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Financial problems confronting U.S. medical schools in an era of expanding group care

Charles H. McMurray

FINANCIAL PROBLEMS CONFRONTING U. S. MEDICAL SCHOOLS IN AN ERA OF EXPANDING GROUP CARE

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CHARLES H. McMURRAY

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CHAPTER 1

INTRODUCTION: THE EVOLVING HEALTH CARE MARKET AND ACADEMIC MEDICAL CENTERS

This paper investigates the impact of managed care on U. S. medical schools/academic medical centers. The media have reported at length the financial threats to the nation's medical schools in the new era of managed care. This represents a sharp reversal from just a few years ago. The purpose of this introduction is to examine the factors contributing to these fiscal problems and the changed economic and cultural context within which the schools must now struggle for survival.

From fiscally sound, thriving and expanding organizations a decade ago, a number of these institutions are being transformed by severe money problems and some are worried about bankruptcy. The reason most frequently cited for the dilemma is the competition from managed care organizations which direct their patients to less expensive treatment centers, thus reducing academic medical centers' (AMCs'), also referred to as academic health centers (AHCs), practice plan revenues which have traditionally been used in part to subsidize their medical education mission. (Barzansky et al. 1995: 716) This has public policy implications as AMCs seek to preserve the quality of medical education and biomedical research and to continue to play a social role in the communities in which they are situated.

With this end in mind, I review in this and subsequent chapters the history of AMCs and their missions and how they are being influenced by the new directions pursued in the current health care marketplace. I also examine the historical development of the two medical schools, at the University of Michigan and Wayne State University, that are the subject of my case studies. A section is included on organized or integrated delivery systems to describe one of the evolutionary processes that is under way in health care. I also include a chapter (Chapter 7) outlining the vision of some of the experts as to how health care delivery systems are likely to look in the future.

In a managed care environment medical schools are presented with troublesome problems because if they wish to be competitive they must reduce the costs of their products in order to meet payors preferences in terms of the prices which the buyers are willing and able to pay. The two AMCs that I study are multimillion dollar business enterprises which employ their factors of production to supply their services to their patients, grantors and medical students. Their factors of production consist of physical facilities and capital (hospitals, clinics, laboratories, classrooms, lecture halls, etc.), human resources (faculties and staffs which include physicians, scientists and administrators), medical students (both undergraduate and graduate) and entrepreneurial talent (executive leadership). Since the operations are very labor intensive, they require, large amounts of liquid assets to meet current expenses. With these resources they must respond to the market to produce the services that are demanded in that marketplace at prices that match those that managed care organizations can demand from other providers.

As health economists point out, academic medical centers offer three joint products: patient care, biomedical research, and medical education (Folland et al. 1993:538-39). The sources of revenue for the AMCs are varied. The payors for patient care are insurance carriers, state and federal governments and individuals. Biomedical research is primarily funded by the federal government on a competitive basis with industrial organizations sponsoring some projects. Medical school tuition is paid by federal and state governments (through grants), students and their parents, often from loans. Because medical education is a joint product with patient care and its costs are not separately priced, the buyers of patient care, particularly the third-party payers, have, with the introduction of managed care, generally resisted paying the medical education component. Patient care income is also used to support some intramural research and managed care organizations are not happy with paying for that cross-subsidy..

As the costs of health care mounted over the years, especially after the Medicare and

Medicaid programs were enacted in the 1960s, governments, employers and individual consumers gradually became alarmed and ways of reducing the cost burdens were sought. Managed care was introduced as a part of that cost reduction effort, the rationale being that open market forces would bring prices down and supply and demand into equilibrium, with lower prices fueling greater consumption. However, AMCs with their tri-partite missions of education, research and patient care are at a cost disadvantage when dealing with managed care organizations capable of purchasing services from lower cost community hospitals that do not support these activities. (Jordan 1997:520)

Federal agencies pay the direct and indirect costs of biomedical research and there are regular revisions of the percentages of indirect cost recovery by grantees negotiated on an institution by institution basis. There has been some squeeze by the federal agencies on indirect costs and this has been an area of some concern to AMCs. (Jordan 1997:520)

In meeting the challenges of managed care, AMCs have devised solutions which, as we shall see, in some instances create additional problems. In some instances they have not yet found totally satisfactory answers. In the two case studies which follow it will be observed how two public medical schools in Michigan, Wayne State University School of Medicine in Detroit and the University of Michigan Medical School in Ann Arbor, have responded to the new competitive markets of managed care.

The Evolution of Medical Schools

In the early days of medicine in the U. S., apprenticeship was the customary method of training physicians in their practical skills. The number of medical schools began to grow noticeably after the War of 1812, although most had only a titular relation to a college or university, if that. By 1840 the number of medical schools had increased to forty, many being founded by groups of physicians. Most had no laboratories or medical libraries and few owned clinical facilities. The central role played by the Johns Hopkins University Medical School in the reform of medical education in the late 19th century

reinforced the link of medical schools to universities. From a high of 161 in 1909, the number of schools dropped to 95 in 1915, mainly because of the steadily increasing requirements mandated by state licensing boards, fostered by the American Medical Association. (Starr 1982:18-20)

The concept and the reality of the academic medical center evolved over a period of many years. In the beginning the medical courses at medical schools were comprised of lectures and there was no clinical training or internships. Most medical schools did not own a hospital; therefore, for their practical experience students spent several years as apprentices with practicing physicians. (Davenport 1966:2) Physicians who taught earned their living from their private practices. (Hanawalt 1966:54) The need for student instruction using patients in hospital surroundings was recognized in the 1870s and this added impetus to terminate the apprenticeships. (Davenport 1966:2; Hanawalt 1968:54) During and shortly after the end of World War II there followed a propitious progression of events which made the modern academic center a reality.

In 1942 the War Labor Board allowed employers to provide health insurance coverage to employees without violating wage controls, making such coverage a negotiable item in labor contracts. As a result, employers gradually began to cover both facility and medical services. The Hill-Burton Act was passed in 1947 to subsidize the construction of hospitals. The GI Bill which paid for veterans' education benefits enabled many to become physicians. In 1950 states with federal aid started paying hospitals, physicians and other providers for treating those who were on public assistance programs.

Cochran et al. declare that:

> The first building blocks of what was to become today's public health care edifice were mainly in areas of scientific research, mental health, and medical attention for selected groups of the poor. Beginning with the establishment of the National Institutes of Health (NIH) in 1937, the federal government has been active in biomedical research. In addition to NIH, the National Science Foundation, the Department of Health and Human Services, and the Department of Agriculture also support some research. Generally, between 1950 and 1990 federal expenditures for health research and development increased dramatically from $160 million to $10.2

billion, accounting for over two-thirds the nation's health research spending. (1993:273)

The National Institutes of Health (NIH), the principal research agency of the Public Health Service of the U. S. Department of Health and Human Services, is primarily concerned with the extension of basic knowledge about human health problems. The NIH traces its origins to the Laboratory of Bacteriology, established in 1887. About 40% of all medical research conducted in the United States is financed by NIH. The institutes and their dates of establishment are: the National Cancer Institute, 1937; the National Heart, Lung, and Blood Institute, 1948; the National Institute of Arthritis, Metabolism, and Digestive Diseases, 1950; the National Institute of Allergy and Infectious Diseases, 1948; the National Institute of Child Health and Human Development, 1962; the National Institute of Dental Research, 1948; the National Institute of Environmental Health Sciences, 1966; the National Institute of General Medical Sciences, 1962; the National Institute of Neurological and Communicative Disorders and Stroke, 1950; the National Eye Institute, 1968; and the National Institute on Aging, 1974. They conduct and support biomedical research into the causes, prevention, and cure of diseases and support research and training and the development of research resources. Over 80% of NIH-supported research is conducted in medical and dental schools, universities, and other nonfederal institutions through research project grants and contracts, research training grants, traineeships, and fellowships, and grants to assist in the construction of research facilities.

In response to a perceived shortage of physicians in the 1960s the number of medical schools began to grow and forty new hospitals were built along with teaching hospitals to supply the facilities for clinical education. Then in 1965 Medicare and Medicaid were created to provide health care to the elderly and the poor. (Davis et al. 1990:11-12) Medicare's "cost-plus" reimbursement policy encouraged additional entries into health care. Several actions by Congress beginning with the Health Profession Educational Assistance Act of 1963 provided grants to medical schools and financial aid to students. In 1971 federal support was increased substantially to medical schools through capitation

grants. These subsidies were phased out in the late 1970s as the perception of physician supply became one of excess supply. (Folland et al. 1993:536)

As Fye (1993:41) asserts:

> Between 1913 and 1957 intellectual and social forces revolutionized the practice of medicine. Medical knowledge exploded . . . Medical training expanded from medical schools to include internship, residency and fellowships. Physicians basked in the glow of unprecedented social prestige . . . causing many to label this period as the "Golden Age of Medicine". A growing emphasis on specialization and an increasing reliance on technology troubled many who found that the developments contained within them the seeds of a disquieting shift away from medicine's traditional values.

With the transformation of the medical school into an integral part of the academic medical center there was a shift in emphasis to patient care which could provide the resources to carry on its other activities. To manage that resource the medical practice plan was born. In 1977 the Association of American Medical Colleges (AAMC) declared that "Medical practice plans have become an essential element in the structuring of medical schools. This is a consequence of the schools' desire to compete in the marketplace for quality satisfied faculty, to achieve program control and balance and to counteract the reduction of other significant income sources." (MacLeod and Schwarz 1986:58) In 1980 the AAMC reported that faculty practice plans were an appropriate means of governing medical practice. Faculty practice plans grew from six to 118 between 1960 and 1985. (MacLeod and Schwarz 1986:58) Ganem and Krakower (1997:755-60) report that practice plan revenues of all U. S. medical schools increased from $9,105 million in 1993-1994 to $10,640 million in 1995-1996. Table 1.1 shows changes in revenues over the 1993-1994 and 1995-1996 period. The authors observe "Some of the growth in clinical practice revenue is related to growth in medical school faculty. Between fiscal year 1993-1994 and 1995-1996 full-time clinical faculty increased 6.1% from 70,795 to 75,099, and full-time science faculty increased 2.3% from 16,787 in 1993-1994 to 17,168 in 1995-1996" Meanwhile, Barzansky et al. (1996:716)

show that medical school student and graduate enrollment increased from 66,453 in 1993-1994 to 66, 906 in 1995-1996, or less than 1%.

Table 1.1

Revenues Supporting U.S. Medical School Programs and Activities at Accredited Public Schools (N=74) ($millions)

	1993-1994		1994-1995		1995-1996	
Federal appropriations	$88	0.6%	90	0.6%	93	0.6%
State and local government appropriations	2,604	18.5	2,688	17.7	2,813	17.0
Tuition and fees	396	2.8	426	2.8	468	2.8
Endowment*	90	0.6	105	0.7	129	0.8
Gifts	219	1.6	235	1.5	296	1.8
Parent university support	135	1.0	185	1.2	158	1.0
Practice plans**	4,621	32.9	5,027	33.1	5,514	33.4
Hospital/medical school programs	1,636	11.6	1,788	11.8	2,226	13.5
Miscellaneous sources	539	3.8	605	4.0	558	3.4
Federal research grants and contracts:						
Direct	1,668	11.9	1,786	11.8	1,889	11.4
F&A	558	4.0	587	3.9	622	3.8
Other grants and contracts:						
Direct	1,395	9.9	1,539	10.1	1,590	9.6
F& A	114	0.8	123	0.8	143	0.9
Total Revenues	14,063	100.0	15,184	100.0	16,499	100.0

* Includes unrestricted and restricted endowment.
** For 1995-1996 this category includes practice plans ($5,425 million) and other medical service organizations ($90 million)

Source: Janice L. Ganem and Jack Krakower, "Review of US Medical School Finances, 1995-1996." *Journal of the American Medical Association*, September 3, 1997, Vol. 278, No. 9, 757.

Blumenthal and Meyer (1994:202-204) in 1994 conducted case studies of seven academic medical centers (AMCs) (all members of the Association of Academic Health Centers) to

examine their efforts to meet the demands of an increasingly competitive health care marketplace. While at the time all of the institutions were financially healthy, they were reacting in a number of ways, striving for increases in clinical market share, while continuing to expand their teaching and research missions. In this process the balance between the teaching, research and clinical service missions saw a shift toward a growing role for the latter. However, with the transformation that is taking place in the marketplace which is driving down prices of clinical products, AMCs are placed at a disadvantage. As the authors express it:

> Lacking convincing evidence that AHCs provide superior quality of care or have sicker patients than their competitors have, academic centers are dependent on the added value of their reputations in negotiating higher prices with managed care organizations. A consensus seems to be emerging among academic centers in more advanced markets (San Diego, San Francisco, and Boston) that AHC's reputation alone is worth a premium of at most 5 to 10 percent compared with community providers in San Diego and San Francisco, where competition for patients was most intense at the time of our study, AHCs expected to command a premium of at most 3 to 5 percent. (1994:202-204)

They found that six of the seven AHCs had made networking the foundation of their market response: developing integrated health care systems capable of providing a full spectrum of health care services at competitive prices and investing hundreds of millions of dollars in the enterprises. In short, the investigators found that the central problem faced by AHCs stemmed from market restructuring which has reduced profit margins on clinical services. They were also concerned about a possible reduction in Medicare and Medicaid funds.

Revenues from the Medicare and Medicaid programs enacted in 1965 and grants from NIH were used by the medical schools to increase research which required expensive technology and medical specialists to perform (*Chronicle of Higher Education*, 1995:A52) While there has been fluctuations in the number of medical schools since the

1970s, their numbers have leveled off to the current 125. The Association of Medical Colleges (AAMC) collects financial data from the 125 medical schools and publishes an annual consolidated statement in the *Journal of the American Medical Association* showing their combined financial results. For a number of years these statements have shown a constant growth in revenues; however, the institutions are diverse in character, ownership, location, size and profitability. AAMC's latest report (Krakower et al. 1996:720-724) for the nation's medical schools shows "that revenues in every category increased in the 1994-1995 fiscal year over the previous year in current and constant dollars, except for federal appropriations . . . After we adjusted for inflation, total revenues increased 5.7% between 1991-1992 and 1992-1993, 5.8% between 1992-1993 and 1993-1994; and 4.1% between 1993-1994 and 1994-1995. The 4.1% increase in the most recent period is the second-smallestinflation-adjusted gain observed since these . . . data were first reported from 1979-1980 to 1980-1981, during a period of very high inflation."

In their report for 1995-1996 fiscal year Ganem and Krakower (1997:755-60) compared the financial results for years 1993-1994, 1994-1995, and 1995-1996. They state that income for the 125 U. S. medical schools increased in virtually every category between 1994-1995 and 1995-1996. However, they warn the reader that the data cannot be generalized because there are great structural differences among the schools, organizationally and legally, and that while most schools reported increases, twenty percent reported flat or declining income in certain categories during this time period. Both practice plan income and the number of clinical faculty increased in this period; therefore, some of the revenue is due to the growth in the number of clinicians (760).

Indications are, however, that many prominent and heretofore successful schools are now struggling; for example, the University of Michigan's Health System suffered a loss of about $35 million in its academic year ending June 30, 1995, "the first year in memory that it was in the red." (*Detroit Free Press*, June 28, 1996, 2E) Johnson and Broder assert that in just one year 30 medical centers reported declines in revenue with more anticipated. (1996:593)

After suffering a loss of $17 million in 1996, Georgetown University Medical Center cut its 1997 budget by $50 million. The restructuring is being led by Kenneth D. Bloehn who planned the downsizing of Stanford University's Medical Center. (*Chronicle of Higher Education* April 4, 1997, A32)

Managed Care

As pointed out earlier, the broad movement toward managed care has been widely credited for bringing increasing financial pressure on AMCs. Competition in a managed care environment is generally blamed for the AMCs' growing problems of maintaining profitability. Competition comes from community hospitals that do not have the problem of funding research and education costs and for-profit hospitals, such as those in the Columbia/HCA Hospital Corporation chain. Columbia/HCA now controls 345 hospitals, or about 50 percent of the for-profit beds, allegedly spurns unprofitable services and patients, and has developed strong networks through physician-shareholder agreements that make the company a powerful rival in the regions and markets in which they operate. (Kuttner 1995:362)

The well-financed for-profit chains - such as the (former) Solick Health Care which specialize in cancer treatment and which some charge skim patients and money and use "other people's research and doctors who others have trained" -- are creating great anxiety

for physicians and health care organizations in the areas into which they move. (*New York Times*, September 8, 1996: 1, 22)

Korn contends, however, that the movement to managed care is not the primary reason for the difficulties being experienced by academic medical centers. Rather, "they stem from a larger and more fundamental problem that has been gaining momentum over a period of years: the chronic and growing gap between academic medicine's seemingly insatiable demand for . . . resources and the supply of resources society is willing to provide." (1996:1033-42) Moreover, he charges that "The centrality of a general education, both medical and scientific, has become attenuated, and the education of medical students has become to many faculty a distraction." (1038) Korn predicts that there will be a major restructuring of the whole academic system, including the medical schools, one of the main reasons being the unacceptable risks to the university involved in relying on "soft money" from public and other sources.

Other analysts also think that the source of the academic medical centers' fiscal difficulties goes beyond managed care. As Shortell et al. explain:

> Perhaps no institution will be more affected by the changes occurring in health care than teaching hospitals associated with academic health centers. These institutions are getting hit from all sides simultaneously. On the patient care delivery side, they are subject to the same managed care pressures to reduce costs as everyone else . . . On the teaching side, they are being asked to devote more of their patient care earnings to support medical education at a time in which payers do not wish to pay these costs. Further, there are proposals to limit payment for residents in certain specialties in order to address manpower imbalances. But residents are also a relatively inexpensive form of labor for teaching hospitals. On the research front, the costs of doing research are growing at a time when NIH funding is declining. At the same time, many teaching hospitals associated with academic medical centers, particularly those located in the inner city, provide a disproportionate share of care for the medically indigent. These hospitals also face stiff competition from surrounding suburban community hospitals that are often able to offer essentially the same treatment technology at a lower cost because they do not have the same degree of teaching and research commitments as the academic teaching hospital. Many of the suburban physicians have in fact been trained by the local academic medical center that has, in effect, created its own competition . . .While there is need for more efficient ways of conducting teaching and research activities the immediate challenge facing these hospitals is to redesign the way in which they provide care. (1996:307-8)

Academic medical centers also face the possibility that other health care organizations are able to compete with them for resources used in program evaluation -- i.e., those used to improve the quality of health care. Outcomes research that focuses on how care can be delivered more efficiently is a concern of managed care organizations. Blumenthal and Mayer (1993:1814) declare:

> . . . many large health maintenance organizations, such as Kaiser Permanente and the Group Health Cooperative of Puget Sound, have already developed their own residency programs and excellent research centers for studying the outcomes and processes of care. In the future, much of the tertiary care previously provided at academic medical centers may be delivered at sophisticated community hospitals, if they can demonstrate that their outcomes and costs are comparable or better than those of academic medical centers.

Johnson reported in *American Medical News* (January 2, 1995, 3) that "In many markets, managed care plans have reached, or are close to critical mass. The point where they control delivery and economics." In 1993 CALPERS, California's public employees retirement system, announced that it would demand a five percent reduction in its health insurance premiums for its 930,000 participants and the Bay Area Business Group on Health sought a five to ten percent reduction for its 2.5 million enrollees. Employers in other states were said to be watching these developments with plans for instituting similar actions. Uwe Reinhardt, the health care economist, is quoted as saying that big business payers were "patsies" who formerly paid all bills indiscriminately but are now bringing "brutal price pressure on the HMOs with which they deal."

In a study of the effects of HMOs on consumer welfare Baker and Carts found that HMO activity is responsible for the lowering of conventional health insurance premiums in regions with market shares below ten to fifteen percent but that for areas with market shares above ten to fifteen percent HMOs' effect is to boost insurance premiums, thus reducing consumer welfare. HMOs "shadow price" insurance premiums. (1996:389-394)

Pardes (1997:97-102) thinks that AMCs should embark on a publicity campaign to inform the public generally and policy makers in particular that market forces and

shrinking funds are placing medical schools and teaching hospitals, which have led the world in top-flight research and medical care, in grave danger of being forced out of existence. However, he asserts that managed care is merely a messenger from the public which regards health care as being too expensive. He mentions the various strategies that are being employed to remain operative but he suggests that re-engineering will not accomplish all that is desired. The most critical item in his curative prescription is: ". . . we have to persuade government to mandate separate revenue streams for research, education, and care for the underserved to keep American medicine on the top." (101)

The Task Force on Academic Health Centers, sponsored by the Commonwealth Fund, asserts that if the search for economies in health care removes the support for care of the poor, this will cause an increased reinforcement of the two-tiered system in which the indigent are relegated to public institutions. Its report also exposes concern that some physicians are being denied experience in caring for the fullest range of patients (1985/II.3) There was a concern that there may also be an erosion of quality of care. Moreover,

> price competition not only jeopardizes teaching hospitals' ability to care for the poor, but also their ability to continue functions in education, research, outside clinics, services as referral centers for acute trauma and burn patients, and many other contributions to excellence in medical care. (II/4)

The Task Force recommended that, if teaching hospital functions are to be preserved, they should be compensated for special patient services which include adjustments for the higher costs in urban locations, and the provision of technologically advanced services in regional referral centers. It also argues the DRG (Medicare) payment system should be made more equitable by providing for more variations in diagnosis and categories to rate the seriousness of illness. (III/30)

Health maintenance organizations received the federal government's approbation in 1971 when President Nixon's administration adopted the idea of prepaid group practice plans to slow the growth in the cost of health care and the Health Maintenance

Organization Act of 1973 followed. During the 1970s subsidies were offered to nonprofit groups to establish HMOs but growth was disappointing until the 1980s. Membership in HMOs in 1991 was about 39 million and growing substantially each year. Increases in preferred provider membership were also large. (Iglehart 1992:744)

According to Group Health Association of America (GHAA), an HMO trade group, HMO enrollment reached 50 million in October 1992 and was predicted to reach 56 million by the end of 1995, with a growth rate twice that experienced in the late 1980s and early 1990s. Fueling this rapid expansion is lowered premium rate increases. Another factor contributing to the increase was the point of service plans (POSs) which permit enrollees to choose nonparticipating physicians by paying copayments or deductibles or both. Medicare and Medicaid enrollments were other growth areas. (*American Medical News*, December 20, 1994, 2) In June 1995 Jaklevic reported that "HMO penetration is still low in the state [Michigan], 18.7% as of mid-1994." (Jaklevic, June 12, 1995)

In the Detroit area St. John Hospital bought the assets of Oakland General Hospital and River District Hospital and Henry Ford Health System purchased the assets of Horizon Health, the owner of Riverside Osteopathic Hospital and Bi-County Community Hospital, and was in merger discussions with Bon Secours Health System. (*Detroit Free Press,* April 8, 1996, 6F-8F)

Crain's Detroit Business (May 19/25, 1997, 1, 34) reported that two religious entities, St. John Health System and Providence Hospital and Medical Center, were discussing a strategic alliance. St. John, with revenues of $600 million in 1996, has within the last few years doubled its capacity by acquiring Holy Cross and Saratoga Hospitals in Detroit and the Detroit-Macomb Hospital Corporation in Warren. Providence Hospital, owned by Daughters of Charity National Health System, had revenues of about $4 million in its latest year. St. John is a subsidiary of the Sisters of St. Joseph Health System of Ann Arbor.

In 1995 Jaklevic quotes a Standard & Poors' report forecasting that by the year 2000 six healthcare systems are likely to dominate the Detroit-area marketplace and the consolidation of other organizations will continue. The candidates that are most likely to be in the group are: Henry Ford Health System, Detroit; Oakwood Hospital and Medical Center, Dearborn; Detroit Medical Center; William Beaumont Hospital, Royal Oak; University of Michigan Hospitals, Ann Arbor; and a religiously sponsored provider network, probably including Mercy Health Services, Farmington Hills. The three-year rating outlook for five of these organizations are: Henry Ford (AA); Oakwood (A); Detroit Medical Center (A): William Beaumont (AA); and Mercy Health Services (A). The rating agency placed Detroit "just below the middle of the spectrum" in terms of integration and managed care, concluding that "Hospitals have not integrated with doctors, though physician organization is gaining momentum." (Jaklevic, September 11, 1995:24)

In 1995 Michigan Capital Healthcare hospital system, a 369-bed facility in Lansing, Michigan, announced that it was discussing the advantages of a merger or affiliation with Columbia/HCA Corporation, Inc. (*Detroit Free Press,* April 8, 1996, 6F, 8F) A Columbia/HCA spokesperson said that it planned to enter all fifty states; it now does business in thirty-eight. Michigan's Attorney General intervened in the case with a lawsuit and while Columbia/HCA was dropped from the case as a litigant before trial, the state court judge ruled that under Michigan law the assets of a charitable not-for-profit company cannot be co-mingled with those of a for-profit concern. Columbia/HCA had offered to buy a 50% stake in the hospital. (*Wall Street Journal,* September 9, 1996, B6) The attorney-general's action was grounded on Michigan's Charitable Purposes Act, not anti-trust laws. (*Grand Rapids Journal,* July 22, 1996, 3) The .argument was made that Columbia might acquire all of the hospital but buying one-half and making a profit from providing it services was unlawful.

