first prepared to accept a prominent role for business. Great concern was raised that decision-making capacity was being removed from the institutions, the faculty, and the practicing physician community. While this in reality did not occur, it is apparent in retrospect that the development of the WNYHSC came to fruition very quickly, with little time for many constituent bodies to understand what was required to make it succeed.

3. Staffing. UB and the Greater Buffalo Development Foundation agreed to make their existing staff available to the new consortium during the first two years so as to facilitate the startup and minimize costs. In retrospect, this was probably the organization's fundamental mistake. The dean and the president of the GBDF were already overcommitted, yet an ambitious agenda was initiated. These conditions served to detract from the necessary education that was required of each task force chairman. It was not anticipated that the formation of the WNYHSC, and the energy for change it spawned, would be met with opposition by many of the medical school's own chairs and by many of the selected task force chairs. These realities made it difficult for the two leaders to control much of the conflict that was expressed. The problem was addressed by recruiting an associate vice president for UB who serves as the chief operating officer of WNYHSC.

4. Nonvisible agendas. Perhaps the biggest surprise to the leadership was the attempt to reopen agendas that seemed settled many years earlier during the transition of UB from private to public control. At that time, several alternative models were evaluated for how the UB medical center should be configured: the construction of a totally state-owned geographically centralized center, the ownership of a single hospital, or the development of a network enterprise with strong UB influence but a shared governance. The last model was chosen, and the matter appeared to be closed. Yet much of the energy used in the community from 1988 to 1990 was directed toward exploring the recreation of the single university hospital model, or relocating all teaching hospitals to the UB Health Sciences Campus. Although the reopening of these issues was somewhat destabilizing to the efforts of the WNYHSC, the dean, president of GBDF, and the hospital CEOs continued to meet regularly and to continue developing more cooperative

planning efforts. The WNYHSC board also met regularly, and, as was reported earlier, a number of important projects were completed.

Today, the issues have been evaluated satisfactorily, and no major changes in direction have surfaced. The work of the GMDECB and WNYHSC is moving forward with less overt evidence of tension and divisiveness.

5. Decision making. The results of the work conducted during the first year of the consortium's operation provided an opportunity for faculty and institutions to test the ability for a decision to hold. There were many challenges to the recommended directions for programs such as neonatology and psychiatry. In the end, the consortium view has prevailed.

Consortium Benefits

While it is much too early to formulate a judgment about the potential future of these important consortium initiatives, they have clearly brought about many changes throughout the UB-teaching hospital community. Each should serve as a building block that will strengthen the academic medical center concept and lead to a stronger governance structure when needed.

1. Communication. The multitude of tasks taken on by the consortia, especially the attempt to pool all GME direct and indirect medical education funds for the region into a single fund governed and managed by the GMDECB, made it necessary to involve even more constituencies. For example, the chief fiscal officers and the medical directors became working groups. New faculty groups from across the system were formed to develop the resident credentialing system. The private payers have become an important advisory group. Thus, communication at more and more levels across institutions is increasing and will continue to do so in the years ahead.

2. Management information system. UB and the hospitals have initiated an ambitious program designed to link each institution and the required departments. Its initial success led to a major consultant study that the consortia will implement over the course of the next five to ten years. It will facilitate many educational needs at all levels, as well as cooperative data management between and among hospitals and UB. Already, two hospitals have agreed to share a common mainframe for billing and medical record activities. One will own the mainframe and the other will share services through a lease. The overall savings over the course of the next five years could exceed $7 million to Erie County. More importantly, this agreement represents a breakthrough in that two major hospitals identified an area in which to cooperate independent of the stimulus of the educational mission.

3. Third-party payers. Program initiatives and development have reached the stage at which the leadership of the private payers together with the Department of Health must be involved. The payers will have to help guide the consortium leadership in its planning, and hopefully

will support those worthy initiatives that may affect rate structure. The GMDECB and the payer's leadership have agreed to meet at least quarterly to keep one another properly informed.

4. A "center without walls." Above all, Buffalo's academic medical center has truly become a "center without walls," fundamentally different from most medical schools and centers. The UB medical school is linked institutionally to each of its eight teaching hospitals with an affiliation agreement. This agreement defines the mutual responsibilities of each hospital and the school and, prior to forming the GMDECB, was the basis of the operation of the academic programs in the region. The two consortia provide the interface between the hospitals and the medical school; each institution serves as a member. It is in these two organizations that the various working groups develop the cooperative planning that is necessary to accomplish the larger goals and objectives of the academic medical center with enhanced efficiency and reduced costs.

The two consortia, with continued leadership from UB, have helped meet the requests and expectations of the UB president and the business leaders. The cooperative framework that has evolved should continue to grow in strength in the years ahead. Although it is too early to pass judgment on the success of the efforts, there is every indication that these strategies served to create an awareness of the problems that will beset academic medical centers. To the degree that an uncertain future can be visualized, UB and its teaching hospitals have mobilized a cooperative spirit among its faculty and its staff that serves to facilitate the projects chosen for consortium activity. Everyone involved recognizes that the health care system is in transition and that change will continue at an accelerated rate over the course of the next ten to twenty years. The important contributions of the UB system would seem to be the priorities of academic medical faculty for dealing with such a prospect. Since nonphysician health policy leaders seem frustrated by apparently recalcitrant academic physicians unwilling to provide needed leadership for change, the UB-Buffalo hospital model provides an alternative that might help promote needed cooperation and leadership from within other academic communities.

Suggested Readings

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