Practice Plans

Abraham Flexner in his influential 1910 report denounced commercialism of any kind in medical education. His words were: "It is universally conceded that medical education cannot be conducted on proper lines at a profit -- or even at cost, but it does not follow that it has ceased to 'pay.'" The Association of American Medical Colleges (AAMC) initially agreed that there were hazards involved and in 1968 published a set of criteria for such plans. However, in 1977 the AAMC shifted its position and endorsed medical practice plans, concluding that they "have become an essential element in the structuring of medical schools . . . [as] a consequence of the schools' desire to compete in the marketplace for quality satisfied faculty, to achieve program control and balance, and to counteract the reduction of other significant income sources." (Petersdorf 1985)

MacLeod and Schwarz define a faculty practice plan as one that produces and distributes patient-care revenues according to policies and procedures administered by a dean, department head, or chief of clinical service with "strict full-time" participating physicians paid a salary supplemented by incentives for patient care, or "geographic full-time" doctors who keep all or part of their fees from patients or compensation for fulfilling their academic responsibilities and professional commitments to the school.

The effects of competition is reflected most sharply in the dramatic decline in faculty practice plan revenues which have traditionally been used as one source to subsidize medical education and research. After having surveyed all medical schools, MacLeod and Schwarz (1986:58) asserted:

> Between 1960 and 1985 access to federal, state, and private sector funds to medical service plans in all 127 medical schools led to almost a 20-fold increase in faculty practice plans (FPPs) - from six to 113. Wide swings in federal funding policies left medical schools with a defective management model, particularly for FPPs. Disposition of collected revenues, the role of for-profit FPPs, the personally lucrative nature of FPPs, an unwieldy number of fairly autonomous departments, ineffective governance, and hostile opposition from other parts of the university have raised questions of conflict of interest and accountability.

MacLeod and Schwarz found that approximately seventy percent of the FPPs

surveyed were organized as nonprofit entities (some under Internal Revenue Code Section 501 (c) (3) and therefore are not subject to income taxes if all profits are distributed to members or the school in compliance with IRC regulations). The amount allocated for disposition by the medical school dean ("dean's tax") may be subject to much wrangling. Ninety-seven or 82 percent of the FPPs donated ten percent or less of their revenues to the deans, with six FPPs making no contribution but eleven gave between eleven percent and twenty percent of the revenues received to the dean. (61)

In reviewing the status in 1994-1995 of educational programs in U. S. medical schools leading to the doctor of medicine degree, Barzansky et al. declared that there is "already evidence that increased managed care penetration can cause a decrease in school revenues from faculty practice. Such decreases in revenue in turn can affect the ability of the medical school to implement its educational program." (1995:716) This is the case because medical schools receive a substantial portion of their revenues from their faculty practice plans, averaging about 33% of overall revenue nationally. When revenues for support to hospitals and clinics in carrying out their patient care and educational missions is added to practice plan income, the total in 1995-1996 amounted to 48.4% of reported revenue for the 125 accredited medical schools.(Ganem and Krakower 1997:755) The activities of FPPs have had a profound effect on medical schools. The faculty has been restructured in the last decade during which there has been a dramatic increase in the number of clinical faculty members while the number of students and the number of faculty in the basic sciences held steady. Competing with other health care providers in this new managed care environment raises questions concerning whether enough clinical training sites will be available, how such medical school activities as community-based ambulatory care teaching will be funded, and whether the number and specialty of faculty for medical instruction will require change. Over the five year period from academic 1990-1991 to academic year 1994-1995 the number of full-time faculty members in the 125 medical schools increased from 74,807 to 90,016, while the number of medical

students during the same period increased from 64,986, to 67,030. Of the full-time faculty members in academic year 1994-1995, 16,597 were teachers of basic science, a decrease of one percent from 1993-1994. (717)

Jones et al. (1985:897-910) conducted an AAMC survey in 1985 to determine the problems and issues regarding medical school faculty clinical practices as seen by faculty members and administrators in AMCs. University vice presidents for health affairs, directors of teaching hospitals and medical school deans, departmental chairmen and faculty representatives were questioned. The responses revealed that the apportionment of faculty time to achieve the proper balance among the teaching, research, and service missions was the greatest concern. Other matters of importance were the present and future threats to the patient base needed for teaching and research resulting from the new competitive and reimbursement environment and the changes in faculty practice required to meet the market conditions.

Shine (1997:21-6) discusses some of the challenges facing AHCs and major teaching hospitals in the current marketplace and the responses which institutions around the country are making to these problems. He predicts that by the year 2000 most metropolitan areas will have no more than four systems to administer to 85% of the populations' health care needs and that the consolidations of power will require federal regulation to achieve uniformity among the states. He views telemedicine as an effective tool for teaching, consultation and supervising the quality of care.

Shine sees further changes in the administration and control of AHCs because they cannot survive in a rapidly changing environment with the customary slow-moving process typical of academic affairs. With respect to practice plans, he declares that medical schools must reorganize themselves into multidisciplinary plans with governance systems that permit them to act more expeditiously. Moreover, he asserts that "we will not be able to continue to attract patients on the basis of our name or reputation, our institutes must demonstrate that they do things as well or better than other providers."

(24)

He declares that one of the major concerns for teaching hospitals and AHCs is to determine and focus on their core competencies. Too many have proceeded on the basis that they could carry out research, education, and patient care under a single authority; that they were all relevant and interrelated and that they could do all of them very well. However, many of such institutions may not be able to compete with organizations that confine their activities to one function such as patient care. (25)

Stemmler (1985:949-50) in an editorial warns that "If we begin to look or act too much like our competitors, because that is the only way we can compete, we will have abandoned the very purpose of our existence. It is an outcome that cannot be accepted." (950)

Bentley et al. (1991:433-37) predict that the clinical practice needs of faculty physicians with the AMC will be changed by transformations occurring in the external market. Greater price competition, the shorter lengths of stay, deterioration in third-party payments, rising costs, managed care contracting, capitation, and keeping a stable patient base have all created the need for practice plans within AMCs to be more efficient and effective. The authors see in the future that individual clinical departments will move toward a common goal by coordinating their patient care objectives because the performance of one department could have ruinous effects on the ability of all departments to compete. They counsel medical schools with decentralized systems to consider other organizational arrangements. (433)

The authors found that some practice plans were devising aggressive marketing techniques and public relations programs to promote their strengths in terms of services and specialty physicians. (438) AMCs, if they are to attract and retain patients for teaching, clinical research, and income, must maintain a high faculty interest in clinical care. To spur that interest, AMCs may have to review the rewards and status provided to those physicians engaged in clinical care activities and if necessary, use the practice plan

to foster fiscal and program interdependence among departments to attain a coordinated and cohesive operation. (439)

The dominant characteristic of the American health care system, according to policy analysts, has been its fragmentation. As Shortell, Gillies, et al.(1996:2) describe it:

> The U. S. health care system is unnecessarily fragmented, overspecialized, and unable to respond to rapid change. It is very good at suboptimization, but one would hesitate to claim that as a *core competence.* It is very good at conducting professional "turf wars" but few would wish to consider that a *core capability.* The core competencies and capabilities of the U. S. health care system (aside from its marvelous technology) are largely yet to be developed because they require reaching beyond individual jobs, careers, professions, groups, departments, divisions, and organizational boundaries.

Starr argues that in the establishment of professional dominion in the United States, five structural changes were effected by the medical profession in achieving the

> "alternative to the competitive market that developed in America" (1982:227) The first was the emergence of an informal control system in medical practice resulting from the growth of specialization and hospitals . . . [which] brought about a shift from dependence on clients to dependence on colleagues and promoted a change in the profession to a corporate orientation . . . [and] encouraged rivals to put aside their differences and work together in behalf of licensing laws and other common objectives. (229-30)

The other change of relevance here is the fifth:

> the establishment of specific spheres of professional authority. Medical care came to be characterized by a series of internal boundaries demarcating the professional domain . . . The general absence of integrated organization and higher-level management in the medical system had the function of preserving the sovereign position of the profession. The various attempts to rationalize the organization of hospitals or of medical practice and public health floundered on the resistance of private interests. No program, policy, or plan was acceptable, even worth considering, unless it respected the professional sovereignty of physicians . . . With access to hospitals, physicians acquired the technological resources necessary to the practice of modern medicine without becoming part of an organization. (231)

Thus, for several decades academic medical centers operated at the apex of the health care system, functioning and thriving as virtual enclaves, pursuing high-tech patient care, leading-edge biomedical research and oligopolies in medical education. But with the rising need for medical services and the intervention of federal government in health care

policy, the selective coverage and rapidly surging costs alarmed the nation's leaders and aroused the interest of entrepreneurs and investors. In the rapid changes that have taken place "the informal system" and "the specific spheres of professional authority" have been eroded with the pervasiveness of managed care.

Organized or Integrated Delivery Systems

The strong competition from these institutions (HMOs, PPOs, IPAs and similar entities) has forced most health care organizations, including academic health centers, to begin the process of integrating their activities into organized delivery systems (ODSs) (some analysts use the term "integrated systems") with a goal of becoming efficient, low-cost providers offering high-quality health care services. Starr predicted the future when he stated: "Corporations have begun to integrate a hitherto decentralized hospital system, enter a variety of other health care businesses, and consolidate ownership and control in what may eventually become an industry dominated by huge health conglomerates." (428) For the AMCs this is a particularly wrenching metamorphosis because their preeminent roles in medicine are threatened and could be irrevocably altered or terminated. Thus, there is a trend toward unification, cohesion, and teamwork within individual organizations or systems, although the health care system overall remains segmented, each entity a separate domain but now in a more intense, conflictual relationship with others.

Brown comments:

> Academic medical centers have been the last to join the parade. Now we see many investor-owned chains looking for economic ties to such centers of excellence. If one seeks to play the regional provider of choice card and go for a major portion of any market, then these institutions need to be part of the package. The Mayo Clinic recognized this necessity early on and moved to develop national and regional satellites. Nationally, teaching centers are reaching out in ways unheard of 5 years ago. Some are joining Columbia/HCA in markets where the academic medical center completes a regional, full-service package of services. In the future we can expect more of these alliances. And we can expect the not-for-profit hospital systems to seek to link up as a competitive response to a real threat of investor-owned market dominance. (1996:10)

Shortell, Gillies et al. (1996:7) define an organized delivery system as "a network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population and is willing to be held clinically and fiscally accountable for the outcomes and the health status of the population served." (1996:7) Their theory conceives the ODS as a collaborative effort with the community through such practices as improvements in disease prevention and health maintenance and promotion. They argue that

> each operating unit involved in the continuum of care - prevention, primary care, acute care, rehabilitative care, and maintenance care - should have the "system" embedded within it . . . this is achieved through functional integration, physician-system integration and clinical integration. (27) Functional integration is defined as the extent to which key support functions such as financial management, human resources, information systems, strategic planning, and total quality management are coordinated across the operating units of a given system so as to add the greatest overall value to the system. Physician system integration is defined as the extent to which physicians are economically linked to the system, use its facilities and services, and are active participants in its planning, management, and governance. Clinical integration is defined as the extent to which patient care services are coordinated across people, functions, activities, processes, and operating units so as to maximize the value of services delivered. Clinical integration includes both horizontal integration (the coordination of activities at the same stage of delivery of care) as well as vertical integration (the coordination at different sites . . .) (30)

The strategies formulated and executed by AMCs vary according to their particular circumstances and range from acquisitions and mergers, purchases of physicians' practices to the establishment of alliances, affiliations, joint ventures, and networks for referring and channeling patients to their facilities and services. Some have sold their hospitals to for-profit concerns. Integrated or organized delivery systems are designed to improve access to the managed care dollar by establishing reputations for high-quality, low-cost services. Some medical schools have accumulated a significant amount of capital which will allow them more freedom to choose among optimal game plans.

Fonner (1996:1) argues that

> Although still largely characterized as decentralized, fragmented, and having considerable duplication, five major elements of systemic change merit attention: 1.

> Managed care . . . 2. Declining inpatient utilization . . . 3. Consolidation of hospitals . . . 4. Physicians join forces . . . [and] 5. Formation of purchasing coalitions . . .The most visible result of these systemic changes has been the appearance of more inclusive delivery models.

As some of these integrated systems have matured there has been wider and more diverse institutional participation with some expanding their coverage from regions to states and some employing risk management, early detection and prevention methodologies, with some social scientists advocating collaboration, new boundaries and strategic alliances. Fonner suggests that among the constraints that a hospital may face is the amount of its long-term indebtedness and its financial commitment to its existing health care system, its legal obligations and governing executives with differing goals and incentives. (1996:1-11)

Ackerman (1995:33-40) traces the shift toward vertically integrated regional health systems from horizontal integration back to the Perloff Report of 1970 published by The Special Committee on the Provision of Health Services of the American Hospital Association. This report declared the community-based health care organization to be the focal point of the health care system: "regional in scope, serving a geographically defined population . . . to ensure that access to health care was attainable by all people." (33) Horizontal integration, or sets of organizations that offer similar kinds of clinical services at physically discrete locations, is still engaged in by some large corporate entities but health care costs, demographics, technology and human resources are said to be determining the current health care environment. Ackerman argues therefore that the vertically integrated regional health system promises to be the better of the two in providing more cost-effective services. However, he points to the five hurdles that a vertically integrated system may have to surmount: antitrust legislation designed to promote competition, hospital autonomy, physician autonomy, the effect of RBRVS (the physician payment system instituted by Congress) and the patient. By hospital and physician autonomy the author means the tendency for hospitals and doctors to want to work independently and not as members of a team. With respect to RBRVS (Resource

Based Relative Value Skills), this is likely to cause conflict and division between physicians and hospitals as well as among primary care physicians and specialists. As to patients, vertically integrated systems may require sick patients to travel greater distances in moving through the service hierarchy which may be resisted by consumers.

Ackerman argues that in order to be successful a vertically integrated regional health system must achieve economies of scale, physicians must be closely linked to the system, appropriate access to care must be attained and quality process management must emerge. Capitation will become increasingly important, focus on epidemiology must broaden, the importance of manpower self-sufficiency must be recognized, more emphasis must be placed on the consumer and diversification of services must be emphasized

Clements in *American Medical News* (January 3, 1994) suggests that there are substantial risks involved for AMCs in their choice of integration and full health care delivery systems as a solution for assuring their survival. He contends that since private and academic practices usually have very different goals, the AMC should examine carefully its strategy to determine whether it has good and sufficient reasons to merge and know what the benefits and costs are likely to be. Are the goals of the two organizations truly congruous, considering the emphasis by AMCs on teaching versus the focus on clinical activities by private practitioners? Can the congenial character of the partnership as a co-equal venture be sustained over the long haul? Will ingrained attitudes and philosophic perspectives toward production and the expected rewards therefrom be reconcilable? Will the private practitioners be expected to provide medical instruction and, if so, will their income levels be maintained? Can financial systems and reimbursement policies be integrated to the satisfaction of all participants?

Page (*American Medical News* May 22/29, 1995) points out that some HMOs have been training residents for decades but the majority have not engaged in this activity. Kaiser Permanente, Harvard Community Health Plan and Henry Ford Health System are among those plans which have such programs. However, some academics view managed

care as inferior medicine, reducing the overall quality of medical education. HMOs fear medical education will be a substantial financial expenditure because their structure focuses on ambulatory care which makes training more costly than in localized sites such as hospitals. Furthermore, many HMOs are ineligible for the special federal subsidy available to teaching hospitals.

Integrated health care delivery systems are classified by Kongstved and Plocher in three categories: (1) those in which only the physicians are integrated; (2) those in which physicians are coordinated with facilities (hospitals and ancillary sites); and (3) organizations which include the insurance operations. They warn of the political impediments in achieving a successful integration and declare that: ". . . an integrated system also brings a large set of managerial and legal challenges." (1995:35-49)

Zelman suggests that these systems may be distinguished by their focus on the following goals or characteristics:

> Some level of clinical, not just administrative or financial, coordination among providers along the full continuum of care . . . A focus by at least some system actors, most likely primary care physicians, on performance of the system as a whole . . . Achievement of some level of physician integration (commitment of physicians to the system) at least among primary care physicians . . . A focus on primary care and prevention . . . A minimum geographic and service breadth . . . Development of sophisticated (and expensive) information systems . . . A capacity to improve and compete in quality. (1996:130-39)

The traditional medical model for delivering health care cannot be relied upon to perform successfully in these rapidly changing industry conditions, Manley (1996:26-30, 62) argues. He says it is a top-down, command-and-control model with the people on the front-lines operating according to policies and procedures formed at the top of the hierarchy. What is required is an organization that allows those who treat patients to act extemporaneously and cntrepreneurially to deliver the services demanded. He contends that the model must be transformed into a bottom-up management organization with the primary care physician as general manager of his/her patients' health and the primary care office as "the basic structural unit of the integrated system." (28) However, what he

envisions is that "primary care offices will have a much wider range of activities than today's primary physicians' offices." They will collect, maintain and analyze consumer information and provide personalized services to customers and other team members. In this view hospitals, specialists and administrators exist to support the primary care physicians rather than the reverse.

Allcorn and Winston (1996:846-57) recommend that academic health centers be reorganized along a service-line matrix management mode following their missions of patient care, biomedical research and medical education. Each service line would have its own chief executive and managers with responsibility for providing revenue and controlling expenses in their areas. Each becomes a profit center that requires accountability and productivity from faculty and staff. This is offered as a business-like approach that may replace the traditional model of using al income streams to pay for operations, a model which has been found wanting in this period of financial stress.

Coddington et al. (1996:24-31) argue that integration, if it is to be successful, must add value to the health services offered to the systems' patients. Moreover, it must promote the system with a competitive advantage and furnish better working conditions for the deliverers of care. Based on their research, the commonly adopted strategies involve: (1) increasing the percentage of primary care physicians and the number of general practice sites; (2) unifying the providers and health plans; (3) reducing the amount of variation in clinical practice; (4) committing funds for management and information systems; (5) promoting a system-wide culture; (6) setting system-wide financial systems; (7) lowering costs; and (8) creating a plan for raising and effectively employing capital. (28)

Somerville (*American Medical News* September 6, 1994) reports that Friendly Hills Medical Group which was affiliated with Loma Linda University Medical Center had sold its assets to Caremark International, a for-profit organization "in a move which many say may represent the next phase of vertical integration." (3) Friendly Hills was a

foundation model in which a hospital and a medical group form a nonprofit medical foundation, acquiring physicians' assets and medical records with the physicians terminating their partnership and being placed on the foundation's payroll. This is said by some to offer perhaps the most effective model for integrated delivery. However, foundation executives claimed that it was "too difficult for tertiary care teaching hospitals to capitate themselves." (3) One critic argued that this model is unworkable because university hospitals are not equipped to deliver capitated health care without sacrificing patient care primarily because the care provided is more costly than that furnished by other organizations. Moreover, he contended that the providers have a different perspective: they are not interested in managed or voluntary care; they want only to teach in their subspecialties. Under the affiliation patient services deteriorated markedly with patient access to specialists often denied or subjected to external delays in receiving care. Officials of Loma Linda University also stated that it was "too difficult to maintain their teaching and research missions under a highly competitive, capitated system." (22)

Other Medical School Reactions to the Changing Environment

Krakower et al. (1996:720-24) also found that medical schools were reacting to the changed health care conditions by forming or contracting with managed care organizations. In 1994-1995, 36 medical schools or their parent organizations owned a managed care organization, while 75 medical schools had agreements with such organizations to furnish primary care. Seventy-six had contracts for providing specialty services. Other schools were found to be setting up networks of primary care physicians to channel patients to their facilities. During the five years following 1989, 54 medical schools had purchased primary physician practices and 65 had established primary care clinics in the community. (722)

Barzansky et al.(1996:714-19) reported that in academic year 1995-1996 there was an increase of 435, or 1.6 percent, in full-time medical faculty from academic year 1994-

1995, while the number of medical students decreased by 124, or 0.002 percent. Since academic year 1991-1992 the number of full-time faculty has increased by 11,365, or 14.2 percent, while the number of medical students increased by only 1,367, or 2.09 percent. Of the 91,451 full-time faculty members in academic year 1995-1996, 16,972 were full-time faculty members in basic science, while 74,479 were full-time clinicians. In their prior reports, the analysts found regular increases in clinical faculty but in academic year 1995-1996 they reported that such growth was not evenly distributed over clinical departments. The number of faculty members in the department of family medicine received additions in academic year 1995-1996 of 13.5 percent, emergency medicine 10.6 percent, with pediatrics, anesthesiology, surgery, internal medicine and obstetrics/gynecology adding significantly fewer full-time members. (715) They observe that turnover in the position of dean at U. S. medical schools was high in academic year 1995-1996, with 30 deans, or 24 percent, being replaced.

In summarizing their findings, the authors state:

> Indications that medical schools are aware they must change in order to compete in the current health care environment include movement of medical schools into the community, through the acquisition of physician practices and the development of medical school clinics, and the formation of medical school/university HMOs or other managed care organizations . . . Additional uncertainty has been introduced this year by changes in Medicare rules for payment of teaching physicians. . . Finally, the U S Department of Veterans Affairs also is adjusting its role in education and reexamining its teaching programs. (719)

Taylor and Lessin (1996:33-60) argue that there are seven strategies for delivery system success: clinical focus, effective control and governance, balanced scope and scale, motivating incentives and compensation, learning from others, building customer base and effective organizational structure Achieving success dictates a greater rationalization of medical school into the AHC care delivery system..

Dickler declares that academic medical centers and teaching hospitals have joined the national movement to new organizational arrangements in response to market forces. He cites the merger of Massachusetts General and Brigham and Women's Hospitals to form

Partners Health Care System, the creation of BJC Health System which is linked to Washington University School of Medicine, the sale of Tulane University's Hospital and Clinics to Columbia/HCA Healthcare Corporation and the consolidation of Indiana University Medical Center and Methodist Hospital of Indiana. But as he points out, for teaching institutions this may be a first step in an arduous struggle for them to maintain their identities and fulfill their multiple missions. (1996:34)

Reluctantly and grudgingly, the University of Texas System announced in 1997 that it was starting its own health maintenance organization in order to retain its patient base. Its officials saw the inevitable: By the year 2000 Medicaid recipients will all be in HMOs. All four UT hospitals and Texas Tech centers are expected to eventually be included in the network. The Universities of Arkansas, Iowa, Michigan and Rochester as well as George Washington, Vanderbilt and Wake Forest Universities have organized their own HMOs. (*Chronicle of Higher Education*, July 3, 1997, A33-A34)

In examining the educational programs in U. S. medical schools for academic year 1995-1996 Barzansky et al. (1996:714-719) identified some of the trends that reflect how medical schools are adjusting to a changing health care environment. Some such as the Medical College of Pennsylvania are merging their educational programs and clinical facilities with those of Hahnemann University School of Medicine, while others such as Mount Sinai Medical Center and the New York University Medical Center are merging their medical schools, hospitals, and regional health systems. (This latter merger fell through when it became clear that some prominent physicians refused to yield their prestigious positions to accommodate the consolidation.) Other medical schools have taken actions such as developing primary care networks and increasing efficiency in attempts to lower the costs of clinical services. The mergers are designed to capture economies of scale and to utilize fully their existing resources. (714)

In reviewing U. S. graduate medical education for 1996-1997 Dunn and Miller (1997:750-754) note that although the government had not yet reduced its support for

them, some hospital-based programs and medical specialties have fewer residents in entry-level positions. They are unable to determine the reason for the large number of reductions but speculate that some residents are having difficulty in finding desirable jobs, plus a general belief that government funding will be cut. However, because of programs in new disciplines and other factors, the data do not show a clear pattern and resident reductions do not seem to reflect the effects of market forces.

A faculty practitioner in pediatrics, Greenberg (1995), argues that the rapid and persistent alterations in health care have negatively affected medical education in a number of ways. These include: (1) the change in orientation from inpatient to outpatient care has resulted in undesirable competition between medical students and residents for patients; (2) that often unwilling practitioners are being asked to precept medical students in their first and fourth years of school and in their pediatric and family practice clerkships; (3) the focus on medical education has shifted to patient care as the demand to treat more patients increases; (4) those engaged in teaching medical students will demand additional compensation to cover their instructional efforts because they now have less time for teaching; and (5) academic deans and departmental chairs have reduced the importance of medical education in their competitive strategy. (1146-47)

The May 31, 1996 issue of *The Chronicle of Higher Education* indicated that public-university medical centers in California, South Carolina and Minnesota were encountering difficulties in their attempts to merge or lease their facilities or affiliate with other health care providers. Union opposition, the need to obtain legislative approval and technical problems were cited. (A21) However, the November 20, 1996 edition stated that the University of California at San Francisco and Stanford University Medical Centers would be merged into a new nonprofit corporation, UCSF-Stanford Health Care. Stanford's medical center is a private institution whereas UCSF's is public. Employees have entered a court challenge to the merger and a state senator initiated legislation to require such merged organizations to abide by state laws compelling them to have open

meetings and maintain public records. Stanford University officials responded to the latter action by saying that they would remove the university from the private, nonprofit foundation if it were subject to those restrictions. The two schools would remain separate and most of the normal clinical operations would take place at their usual sites. (*Chronicle of Higher Education*, May 16, 1997, A31-A32) A critic, Spyros Andreopoulos, declared: "I still don't see how two clinical partners who share the same problems, which include being overbuilt and overstaffed and not having enough patients, will be better off joining together." (Andreopoulous 1997:61-64)

One may ask how does the trend toward hospital merger and systems consolidation relate to AMCs. One reason is that it may intensify the competitive pressures on AMCs by making available greater capital and other resources such as marketing and management expertise to rivals. Furthermore, some competitors are said to use sharp and unethical practices to gain an edge. On the positive side, disposal of university hospitals represents lowering of the risks to the university. The executives of some AMCs like the foundation arrangement because they can act expeditiously free of university deliberations and they do not want public disclosure of their operations.

In early 1996 the Federal Trade Commission filed suit in federal district court in Lansing to block the merger of Butterworth Hospital and Blodgett Memorial Medical Center, claiming that the new entity would raise prices and deny or decrease discounts to competing insurers. An initial hearing held on April 11, 1996 was continued with the filing of briefs by attorneys for the parties. (*Grand Rapids Business Journal*, July 22, 1996, 3) In September 1996 the federal district court, while generally agreeing with the FTC's assessment of the merger, permitted the union to be consummated. This judgment was affirmed in July 1997 by the U. S. Court of Appeals for the Sixth Circuit (1997 U. S. App. LEXUS 17422). The numerous amici curiae submitted to the court showed the widespread interest in the case and tended to support the commonly-held view that the case was "a litmus test of the government's health care merger policy." (Washington

Regulatory Reporting Associates No. 482, July 14, 1997, 6)

On August 29, 1996 the Federal Trade Commission and the U. S. Department of Justice issued new guidelines which allow physicians who do not bear financial risk in networks to cooperate in controlling costs and improving the quality of care. Groups of doctors may qualify for this exception if they invest in technology, share information, or regularly do performance reviews to improve care quality and prices. (*New York Times,* August 29, 1996, A1, A12) Adams mentions the proposed Butterworth-Blodgett Hospital merger in Grand Rapids, Michigan in an article on Federal Trade Commission activity in the hospital field. She declares that despite numerous court rebuffs to its challenges, the Commission's Bureau of Competition keeps up its efforts, contesting a dozen mergers since 1994. (1996:136)

On June 11, 1997 the U. S. Department of Justice filed a suit in the New York federal district court challenging the merger of North Shore Manhasset Hospital, having 729 beds, with Long Island Jewish Medical Center, a 591-bed academic affiliated hospital. The case is based on anti-competitiveness and higher health costs in the area. New York State's Attorney, however, disagreed with the government's action and said that the union would save consumers money. (*Wall Street Journal*, June 13, 1997, B8)

In an explosive case in early 1997 that has broad implications for the privatization movement in the hospital sector, federal law enforcement agents moved against Columbia/HCA, the rapidly expanding and largest chain of for-profit hospitals, which treats 125,000 patients daily. Among the practices being investigated is "upcoding," or inflating diagnoses as to the seriousness of illnesses that its professionals treat in order to receive higher compensation from Medicare. Another practice that is being investigated is the legality of Columbia's physicians with financial stakes in outside medical entities such as home care and rehabilitation facilities who direct patients to organizations in which they own an interest. A 1992 law prevents doctors from referring patients to institutions in which they invest but allows them to invest in hospitals. The question is

whether the exemption applies to the networks of home care agencies and skilled nursing homes anchored in its hospitals in which Columbia sold interests to its physicians. (*New York Times.* March 18, 1997) An analysis by *The New York Times* of Columbia's activities in Texas reveals that care provided after hospitalization cost Medicare far more than such services provided by rivals and that Columbia patients were sent to skilled-nursing facilities more often than other patients with similar illnesses. (*New York Times,* March 28, 1997, A1, C15)

Columbia/HCA had experienced several set-backs in recent years in handling expansion. In February 1997 a Federal court jury found that Columbia/HCA had paid an El Paso cancer specialist $152,000 in a conspiracy to induce the doctor to breach an agreement with his business partner in a lucrative cancer center that the two physicians were developing. The court awarded the defrauded partner $6.5 million in damages. A Columbia spokesperson said that the decision would be appealed. (*New York Times,* March 19, 1997, Y21-23) (*Wall Street Journal,* March 28, 1997, A1, A8)

The Ohio Department of Insurance informed Blue Cross and Blue Shield of Ohio that it opposes the efforts of Columbia/HCA to buy most of the organization because it "is unfair and unreasonable to the policyholders . . . and is not in the public interest." Columbia had offered to purchase 85 percent of the Ohio Blues which covers 1.6 million Ohio residents. Blue Cross has thirty days in which to file for a hearing with the Department of Insurance to plead its case. (*New York Times,* March 14, 1997, B5)

On March 21, 1997 the stock of Columbia/HCA Healthcare Corporation fell 6.7 percent, based on the fear that the investigation into the company's operations would spread from El Paso to facilities in other cities and states. (*New York Times,* March 24, 1997, B10)

The U. S. Department of Health and Human Services, Office of the Inspector General, is probing the practice of "upcoding" or elevating the seriousness of patients' illnesses and thus seeking the highest possible reimbursement from Medicare for services rendered.

Under the DRG (Diagnostic Related Group) schedule prescribed by DHHS, fee caps vary from code to code and from region to region. Some upcoding is entirely proper but upcoding has resulted in the emergence of a consulting industry devoted to advising clients how to make the most profitable use of coding. (*Wall Street Journal*, April 17, 1997, B1, B10)

Legislators in California, Nebraska, Oklahoma and South Carolina have taken steps to prevent for-profit chains such as Columbia/HCA Healthcare Corporation from acquiring or leasing university medical centers. Critics claim that such actions reduce indigent care, are likely to eliminate the centers' teaching and research missions and pay too little for the public investment in the facilities. Another reason for opponents' distrust of the for-profit chains is the secrecy with which they conduct negotiations.

The example of Columbia/HCA suggests some of the highly questionable tactics and unrestrained behavior of some of the managed care organizations that AMCs must, employing ethical and lawful measures, compete with.

In a study by Gaskin and Hadley (1995:1-26) it was found that HMO penetration in the health care market reduced hospital cost inflation during the period 1984-1993 but the effect was more apparent in small hospitals than in large ones. Prior evidence had been conflicting.

Hadley and Gaskin (1995:1-7) examined preliminary evidence on the effect of HMO enrollment on the operations of academic health centers during the period 1985-1993. Their findings suggest that HMO growth affected AHCs' revenues and expenses in areas of high HMO market penetration because HMOs were successful in steering their patients, particularly those requiring primary care services, away from AHCs. The AHCs provided less care to poor patients in high HMO concentration areas than those AHCs in low HMO penetration areas. Moreover, increased HMO concentration seemed to reduce the AHCs' subsidies to graduate medical education (GME). The authors warn public policy makers about the implications that these findings have on the continued viability of

the AHCs' educational and charitable missions and suggested that new mechanisms may be needed if these missions are to be maintained. (1995:6-7)

Burkhart (1991) points out that in 1991 Medicare payments for graduate medical education (GME) reached $3.65 billion and that this funding has come under increasing review in the last decade, with additional reductions proposed each year. Under Medicare's prospective payment system it reimburses teaching hospitals using direct and indirect payment systems. Direct medical education expenses are those treated as directly related to a hospital's teaching activities such as residents' salaries and benefits, and the share of teaching physicians' salaries alllocable to educational efforts, as well as indirect costs such as administration, maintenance and utilities. Indirect medical education expenses are those which are indirectly related to teaching residents such as the assumption that residents provide more services and perform more tests than other physicians and make more demands on other hospital staff than do other doctors. This charge also covers case-mix intensity. Folland et al. (1993) refers to "case-mix", or the different types of patient cases a hospital treats as one of the two measures of its output that must be considered in any study of cost function. Medicare's Diagnostic Related Group (DRG) payment system identifies over 470 different diagnostic related groups but concludes that "no single set of case-mix variables completely does the job of accounting for hospital product heterogeneity." The higher the value indicates a greater average degree of complexity. (336, 672)

The Physician Payment Review Commission acknowledged that the traditional manner of financing academic medical centers and their multiple missions may currently be inappropriate in the face of the competition from managed care. However, based on the limited evidence available, it stated, "In the Commission's view, academic medical centers are not now so disadvantaged by changes in the market to warrant special action by policymakers." (Physician Payment Review Commission, *1997 Annual Report to Congress,* 358)

Among the reasons for the higher costs of AMCs Fox and Wasserman (1993:85-93) cite inefficient practice styles contributing to low faculty productivity and their tendency "to use all available technology," some of which may be of low or doubtful value. They also point to the differing focuses of AMCs and managed care organizations, the former directing their efforts toward education and the furtherance of biomedical knowledge, whereas the latter striving for the effective and efficient rendition of health services of high quality. The authors state that residents are thought to order more tests or to keep patients under treatment longer for teaching purposes and that the teaching function requires faculty to be available to supervise students and residents; thus, instruction lowers clinical productivity and makes it more costly. Moreover, AMCs are required to offer a broad range of services to meet is instructional obligations, regardless of the money return from these activities. Making referrals to colleagues and "the technological imperative: the desire to use all available technology" regardless of efficacy are listed as other inefficiencies of AMCs.

Knapp (1997:66) points out the significance of Medicare and Medicaid payments for the support of academic medicine. He declares that these payments represented 48 percent of the net patient revenues for the nonfederal members of the Council of Teaching Hospitals and Health Systems (COTH) of the AAMC in 1993; they also provided 45 percent of all charity care in the United States. With respect to Medicare reimbursements to teaching hospitals for medical instruction the Congressional Budget Office (CBO) projects that direct graduate medical education in fiscal year 1996 will amount to $2 billion while indirect medical education reimbursements will be $4.3 billion in the same period. Disproportionate share hospital (DSH) payments for indigent patients are expected to reach $2.84 billion. Other risk-bearing organizations that treat Medicare patients such as HMOs receive reimbursements which include payments for direct and indirect education as well as DSH adjustments. These entities are not required to pay these funds over to teaching hospitals and frequently keep them. This is a matter of rising

concern to teaching hospitals that treat managed care enrollees referred to them. While there is no similar federal program for Medicaid, teaching hospitals are also concerned about how the block grants for welfare reform will be apportioned by the states among health care providers, since they may be faced with caring for more uninsured persons ineligible for Medicaid under the new law.

Medical Schools' Advantages and Disadvantages

What are the academic medical center's strengths and weaknesses in today's evolving health care climate? Blumenthal and Mayer (1993:1813-14) summarizes them, pointing out:

> the excellence of their faculty and staff members; their experience in education, biomedical investigation, and the care of complex clinical problems; and their unique position at the boundary between the laboratory and the clinical setting. . . Excellence in research, with all its health and economic benefits, will ensure the survival of a limited number of elite medical centers. . . [However] academic health centers do not generally have the facility or the clinical settings needed to meet the demands for training in primary care or the investigators required for research on outcomes and quality of care. Their size, entrenched bureaucracies, and rivalries among specialties impede their ability to retool their health care processes to achieve breakthroughs in efficiency. (Blumenthal and Mayer 1993:1813-14)

It should also be noted that generalist physicians in managed care organizations coordinate patients' comprehensive care, including preventive procedures and have an incentive to perform fewer services whereas academic medical center clinics are characterized by specialties where higher fees and charges for each service are more likely to be the rule.

The level of gross revenues, the collection rate, the level of costs and, for university hospitals, the level of state assistance were found in a study by Choi et al. to be the chief influences on financial viability. Larger size was seen as a negative factor, with costs rising in a "U" curve as size increased. (1986:118-23)

In a 1997 study involving 18 managed care executives and 24 faculty practice executives in four major metropolitan health care markets (Minneapolis-St. Paul, Los Angeles, Philadelphia, and Atlanta), Culbertson (1997:1359-83) examined five decisive

issues:

> (1) the importance of including academic medical centers in current and future health care plans for marketing purposes; (2) the provision of clinical services that are unique to the academic medical center, that is, unavailable elsewhere in the community; (3) the degree of financial supplement that employers might pay for including an academic medical center; (4) future restructuring of organizations to sustain the educational mission of academic faculty within a viable delivery system; and (5) satisfaction of managed care providers with graduates of academic medical centers, as measured by clinical skills of graduate physicians.

He found that managed care representatives generally offered little support for the payment of supplements to include faculty practices and that representatives of both groups pointed to few competencies that are unique to academic centers. Furthermore, the managed care representatives showed only a slight indication of assistance to restructure to accommodate faculty practices within their networks. The managed care executives expressed a general concern about the adequacy of the preparation of recent graduates to practice in the current managed care environment --in their view a "major shortcoming." This requires, according to managed care representatives, " a period of adjustment and investment when they join a managed care plan." (1381)

Fox and Wasserman (1993:85-93) point out that in order to meet its teaching obligations, an AMC must offer a broad range of services regardless of whether they are self-supporting financially and that the teaching function generally reduces clinical productivity. They also assert that most HMOs are unwilling to pay AMCs a premium above community rates to affiliate with noted institutions because of the fear of attracting enrollees who are sicker or present complex cases. (86) AMCs, because of their emphasis on tertiary care and specialized services which may be publicized by the institutions themselves are said to draw a mix of patients who on average are more expensive to treat. These authors also cite "inefficiency in administrative processes and . . . in the productivity of its faculty" as another reason for its high costs, as well as the amount of laboratory and other diagnostic testing, the rate of consultation with other physicians, keeping patients in treatment longer for didactic purposes and the desire to

use all available technology.

Bowles (1984:605-6) asserts that the social responsibilities of university hospitals virtually compel them to provide a large amount of free care and that they maintain expensive services 24 hours a day even though there may at times be low utilization. Moreover, community physicians feel threatened as faculty members expand their practices, so a major referral source may be damaged, requiring the network to be further enlarged.

The Responses of Academic Medical Centers -- Teaching Hospitals

There has been a varied response to the changing health care market from those who are interested in academic medical centers. Westerman suggests that since universities are educational institutions engaged in a normal 40-hour, 5-day-a-week operation, they should remove themselves from the hospital business or turn hospital management over to others. (1980:17-24) Schramm argues that because of the cost of their charity caseload and the expenses of teaching, university hospitals will never be able to devise an effective competitive strategy. (1983:43-45)

Because buyers of health care services were increasingly unwilling to pay the added cost attributable to medical education charged by teaching hospitals, a lobbying effort was instituted in New York by interested groups to obtain the intervention of government in their cause. The strategy was successful. Effective in January 1997 the State of New York imposed a new 8.18 percent tax on all hospital-based care, laboratory tests and other services to fund the cost of indigent care and a $385 per annum levy on each family served to finance the training of physicians. Employers who refuse to pay the taxes in regular monthly payments face penalties of up to fifty percent of the amount of the taxes. Although hospital costs were deregulated as of December 31, 1996, some employers' health care costs may actually increase as a result of the new imposts. *(Wall Street Journal,* December 31, 1996, 9) However, the legality of the enactment was challenged

in *New York State Conference of Blue Cross and Blue Shield Plans v. Travelers Insurance Company.* The Supreme Court ruled on April 26, 1995 that Section 514(a) of ERISA did not pre-empt the New York statute regulating rates for inpatient care (131L Ed 2d 695).

In the context of widespread charges of Medicare fraud and erroneous billing, HCFA instituted a systematic audit of AMCs. The University of Pennsylvania's health system was forced to repay $30 million to HCFA "to settle complaints that it filed improper Medicare bills for doctors' services." (*New York Times.* December 22, 1995, C18) As these audits moved on to other institutions, U. S. teaching hospitals, aided by some members of Congress, are lobbying federal health officials to either halt or reduce the audits of academic institutions. A primary focus of the audit is to determine whether residents provided medical services that were billed as being performed by senior physicians, a fraudulent practice. The hospitals contend that the government's rules were not explicit at the time and have only subsequently been clarified. However, both industry experts and government documents make it plain that many teaching hospitals were repeatedly told that senior physicians had to be present when medical services were performed. (*New York Times*, July 3, 1997, A7; *Wall Street Journal,* July 10, 1997, B4)

In June 1997 the U. S. Supreme Court agreed to hear the case of *St. Paul-Ramsey Medical Center v. Shalala* wherein the plaintiff charged that the government exceeded its authority in 1989 when it decided to reopen audits of what teaching hospitals paid for graduate medical education in 1984. In 1986 Congress changed the law on how such costs were to be reimbursed and it was not until 1989 that HCFA published the applicable regulations and the three-year limit on reopening examinations had, in many cases, tolled. The new audit at the plaintiff's medical center found that it had spent over $4 million less on medical education than in the first audit. The Eighth Circuit Court of Appeals ruled against St. Paul-Ramsey. If the plaintiff prevails before the Supreme Court some teaching hospitals will be eligible for more money while others may owe money to the

government. (*Chronicle of Higher Education*, June 13, 1997, A32)

The inspector general of the U. S. Department of Health and Human Services stated in a report dated July 1997 that "We estimate that during fiscal 1996 net overpayments [to hospitals, doctors and other health care providers] totaled about $23.2 billion nationwide, or about 14 percent of total Medicare fee-for-service payments . . . We cannot quantify what portion of the error is attributable to fraud." This was the first comprehensive audit ever undertaken of the results of Medicare's financial operations. Coincidentally, the $23.2 billion figure is the same amount per year that Congress is hoping to squeeze out of Medicare in its pending budget bill. (*New York Times*, July 17, 1997, A1, A10)

In July 1997 the U. S. Department of Health and Human Services announced that it was removing 16 of the 49 medical schools from the list that it had planned to examine for overbilling for Medicare services provided by residents. This reflects the department's decision "to audit only those medical schools where Medicare carriers had clearly explained to them the guidelines for reimbursement." Those that will not be audited were institutions in Puerto Rico, Massachusetts, Missouri, Oregon, Texas and Vermont. (*Chronicle of Higher Education*, July 25, 1997, A30)

In a case involving the indirect costs of medical research, New York University Medical School agreed to pay the U. S. government $15.5 million to settle charges that it had included unallowable items in its bills for reimbursement during the fiscal years 1982 to 1993. A former employee who filed the complaint against the school will receive more than $1.5 million. (*Chronicle of Higher Education*, April 18, 1997, A36)

The suit brought by AAMC, 13 hospitals and six other groups in the U. S. District Court in Los Angeles against the Department of Health and Human Services in October 1997 claiming that federal health officials had unfairly conducted examinations into charges of overbilling Medicare patients for care provided by residents was dismissed. The plaintiffs contended that the Department's Inspector General was using "vague, inconsistent, and poorly communicated rules" in the evaluations and applied different

rules for its audits of institutions in different regions of the country. The judge ruled that the plaintiffs had not exhausted their administrative and other possible remedies. The plaintiffs have not decided whether or not to appeal the verdict. (*Chronicle of Higher Education.* May 15, 1998, A38)

Market Failure

Economists view competition in the health care industry as an attempt to accomplish two goals: (1) to reduce demand by appealing to those who will respond to price and diminishing marginal costs and by lowering the tax subsidy to employees, to thus force the equilibrium quantity downward and bring down price and expenditures; and (2) on the supply side to increase the number of providers and reduce their costs by minimizing command control efforts so that market competition will compel producers to be more efficient. (Folland et al. 1993:592) This does not take into account the fact that competition "discourages beneficence and fosters unequal access . . . [and] discourages preventive health and early intervention . . . [decreasing] the emphasis on national health planning . . ." (Anderson 1987:2295)

As one economist explains it, Medicare, Medicaid and typical private insurance plans largely insulate consumers of medical services from the financial consequences of their health-care decisions. Instead, a third party (the government and/or the insurance company) pays and the patient need not be concerned with the bill except for copays or deductibles. In 1989, consumers' out-of-pocket spending covered only 23% of personal health care costs. With third-party payments, not only does the patient face incentives to demand the very best care, he or she has little if any motivation to seek this care from an efficient supplier. (Rosen 1992:)

In a study by Blumenthal, Campbell and Weissman (1997:1-66) the societal advantages that AHCs offer in exchange for their high tech, high cost services are

examined. The authors contend that both theory and evidence strongly support the argument "that AHCs have performed social missions with enormous benefits, that these missions are unlikely to be adequately protected in a market-based economy, and that a convincing rationale exists for public support of these missions." (1997:1) Their argument is based on the economic notion of "market failure:" the incapacity of competitive markets to provide socially valuable goods effectively or efficiently. Rhoads (1990:66) defines market failure as an imperfection which prevents the allocation of resources in accordance with consumer valuations. Blumenthal et al. state that while a main reason for shielding AHCs from the full impact of market competition is their responsibility in maintaining the quality of education, they are unable to declare that they have done so based on the evidence available which is not all positive. (1997:11) AHCs also assume a key role in providing uncompensated care to vulnerable populations. However, they suggest that AHCs, because of the dominance of specialists in their faculties, may not be ideal safety net providers. (1997:11)

White (1995:53, 245) asserts that academic health centers are at a decided disadvantage. Their costs are higher because of their multiple missions of patient care, medical education and biomedical research. They practice high-tech medicine, treat the sickest patients and the most complex cases, and their patient mix contains a high proportion of the medically indigent. Thus they are at risk by the selective contracting practices engaged in by employers and other purchasers of health services. Furthermore, information symmetries are important sources of market failure in health care. In many instances health care is a post experience good, in that neither patient nor physician can be sure of the efficacy (and thus the value) of any particular treatment (e.g., chemotherapy for cancer) beforehand. The patient is also far less knowledgeable than the physician; it is the latter in essence who determines the types and quantities of medical services. There is another source of market failure: Medical education is a joint product with patient care. Medical education has large positive externalities for which patients and insurers

are unwilling (and some say are unable) to pay. Among the services produced by AMCs that are classic public goods are basic research as well as some applied clinical research. Other AMC products such as serving vulnerable populations and the education and training of life science researchers which, if left to market forces, would be furnished in less than socially optimal amounts. Blumenthal et al. (1997:21-27) argue that AMCs have a role in ameliorating market failure and that the socially beneficial contributions they make in providing public goods is proven.

Michigan Health Care Organizations Respond

In 1996 a task force from the Michigan Medical Society examined some of the HMOs in Michigan to determine their "physician-friendliness and patient-friendliness." The self-administered survey produced responses from only four plans. The MMS's report contained financial and statistical data which showed that among other remarkable things there were big variances in their medical loss ratios with Health Alliance Plan's and Blue Cross and Blue Shield of Michigan's traditional indemnity plan being at least 90 percent while M-Care's, Grand Valley's and Blue Cross of Southeastern Michigan's were below 80 percent. (Holoweiko 1996:216-21)

The June 10, 1996 issue of *Crain's Detroit Business* ranks by 1994 revenue the HMOs with headquarters in Wayne, Oakland, Macomb, Washtenaw or Livingston Counties of southeastern Michigan, as in Table 1.2.

The situation, however, changed dramatically in the latest reporting period for which there are published financial results. The June 5, 1998 issue of *The Detroit Free Press* stated that "Michigan's health maintenance organizations lost $21 million in the first three months of 1998, continuing a slump in which more than half of the state's HMOs are operating in the red." One unnamed source was quoted as speculating that the State of Michigan's 20% cut in Medicaid reimbursement was responsible. M-CARE, the University of Michigan's HMO, had losses of $9.3 million in 1997, while the four regional Blue Cross Network HMOs reported losses of $29.8 million through the third

Table 1.2

Revenues of Health Maintenance Organizations Headquartered in Metropolitan Detroit Counties, 1994 & 1995

	Revenues*		Net Income*		Net Worth*		Number of Members (as of December 31,	
	1995	1994	1995	1994	1995	1994	1995	1994
1. Health Alliance Plan of Michigan, Detroit	$831.0	$785.8	$12.4	$15.3	$106.7	$90.3	458,720	462,496
2. Blue Care Network of Southeastern MI Southfield	304.2	265.8	26.6	30.6	138.4	103.1	211,149	176,243
3. Comprehensive Health Services Inc. (The Wellness Plan) Detroit	269.2	224.9	16.0	10.3	61.1	45.2	155,070	145,171
4. Care Choices HMO Farmington	242.3	219.3	5.6	5.4	15.6	10.0	140,650	154,127
5. Michigan HMO Inc. (OmniCare Health Plan) Detroit	172.6	159.5	0.2	1.3	16.4	16.1	104,053	102,174
6. SelectCare HMO Inc Troy	148.7	140.7	2.0	1.0	14.9	14.9	86,603	86,620
7. M-Care Ann Arbor	132.7	108.2	8.4	12.1	42.2	32.8	86,980	86,845

* 000,000 omitted

quarter of 1997. HAP, Henry Ford Hospital's HMO, on the other hand, reported net income of $21.7 million in 1997. (*Crain's Detroit Business*, April 6, 1998)The losses were not limited to Michigan HMOs, either. Some of the nation's largest HMOs such as Aetna, U. S. Healthcare, Pacificare, Oxford Health Plans, Kaiser Permanente and Blue

Cross and Blue Shield Associates have shut down Medicare services in at least 12 states, including Connecticut, Florida, Massachusetts, New Jersey and NewYork, after citing losses and lower government payments in Medicaid and Medicare. The Medicare withdrawals were mostly from rural areas with few patients, clinics and physicians and from states with large areas of urban poverty. HMOs run by these companies in other states are reducing services to Medicare patients and charging for services that had been covered. (*New York Times*, July 6, 1998, A1, A10)

While HMOs around the nation are eliminating their plans for the poor and the elderly, Michigan health maintenance organizations have not dropped any of their Medicaid or Medicare plans despite their losses. Some experts attribute this to the fact that (a) the State of Michigan has a different rate structure for Medicaid payments, (b) Federal changes in rates has not hurt Michigan HMOs as much as those in other states, and (c) managed care is a relatively new phenomenon in Michigan with a market penetration of only 25%. (*Detroit Free Press* , July 11, 1998, B7, B11)

As the first of five initiatives in a comprehensive cost-cutting program the Michigan Department of Community Health took bids on April 1, 1997 from managed care organizations to provide medical care to indigent children. By 1998 the department expects to have placed 1.3 million aged, sick and disabled Michigan adults and children in managed care agencies. It has also announced that it will provide funds from a $10 million pool for innovative projects in support of medical education. (*Detroit News*, March 30, 1997, 1C, 3C)

The State of Michigan has introduced a plan to enroll its entire Medicaid-eligible population in managed care plans effective July 1, 1997. This change results in a revision of the Medicaid reimbursement policy for graduate medical education which cost Michigan taxpayers $166.3 million in 1995. The State's objective is "to direct educational funding to promote the highest quality services delivered by health professionals and systems in the most effective and efficient manner, consistent with the

public policy goals of the State." (MSA Bulletin 96-15 December 16, 1996, 1) The State's expressed goal is to direct GME support to health providers who demonstrate the skills, experience and training to practice in the emerging managed care environment. This means the training of appropriate numbers of primary care providers and specialists in specific disciplines, training in rural areas, and training in health fields of particular importance to the State's Medicaid patients. Medicaid capitated payments will not include any reimbursement to HMOs, clinic plans, and capitated health plans for any direct or indirect medical education cost elements for inpatient or outpatient hospital services. Medicaid payments for direct and indirect medical education will be made directly to qualifying hospitals by Medicaid except for certain grants and will not be included in Medicaid DRGs, per diem payments, Capital Interim Payments or outpatient adjustors. Moreover, the total payments for academic years 1997-1998 and 1998-1999 are set so as not to exceed the total payments in calendar year 1995, $166.3 million.

Two pools of funds are to be established from which fixed, incontestable formula payments are to be made directly to hospitals but only those institutions which provide certain requested information by specified due dates. The two pools consist of a historical cost pool and a primary cost pool. Payments from the former are to be based on (1) an estimated settlement of direct medical education for hospital cost years ending in calendar year 1995 and (2) a calculation of the estimated indirect medical education based on inpatient discharges that occurred and outpatient services provided during calendar year 1995. The second pool will distribute payments based on (1) the number of full-time equivalent primary care interns and residents (salaried) at each hospital, multiplied by one, plus each hospital's Medicaid volume factor (taken from the hospital's indigent volume report); (2) dividing the product obtained in (1) by the sum of the individual products of all hospitals from step (1); and (3) multiplying the result for each hospital in (2) by the primary care pool to compute each hospital's share of the pool. The primary care pool will be fixed at $20 million and the historical cost pool will be limited to $166.3

million for academic year 1997-1998. Primary care interns and residents are defined as those pursuing graduate medical education in general practice, family practice, general internal medicine, internal medicine/pediatrics, preventive medicine, obstetrics and geriatrics who are in the first three years of a primary care program that will lead to placement in a primary care practice. The fourth year of GME may be paid for those pursuing internal medicine/pediatrics and obstetrics as well as those in internal medicine or family practice who engage in two years of training beyond the initial primary care program. The initial year of osteopathic rotation will also be covered.

In addition, a special annual grant pool expected to total $10 million will be available to fund competitive awards to encourage the training of health care professionals in managed care settings. (MSA 96-15, December 16, 1996, 1-6) Proposals for academic year 1997-1998 were due in Lansing by 2 PM March 28, 1997 with programs awarded to begin on July 1, 1997. (MSA Bulletin 96-15, December 16, 1996)

A new phenomenon appeared in Michigan in 1996 : a community health initiative, the joint effort of General Motors Corporation and the United Automobile Workers. GM hired Lewin VHI to perform a study of Flint's health-care infrastructure with the objective of lowering its costs through public and private health measures and urging employees to adopt better personal care habits. While the initiative opened in Flint, Michigan and Anderson, Indiana, the parties want to expand the program nationally if it proves to be effective. Moreover, Chrysler Corporation officials have plans for a similar program. The GM-UAW enterprise is "a comprehensive plan that tackles community-wide cooperation." (Shear 1996:47-53)

Graduate Medical Education

The federal government supports graduate medical education through its Medicare reimbursements and funding by the Departments of Defense and Veterans Affairs (Iglehart 1994:1392) Also, as Iglehart points out, "Many public academic medical centers

face what they regard as rigid state requirements regarding personnel and purchasing, undue political interference, and restrictions on the procurement of capital through the bond market." (Iglehart 1994:1409) (Capital can be a crucial item for those medical schools seeking to acquire physician practices.)

Since a plan to pay New York hospitals to train fewer medical residents was announced, many members of Congress and health care experts have complained that the benefits should be made available to all U. S. teaching hospitals. Bruce Vladeck, head of Health Care Finance Administration, said that New York had been selected because more physicians (15 percent of all U. S. doctors) were trained there. He suggested that proposals from other areas would be entertained. (*Chronicle of Higher Education,* March 21, 1997, A38-39) In August 1997 the Government announced that it was extending the incentive plan nationwide. (*New York Times*, August 25, 1997, A12)

Nash and Veloski (1998:1) assert that "Both the Institute of Medicine [20] and the Council on Graduate Medical Education [21] have pointed out that primary care is not synonymous with ambulatory care, which is often just specialty or subspecialty care delivered in the ambulatory setting [22]. Academic health centers need access to primary care settings dominated by family practice, general internal medicine, general pediatrics, and obstetrics and gynecology [13-28]... that gives the trainee the opportunity for longitudinal care of the patient [and] access to community-based experience that would encourage [her/him] to pursue careers in primary care."

Lloyd M. Krieger, a resident physician at UCLA Medical Center, argues that the government should cease its subsidies for training residents. Besides the savings to taxpayers, hospitals would be stronger without the support. Hospitals would charge more for their specialized services and HMOs would be forced to purchase them by the patients who demand the newest and best treatments. (*New York Times,* March 8, 1997, Y21)

Meyer and Blumenthal (1996:672-76) performed a qualitative case study of two of Tennessee's AMCs after the introduction of the TennCare program which under a Section

1115 waiver enrolled all of the states' Medicaid patients and a large number of the uninsured population in managed care organizations. (The authors had in November 1996 prepared a report for the Task Force on Academic Health Centers of The Commonwealth Fund to determine the initial effects of TennCare. (1996:1-29) In this study they also examined the effect of TennCare on the operations of Vanderbilt University's Medical Center.). The purpose of their study was to assess the effect of this program on the AMCs' operations. The investigators found that both AMCs suffered revenue losses, were forced to close some specialty services, experienced adverse selection, lost the patient volume required for clinical research and had to eliminate some training positions. TennCare was conceived and implemented within a single year so there were disruptions and chaos, with providers not being paid for many services rendered during the first few months. TennCare demonstrated that some Medicaid patients become desirable to other providers, so AMCs cannot assume that they will remain as their clients. As a consequence, some AMCs have organized managed care organizations to compete for Medicaid recipients. While all of the state's AMCs suffered losses because graduate medical education (GME) and disproportionate share hospital (DSH) payments were stopped, the two AMCs studied (Meharry and University of Tennessee) were especially affected because of slim capital reserves and existing fiscal crises. The authors conclude:

> . . . these [public official's] powers include the ability to dramatically reduce the Medicaid clientele of such AMCs, and thus to deeply affect their revenues, their case mix, the educational experience of residents and students, and the research opportunities of the faculty . . . State governments . . . have the capability to curtail such subsidies (GME and DSH) with great rapidity, and as TennCare illustrates, the circumstance of public health reform creates pressures to reduce such payments, or, at a minimum, rapidly modify the terms and expectations with which they are supplied. (676)

In their Task Force Report they indicated that while TennCare affected the loss of a previously guaranteed patient population and adverse selection, it avoided a financial collapse of the state, saving $1 billion in 1995. (1996:20)

Todd (1992:1133-34) bemoans the absence of proposals for changing the way physicians are educated in the search for solutions to health care costs and access problems, declaring that "A health care system as massive as ours cannot be changed without changing how physicians are trained at all levels . . . If meaningful change lies in the future, it will not occur without significant modification of who teaches physicians, as well as how, what, and where they are taught." (1133)

He declares that the hardest job for physicians in reform efforts will be to balance the high technology, acute care needs of the population with management of sickness, disability and the loss of function due to old age:

> . . . A key role for medical education in health care reform will be to prepare physicians, their patients, and the members of their communities to accept more realistic expectations, while emphasizing the value of prevention and the elimination of treatments with little or no probable benefit. Health care reform will be inefficient and inappropriate if physicians alone seek to shift the thrust of health care toward prevention and the public fails to understand its own stake in using medicine less and prevention more. (1134)

AMC Coping Strategies

In 1995 the Department of Health and Human Services ordered a review of NIH's Warren Grant Magnuson Clinical Center to determine how AMCs are adjusting to the changing health care environment and thus how this was affecting or would impact on clinical research. An NIH review team examined the strategies adopted by thirty institutions across the United States to remain viable in the changing settings. The team found that among the coping strategies the most successful AMCs had chosen were: (1) separating the financial operations of their hospitals from those of their medical schools, (2) replacing consensus-built decision making with small groups of leaders with delegated authority to make quick and conclusive decisions, (3) aligning the institutions' resources with their goals to maximize efficiency and effectiveness with these to be achieved by means of centralized authority but decentralized execution and a high degree

of cooperation between the medical centers and the hospitals, (4) AMCs with their own strong HMOs appear to be faring well but those without HMOs are struggling, (5) some AMCs have organized new clinical research institutes to conduct clinical trials for the pharmaceutical and biotechnological industries, (6) using benchmarking to demonstrate quality improvement, (7) integrating information systems, and (8) developing strong marketing plans to explain to buyers of care the superiority of their services. (Gallin and Smits 1997:651-654)

The amount of clinical research performed by U. S. medical schools has been reduced between 1991 and 1995, according to two reports published in the July 16, 1997 issue of the *Journal of the American Medical Association.* One study showed that the number of NIH grants declined during this period and the other found that medical school investigators were producing fewer articles in peer-reviewed journals. While the studies' authors pointed only to the statistical inference that competition contributed to the declines, the president of the Institute of Medicine of the National Academy of Sciences, Kenneth I. Shine, said that in his opinion competition was the reason and that the time junior faculty members are able to spend on research has been reduced and grants are now required to cover the entire costs of projects. (*Chronicle of Higher Education*, July 25, 1997, A14-A15; *New York Times*, July 13, 1997, Y9)

A group of doctors and scientists are promoting a campaign, Citizens for Public Research and Education Funding, for a 2 percent tax on health-insurance premiums to assist the financing of medical teaching and research. A national promotional effort is planned to gain support for the tax which its sponsors estimate will raise about $4 billion per year. (*Chronicle of Higher Education,* February 7, 1997, A38) Moreover, the Institute of Medicine in a report dated April 1997 suggested that Congress should restructure the method by which the government pays for educating physicians. The funds would be provided and distributed through a federal trust fund which would replace the existing system, be more equitable and remove incentives that cause hospitals to

engage more residents than they need. (*Chronicle of Higher Education,* May 9, 1997, A37)

In a survey by Coopers & Lybrand of seventeen hospitals it was found that these institutions were losing an average of $97,000 per year on the physician practices that they had purchased. David Steinberg, a health care consultant in Chicago, also reported that "many hospitals are incurring losses on their practice acquisitions." The hospitals are discovering that the doctors are not referring more ill patients to their institutions and are not as productive as they were expected to be. One of the principal reasons is the lack of incentives, such as flat compensation. Efforts are being made by some organizations to tie incentives to quality-of-care measures and to monitor performance more closely. (*Wall Street Journal,* June 17, 1997, B4)

To compete in this changed environment some AMCs are cutting costs and reducing staff but according to one authority, the best course of action lies in an integrated delivery system that would involve both internal and external modifications. The internal changes would remove the organizational barriers that restrict planning, swift action, and shared governance. The external changes would deal with effective strategies for meeting and competing with their rivals. Whether this entails mergers, acquisitions, affiliations, the purchase of physician practices, creating their own referral networks or systems, or a combination of these would depend on the centers' individual capabilities and market conditions. (Shortell et al. 1996:308-9) Some observers argue that there is a wide cultural gap between the physicians who practice academic medicine and those who work in managed care, citing the remarks of one medical school doctor who asserted: "They are asking us to provide GEO Prizm care when we are used to providing a Lexus. Maybe we have to produce different product lines. But I want to be associated with a Lexus." (Shortell et al. 1996:311) Bridging this attitude difference may pose the most daunting assignment of all.

A group of doctors from Harvard and other Massachusetts medical schools have

organized to protest the corporatization of medicine and the preemption of physicians in decision-making. They are asking for a moratorium in corporate takeovers of health care organizations and their action represents an initial effort by physicians to press for a change in the way managed care is conducted. One opponent charges that the backlash organization is led by "liberal doctors with a political agenda and 'age-old critics in the medical establishment.'" (*New York Times*, July 1, 1997, A10)

The American Association of Health Plans, a Washington, D. C.- based group representing more than 1,000 HMOs and other health plans with a 140 million plus membership, has adopted a new policy which will urge its members to participate in clinical trials sponsored by the National Institutes of Health. While this is an initial step, the NIH finds it promising because it has received complaints from academic medical centers that managed care organizations have sometimes denied payment for experimental procedures and restricted their patients' access to medical centers doing research. (*Wall Street Journal*, July 1, 1997, B4)

For those medical school planners who may consider relying on a single strategy to solve their financial problems, a study by Billi et al. (1995:979-83) should provide some sobering thoughts. Using three different models, they sought to estimate in Model 1 "How many enrollees are needed in managed-care plans to support the revenue of specialists if the academic medical center provides all specialty services to HMO enrollees?" In Model 2 the question was "How many people are needed in managed-care plans if the academic medical center provides only referral services to the members of the HMO?" and in Model 3 the query was "How many people are needed in managed-care plans if the academic medical center provides all specialty care to 100,000 members of the HMO and only referral services to the remaining members?" In Model 1 it was assumed that all specialty services would be provided at the medical school and in Model 2 an affiliated network of community providers would make the referrals to specialists. The revenues generated by primary care physicians at the medical center were

excluded from the calculations. These researchers found that in Model 1 only obstetrics and gynecology and emergency services required less that 250,000 enrollees to support the 1992 level of professional revenues, with other specialists' requirements ranging to over 2,000,000. In Model 2 dermatology, pathology, radiation oncology, emergency services, thoracic surgery and vascular surgery all required more than 500,000 managed care enrollees per clinical faculty member, with other specialties ranging from under 50,000 per faculty member for anesthesiology to about 475,000 for neurology. In Model 3 the requirements ranged from a low of about 1,000,000 enrollees for anesthesiology to almost 10,000,000 for pathology. The authors concluded: "Our results suggest that it is unrealistic to expect that the medical center will be able to create an HMO or network large enough to support the specialty care activity of the number of specialists on the clinical faculty in 1992 or their 1992 level of financing." (Billi et al. 1995:979-983)

State and local appropriations, especially for public medical schools, may not be a dependable source of continued financial support because of the well-publicized crises in these governments' treasuries. Furthermore, university administrators and medical school officials may not always agree on the application of the funds made available to them.

Included in the recommendations of the Advisory Panel on the Mission and Organization of Medical Schools formed by the Association of American Medical Colleges (AAMC) was the advice that the AAMC develop a database that would show the sizes of medical school faculties by rank and a variety of productive measures for each department and for some divisions of clinical departments. (Houpt et al. 1997:182) The database would provide each medical school with benchmarking information for planning and management. This was done by AAMC and the report was made available to all of its members. The panel also suggested that since business acumen, planning and coordination are crucial to effectiveness, departmental chairs in the clinics may need to be replaced by those with greater management skills and that group practices be aligned other than on a departmental basis. (184)

AAMC, AMA and four other medical organizations are joining in a statement designed to reduce the supply of physicians. They advocate reducing government subsidies and tying the residency positions closely to the number of U. S. medical school graduates. Foreign doctors may be trained if they return to their home countries. (*Wall Street Journal,* January 27, 1996: B8)

In an interview conducted by the *Journal of Investigative Medicine* (1997:17), H. Richard Nesson, President, Partners Health Care System, Inc. and President, Brigham and Women's Hospital, Boston, asserted that AMCs do not possess enough resources on their own or have access to sufficient debt financing to compete successfully in the current environment. This results from diminished practice revenues as well as from existing indebtedness. He also stated that Partners had already reduced the number of physicians being trained.

One critic asserts that until medical schools can demonstrate that they provide a better education to students than they did thirty years ago they will not receive the financial support for the mission that they so fervently desire. " . . . every other Western country today educates its physicians in less-sophisticated settings than ours . . . [Moreover] medical education must re-examine the assumption that every full-time faculty member can and should do research." *(Chronicle of Higher Education* 1995:A52) The president of the Association of American Medical Colleges, Dr. Jordan J. Cohen, declares: "We must start teaching our students how to stop doing more than is necessary. (*Journal of the American Medical Association* 1996:246)

In a report filed in early 1997 by a coalition of medical educators and physicians and endorsed by the American Colleges of Osteopathic Medicine, the American Medical Association, the American Osteopathic Association, the Association of Academic Health Centers and the National Medical Association, Congress was urged to set limits on the number of foreign medical-school graduates that are permitted to train and practice in

U.S. hospitals. Opponents of the initiative claimed that foreign doctors were more apt to practice in urban and underserved areas than U. S. physicians. However, the report revealed the need to encourage physicians to train for careers in general medicine and to practice in areas of need. (*Chronicle of Higher Education,* March 7, 1997, A34)

Jacoby et al. (1997:1569-73) conducted a study to determine the number and kinds of programs offered or planned to retrain physician specialists in primary medicine and to assess the attitudes of specialists toward such education. They found that few specialists had an active interest in the existing offerings which were poorly designed to appeal to those who felt a need for a change in career direction. Moreover, the authors discerned that with managed care's more efficient and focused utilization of the time of all physicians and other professionals, the call for more primary care doctors may have abated.

Moy et al.(1996:1116-22), in an examination of the services furnished by AMCs to inpatients as compared with nonteaching hospitals, found that as a group there were significant trends in volume between 1990 to 1995. With respect to case mix, it did not change significantly in markets or between public and private AMCs or between AMCs and nonteaching hospitals over the period studied. With regard to specialized services, AMCs were more apt to offer some of these services than nonteaching hospitals and they provided a disproportionate amount of care for a variety of conditions including eye procedures, organ transplants, and multiple trauma. "AMCs were dominant providers of some vital, specialized services." (1996:1116-22) They point out that these data do not fully reflect the influence of managed care in hospital admissions.

In a study of 1990 to 1994 data of AMCs and hospitals located in urban areas, Moy et

al. 1996:1370-77) found that underserved populations were much more likely than other populations to obtain their inpatient care from an AMC rather than a nonteaching hospital. While AMCs were responsible for only 25 percent of all inpatient services furnished by urban hospitals, they provided a much larger share of care for medically indigent, minority and poor populations than other urban providers. (1996:1370-77)

A biomedical ethicist and critic of present-day medical practice, Daniel Callahan, argues that:

> Efforts to improve health-care systems should begin with a solid understanding of the basics of public health and primary care . . . not the expensive high-technology medicine that attracts attention . . . that the "diagnose and treat" model . . . suggests to the physician that medicine's role begins only when patients are ill and need help.

He asserts that "health prevention and promotion, the relief of pain and suffering and the avoidance of premature death and the pursuit of a peaceful death" should be among those basics. (*Chronicle of Higher Education*, April 18, 1997, A38)

Culbertson (1996:859) points out that with the diminution of patient care revenues there will be added stress by AMCs on developing income from other educational and research activities. This he expects to take the form of redirecting faculty skills and constraints on the utilization of scarce resources. In his survey of managed care plans in the Atlanta and Philadelphia markets he found (864) that while HMO representatives generally held favorable views of AMCs, they considered their excessive use of resources, their utilization management of managed care patients and their prices and administrative efficiency left much to be desired. Culbertson also refers to the dilemma faced by university governing boards: "whether to assume greater risk in order to prosper financially" (869) and the linkage between the financial performance of medical schools and the university's credit ratings, especially for raising capital in the bond markets.

McArthur and Moore (1997:985-89) recommend the establishment of a new national, private-sector agency to create health standards and regulate medical mercantilism and prepaid health plans in an effort to mediate the conflict between commercialism and

professionalism in the health care industry.

Dr. Susan Love, the celebrated breast surgeon, had what she thought was a good idea for a multidisciplinary clinic where a panel of physicians would see a patient on one day, then meet as a group that same day and decide on a course of treatment which her primary physician would then discuss with her. UCLA not only agreed with her but offered to establish a breast center which she would head. Dr. Love closed her private practice in Boston and moved to Los Angeles. However, the idea was too good to be true - it was found to be economically infeasible. The patient could not be charged enough for one visit to cover the fees of all of the specialists who would confer on a case and the individual physicians would lose the future fees that they would earn from the patient's return visits. There were other factors contributing to making her position untenable at the Breast Center but in May 1996 she announced her plans to leave her post at UCLA. (*New York Times,* April 13, 1997, Book Review Section, 8)

Many of the problems facing AMCs are not new. As Petersdorf (1983:79-90) pointed out in his Allen Gregg Memorial Lecture delivered at the November 7, 1983 plenary session of the Annual Meeting of the AAMC, Washington, D. C.:

> medical schools are in the business of training doctors and that everything else is secondary. All other decisions should stem from this philosophy. If that is the case, we would give priority to educational decisions rather than beating the hospital down the street or putting a few more bucks in some faculty member's pocket . . . Universities should divest themselves of teaching hospitals . . . I do not mean that teaching hospitals should be sold to for-profit corporations . . . What I do mean is that the universities should not be made financially responsible for the external conditions that affect teaching hospitals . . . In addition to removing the university's risk factor, university regulations and university governance mechanisms are inappropriate to hospitals whose primary missions is service and which must be operated in a businesslike way. (90)

The two medical schools that I examine for the case studies which follow are both public, state institutions in Michigan. They are the University of Michigan Medical School located in Ann Arbor and the Wayne State University School of Medicine located in Detroit. The outcome of their efforts to remain financially viable has the potential for

grave consequences for the state and its medical education and health care systems.

I present the respective histories and case studies of the medical schools of first, The University of Michigan, and second, Wayne State University.

CHAPTER 2

HISTORY OF THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

As indicated above, the University of Michigan Medical School is one of the institutions that I have selected for study. Because of this, I present here a brief history of the school in order to introduce the reader to its origins, traditions, and culture. Except as otherwise indicated, the historical events described in this section were recorded by Kent Sagendorph in his 1948 book, *Michigan: The Story of a University,* New York: E. P. Dutton & Company, and by Horace W. Davenport in his 1966 work, *Fifty Years of Medicine at the University of Michigan, 1891-1941,* Ann Arbor: University of Michigan Medical School.

Sagendorph (1948:76) describes the economic, social and cultural atmosphere prevailing in the fall of 1850 when the University of Michigan's Medical Department opened its doors to its first class of medical students in these words:

> The citizens of Ann Arbor were indeed justified in claiming that the University was falling to pieces . . . After a promising start and a gain in attendance and influence the 'Society War' had produced a wave of unpopularity which threatened to swamp the institution . . . enrollment had fallen off to a mere 64 students. Some ministerial professors had resigned in indignation over the fraternity issue, others over the Regents refusal to denomationalize the University. The books showed a cash balance of $9.66.

The first Medical Building made of handcut sandstone with a pillored front portion was constructed on the forty acre campus at a cost of $9,000. The ninety medical students who were examined and matriculated exceeded in number the entire roster of the Literary Department. They were described as serious minded seekers of knowledge in marked contrast with the Literary students who were noted for squabbling and many dropping out to attend other colleges. (Sagendorph 1948:77-78)

In the beginning the medical courses were comprised of nine months of lectures and students were required to repeat them once before graduating. Since there was no clinical training or internships at that time, their practical experience was gained as apprentices

for three years with a practicing physician. However, in 1877 the preceptorship requirement was discontinued when a three-year curriculum was initiated. This curriculum was increased to four years in 1890. (Davenport 1966:2)

In 1852 there were 130 students in the Medical Department and 150 in the Literary Department. The medical students who were older than those in the Literary Department, were allowed to live off-campus, were offered elective classes in Greek and Latin, and their failure to attend compulsory chapel services was often overlooked, while Literary Department students lived in dormitories, had to contend with a curriculum laden with Greek and Latin and their absence from chapel brought immediate demerits and possible expulsion.

When the medical students were admitted Ann Arbor did not have a hospital, so in 1856 and 1857 Michigan medical students were offered the option of spending four and one-half summer months in a Detroit hospital. In 1869 the university created a makeshift hospital of twenty beds by converting one of the faculty houses on North University to house patients to be demonstrated or operated upon in the Medical Department. It is this structure that is the basis for the University's claim to have built the first university-owned hospital in the United States. A pavilion hospital of 60 beds but without wards, operating or dressing rooms or space for bedside instruction, was added in 1876 and an operating room was provided three years later.

The dean of the Medical School, Dr. Victor Vaughan, made a special appearance before the Legislature in 1889 to solicit funds for a new hospital. The Legislature granted $50,000 on condition that the people of Ann Arbor contribute another $25,000, so the new facility was built on Catherine Street. The Legislature later provided a Psychiatric Hospital which enabled Abraham Flexner to write in his report when he inspected the school in 1909:

> [t]he school is fortunate in the possession of its own hospital, every case in which can be used for the purposes of instruction . . . The thoroughness and continuity with which the cases can be used to train the student in the techniques of modern medicine

> go far to offset the defects due to limitation in their number and variety. (Davenport 1986:9-10)

In 1887 the University's Dr. Erastus Otis Haven persuaded the state legislature to put the school on a sound financial basis by providing annual appropriations. During the ensuing years the University received $16,000, $15,500 and $15,000 for which the Regents were delighted until they learned that an unknown person on the legislative committee had attached a rider to the appropriation bill requiring the University to establish a chair for a professor of homeopathic medicine in the Medical Department. This was and remained a divisive issue for many years. Starr (1982-l00) views this action by the State of Michigan as part of a popular response by the people through their legislatures demanding that the national conflict between the medical factions be concluded.

Sagendorph (1948:119-20) comments:

> Alumni of the Medical Department all over Michigan threatened to take the medical school out of the University entirely if such a barbarous course as homeopathy were introduced. Appeals to the Legislature were unavailing. The answer remained: No homeopathic course, no appropriation . . . The Regents, finally, decided not to take the appropriation.

It was not until the University President, Dr. Frieze, suggested that a separate Department of Homeopathic Medicine be assigned to some campus building where those classes encompassing their special needs could be held with all other instruction to be given in common that at least a temporary solution was reached. While the doctors acceded, there was no strict accord. This action paved the way to reopening the appropriation matter with Lansing. The legislature responded by granting the University an unprecedented $15,500 a year for five years, allowing the payment of faculty raises which had been deferred for four or five years. The raise brought the pay of a full professor up to $2,000 per annum.

In 1900 a separate appropriation provided $100,000 which was used to construct a large separate hospital for the Homeopathic Medical College. However, the college

continued as a source of controversy including attacks throughout Michigan by some eminent homeopathic practitioners. Nevertheless, the college continued in operation until 1922.

During the Civil War the Medical Building was enlarged to twice its former size but was still overcrowded. In 1858 a movement was begun by members of the faculty who practiced in Detroit to move the entire medical school. They argued that Detroit offered clinical facilities whereas Ann Arbor had none. Detroit could support many practicing physicians and had a large population from which to choose patients for medical study. Dr. Tappan, the University President, opposed the effort because the Medical Department was the school's most prosperous unit. The Regents ruled that such a move would be illegal because the law establishing the University specified that it be located in Ann Arbor. With this decision some of the faculty members who had supported the move resigned.

When the Civil War ended many veterans returned to campus to finish their college work that hostilities had interrupted. From the ninety medical students in 1850 the ranks swelled to 525 in 1866-67. However, with their graduation the classes thinned to 315 by 1870.

In 1869 a woman applied for admission to the University. The clergy and the faculties of both the Literary and Medical Departments were opposed but President Frieze recommended to the Regents that she be admitted if she were found to be qualified upon examination. The Regents agreed with Dr. Frieze and the woman was admitted, the only woman at the school for the term 1870-71. Eighteen female medical students arrived the following year and the Medical Department insisted that an entire instructional staff would be required to conduct classes for the women in separate rooms. Faculty members were paid an extra $500 per semester for this duplicated instruction. However, male and female medical students worked together in both classrooms and laboratories after 1908.

In October 1901 a new medical building, a structure 175 feet by 145 feet, four stories

high, was started. When it was completed in 1903 it provided laboratories, lecture amphitheaters and pickling vats for cadavers.

With the declaration of war on April 17, 1917 the campus witnessed events similar to those which occurred at the outbreak of the Civil War: students practicing military drills, taking university courses in military hygiene and surgery and generally preparing for military service or departing to serve their enlistments.

Originally University Hospital was to serve only indigent patients with the costs borne by the State of Michigan or the county of the patient's residence. However, at times some patients were admitted who did not meet these criteria, so there was occasional public concern in medical circles that patients who could afford to pay were not being charged. The Regents later declared the policy would be to place the hospital on a self-sustaining basis with fees adjusted accordingly.

Dean Vaughan in 1906 was again advocating the removal of the clinical training to Detroit. Davenport (1986:222-23) comments:

> The Detroit Medical College was in financial trouble, and Detroiters proposed that the university take over the school. Vaughan thought that the entire university should have been built on Belle Isle in Detroit, and he always regretted that the medical school was in Ann Arbor. He actually opened an office in Detroit . . . Vaughan was supported by those who thought practice in Detroit would be more lucrative.

In 1919 the medical faculty voted for a full time plan under which each new appointee would work exclusively for University Hospital where s/he would have no private patients. In order to try to meet the objection that a physician with a private practice would make more money than lacking it, the school paid the clinician two salaries, one as a professor and one as a clinician. (Davenport 1986:226)

In 1915 the Regents asked the Legislature to appropriate one million dollars at the rate of $250,000 per year to build a new hospital to replace the scattered buildings on Catherine Street. However, World War I intervened and no money was made available

until 1920 when a contract for $1,500,000 was awarded for the shell of the building. Because of a slow economy, the Legislature did not provide money to finish it until several years later and the hospital was finally occupied in the fall of 1925. The cost of land and equipment was about $5,350,000. It was a thirteen story structure, 460 feet long, containing 823 beds.

Davenport reports that in 1916 the City of Detroit offered to turn over its new Receiving Hospital to be run by the Regents of the University. The Regents did not have to decide; the faculty voted the proposal down. In 1917 Vaughan was told that Henry Ford might turn over his new Detroit hospital to the university, but he did not. (1986:278)

In 1979 university officials sought approval of the Comprehensive Health Planning Council, an agency required by state and federal law to examine all hospital plans in southeastern Michigan, on a $254 million proposal to rebuild the University's hospital system. The Council rejected the plan as "too ambitious and expensive" but the Regents refused to alter the proposal. (*Detroit News,* April 11, 1979:B2) During the course of the controversy which continued for several months one suggestion offered was that the University "take over Wayne County General Hospital" and abandon the idea of new facilities. (*Detroit News,* July 13, 1979:B1, 5) However, on September 26, 1979 the Director of Michigan's Department of Public Health presented the University's president with a "certificate of need" for the hospital system with

> a price tag of $210 million with a 15% ceiling for cost overruns, a limit of $241.5 million . . . the most expensive ever built in the U. S. The state is expected to raise between $150 and $200 million in bonds to finance the project. The university is expected to raise $20-30 million in alumni contributions and to pay for the rest of the hospital through its own funds.(*Detroit News,* September 26, 1979:2B)

The new hospital opened in February 1986.

Ludmerer (1993:14-15) contends that the University of Michigan Medical School

> pioneered three of the most important areas of educational reform: the introduction of the modern curriculum, the promotion of medical research and the development of the clinical clerkship. With the sole exception of Johns Hopkins School of Medicine, no medical school of the country served as a more important role model in shaping our nation's system of medical education. . . Michigan's greatest contribution during those early years was . . . its strong, unequivocal statement that original research was an essential function of the modern medical school. Good teaching alone would not suffice; medical schools had the duty to promote research as well. (1993:22)

Fye comments:

> Between 1913 and 1957 intellectual and social forces revolutionized the practice of medicine . Medical knowledge exploded, adding corticosteroids, cancer chemotherapy, penicillin and a host of diagnostic assays to the medical armamentarium. Once-peripheral subjects, such as genetics, and entirely new fields, such as nuclear medicine, developed into fundamental disciplines. Medical training expanded from medical schools to include internship, residency and fellowships. Physicians basked in the glow of unprecedented social prestige. The federal government emerged as the leading supporter of research, and research moved even further away from the bedside and into the laboratory. These dramatic developments during the early and middle decades of the century reverberated throughout American medicine, causing many to label this period the "Golden Age of Medicine" . . . A growing emphasis of specialization and an increasing reliance on technology troubled many who feared these developments contained within them the seeds of a disquieting shift away from medicine's traditional emphasis on the care, as well as cure, of the patient. Within academia, departmental chairs wrestled with the appropriate division of resources between patient care, teaching and research.

The *University of Michigan Medical School Bulletin for 1994-1995* states that the present University Hospital, which opened in 1986, forms the nucleus of a system of hospitals and clinics that provide outstanding instruction to medical students as well as state-of-the-art research and clinical care . Medical education is provided through basic science and clinical departments which are highly integrated with the University of Michigan Hospital and several 'core affiliate' hospitals including the Veterans Affairs Medical Center of Ann Arbor, St. Joseph Mercy Hospital of Ann Arbor, and Henry Ford Hospital in Detroit . During 1993-94 738 students were working toward the M. D. degree. Including the six graduates of the first class in April 1851, the University of Michigan has

graduated 17,367 physicians as of June 1994. (9)

During the 1994-95 academic year tuition for full-time (14 or more credit hours) medical students was $14,700 for residents and $23,484 for nonresidents. The school implemented a new curriculum in the 1992-93 academic year consisting of Components I through IV, one for each year of study. Components I and II include the fundamentals of the basic sciences plus Introduction to the Patient. Components III and IV include the required clerkships and expanded opportunities for electives on-and-off-campus.

The construction of the Veterans Affairs Hospital in Ann Arbor began on September 30, 1949 and the first patients were admitted to the hospital on October 15, 1953. The facility cost $9,756,877 with the main hospital building excluding equipment costing $7,374,408. It was a 500-bed general medical and surgical hospital. (Jones 1973)

The forerunner of St. Joseph's Hospital in Ann Arbor was St. Joseph Sanitarium which opened on November 21, 1917 in a converted house on Kingsley Street. It had a bed capacity of seventeen and offered medical, surgical and emergency services furnished by a staff of nine physicians. This was succeeded by a 110-bed hospital on Ingalls Street which was dedicated on October 4, 1924. In the early twenties it became known as St. Joseph Mercy Hospital and later officially adopted that name. Mercywood Hospital, a facility with forty beds to treat psychiatric patients, was dedicated on June 30, 1926. Groundbreaking for a new 225-bed $5 million wing to St. Joseph Hospital was commenced on October 7, 1953 and the addition was completed in 1955. A new 558-bed St. Joseph Hospital on East Huron River Drive was started on June 14, 1973 and was completed in 1977. The Ingalls Street property was sold to the University of Michigan.

The University of Michigan established a Medical Service Plan in November 1973 with the express purpose of assisting

> The University of Michigan Medical School and Hospitals in meeting their primary goals of teaching, research and patient care; to assist in the recruitment and retention of a medical faculty of high quality; to provide faculty incomes which are competitive with incomes of faculty members in the same disciplines at comparable academic medical centers in the United States,

and with a goal of maintaining financial stability through faculty incentives and appropriate charges for all professional services rendered. (*Minutes of the Board of Regents,* November 16, 1973) In 1981 the medical school performed a study to determine whether these goals had been accomplished. The findings were that the plan had been successful. In a follow-up study by Herrmann et al. (1982:903-10) to determine the reasons for the plan's success it was found that among the "key/critical" factors responsible were the delegation to departmental chairs of operating and management accountability, the retention in the department of origin of all generated revenues except a five percent contribution of net collections to an institutional account, and a provision that at least ten percent of departmental net income be used to support academic programs. The investigators reported that in 1980-81 there were nineteen medical service plans implemented and that net revenue was $39.3 million, while the cash contribution to medical school and department development accounts rose to $7,749,000 in that year. The development funds which were 23.6 percent in 1978-79, were said to continue to be above the twenty percent national average of 87 medical schools, as shown by a 1980 AAMC survey.

The University's audited financial statements for the years ended June 30, 1995 and June 30, 1996 show that effective January 1, 1995 the Medical School and University Hospitals contracted to combine the patient care activities of the two organizations into a single entity, the Clinical Delivery System (CDS). As of July 1, 1995 all patient care revenues of the two units were merged in CDS and assigned between the two with 85 percent going to University Hospitals and 15 percent going to the Medical School. In addition, clinical expenses previously the responsibility of the Medical School, except nonprimary care faculty compensation, became a charge to University Hospitals. Also effective January 1, 1995 University Hospitals transferred one-half of its net revenue over expenses, except for adjustments in prior year estimates ($4,748,000 for 1994-1995) to the Medical School. Furthermore, University Hospitals effected a one-time transfer in

1994-1995 of $6,200,000 to supplement the primary care activities of the Medical School. CDS is responsible for the primary care physician compensation and all other nonphysician direct clinical expenses including such expenses previously borne by the Medical School. The Medical School is responsible for all nonprimary care faculty compensation. The excess of revenue over expenses from operations of CDS, excluding certain adjustments, is to be shared equally between CDS and the Medical School. (University of Michigan Hospitals Financial Statements, Years Ended June 30, 1994 and 1995, Note 3, Page 8)

University Hospitals acquired on July 1, 1995 the net patient accounts of the Medical School and assumed the Medical School's liabilities for which University Hospitals agreed to pay the estimated realizable value (ca. $46,100,000) over two years. For the malpractice liabilities assumed by University Hospitals, the Medical School agreed to pay over two years $6,569,000, the amount of the current estimated malpractice liabilities to University Hospitals.

During 1996-1997 and 1995-1996 CDS received $53,754,000 and $54,198,000 for services provided to M-Care subscribers under contractual arrangements with M-Care, according to Note 4 to CDS's Report of Independent Auditors for those years. M-Care is an HMO owned and operated by the University of Michigan. In 1993-1994 adjustments of prior year estimates were reduced by $61,500,000 representing an expenditure to the Medical School resulting from prior years' reimbursements. Payments to the Medical School of $3,900,000 and $3,000,000 were made in 1994-1995 and 1993-1994, respectively. The remaining payable to the Medical School is due in annual installments ranging from $4.3 million to $7.5 million from June 1996 through June 2003. (CDS Statements of Operations, Years Ended June 30, 1997 and 1996, Note 4, Page 10; U-M Hospitals Statements of Revenue, Years Ended June 30, 1994 and 1995, Note 4, Page 9; M-Care Statements of Revenues, Expenses and Fund Balance. Years Ended December 31, 1994 and 1995)

As of June 30, 1995 University Hospitals had a long-term receivable from M-Care comprised of a note receivable of $4,331,000 with accrued interest of $464,000. Subject to approval of M-Care's Board and the Michigan Insurance Bureau, annual principal payments are set at $270,000 through 2010, with interest to be accrued at the lower of seven percent or the yield on long-term Treasury bonds (U-M Hospitals Statement of Revenue, Years Ended June 30, 1994 and 1995, Note 4, Page 9).

The University in 1986-1987 organized The Veritas Corporation, a Vermont captive insurance company, to provide coverage for malpractice liabilities. Commercial insurance is purchased for losses in excess of the self-insurance trust and the Veritas coverage limits. Premiums paid to Veritas in 1994-1995 and 1993-1994 were $9,508,000 and $7,087,000, respectively. (U-M Statements of Revenues and Expenses, Years Ended June 30, 1994 and 1995, Note 7, Page 12)

In May 1995 University Hospitals signed a nonbinding Memorandum of Understanding with Mercy Health Services, Daughters of Charity National Health System-East Central and Mission Health Corporation, to explore the potential for integrating part or all of the operations of University Hospitals with those of other parties to the document. However, by December 1995 it terminated affiliation negotiations with Mission Health Corporation because an accord could not be reached on the elimination of duplicated services and facilities. Mission was comprised of Providence Hospital, Southfield, and Catherine McAuley Health System whose three Ann Arbor facilities include 581-bed St. Joseph Mercy Hospital. The merger was estimated to have offered savings of up to $600 million but this may have required closing of one of the main hospitals. After having instituted a $200 million downsizing program, the University had to decide whether it was to operate independently or to affiliate with a community-based hospital system to channel patients to its specialty clinics. Since the failure of the Mission proposal, university officials have sought to enhance clinical and teaching operations with Oakwood Healthcare System in Dearborn, the Detroit area's seventh

largest health-care organization. Oakwood has seven acute-care hospitals, 1,100 affiliated physicians and had revenues of $618.1 million in 1995 and has been a "preferred partner" with U-M since a 1993 agreement was signed. John Forsyth, then the chief executive officer of U-M Health System, stated that in order to achieve the economies of scale needed, a partner must be found that is willing to merge assets and that simply combining operations would not lead to the goal being sought. (*Crain's Detroit Business,* May 13/19, 1996)

U-M's reengineering program to save $200 million over three years involves the elimination of from 1,000 to 2,000 jobs, mostly from retirements and attrition and improvements in clinical standardization procedures, pharmaceutical use and supply procurement policies. The system calculated its average cost per case to be $8,600 whereas the average cost per case for other area hospitals was $6,500. However, the system has over the past decade amassed a cash reserve of about $700 million. (*Detroit Free Press,* June 28, 1996, 2E)

Barkholz reports in *Crain's Detroit Business* (June 10, 1996) that the new environment created by managed care is causing exploratory talks among many local health systems, including Catholic providers. Among those showing an interest is the St. Joseph Health Systems of Ann Arbor which has four operating divisions and offers the nearest thing to a statewide system of any provider in Michigan. It has had talks with another large Catholic system, Mercy Health Services Inc. of Farmington Hills. However, cultural and structural obstacles are said to exist and no merger is foreseen in the immediate future. (15,17)

A newly-formed but fast-growing unit of the University of Michigan, the Health Management Research Center, is providing a vital link in GM and UAW's partnership effort to encourage better health habits among GM employees/UAW members. The center which is part of U-M's Division of Kinesology, is screening the workers to identify those who practice healthy habits and urge them to continue. The goal is to promote

wellness and a healthier and more productive workforce and thus reduce labor costs. (*Crain's Detroit Business,* June 10, 1996:25)

On June 28, 1996 *The Detroit Free Press (2E)* announced that John Forsyth, executive director of U-M Health System since 1985, had unexpectedly resigned to take a position as head of Blue Cross/Blue Shield of Iowa. Just a week prior, the U-M Board of Regents had approved a $925 million budget which Forsyth had submitted, which represented a $60 million cut to be accomplished in part by reducing full-time staff by 1,055. It was suggested that unpleasant duties and the economic headaches involved in heading an academic medical center were responsible for his departure.

In November 1994 it was reported that University Hospitals had purchased six physician practices and wanted in less than two years to acquire forty more within a thirty-mile radius of Ann Arbor. In addition, the hospitals have changed their curriculum to produce more primary-care physicians and thus will require more primary care physicians and sites for their clinical training. (*Modern Healthcare,* November 14, 1994) U-M's provost, in his presentation of the proposed University's operating budgets for the academic year 1996-1997 to the Board of Regents, explained that some schools such as the Medical School have planned enrollment reductions.

In July 1996 U-M's Board of Regents approved the appointments of A. Louis Betz as interim dean of the Medical School and Larry Warren as interim director of University of Michigan Hospitals, following the resignation of Giles D. Boles and John D. Forsyth, who had occupied these respective positions. At this same Regents meeting representatives of Gardner, Carton & Douglas, a consulting firm that has directed over 200 hospital restructurings, made a presentation to the Board on "Trends in U. S. Academic Health Centers."

CHAPTER 3

CASE STUDY OF THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

The health care industry is undergoing rapid and fundamental change. The growth of the managed care industry is being driven largely by increasing pressures from employers and other buyers that are trying to manage and control the health care costs of their employees. In this case study I will consider the challenges that the University of Michigan Medical School has encountered as it adjusts to the changing managed care environment and discuss the strategies and the actions it has taken to meet these challenges.

Challenges and Coping Strategies Adopted for Solving the Problems Posed by Managed Care

In this section I present the problems experienced and the strategies adopted for solving problems in the areas of physical facilities, human resources and organizational structures.

Physical Facilities.

AMCs need many physical facilities to carry out their missions of medical education, biomedical research and patient care. These include classrooms, laboratories, hospitals, clinics, and ambulatory sites as well as the related machinery and equipment. In contrast, managed care organizations, since they are primarily concerned with patient care, may need only the hospital and outpatient facilities and equipment plus office space for ministering to their enrollees' needs. Thus, problems of physical facilities are considerably larger for AMCs than for managed care organizations.

The University of Michigan Medical Center occupies the northeast corner of the University's central campus in Ann Arbor and is comprised of 30 buildings and 110 acres of land. Within the Medical Center are situated classroom, laboratory, research, study

and hospital facilities. The adult medical-surgical hospital, University Hospital, and A. Alfred Taubman Health Care Center plus C. S. Mott Children's Hospital, Women's Hospital, Holden Perinatal and the new Geriatric and Cancer Centers are the main facilities for patient care. Among the many research facilities are: The Buhl Research Center for Human Genetics, W. K. Kellogg Eye Center, Kresge Medical Research Buildings I, II and III, Kresge Hearing Institute, Mental Health Research Institute, Medical Science Buildings I, II, and III, Simpson Memorial Institute, Upjohn Center for Clinical Pharmacy, and Medical Science Research Buildings I and II. There are also specialized patient care facilities on campus such as the W. K. Kellogg Eye Center, the Turner Geriatric Center, the Breast Cancer Detection Center plus off-campus health centers in Northeast Ann Arbor, Briarwood, the East Medical Center Campus, Brighton, Canton, Chelsea, Livonia, Northville, Novi and Plymouth. The Cancer and Geriatric Centers and the East Medical Center Campus were recently completed. Ambulatory sites and facilities for new lines of business (home care services, home infusion, home nursing care, home health agencies, etc.) also have been built or located. At the same time, some hospital beds were retired.

The increased competition in the health care marketplace resulting from the spread of managed care has had a major impact on the locations where medicine is practiced. The locations where medicine is practiced impacts costs. And costs are a matter of great concern because the financial goal is that expenses not exceed revenues. Controlling and minimizing the costs of doing business has been and continues to be a major problem for all health care organizations, especially AMCs. One way to reduce the higher costs of care in hospitals is to move many procedures and treatments to outpatient venues when the patients' conditions permit. These outpatient venues are commonly called ambulatory care facilities. This, however, aggravates the problem of overbedding and hospital obsolescence. (Physician Payment Review Commission, *Annual Report to Congress*

1997, 248)

Large investments have also been made from practice plan revenues to expand space for research. Among the structures these funds have financed is the research floors in the Frances R. Rogers Center. Moreover, a bond issue was floated in the late 1980s by the university, hypothecating patient care revenues for construction. (Interview of January 22, 1998)

Other physical facilities are computer equipment and communications networks. They increase managerial effectiveness in the current environment of negotiated fees-for-service, especially because of the risks involved in treating patients on a capitated basis. What is needed is better coordination and control. These involve large financial commitments. They are necessary because they permit on-line responses. The absence of these has been a problem at U-M Hospital because many of the systems were developed as customized software and if one part breaks down, no one can be found to repair it. The hospital is seeking an electronic medical record system to install but cannot find one that will meet its needs. Special efforts are being made to integrate the information, communication and computer systems and the hospital's mainframe computer is currently being upgraded. (Interview of December 5, 1997)

There has been an increasing emphasis on institutional equipment needs rather than those of individual departments. Therefore, departmental chairs must respond quickly to these emerging requirements outside their departments and this may at times require them to loan or transfer equipment that supports integrated research programs. (Interview of December 22, 1997)

How much money is spent on physical facilities? The audit report of the Clinical Delivery System (CDS), which has been renamed the Hospitals and Health Centers (HHC), for the years ended June 30 1996 and 1997 shows that $504,606,000 of its investments were Board committed for property and equipment acquisitions. As of June 30, 1997, CDS had commitments for the construction or purchase of properties and

costs to complete projects of $96,000,000.

School administrators consider the physical facilities at the medical school to be outstanding and one of the medical school's strengths which help it to remain competitive and viable. Furthermore, that the university owns its own hospital, including especially its clinics, makes it convenient for faculty to interact and collaborate. This has been a positive factor in the achievements of the medical school. The University Hospital is only about 11 years old and a number of the ambulatory sites have been built and leased in recent years. While management is aware of the risks involved in owning a hospital and while it has considered disposition, it has elected to retain it, arguing that ownership enables a better balancing of academic missions and clinical needs of the medical school. (Interviews of December 15 and 17, 1997)

In sum, the medical school must provide for an extensive array of physical facilities in which to conduct its operations: classrooms, clinics, laboratories, research space, and hospitals and the related equipment. These are special-purpose properties that are costly to own and operate. Managed care organizations, based on their focus solely on patient care, have fewer needs and their expenditures in this area of plant, property and equipment can, in comparison, be markedly lower and less varied.

Human Resources.

The problems of managing human resources are considerably greater for AMCs than for managed care organizations because their missions include education and research. A considerable number of faculty and support staff is required to operate a medical school the size of the University of Michigan's. Support staff include nurses, therapists, technicians, physician assistants, clerks, etc. Medical school faculty consist of physicians and basic scientists. Scientists teach and perform research. Physicians may teach, perform some research or treat patients. The "triple-threat" faculty who is expert in all three areas is increasingly rare. In 1997, more than 900 clinicians were in Faculty

Group Practice (FGP). Managing a labor force of that size and maintaining a balance among the manpower requirements with tight resources involves responding to personnel shortages, being more selective in recruitment and solving the problem of how to obtain dollars to supplement the salaries of researchers to keep their compensation competitive. Another possible problem is the deficit in the teaching talent which can occur if too much effort is devoted to patient care. Still another problem is insuring adequate supervision of doctors whose practices were acquired by the university. (Interviews of December 5 and 11, 1997)

About 30% of the medical school's budget is provided by the revenue from clinical practice; however, marketplace competition poses a serious threat to this income. Of this revenue from clinical income about a third goes to support education and research. If it suffers a serious decline, there would be a drastic reduction in these subsidies to education and research. Other portions of this clinically-generated income are used to supplement the salaries of faculty who teach in the medical school, to support the basic sciences, laboratory renovation and a variety of activities in aid of the academic missions. All of these enterprises rely in large part on the medical school's ability to compete economically as a participant in a market with increasing managed care penetration. (Interview of January 22, 1998)

Historically, the faculties have been dominated by specialists and subspecialists. Today with emphasis on the training of primary care physicians, who comprise most of the cadres of managed care organizations, the question arises as to how many specialists a medical school can support and how many generalists should be added. Four years ago in one department there were only six or seven family care physicians; now there are about 38 or approximately a third of the department's total faculty. However, all of this department's primary care services are delivered at its 13 outreach centers. (Interview of January 20, 1998)

Changes have been made in the types of appointments offered to new faculty as well

as the purpose of new hires, who primarily deliver clinical care. The university purchased the practices of a number of primary care physicians whose credentials were examined to insure that they were qualified to teach medicine.

There are problems in managing physicians at different locations because they are no longer self-employed and may have less incentive to be productive. Managed care organizations confront similar problems but have more experience in dealing with them. The university has two different types of ambulatory centers. One type is staffed by physicians who are employees of the university -- clinical faculty whose practices were purchased and who are based at sites such as Briarwood and the East Medical Center Campus. The other type is those in which the faculty have been given appointments as clinicians with titles but there is no compensation involved. One administrator remarked that it is very hard to manage the former because some were formerly running their own practices and once they became employees, they became less productive. (Interviews of December 5, 8 and 11, 1997)

The broader missions of AMCs create more complicated staffing needs than managed care organizations. AMCs must balance research, teaching and clinical needs. Most chairs stated that they had enough faculty members to meet departmental objectives, one saying that he had added from 21 to 28 new members in the last two years and had spent heavily to meet clinical needs and patient service. He asserted that the greatest need is for clerical and hospital support staff to provide quality, efficient services. Another said that he would be searching for extremely well-qualified scientists who are interested in clinical practice and working with students in very limited areas of study. Others stated that as the fields within their departments change, they attempt to recruit those doctors who are moving into new areas that are popular and escalating rapidly and who fit either the research or service needs of their departments. (Interviews of December 8, 1997 and January 16 and 20, 1998)

There were, however, some chairs who expressed a need for additional faculty, some

to provide a better blend or mix of academic and clinical faculty to conform with their view of the successful medical school department of the future. In this new era, tenure track faculty will be performing their traditional academic roles, sharing their time between laboratory and bedside, while the clinical faculty will be devoting their time solely to patient care. Because of the increasing reliance on patient care revenue, a much larger clinical enterprise will be needed to support the academic mission. Some think that candidates for clinical track will need to be more carefully chosen in the future because they will be spending their careers primarily in service and teaching. (Interviews of December 11 and 22, 1997 and February 4, 1998)

Some medical school departments are still in a cutback phase, reducing laboratory personnel about 23% over two years and allowing some faculty positions to remain vacant. This in large measure reflects a response by the medical school and the hospital to the demands of Medicare for a lowering of costs; however, other payors have made similar demands to get reduced prices. Chairs are aware, however, that this situation cannot continue indefinitely because the infusion of new blood and fresh ideas are crucial to progress. As a result of these cost-containment measures, the financial margins that once were available to chairs are now rapidly vanishing. Some chairs find it unfortunate that these reductions are coming at a time when medicine seems to be on the threshold of major advances. (Interview of December 22, 1997)

Because of the influence of managed care and its emphasis on the use of primary care physicians, the medical school has, with respect to its recruitment and appointments in the clinical departments, reduced the number of academic tenure track positions. The clinical track faculty do not have the same long-term guarantees as those in the academic tenure track and they are appointed primarily to deliver patient care. This change in the appointment procedure is considered to be a major impact resulting from the competition with managed care. Another important effect of managed care competition is the demand for greater clinical productivity. (Interview of December 11, 1997)

The price pressures exerted by competition have caused faculty physicians to critically examine how they practice in order to achieve greater efficiency and lower their costs. As a consequence, a special clinical redesign program promoted by the Faculty Group Practice (FGP) was undertaken to reduce the cost per case, to maximize utilization of clinics, laboratories and available hours, provide clinical guidelines, apply new and better treatments more promptly (clinical parthways, antibiotics for selected peptic ulcer patients, etc.) and to use outcome measures. Moreover, physicians were encouraged to become leaders and to improve their problematic behaviors that result in transcription delays, poor contact with referral sources, and so on.

Another important focus of clinical redesign was patient satisfaction and ways in which this could be improved in areas such as access, patient follow-up, available clinic hours, wait times, etc. One of the products of this drive has been the reduction in hospital length of stay (LOS) from about 10 days to less than 6. This has required also a careful examination of how to support and care for a patient in ambulatory sites. Moreover, it has led to the addition of new lines of business that had not been considered previously. (Interview of January 16, 1998)

Following the lead of managed care organizations, the medical school is focusing more now on preventive medicine and has placed preventive cancer kiosks in over 50 locations in Michigan and is expected to have as many as 100 in place by the end of 1998. It also has a grocery labeling program in 18 Farmer Jack Food Supermarkets in Detroit which aid customers in identifying low-fat, low-salt items. In addition, it introduced a restaurant program in Ypsilanti and Ann Arbor in which chefs list heart-healthy items on their menus. (Interview of February 4, 1998)

To recap, the human resource requirements of AMCs are great and diverse because of their broad missions: physicians and scientists with highly specialized knowledge and skills. They also need nurses, technicians, and an imposing array of other support staff in a constantly changing environment with attendant variations in demands.

Organization.

Organizational arrangements of AMCs are necessarily far more complicated than those of managed care organizations because AMCs are embedded within universities which themselves have been likened to organized anarchies. (Cohen et al. 1972:1-25) Universities are not and should not be organized primarily with the goal of efficiency since to do so necessarily compromises their basic mission of teaching, research, and service. Further, universities are public organizations or have public characteristics that compel them, often by law, to be responsive to a wide constituency.

The Medical School is one of ten schools and four colleges of The University of Michigan's Ann Arbor campus. The Dean of the Medical School has five Associate Deans (Clinical Affairs, Medical Education, Research and Graduate Studies, and Student Affairs) and nine Assistant Deans on his staff. An organizational change that both attempts to improve the management of the Medical School and the University is the new provision that both the Dean and the Executive Director of the Hospitals and Health Centers report to the newly appointed Executive Vice President for Medical Affairs. The latter reports directly to the President of the University. The Dean formerly reported to the Provost and the Executive Director of University Hospital reported to the Executive Vice President and Chief Financial Officer. Under this arrangement problems of coordination and cooperation arose between the two factions and were not easily solved.

The Medical School Executive Committee for medical school administration consists of seven members with the Dean as its chair. The Dean has 22 departmental chairs reporting to him: anatomy and cell biology, anesthesiology, biological chemistry, dermatology, family practice, human genetics, internal medicine, microbiology and immunology, neurology, obstetrics and gynecology, ophthalmology, otorhinolaryngology, pathology, pediatrics and communicable disease, pharmacology,

physical medicine and rehabilitation, physiology, postgraduate medicine and health professions education, psychiatry, radiation oncology, radiology, and surgery.

In order to compete with managed care organizations more effectively, the Medical School has pursued a number of organizational changes. Effective January 1, 1995 it integrated its patient care activities with those of the hospital system, establishing the Clinical Delivery System (CDS). This was done not only to insure more teamwork and cooperation but also to achieve unity of effort in planning and management. Revenues from operations were to be shared, initially based on historical data. In the merger CDS agreed to perform the billing and collection functions.

In 1996 the free-standing departmental medical service plans were replaced by the Faculty Group Practice (FGP). The FGP is a multispecialty, regentally approved faculty practice consisting of more than 900 medical clinician members with a 12-member board of directors, an executive medical director and an administrative director. The executive director, a physician, also heads the Ambulatory Care Administration under a matrix supervision which embraces nurses, clerks, space budgets and equipment. The FGP's composition, election procedures and responsibilities are described under Practice Plan below. It has been a key force in planning and promoting change.

A common response to managed care competition and other problems is strategic planning. According to one respondent the planning for the medical school is done largely through the Dean who has a regentally-approved executive committee of six elected members dealing with academic issues. In this area the medical school seems to have been less than proactive. Some respondents declared that strategic planning had been a problem for the medical school and while the AMC operates a very large and complex business enterprise, it had not been managed with the same disciplined leadership that a similar-sized business operation would have been in a market-driven, competitive environment. Moreover, an AMC, to survive, must be even more efficient than most of its rivals in order to cover the costs of medical education, a cost factor that

its competitors do not have to pay. (Interview of December 8, 1997)

Some charged that planning had not in the recent past been pursued persistently or treated as a priority function. It was somewhat disjointed because it consisted of episodic retreats and consultants' reports, and often the consultants' recommendations were not implemented. An *ad hoc* approach was taken to deal with change. There were workshops, study groups, etc. but there was no formal organization that forecasted changes and planned for them or would provide a channel through which issues could percolate up the chain of command to be resolved. (Interviews of December 11 and 22, 1997)

AMCs must be responsive to a broader array of stakeholders than managed care organizations and this creates additional problems. The hospital does not have community representation on its board and the members of the Board of Visitors reside outside of Michigan. The medical school has been criticized by those who see this as a deficiency, but it argues this results from the Board's structure; it does not have subcommittees or other subdivisions. (Interview of December 5, 1997)

AMCs are not equipped to make quick decisions and thus are at an additional handicap relative to managed care organizations. Fogelman et al. (1996:71:11:1168-99) argue that the authority of departmental chairs over the business affairs of clinical practice is changing. They assert that strong leadership is the critical factor in institutional survival -- strong, cooperative, adaptive leadership. A strong local niche, they declare, is more important to survival than a national reputation. They contend that changes in governance and structure should improve speed and adaptability in decision-making. Currently, in the academic arena, governance and structure is inadequate in responding to the competitive marketplace. Strong leadership that is empowered to make decisions in an expeditious manner is essential to survival (1996:71:11:1168-99).

The AMCs' tendency to specialize in areas of strength may leave it without resources in particular areas. Imitating the tactics of a rival is another strategy that is employed.

The medical school regards M-CARE, the university's HMO with about 140,000 covered lives, as being a means of reaching a patient population base that is critical to its teaching and research missions. It will be a more efficient way of delivering care in a managed care environment. It enables the school to identify and insure against the risk involved in treating M-CARE's capitated patients. It will insure that payments for services on average, are adequate to cover their costs. M-CARE, while owned by the university, is a separate entity with its own board of directors but operating under the authority of the Board of Regents. M-CARE's patients represent about 8% of the hospital's business; anything over that is contractual and has been obtained from other sources, including other Michigan HMOs.(Interviews of December 5, 1997 and January 16, 1998)

Managed care organizations have adopted a "customer" orientation that involves taking periodic measures of patient satisfaction and other quality assurance approaches. The hospital does do patient satisfaction surveys periodically.. The surveys do not ask the subjects if there are other needs that the health system is not offering. However, it does attempt to identify these needs through participation in community boards, feedback from former members of the faculty, and various other means. There is some community representation on the hospital's board.

With regard to organized procedures for assuring good inpatient care, the hospital has an executive committee on clinical affairs composed of physicians whose charge is to oversee the quality of care. Each department has a quality assurance committee whose responsibility it is to educate physicians and staff members and critique their performances; they have tissue reviews, ethics committees, protocols, pathways, documentation of best practices, etc. The hospital is a member of the National Committee for Quality Assurance (NCQA), an organization devoted to quality health care standards with stringent, well-articulated expectations of its member hospitals.

Day-to-day decision-making responsibilities are allocated between the medical school representatives and hospital managerial staff through the inclusion of representative

officials from each entity on major leadership councils within the hospital. For example, the executive committee of the hospital is composed of its executive director, the dean of the medical school, and the assistant dean of clinical affairs, while the executive director of the hospital sits on the Faculty Group Practice board and on the medical school executive board. While disagreements do occur, a joint staff composed of the hospital director, the dean and their assistants meet weekly to discuss and resolve issues of mutual concern.

To recap, managed care has been a major force for change in AMCs' organizational structures. Lines of communication and authority had to be made clearer so that decisions and implementations could be made more expeditiously. Strategic planning took on a new meaning and urgency for medical schools. The University of Michigan Medical School integrated its patient care activities with the hospital system by forming the Clinical Delivery System; it converted its free-standing departmental practice plans to an integrated multispecialty practice plan, the Faculty Group Practice, and it took other organizational steps such as the creation of a senior executive position, an Executive Vice President for Medical Affairs, to ensure management direction, coordination, and control.

In March 1995, Michigan Health Corporation, a Michigan non-stock corporation, was formed as a wholly-owned subsidiary of the University of Michigan. It is organized and operated as a vehicle through which the University participates in the development of health-related activities to maintain and enhance its educational, research and clinical missions. University employees have been appointed to the MHC board and to act as member representatives to its subsidiary companies and joint venture arrangements as necessary. In December 1997 MHC's wholly-owned Michigan non-profit subsidiary, Huron Valley Visiting Nurse Corporation and its subsidiaries, Visiting Nurse Association of Huron Valley and Visiting Care, were merged into the parent. These subsidiaries provided home heath care services to the residents of southeastern Michigan. In 1996-1997 MHC acquired a 20% ownership in Eye Care Alliance, L. L. P., a Michigan limited

liability company, formed to provide practice management and professional services to eye and health care organizations in southeastern Michigan. MHC also acquired a 12.5% interest in Joint Venture Hospital Laboratories L. L. C., a Michigan limited liability company equally owned by eight hospital-based organizations in southeastern Michigan. The company was formed to provide a vehicle for its members to compete in a managed care environment for laboratory services as well as to enable the network to decrease costs and increase revenues through outreach activities.

My objective in the following section is to discuss the problems experienced by the medical school in carrying out its missions of educating students, conducting biomedical research and forming and maintaining relationships with hospitals and associated clinics and responding to the challenges presented by those problems.

Medical School Education.

Medical school education is expensive. Managed care organizations do not pay for it. Thus, AMCs confront yet another problem not faced by managed care organizations.

There is no problem that is of greater importance to the financial future of AMCs than maintaining clinical earnings through financially healthy and prosperous faculty practice plans. "Clinical earnings have traditionally been used to support medical education and income from practice plans has been the single largest source of income, accounting for 33% of total revenues of all medical schools in 1991-1992." (Krakower et al. 1993:270-:1085-91, as quoted in Rein et al. 1997:218). The university hospital supports the medical school and its teaching mission. It provides facilities for its educational and research programs and it funds salaries for staff. The cost of this support comes from payor dollars and as a consequence its costs are higher than those of its competitors, the community hospitals. The buyers of health care services are sensitive to the differences in price and pressure the hospital to reduce prices to the level of others in the area. While hospital and university administrators think there are legitimate differences deserving

compensation, they must respond positively to these urgings if they are to be competitive.

Medical education, from the perspective of economic theory, has large, positive externalities because of its linkage to healthier populations through better medical care. The market will undersupply this good. Managed care organizations that benefit from medical education do not pay for it. In the current managed care environment the AMC's price of health care -- which heretofore has included patient care, medical education and some biomedical research -- has been unbundled, isolating medical education and forcing AMCs and teaching hospitals to ask these questions: if the intense fiscal pressures facing us continue and put our solvency in jeopardy, who will pay the costs of medical education? How will we be able to continue our training activities? If government increases its regulatory efforts, will we be required to graduate fewer doctors, more primary care physicians and less specialists, and to perform our training functions in a more value-laden, cost-effective manner? Is the medical school preparing its graduates to cope effectively in a tightly managed medical environment and will they be sensitive to and accountable for the health care costs they generate? Are we training too many subspecialists who provide the same kinds of services as were formerly available only at AMCs, thereby creating our own competition?

Some respondents think that it is appropriate that the educational portion of AMCs' health costs is broken out so that the public can learn how much it is. Fogelman et al. (1996:11:1168-99) conducted a series of interviews in 1995-96 and concluded that the academic medical community must convince the nation that "hard dollar support for education is essential." They argue that "regardless of how efficient AMCs become, they cannot sustain education in a competitive marketplace without hard dollar support for education."

The university has investigated the cost of training medical students and found that it is very expensive. In 1994-95 Rein et al. (1997:218) developed a model for determining the cost of a four-year undergraduate medical education program at the University of

Virginia. The overall educational costs totaled $49,600,000, or $357,000 per student. Some of the methodology and assumptions such as the number of faculty contact hours actually spent teaching and the allocation of indirect costs could be challenged. Direct costs were about $36 million, or about 73% of the total. Faculty salaries and benefits plus the cost of house staff and contract faculty comprised 64% of total costs. Compensation of faculty ranged from $62,500 for a basic scientist to $250,500 for a surgeon, with the mean of physician's compensation being $122,400 and the median $138,700. The costs included support for full-time faculty who were engaged in such activities as research, scholarly writing and patient care, which were regarded as essential to their effectiveness as teachers.

As Rein et al. (1997:296) point out, the education of a medical student is a complex process involving lectures, small group instruction, guided self-study, and clinical experience. It engages today's medical institutions in the roles of development and application of new knowledge through basic, clinical and health services research and the provision of patient care. Teaching medical students in ambulatory settings is much more time-consuming, labor intensive and therefore more costly. It is very difficult to have rounds. Furthermore, the number and mix of cases a student is exposed to in these outpatient centers are substantially less than in the hospital settings where they formerly received all of their clinical experiences

Nash and Veloski (1996:1) remind us that

> Both the Institute of Medicine (20) and the Council on Graduate Medical Education (21) have pointed out that primary care is not synonymous with ambulatory care, which is often just subspecialty care delivered in the ambulatory setting. (22) Academic health centers need access to primary care settings dominated by family practice, general internal medicine, general pediatrics, and obstetrics and gynecology (23-16) . . . that gives the trainee the opportunity for longitudinal care of the patient . . [and] access to community-based experience that would encourage (her/him) to pursue careers in primary care.

Some have criticized medical education as too expensive, paralleling criticism of cost in higher education generally. Dr. Steven A. Schroeder, President of the Robert Wood

Johnson Foundation, argues that despite the developments in medicine since 1960, no one claims medical students are better educated now than they were 30 years ago and until medical schools are able to demonstrate that they are doing a better job, they will have a difficult time obtaining more financial support for medical education. He asserts that every other Western country trains its doctors in less sophisticated academic surroundings than ours. In the past our medical schools were able to educate physicians at far less cost. (*Chronicle of Higher Education*, November 10, 1995, A52)

It is ironic, but at the very time concern is arising about the costs of medical education changes are advocated that will actually increase costs, such as smaller classes, less classroom time, teaching in ambulatory settings and additional electives.

About two years ago there were changes in the curriculum, including a family care and a longitudinal primary care rotation, as well as a series of didactic sessions on the management of patients in ambulatory settings. There is also a course where students spend one-half day each week for 12 weeks with a faculty member, a family care physician, in an outpatient clinic. Clerkship directors have monitored this mentoring of students and to date they are satisfied with the quality of the teaching and the experiences that they provide. A significant number of these doctor/mentors have been trained by U-M's Medical School. Some of those involved are physicians whose practices the medical school bought and others who have been hired within the last two years. Many of these physicians return to the medical school for seminars, coordination meetings, refresher courses and continuing medical education to keep current on techniques and methodologies. The clerkship directors visit each ambulatory center at least once each year to evaluate conditions.

Departmental chairs may propose changes to the curriculum. One suggested that there should be a mandatory rotation in emergency medicine; others said that students need to be sensitized to children in poverty and social issues generally, as well as the problems involved in chronic disease, pain, nutrition, health services research, health

outcomes and health policy.

One respondent who sits on a committee which examines the medical school's programs, especially those for graduate students, said that some of the questions the members ask are: Why are we training this type of specialist? Is there a need for them? Is there a market for these persons to do research in this area? Are we training too many specialists? One idea for reducing costs is less basic science and less specialist training. (Interview of December 8, 1997)

There have been many debates about whether there are too many basic science departments involved in medical education and whether some of the clinical departments should perform some of the teaching of basic sciences, for example, surgeons teaching anatomy. Much of the basic science teaching is now done by specialists, so-called team teachers. In the opinion of some critics, these specialists expand a basic science course in far too much detail, making the subject matter much more complicated than it need be. Some have found fault with the medical school, charging that it maintains a highly specialized clinical-phase education for its students, teaching them about such matters as heart and liver transplants, advanced cancer care and so on, rather than what the critics viewed as more common and basic subject matter. It would seem that emphasis by the medical school on teaching is likely to increase rather than decrease teaching related costs. (Interview of December 9, 1997)

The medical school, supported by university-wide academic policy, has taken a very firm stand with regard to instruction. Teaching has been established as an important factor in promotion and this has been championed by the Dean who awarded funds to the departments on the basis of their instructional efforts. The central administration examines the student evaluations of those recommended for advancement, the comments from peers as to their attitudes and effectiveness as teachers and other documentation before decisions are made. (Interviews of January 16, 18, and 22, 1998)

The medical school expects most researchers to be involved in academic education.

Some chairs regard the teachers who are at the cutting edge of research to be the best teachers.

A direct way of cutting costs is to lower admissions. The medical school has gone through successive reductions in class; each cutback was painful because it represented tuition losses. In 1993 the annual admission rate was reduced to 170 from 220.

To summarize, AMCs' mission of medical education requires major expenditures in terms of manpower and other costly resources, expenditures which managed care is not forced to match. Moreover, medical education depends on subsidies from patient care revenue which is under price pressures from managed care at a time in which the costs of medical education are rising. The medical school has made conscious efforts to introduce more ambulatory and primary care into its curriculum to prepare medical students for the changing healthcare environment. However, teaching students in outpatient facilities is more expensive than in the hospital setting.

Research.

AMCs are medical research centers. The U of M Medical School research endeavor is huge, one of the largest in the nation. Research is both a source of funding and a source of costs and other problems. Managed care organizations do not face these problems.

Research awards to the medical school for the years ended June 30, 1995 and 1996 were $128,520,739 and $169,944,878, respectively. (*Report to The Regents, Office of Vice President for Research, 1996)* Research expenditures for fiscal years 1992 and 1993 were $120,279,220 and $130,702,841, respectively. (*Report to The Regents, Office of Vice President for Research, 1993)*

Grants, contracts and endowment funds are the major sources of research support. There is some supplementation of this financing from medical practice, which most often goes for clinical research. Jones and Sanderson (1996:300-7) argue that research is the

major beneficiary of faculty-practice-plan support, broadly defined to include a wide range of scholarly activities. They estimated from a study in 1992-93 that this aid amounted to $816 billion for all 126 U. S. medical schools.

Among the problems faced by medical school executives in the area of research are the following: How to provide salary support to those investigators whose grants do not pay enough compensation to match competitive salaries; how to finance key researchers who are temporarily without awards; how to offer opportunities to medical students to stimulate their interests and possibly direct them into careers as investigators; and how to find dollars to sponsor intramural research. A common problem in AMCs is the problem that researchers have in finding time for their research because of teaching responsibilities and pressures to generate clinical income. (Interviews of December 11, 17 and 22, 1997) Medical school executives must insure that researchers are not so heavily engaged in their research or so absorbed in submitting proposals that they have no time for fulfilling their other responsibilities such as teaching. One administrator commented that while every faculty members feels the time conflicts and pressures, getting faculty to meet their teaching commitments was not a problem. However, basic science investigators concede that they do not have as much time as before because of the competition for grant awards. For a number of faculty members, research produces a time conflict because the pressure to produce clinical revenue reduces their time available to qualify for or work on grants. One respondent declared that the amount of time available for the clinical faculty to perform research and do laboratory work is seriously compromised in the present managed care environment, although he customarily protects 30% of his researchers' time for the first two years of their appointments while they are establishing an academic foundation for their careers. Providing these opportunities for research faculty, however, is becoming increasingly difficult.

In economic terms, research that leads to better drugs and treatments and to better understanding of disease processes has significant positive externalities. Research in U.S.

medical schools is important For the medical schools, research grants and contracts provide salary support for faculty members. It offers opportunities to some medical students to engage in investigations and develop interests that may lead to careers as researchers. It often sharpens the skills and interests of teachers who can bring their insights to medical students.

AMCs confront the problem of paying competitive salaries to their best research scientists, yet another problem that managed care organizations do not face. Fogelman et al. (1996:11:1168-99) conducted interviews with officials at several medical schools, including U of M's, between June 1995 and March 1996. The authors quoted Dr. Tadataka Yamada, then Chair of Internal Medicine at U of M, as stating that investigators could not be expected to earn their full salaries from research grants and that this was a serious problem for his department. A respondent in one of my interviews asserted that some granting agencies have caps on the amount of dollars that can go to a scientist as salary (NIH's cap is $125,000) and that researchers, as they move up the ladder, can obtain salaries that exceed those levels that grantees can pay. This means that the salaries of these investigators must be supplemented by whatever funding mechanisms are available -- general funds, income from service activities, etc. Otherwise they might leave; indeed, some departments are continually raided for their faculty. (Interview of December 22, 1997)

Competition from managed care is reducing the funds available to AMCs from patient care revenues. A portion of these are used for clinically-related research to improve patient care. Continued, more intense pressure on health care prices will mean ever fewer discretionary dollars for this research.

Few managed care organizations spend money on research. Those that do may investigate outcomes rather than basic or clinical care problems leading to advances in medical science. Thus, AMCs must operate in an environment in which its strongest competitors are largely indifferent to research and do not invest heavily in it.

Competition from other academic institutions for research grants and contracts has become more acute. Because there are so many investigators applying to grant agencies, it may now take an investigator on average as many as three attempts before receiving an award whereas in the past they would be successful on the first try. One administrator declared that he had held NIH grants for nine years while another said that he had one grant for 35 years and a second for 16 years. Both lost their support. (Interviews of December 9 and 17, 1997)

Some administrators contend that increased grant standards, the politicization of research, shifts in the direction of grant programs, a new focus on methodologies and techniques, the targeting of "impact," "significant," or "relevant" areas are among the reasons for losses in research support. This means increased effort to obtain other awards and less time available for other work. Some members assert that NIH is promoting collaborative, interactive research and that there are numerous opportunities if one has an integrated research program in certain areas such as cardiovascular biology but few opportunities in others. (Interviews of December 9 and 17, 1997)

An administrator stated that those who have failed to get refunded often are told that they are in a queue, that their research is getting good evaluations and that they should try again. If their research is deemed promising by the AMC, they may be supported temporarily until they receive a new grant or encouraged to take a sabbatical or to collaborate as a co-investigator with a successful researcher. The shifting agendas of granting agencies, according to some respondents, have downgraded some research activities that the medical school considered very promising and important. (Interview of December 17, 1997)

An effort is under way by certain members of Congress to increase the NIH budget by 15%. The effort appears to have widespread support. NIH accounts for about 85% of the research funds in many AMCs.

There is positive synergy between teaching and research in AMCs that suggests that

these two activities should not be separated, despite the higher costs that might result. Some faculty members contend that research and education are inextricably joined at the medical school and the teaching of medical students, house officers and graduate students helps advance research. The accomplishments in medical science now being seen are based in large part on instrumentation, technology and accelerated knowledge but technology often outstrips the ability to assimilate and absorb the data that it generates. One respondent argued that if research is translational, the discoveries can be converted into new clinical approaches; thus, the demands of education and patient care are not competing but complementary, producing better outcomes. The translation is aided by the medical school's close interaction among investigators. (Interviews of December 8, 9, and 22, 1997 and January 16, 1998)

Some faculty think that the changes wrought by the increases in research funding over the decades have been uniformly positive because it created exceptional opportunities for residents, fellows, and medical students to develop careers as researchers in academe. Even if they go into clinical practice they nevertheless learn about and benefit from using the scientific method. In addition, the better the program, the greater chance of attracting superior students and Ph. D. candidates into the school's basic science departments. About 25%-30% of the students remain in Ann Arbor to participate in these programs. (Interview of December 15, 1997)

The medical school confronts the long-term problem of sustaining the income generated from practice plans in order to support research. Competition from managed care organizations will make doing this increasingly difficult. One administrator declared that substantial amounts from practice plan income were invested in space for research to create the infrastructure to attract high quality investigators, which he regarded as contributing greatly to the success that the medical school has had in obtaining grant awards. One of the decisions that the medical school made was that the school could not excel in every area of science and that shifting priorities presented a challenge. A few

departments are lucky and have sufficient resources to support research internally but most rely on external sources beyond practice plans. (Interview of January 22, 1998)

In summary, medical school research brings both benefits and costs to AMCs, factors which most managed care organizations do not need to consider. Research grants and contracts provide salary support but in some instances may require supplementation to make the researchers' compensation competitive. There are also instances where investigators must be provided with financial aid: when they are temporarily without grants or when young researchers are building the foundations for their careers. If the medical school wishes to perform intramural research, funds must be made available from patient care revenue. Another benefit of research is that it makes some faculty members more effective teachers and can bring honor and prestige to the institution. However, the competition among academics for external grants and contracts has risen enormously in the past few years.

Relationships with Hospitals and Associated Clinics.

Congenial relations with hospitals are very important to medical schools. The medical school's problem in this area involves establishing, cementing and perfecting these relationships with outside institutions and making them mutually beneficial and profitable. Good relations are important for two reasons. First, the medical school gets referrals to its faculty and facilities. Even though the university owns its hospital system, good business relations with other hospitals, especially community hospitals within the school's catchment area, are essential as referral agents. (Interview of January 20, 1998) Second, hospitals are important as sites for student rotations, elective clerkships and residency placements. (Interview of December 11, 1997)

With regard to the medical school's own hospital system, problems include how to split facility revenue between the medical school and the hospital system, formerly called the Clinical Delivery System (renamed the Hospitals and Health Centers), as well as fine-

tuning the mechanisms for distributing faculty practice income, allocating expenses, and establishing incentives to foster and achieve institutional goals. Other issues for resolution are improving the scheduling of patients, improving the access to patients, and upgrading the billing and collection procedures. (Interviews of December 15, 1997, January 16 and February 4, 1998) Managed care organizations must deal with many of these same problems. Their goals, however, are clearly focused on financial viability and patient care, not teaching and research.

Until 1995 the medical school and the university hospital system were separate entities with separate leadership. They were then merged into a single system so that goals and incentives could be aligned and financial risks and gains shared rather than forcing each department to be self-sufficient. It became apparent that if, for example, hospital stays (LOS) were shortened, the hospital would risk losing money, while the clinics might prosper; therefore, cross subsidies were imperative to avoid dissension and the attendant disruption. The result was the formation of the Clinical Delivery System described above. Under the merger agreement the parties agreed, as indicated above, to split the operating income 85% (CDS) - 15% (medical school) and income in excess of budget (margin) 50%-50%. CDS bills and collects for both the facility and the medical services and treats the 15% share of income due to the medical school as clinical faculty services expense. (Interview of December 5, 1997)

Medical school revenues due to clinical faculty services obtained from the CDS are vital to the medical school. How large are these revenues? CDS revenues in excess of expenses for the years ended June 30, 1995 were $34,239,000 but in the year ended June 30, 1996, CDS's expenses exceeded revenues by $1,185,00. Note 3 to the audit report for that year indicates that CDS paid the medical school $120,373,000 for clinical faculty services. In the year ended June 30, 1997 the audited financial statements of CDS show that revenues exceeded expenses by $25,734,000. Note 3 of the *Report of Independent Auditors* indicates that CDS paid the medical school $131,640,00 for clinical faculty

services for that year. In 1994-95 the one-half of margin was, according to the *Report of Independent Auditors* for that period, $4,748,000. At June 30, 1997 CDS accrued $19,098,000 as payable to the medical school under the agreement to share one-half of the margin.

The medical school has affiliations with hospitals other than those owned by the university, but some faculty describe them as very weak associations with virtually no financial exchanges among them. Medical students are sent to William Beaumont Hospital to do third-year clerkships in obstetrics and gynecology. There is a very close working relationship with St. Joseph Mercy Hospital in Ann Arbor which has been used for many years in its training programs. The medical school also has close ties with Oakwood Hospital in Dearborn where U-M's Surgery Department has a separate teaching service and a surgery rotation. (Interviews of December 8 and 11, 1997)

Why is the medical school doing this? In order to extend its reach beyond its own hospital and those with which it has long-standing but limited ties, the medical school is networking with community hospitals. It is moving vigorously into partnering, a movement that is gaining momentum, and has had success already. Among those it has connections with are Sparrow Hospital in Lansing for pediatric surgery, Hurley Hospital for general surgery and emergency medicine, W. A. Foote Hospital in Jackson for emergency medicine and Toledo Hospital for pediatric surgery. While the medical school has no ties with Munson Hospital in Traverse City, U of M's Department of Surgery has proposed an arrangement which allows it to involve Munson in surgery's grand rounds by telemedicine. Furthermore, the Surgery Department is exploring the potential for using telemedicine for consultations. (Interview of December 11, 1997)

The medical school has purchased an equity share in Northmed, a physicians' organization in mid-Michigan, so that the school could have a working relationship with it. The physician members were given seats on the medical school's board of directors. This is part of a structure that is being created that will enable the school to make

contractual agreements with a variety of organizations, including its affiliated hospitals, government agencies, county boards of health, and others that share the medical school's educational and/or health care goals. It is thought that networking will result in mutually beneficial relationships for both the community hospitals (that benefit from the medical school's expertise and prestige) and the medical school. (Interview of January 16, 1998)

In short, the medical school has moved very vigorously into partnering and networking locally, regionally and across the state with the likelihood that the action will gain momentum. These activities are not only in terms of seeking contractual agreements of shared risks but showing a readiness to extend its reach and work with IPAs, PPOs, companies like Ford Motor Company, boards of health and other similar groups. There are problems of dividing the facility income between the medical school and HHC because of the change in patient flow with many more being treated in outpatient facilities rather than in hospitals. Other problems involve mechanisms for distributing faculty practice income, allocating expenses and providing incentives for achieving institutional goals.

One chair remarked that managed care will aid the school in developing cooperative relationships because other entities will be under similar price pressures and will want to achieve similar quality of care and learn from the faculty's clinical expertise.

Fiscal Dimensions

In this section I describe the character and scope of the financial problems that the medical school is faced with and how it is approaching their solution. The discussion includes costs, revenues and practice plan operations.

Costs

Costs are important to health care organizations because only through controlling costs can they remain financially sound. In an era of intense competition with managed

care organizations, AMCs have only a limited ability to adjust prices because of the need, to an increasing extent, to compete with managed care organizations on the basis of price. At this stage in the development of health care competition, prices are considered paramount by many buyers who know that there is a surplus of providers that deliver care that is of satisfactory quality. AMCs, in order to compete effectively with managed care organizations, must control costs. Doing so is important for the simple reason that AMCs, just like managed care organizations, are financially viable only so long as their revenues exceed or equal costs.

Managed care organizations compete among themselves. The major payors of managed care include medium and large-sized businesses that are anxious to control employee health care costs. They and their employees can shop for the best buy and choose among managed care organizations on the basis of quality and price. Due to price competition, managed care organizations like the AMCs have limited ability to pass on higher costs in the form of higher prices. Rather, they have been compelled to find ways to control costs or even reduce costs to insure financial viability.

The key here is that managed care organizations are different from AMCs in terms of the structure of their costs. Managed care organizations are subject to competition that forces them to control costs and AMCs, because much of their revenue derives from price-sensitive patients, must also find ways to control costs. Obviously they have done some of the same things that managed care organizations have done, have restructured themselves in part to resemble managed care organizations, and have found their own solutions to cost problems.

Managed care organizations, after being sponsored by government in 1973 as a means of slowing the growth of health care expenditures, have from their beginnings led the way in cost containment, integrating the insurance and provider functions for a fixed premium.

To curb professional compensation costs, some formed staff model organizations with salaried physicians who have no incentive to increase utilization or refer patients to specialists. There are other models but the emphasis of all models is on the employment of primary care doctors, not specialists who can command more money. Furthermore, capitation (a fixed pre-arranged payment for each patient) or a negotiated fee schedule is used extensively to limit liability exposure. Enrollees usually receive services from a limited set of providers and at restricted sites. Most employ so-called gatekeepers who enforce limits on providers. Others have created preferred provider organizations (PPOs) which offer increased coverage, lower coinsurance, smaller deductibles and possibly lower premiums to the enrollees who use their panels of physicians and hospitals. Other strategies for cost containment are utilization review, use of outpatient rather than hospital facilities (fewer hospital admissions), more effective use of technology, use of generic drugs rather than prescription pharmaceuticals, reduction in diagnostic tests and selective use of elective treatments and the use of preventive care. Some argue that they may attract younger members and families with lower costs. (Folland et al. 1993:306-9; Davis et al. 1990:130-40)

AMCs, on the other hand, have costs that are wholly absent in managed care organizations. AMCs produce three products jointly: medical education, patient care and research. The revenues AMCs receive for medical education and research do not cover their costs. To avoid deficits from these they must either cover their costs in their billings for patient care or reduce all expenses so that their total costs enable them to earn a competitive return on their efforts. AMCs traditionally have had faculties consisting of a high percentage of specialists. Furthermore, they treat more complex cases and higher

cost, sicker patients. The amount of care given to the poor and uninsured is high.

How have AMCs responded to the challenges of competition from managed care? Some of these responses are relevant to increasing revenues; others are related to controlling costs and improving quality. At the University of Michigan the most important responses have been structural. The University created its own HMO, M-Care (revenues and costs). It hired more primary care physicians (revenues and costs). It bought the practices of some family doctors (revenues). It changed its appointment procedure to select clinicians with fewer compensation guarantees (costs). It merged the medical school and the hospital into a single entity in order to achieve unified planning and management (costs). It created the FGP, a multispecialty faculty group practice, to integrate clinical and academic roles and responsibilities and balance institutional agendas. This provided a management vehicle which has focused faculty energies and leadership on the accomplishment of a number of things that are expected to make the school much more competitive (all three). It developed a substantial network at local, regional and statewide levels with primary physicians and community hospitals as referral sources for patients (revenues). It has started a clinical redesign program to establish a culture of team effort, cost reduction and the improvement of patient and clinician satisfaction (costs, quality). Clinical redesign has resulted in the reduction of cost per case as well as length of stay, offered incentives to physicians for greater production and acceptance of institutional rather than immediate self-interested objectives and began the use of more marketing efforts (costs, revenues). It uses M-CARE to acquire patients (revenues). It established ambulatory facilities to treat patients off-campus, engaged in more preventive care and reduced the number of diagnostic tests

(costs). It has created principles of practice and professional service standards for physicians setting specific targets to be achieved (costs, quality). To make sure that the program is moving forward, results showing progress and obstacles are published regularly.

One administrator declared that there is a fundamental flaw in the way in which health care financing works that is very dangerous for AMCs. It has two aspects: capitation and managed care contracting. He contends that capitation assumes that there is no adverse selection. However, AMCS are subject to adverse selection because they can deliver services and a level of quality that cannot be matched elsewhere. For example, a person knowing that she needs a heart or liver transplant at the time she is selecting a plan from among those offered by her employer will choose the plan with physicians who have the most experience and expertise in such procedures. Those physicians will be in an AMC, not a community hospital. The Diagnostic Related Group (DRG), a set of case types established under the Prospective Payment System (PPS), has a category "with complexity," but AMC physicians are often faced with relative complexity since they get many extreme cases such as those involving heart valve failures, transplants, etc. He contends that the price structure as presently constituted is not sufficiently tiered to provide adequate compensation in those desperately urgent situations. (Interview of January 22, 1998)

Goldman declares that AMCs

> must aggressively develop valid methods to demonstrate how adverse selection can be identified prospectively and considered by responsible insurers, including local, state and federal governments. These public providers have a major stake in this process, since otherwise the healthiest patients will be "skimmed off" by capitated plans at an average actuarial price that is appropriately high, leaving the sicker patients in the managed plans and raising rather than lowering total costs.

(1995:1552)

Some administrators declare that, while patient care may be more costly at U-M Medical School's facilities because of the quality of care and the sophisticated treatments available, there may be additional revenues available from developing a market segment for what they regard as superior services infused with the latest advances in biomedical research. The question would be whether long-term average costs would fall as output is increased -- the test for economies of scale. The medical school believes that subspecialists team properly with primary care, thereby utilizing the subspecialists' unique knowledge but not over-exposing the patient to technology. Accordingly, the institution is moving subspecialists into outreach centers to support primary care doctors. (Interviews of December 11, 1997 and February 4, 1998)

To summarize, cost control for AMCs is a particularly critical concern because they have a reputation of being more expensive and, furthermore, they have expenses that are totally absent in managed care organizations; yet they must match prices with managed care organizations in the marketplace. AMCs have emulated managed care organizations in some of their cost-containment strategies: employing more primary care physicians, treating more patients in ambulatory centers, reducing the number of diagnostic tests, prescribing more generic drugs, etc. But among the most visible responses of the U-M Medical School to managed care has been its structural changes: establishing its own HMO, M-CARE; merging with the hospital system to form a single entity, CDS; and creating the FGP to integrate academic and clinical roles, responsibilities and agendas. The FGP introduced a clinical redesign program to promote institutional goals of lower cost per case, reduce length of stay and greater clinical productivity while improving outcomes.

Revenues.

An enterprise as large as the university's health care system needs a constant flow of cash income. The medical school obtains government funds in three ways: (1) it

conducts biomedical research for such federal agencies as the National Institutes of Health (NIH) and is reimbursed for its direct and indirect costs; (2) it treats Medicare and Medicaid patients in university health system inpatient and outpatient facilities, and (3) it trains residents for which the university's hospitals receive payment from Medicare and Medicaid for direct and indirect medical education. The primary sources of revenues for the University of Michigan Medical School are the State of Michigan, the federal government, employers that provide health care benefits to their employees who use its faculty or facility services and part of the tuition of its medical students. Some of the revenues received do not cover the full costs of the activity for which they are intended. For example, the tuition and the share of the State of Michigan's annual appropriation for the university allocated to the medical school out of the General Fund Budget do not equal the cost of educating medical students. Moreover, while the support for biomedical research comes largely from outside sources, it is not sufficient to fund all of the projects undertaken by the medical school. Consequently, two of the medical schools three missions have traditionally relied upon subsidies from patient care revenues to make them feasible. The latter, the medical school's heretofore most dependable revenue base, is under severe pressure by the competition in the health care marketplace.

The main problem with the resources from the state for medical education is that they are not likely to increase significantly but to continue at a low level, with a growth rate that does not reflect inflation, because of the intense competition from other state programs such as prison construction. Central university administrators have a dominant role in allocating tuition and establishing budgets and the medical school's requests for funds may have to yield to the more exigent needs of others, especially in view of the medical school's potential for generating substantial amounts of its own income. In 1996-97 and 1997-98 the medical school's General Fund Budgets were $55,049,005 and $54,753,713, respectively. These figures represent 6.91% and 6.61% of the total General Fund Budgets for the Ann Arbor campus for those respective years. Respondents said

that state funds had remained essentially flat over the last 10 to 15 years and that the medical school's part of the university budget had continued to decline. (Interviews of December 15 and 17, 1997 and January 22, 1998)

Fogelman et al. (1996:71:11:1168-69) predict that most medical schools will become smaller parts of larger enterprises that may or may not be university-controlled. They argue that state dollars will become a more important factor, but the need will for them will be much more difficult to defend. Competing managed care organizations, among others, will oppose further support for university health systems. It will be more than ever necessary for recipients to express very clearly the need for the public dollars and the benefits they will bring to the citizens of the state who provide them.

The several sources of the medical school's revenues are:

Revenues from clinical practice	30%
Research	40
Funds allocated by central administration consisting of about 1/3 indirect cost recoveries, 1/3 tuition and 1/3 state appropriations	13
Endowment income, gifts and other	17
Total	100%

The state is a major payor under the Medicaid program so that AMCs can increase revenues by attracting Medicaid patients. When in 1997 the State of Michigan invited bids to cover its enrollees, the University used M-CARE, it HMO, to acquire contracts to service those in Washtenaw and several adjacent counties. It also created local, regional and statewide networks of community hospitals and physicians so that a patient who lives in Traverse City, for example, can receive her/his services locally. Since most patients do not want to drive long distances to obtain health care, the medical school in the past five years or so purchased about 20 private primary-care physician practices so that care can be delivered to patients in their own communities. In addition, the university has increased its suburban Detroit presence with the location of clinics in Livonia, Farmington Hills, Canton, Novi and Plymouth. In order to manage those practitioners whose firms the medical school purchased and keep them profitable, it has created a

mechanism to provide caps, risk pools and incentives if their performances meet established standards. They also were installed as members of the Physician Group Practice. The Medicaid reimbursement for residency services amounts to about $100 million for the university hospital system. (Interviews of December 5, 1997 and January 16, 1998)

The medical school treats Medicare enrollees in its inpatient and outpatient facilities and trains residents for which the university hospitals receive payments from Medicare for direct and indirect medical education.

About 40% of the pediatric department's patients are Medicaid enrollees. The State of Michigan, which administers the program with a major part of the funding coming from the federal government, moved its Medicaid enrollees into managed care in 1997. The Michigan Department of Management and Budget selected 13 plans to minister to its more than 700,000 Medicaid members in Genessee, Macomb, Oakland, Washtenaw and Wayne Counties of southeastern Michigan. Nine were licensed HMOs and four were Medicaid certified clinic plans. The HMOs chosen were: Care Choice, Farmington Hills; Health Plans, Flint; M-CARE, Ann Arbor, SelectCare, Troy; the Omni Health Plan, the Health Alliance Plan, Ultimed and the Wellness Plan, all of Detroit. The certified clinic plans chosen were: Cape Medical and Detroit Medical Center, Detroit, and Midwest Health Plan and Oakwood Health Plan, both of Dearborn. (Casey. June 11, 1997)

Revenues from Medicaid and Medicare are themselves under pressure. In late November 1996 M-CARE announced that it was introducing M-CARE Senior Plan, one of the first Medicare managed care programs in Michigan. Its Medicare members were to have access to over 2,000 physicians and nine hospitals. More than 600,000 Medicare enrollees in the five-county region of Genessee, Macomb, Oakland, Washtenaw and Wayne Counties were eligible to join the plan. M-CARE was reported at that time to have 78,500 commercial health plan members in the Detroit Metropolitan Statistical Area

and contracts with more than 500 employee groups covering a 17-county service area. M-CARE has, in addition to its conventional HMO coverage, a point-of-service (POS) plan and a preferred provider organization (PPO). (Casey. January 27, 1997)

Because of the enormous dollar cost of the Medicare and Medicaid programs, policymakers have prescribed measures to lower the costs of the services that governments pay for, and this is curbing the school's revenues. The level of reimbursement for the medical school's patient care revenues is a major concern of its officials. If this revenue flow is significantly reduced, all three of the school's missions will be hurt. While the cost-cutting devices taken by Medicaid and Medicare are not a response to managed care, their effect on revenue is similar. They accentuate managed care's impact and encourage like payment methods to be adopted by other payors. However, continuing the patient care services to the Medicaid and Medicare populations is extremely important to the medical school and the university health system.

As indicated above, revenues from research comprise about 40% of the medical school's funding. There are several reasons why research is important to the medical school. Among these are: research grants provide salary support for faculty members; research provides opportunities for medical students to develop interests which may lead to careers as investigators and involvement in research may animate the skills and interests of teachers who can bring their enhanced knowledge and skills to students.

One respondent declared that the medical school performs about $150 million, or approximately 40%-50% of the university's research each year and that the school ranked ninth in NIH funding. (Interview of December 17, 1997) One chair stated that his department ranked first among public universities per faculty member in external support. His department has a formal process for supporting promising faculty members who want to do research until they are able to secure funding from external agencies. During the past few years $2 million has been spent on this program and the return on this investment has been about ten to one. In the development process the young

investigators work with a group of experienced scientists. (Interview of December 11, 1997)

In a joint venture with Henry Ford Hospital the U-M Medical School developed a product for children with special needs. According to one interviewee, the State of Michigan has promised the venture a contract for this program for the entire state. The federal government will provide over $90 million per year in matching funds to finance the program and with the state's share the total is expected be $130 to $140 million. The patients will be home-injured children. (Interview of January 20, 1998)

To recap, the medical school has four primary sources of revenue: (1) the State of Michigan, (2) the federal government, (3) employers that provide healthcare benefits to their employees who us U-M's faculty and facilities, and (4) part of the tuition collected from medical students. The tuition allocated to the medical school plus the General Funds allocated to it for medical education do not cover all of the costs of training medical students. Similarly, the funds received from the sponsors of research do not cover all of the research projects that the medical school undertakes. Therefore, two of the school's missions rely upon subsidies from patient care revenue which is being squeezed by managed care competition to make them possible.

Employer-provided Health Benefits.

The principal problem for the medical school with respect to revenues from patients insured by their employers is that employers, in order to save money, are moving their employees into managed care organizations that do not have connections with the medical school or its physicians. Under indemnity insurance patients generally have more choice of doctors and many choose the university's health care services. Managed care companies, however, may not refer their enrollees to the university health care faculty or facilities Moreover, reimbursement for hospital care has been a problem. It is being squeezed and many more patients are now receiving their care in ambulatory

centers. The medical school, therefore, has found it necessary to increase its patient base through aggressive marketing -- networking, advertising, establishing working relationships with other providers and making its services more appealing and attractive as a choice that buyers of health-care services can confidently offer to their employees. As indicated above, under the direction of the Faculty Group Practice, the medical school has developed networking affiliations and relationships locally, regionally and statewide to market its medical and facility services to employers as well as to other health care providers such as county boards of health, etc. who may see the value of the services it has to offer. (Interviews of January 18 and 20, 1998)

In sum, this is perhaps the medical school's most besieged revenue source because it must compete in the marketplace primarily on the basis of the prices of its healthcare services. Therefore, the medical school has found it necessary to expand its marketing efforts to convince buyers and those who refer patients that the services of its faculty and support staff are not only fairly priced but good values that can be confidently offered to consumers.

Practice Plans.

Nothing is more crucial for the medical school's financial viability than the revenues derived from the practice plan. Success in the organization and management of this is essential to the medical school's future. The revenues from this plan are key to accomplishing the goals of education and research.

The Faculty Group Practice, referred to briefly above, is an integrated group practice with more than 940 medical center physician members whose purpose is to provide "a catalyst for horizontal integration, a single voice, continuity of care across departments, improved quality of care, bench-to-bedside knowledge transfer, lowering cost per case and overcoming organizational silos." (Greden 1998:11:2:1-12) It is also a political and management group organized to equalize the tensions among the faculty, the hospital

system and the Dean.

The FGP organization is somewhat complicated. The FGP has a board of directors consisting of a chair and eleven other members who meet weekly. Of the twelve, six are, as prescribed by the bylaws, nonchairs that are elected by their several constituents, two chairs are elected by all of the chairs, two are appointed for three years by agreement based on department size -- after three years they must stand for election; and two departmental chairs are appointed by the Dean after all the other members have been determined. The board then elects a chair who reports directly to the Dean. The board has standing committees on finance, planning, billing, receivables, clinical redesign, and professional standards. Its composition is representative and its decisions are made in a democratic manner. Those selected are chosen by a majority of the faculty and the faculty is segmented into specialty groups so that a large department such as internal medicine cannot elect so many as to leave out some specialties. The Dean participates as an ex officio member of the board which reports to him as a part of the medical school's organizational structure. Some of the hospital executives participate in the board's decisions. Prior to the reorganization, the hospital executives had a very strong role and the Executive Director of the hospital held the purse strings for new programs. Now that there are two executive groups, the FGP and the HHC, there is movement under way to integrate the two bodies. In the furtherance of this the HHC executive committee has recently been altered to include those of the faculty who are also on the FGP board of directors.

FGP also has an Executive Medical Director (EMD) and an Executive Administrator, the former to serve as the chief executive officer of the FGP and as liaison between the FGP and the senior leaders of the medical school, clinical departments, programs and hospitals. He is also responsible for the implementation of the strategic plan and clinical revenue distribution and represents the faculty in contract negotiations and the physician networking plan. The Executive Administrator works in close collaboration with the

EMD in the performance of his assigned responsibilities (Greden 1998:11:2:1-12) The Executive Director of HHC and its chief financial officer are ex-officio members of FGP.

The board, despite its apparent importance as a governing body, is subordinate to the Dean and the Executive Director of HHC, who have veto power over virtually all of the board decisions. Presumably, therefore, the FGP board of directors must carefully consider how their decisions will be viewed by the Dean and the Executive Director of HHC.

The greatest threat of all to medical schools is that competition will reduce the number of patients served by the practice plans and the revenues they represent. The complex organizational relationships make it difficult for the practice plan, individual physicians, and departmental chairs to know how well they are doing financially except perhaps at month- or year-ends. The University of Michigan has the Hospitals and Health Centers (HHC) (formerly the Clinical Delivery System) described above which bills, collects and accounts for all patient care income and shares it with the FGP and its departmental constituents. However, HHC has had problems meeting physicians' demands in terms of capturing all of the charges, timely billing, collection and furnishing data to departments so that they can be adequately informed. One change to temporarily alleviate the collection difficulty was to change from the cash method of accounting to an accrual method. One of FGP's priorities is the implementation of a billing redesign in which it would share 10% of the cost reduction with HHC in order to expedite it.

The FGP, because it puts the practice plans under centralized management, has reduced the power of departmental chairs. One chair declared that with the FGP it is now much more difficult to know his department's financial condition during the course of the year than when details were kept in the department. (Interview of December 11, 1997) In commenting on the ways the practice plan affects his ability to discharge his responsibilities, another chair said that it was a lot easier administering his own practice plan's operations. He described the FGP as "complicated" and complained of difficulty in

obtaining accurate information. With the change to the centralized system the billing and collection functions have been delayed, making collections late. This information may not reach the departments promptly and they cannot determine their correct financial status on a timely basis. The faculty finds this very annoying. Another respondent asserted that moving from a free-standing service plan to the FGP has reduced the authority of departmental chairs but not their responsibilities. (Interviews of December 8, 11, and 22, 1997 and January 20, 1998)

The split of professional and facility revenues between FGP and HHC, having been based on historical experience and information over the five years prior to 1994, was criticized as inappropriate by some respondents because of the subsequent large-scale use of outpatient rather than inpatient facilities. Therefore, a refinement of the distribution provisions of the agreement is being considered to make them reflect current trends in revenue flow.

Goals established by the FGP have differential effects on particular specialties and may disadvantage them. The cognitive/diagnostic specialties were greatly affected by FGP's challenge to reduce hospital stays and to achieve a 5% reduction in the cost per case. Length of stay does not affect surgeons, for example, because they receive a certain amount for an operation but for cognitive physicians it is more difficult to get a patient out of the hospital in five days than it is in seven. They have to telescope everything and work harder but the fees for their services are lower than in the past if they meet the challenge. Other physicians' incomes are affected by the reduction in the number of tests such as imaging for radiologists and blood chemistry for pathologists. FGP took steps to ameliorate these situations by withholding funds from revenues and establishing an incentive fund to reward physicians if they meet agreed-upon targets set for each department. (Interview of January 16, 1998)

The FGP does permit a focus upon more general goals that might not occur under a more decentralized structure. The FGP's priorities are clinical redesign, networking and

refining revenue distribution to foster the medical center's goals. Among its accomplishments in clinical redesign, which is a continuing program, are establishing a uniform credentialing and privileging process; developing principles of practice and professional standards for physicians; implementing a new structure to encourage growth in ambulatory care; initiating the preparation of clinical guidelines, targeting high-cost disease conditions; introducing policies to insure compliance with HCFA guidelines for documentation required of doctors at teaching hospitals; and publishing a definition of clinical activity so that all would understand the medical school's expectations. (Greden 1998:11:2:1-12)

The FGP developed a unified strategy for networking which contemplates a statewide network of physicians through contractual agreements with providers, educational agreements, participation in clinical research, continuing medical education, joint ventures and other methods. The FGP receives its shares of operating revenue and margin from HHC.

I requested information on FGP revenues and their distribution and utilization from the Executive Administrator for periods before and after FGP's creation but have not received it. This would be valuable in assessing the impact of managed care on the medical school and the effectiveness of the measures taken by management to meet the competition. However, some the transactions between the Clinical Delivery System and the medical school are disclosed in CDS's audit reports. CDS's financial statement for the year ended June 30, 1995 shows that it paid the medical school $4,748,000 which was one-half of CDS's revenue in excess of expenses from operations -- "the margin" -- for that year. In the year ended June 30, 1996 CDS's operating expenses exceeded revenues, producing a loss of $1,185,000. However, Note 3 to CDS's audited financial statements for that year shows that $128,373,000 was included in its clinical faculty services expense for the payment of the 15% of net patient care revenue, $22,678,000 for primary care physician compensation and other services provided by the medical school and

$8,292,000 for other services provided to CDS. In CDS's audit report for the year ended June 30, 1997 revenue in excess of operating expenses amounted to $25,734,000 and at that year-end CDS accrued $19,096,000 pursuant to its agreement with the medical school to share "margin." CDS also made nonrecurring fund transfers to the medical school of $13,000,000. Note 3 to CDS's audit for 1996-97 shows that its clinical facilities services expenses included $131,640,000 for the payment to the medical school of 1996-97 net patient revenue (the medical school's 15% share) and $28,514,000 for primary care physician compensation and other services provided by the medical school.

The above shows that, if I have read the audit reports correctly, the medical school earned at least $283,857,000 in gross revenues during the fiscal periods 1994-95 through 1996-97 under its agreement with CDS to share operating income on a 85-15 basis and margin on a 50-50 basis. The uses to which these revenues were put are not available to me.

The audited financial statements of the University Hospitals & Health Centers for the year ended June 30, 1998 show Clinical Faculty Services expense of $171,720,000 as compared with similar figures of $160,154,000 and $145,505,000 for the years ended June 30, 1997 and 1996, respectively. Note 1 to the audited financial statements for the year ended June 30, 1998 do not specify how much of the $171,720,000 in Clinical Faculty Services expenses represents the 15% split of professional and facility revenue payable to the medical school under the July 1, 1995 agreement with the University Hospitals. However, Note 3 of the audit report does state that the medical school is to receive $21,539,000 as its share of H&HC's income from operations (the "margin") for the year ended June 30, 1998 but Note 1 asserts that the majority of physician services are provided by the faculty of the University of Michigan Medical School.

Note 11 to the audited financial statements of H&HC for the years ended June 30, 1997 and 1998 report that a new Clinical Services Agreement between the medical school and H&HC is effective as of July 1, 1998. Among its provisions H&HC will generally

receive revenues from physician services. Direct patient care expenses will be allocated between the two parties based on actual costs incurred. These changes are expected to reduce H&HC's revenues by about $175 million with a corresponding decrease in expenses but with no material effect on the results of operations. Operating income, however, will continue to be shared equally as before. H&HC will pay the medical school 1.6% of patient care revenue net of bad debt expense for academic support.

To summarize, the greatest burden lies with the Faculty Group Practice to produce the revenues required by the medical school to keep it a viable entity and to advance its missions. But the FGP is charged with responsibilities other than revenue production: providing an institutional focus rather than departmental, performing a clinical redesign, furnishing uniform credentialing and privileging processes, and developing professional standards for physicians.

Conclusions

There have been numerous changes made by the medical school since the advent of managed care. One can only speculate whether or not some of the changes would have been made in any event or of the same scope. The principal changes were structural -- alterations in organizational makeup. Uniting the medical school and the hospital system under CDS enabled collaborative planning and implementation of strategies chosen and the creation of the EVPMA position ensured greater coordination and control of institutional effort. The transformation of the practice plans into an integrated multispecialty body appears to have provided the catalyst for an effective clinical

redesign with a cost-reduction program and an aggressive plan to develop a physician network across the state. Indications are that physicians rallied around in response to the call for leadership whereas they may have been more passive in their individual plans. From the admittedly limited evidence of positive bottom lines for the years that FGP has been in existence, it could be inferred that the strategies adopted under FGP's direction may have had a positive impact on practice plan revenues and the medical school's financial condition. The exact degree, however, can only be guessed.

Allcorn and Winston (1996:846-57) recommend that AMCs be reorganized along a service-line matrix management model following their missions of patient care, biomedical research and medical education. Each service line would have its own chief executive and managers with responsibility for providing revenue and controlling expenses in their areas. This is offered as a business-like approach that may replace the traditional model of using all income streams to pay for operations, a model which has been found wanting in this period of financial stress. This proposal has its surface appeal but it may represent a retreat from the sharing of risks and returns implicit in the integrated FGP, although it might be adapted to function within the FGP concept.

Let me return to the original question: What impact has managed care had on the medical school? Can it be inferred from its financial performances? The structural alterations appear to have strengthened the school. While the medical school's financial results are not available, the hospital system had revenues in excess of expenses for the years ended June 30, 1996, 1997, and 1998 of $37,480,000, $58,318,000 and $26,000,000, respectively. These earnings for 1996 and 1997 are on total patient service revenue of $911,967,000 and $919,614,000, respectively. Figures other than "operating

gain of $26,000,000" are not available to me for fiscal year 1998. It should be remembered, however, that these are earnings for the hospital after deducting as expenses the amounts paid or payable to the medical school for services rendered by it to CDS/HHC These expenses include the medical school's 15% share of operating revenue and its 50% of margin.

The "operating gain" for the year ended June 30, 1998 seems noteworthy when one considers that more than half of the managed care organizations in southeastern Michigan had losses for the latest fiscal year. However, without knowing the reasons for the losses experienced by these managed care organizations, comparisons with the University Hospitals & Health Center's results may be improper. But from the evidence available, the medical school has been greatly affected by managed care and has responded positively as an energetic competitor.

CHAPTER 4

HISTORY OF WAYNE STATE UNIVERSITY SCHOOL OF MEDICINE

One of the medical schools that I examine is Wayne State's. Accordingly, I present some background information on the founding and development of the institution to assist the reader in her/his assessment of my case study.

Except as otherwise noted, the historical events recounted herein are based on the accounts in the 1968 book of Leslie L. Hanawalt, *A Place of Light: The History of Wayne State University,* Detroit: Wayne State University Press.

Few, if any, of those who in August 1868 saw the workmen on the Harper Hospital grounds connecting two Civil War barracks would have guessed what was then occurring or imagined what would eventually evolve: the Wayne State University School of Medicine. Detroit was then a city of 75 or 80 thousand people, ranking 18th among America's cities and a metropolis of horse-drawn vehicles in an almost rural setting of gas-lighted streets and kerosene-lighted houses. Civil War hostilities had ceased three years earlier; in fact, a few veterans from Harper's Soldiers' Home may have been watching the craftsmen at work.

The five young doctors who founded the Detroit Medical College in 1868 had served in medical positions during the war. They apparently sensed these seismic changes and saw the promise offered in the booming city of Detroit during these postwar years when many private enterprises were begun. Four of the men had received their medical degrees from schools in New York City; all had private practices, and all had admitting privileges at Harper and St. Mary's Hospitals, the only Detroit hospitals of any consequence. Moreover, not only were they competent and enterprising, they had wealthy friends and had acted as preceptors to some medical students in their practices and had founded and written a medical journal. But now they wanted the reputation and prestige that the title "professor" and the involvement in medical education would provide, contemplating also the possibility that their school could attract some of the students from the University of

Michigan Medical School for additional training. Their school would be adjacent to good hospital facilities while those in Ann Arbor were extremely limited. (Hanawalt 1968:44)

From its beginning the school has had numerous problems with raising funds. In April 1868 the founders leased a 106' x 616' lot on Woodward Avenue with two long one-story former military barracks on it from Harper Hospital. There was no rent to be paid and no cost to the lesees except for maintenance, taxes and insurance. This arrangement was possible because the former barracks which had been donated by the government to Harper Hospital were then surplus, the hospital needed free medical services, and three of the founders had close relatives on the hospital's board of trustees. However, a capitalization of $30,000, at least $6,000 of which had to be paid in, was required by Michigan law to start a new college and award degrees. Hanawalt (1968:45) states: "Since the college's correspondence and financial records of that period are lost, we do not know all the attempts made by the founders to acquire the money." As correspondence saved by Marshall College's trustees shows, the organizers, initially failing to generate the necessary capital, tried to get Marshall College to adopt the school. Marshall College was no longer functional but its charter was still valid. This was a common strategy employed to skirt the capital requirements but in this instance apparently a mutually favorable arrangement could not be negotiated.

On May 12, 1868 the incorporators announced that they had completed the necessary financial arrangements. The $30,000 in capital was raised by subscriptions to 1,200 shares of $25 stock, producing about $9,000 cash to be used for construction and equipment. A board of trustees was elected and the Detroit Medical College was incorporated in June 1868.

Faculty had to be recruited and the most likely candidates for new teachers from the outside with established reputations were on the staff of the University of Michigan Medical School. Five of U-M's faculty members resigned with the intention of accepting positions with DMC but U-M's Regents stopped the exodus by inducing two to remain at

Michigan, one professor took a position elsewhere and none of the five joined the new medical school. However, rivalry and jealously between officials and students of the two schools, fed by incidents like this, continue to the present day.

The only source of income for the college was student fees which were set at $66 for the first year and $91 in the year of graduation. Board and room might bring the total cost for a student to $140. All professors were required to buy DMC capital stock but it paid no dividends. As was the custom generally at medical schools, there were no faculty salaries except possibly for the teachers of the laboratory subjects which required a lot of time. The professors earned their living from their private practices and enjoyed a preference on principal hospital appointments. These conferred professional prestige and social standing in the community and were expected to help increase their client lists.

The regular (winter) term was scheduled to begin on February 2, 1869 but the November/December preliminary term opened on November 3, 1868. Forty-eight men from Ontario, Michigan and eleven other states made up the first class. Many were much older than today's students, were from varied backgrounds and most had limited resources. They had responded to catalogs, advertisements and referrals by physician preceptors and the editors of medical journals. This was a period before most states had enacted laws governing medical licensing or medical education (the Michigan legislature passed the Chambers Act in 1899 providing for a state board to license and regulate physicians). Starr (1982:90) explains one of the reasons for the inaction:

> Neither the top ranks of physicians nor the bottom had a strong interest in effective medical licensing. The less educated practitioner, who had never been to medical school or had never graduated or held degrees of doubtful validity, feared the laws would be used to exclude them. The elite, on the other hand, stood to gain very little from their enactment.

Michigan's Chambers Act weeded out 2,000 of the state's previous 6,000 physicians.

The customary study for physicians was three years with a preceptor in practice but the time spent in medical school could be counted in this calculation. The course of study at medical colleges was two years, with the second a repetition of the first, so that a

common practice was for students to shift schools to gain a wider experience with teachers and clinics. The first graduating class in 1869 consisted of 33 transfers, 20 of them coming from the University of Michigan, a continuing source of concern to its regents. Hanawalt (1968:51) states that the university was to some extent a pre-clinical feeder for the Detroit college. The regents had always been disturbed by seeing a high proportion (at one time 94 percent) of their medical matriculants leave after a year to graduate from eastern schools; now they saw some of these going to the Detroit Medical College .

While from its incorporation the faculty was intent on raising the national standards of medical education, as was the American Medical Association, it was only in 1872 that DMC started its own effort by lengthening its regular term for a third year devoted mainly to clinical instruction; in 1874 it offered a four-month summer session; in 1876 it founded the first chapter of the Association of American Medical Colleges designed to enforce certain rules relating to curriculum and competition for students; and in 1879 it offered a progressive (as opposed to repetitional) system to entice students to take a third year. It was in 1880 that the college made radical improvements in its operation and curriculum, requiring examinations for admission, a mandatory three-year progressive curriculum, and extending the regular term to six months. Included in these innovations was the separation of seniors into small section clinics with much more individualized instruction --a first among medical schools. These standards were thought to place the college on an equal footing with a dozen or so of the finest schools in the United States (Hanawalt 1968:53)

These substantial changes, however, brought problems. The Michigan College of Medicine at Gratiot Avenue and St. Antoine Street began operation and in 1880-81 lured away at least seventeen DMC students, apparently because of the new standards. To complicate matters further, there was a rebellion of faculty members against DMC's president because of an appointment he made without consulting with the faculty and

obtaining their unanimous approval. This resulted in the resignation of six of the regular professors and students taking sides in the dispute, some transferring to the other Detroit medical school because of it.

At about the same time the trustees of Harper Hospital decided to raze their old structure and construct a new hospital on the eastern part of their land, thus requiring the college to find a new location. It bought the old YMCA building downtown on Farmer Street for $15,000, remodeled it and moved there in 1883. (Hanawalt 1968:54)

Because of the competition from the Michigan College of Medicine, enrollments and graduates fell, so DMC felt compelled to rescind its requirements for graduates and return to the two-year program, although it retained the three-year curriculum as an option.

In 1885 the boards of trustees of the two Detroit medical schools agreed to merge to form the Detroit College of Medicine. The Michigan College of Medicine had introduced three remarkable innovations: the admission of women, the establishment of a training school for nurses in Detroit and the sale of a $5-a-year hospital certificate entitling the holder to hospital care at any time, a scheme to increase hospital revenue. None of these practices was continued by Detroit College of Medicine after the merger.

In effecting the merger the two organizations simply added the assets and faculties and divided the prestige positions equally, a procedure agreeable to both parties. The former stockholders received 1,200 new shares of $25 capital stock. The college sold the Farmer Street property, paid the debt on the MCM's property and established the school's new offices in the former MCM building which was adjacent to St. Mary's Hospital and provided room for expansion. Its officers and faculty set about unifying the staff and tightening standards and procedures to avoid duplication in the curriculum, toughening the entrance examination for those students who could not enter by credential, as well as drafting regulations on grading, promotion and graduation. However, the school continued the option to students of a two-year or three-year course of study until 1890. (Hanawalt 1968:60)

In 1889 a new main building, a three-story 60' x 80' structure complete with basement, was erected for the college. It contained laboratories for four basic sciences, a large lecture/demonstration amphitheater, an office, a faculty room, a museum/library, and a large student hall. The trustees and officers of the college became caught up in the optimism prevailing in the national economic boom of 1886 to 1893 and thus in 1891 created degree-granting departments of pharmacy, veterinary medicine and dentistry.

During the 1890s the medical department made great strides by reinstituting the three-year graded-curriculum for graduation and in 1895 making a four-year program mandatory, aided by a supportive state law. However, the number of students who graduated fell by more than fifty percent in 1897-98 and did not reach its former level for five years. Clinical teaching also made significant advances during the period 1890 to 1910.

From 56 members in 1894-95 the faculty grew to 125 in 1912-13. The main clinical activities, both ward and ambulatory, were still housed in Harper and St. Mary's Hospitals but obstetrics cases were treated at the House of Providence and Woman's Hospital and this was augmented by the use of facilities at Childrens Free Hospital, the Detroit Tuberculosis Sanatorium and other teaching opportunities such as autopsies performed at the board of health. But in 1913 the college underwent a massive reorganization and was severely plagued with problems relating to administration, finances, and morale; however, its basic medical resources remained impressive.

The revenue of the college in 1891-92 was about $16,000 which grew to $41,000 in 1897-1900 mainly because of larger enrollments and new laboratory fees. The high point from 1892-1912, $45,000, came in 1902, then declined with reductions in enrollment and the closing of the pharmacy department in 1905 and the dental department in 1909 to $28,900 in 1911-12. The veterinary department was closed in 1899 for financial reasons.

Salaries first became a matter of serious concern in the 1890s; prior to that time only small stipends were paid to teachers of chemistry and anatomy. However, with the

increase in the basic sciences, salaries rose and it was discovered that pharmacists, veterinarians and dentists would not, like medical doctors, work without pay.

Assisted by the AMA Council on Education and sponsored by the Carnegie Foundation for the Advancement of Teaching, Abraham Flexner in 1909-10 inspected the nation's 160 medical schools and the foundation published his monumental report in 1910 which accelerated changes in medical education. He found that Detroit College of Medicine had merit but regarded one school of medicine in Michigan as ample and that medical schools should be parts of a university system. In a follow-up survey of 115 medical schools by the AMA Council on Education in 1913, the Detroit College of Medicine received a Class B rating: "colleges needing general improvement to be made acceptable." Knowing that they did not have the resources to make those improvements necessary to regain a Class A rating, the stockholders elected to immediately sell all of the college's assets to "Dr. B. R. Shurley and his associates to be organized as a corporation empowered to carry on collegiate work" for the sum of $61,000. (Hanawalt 1968:88)

The newly incorporated Detroit College of Medicine and Surgery was formed as a non-profit nonstock institution with an item in its bylaws forbidding its subsequent "transfer to the state university" if that should become possible. With great zeal and enthusiasm the new owners set out to publicize the school and raise funds with a minimum goal of a $1 million endowment providing an income of at least $50,000 annually. They expended $25,000 in remodeling the buildings, spent lavishly on catalogs and bulletins, admitted a record number of freshmen and anticipated a reinspection by the AMA Council in October. There were additions to and losses from the faculty. The college's Class A rating was restored in June 1914 after two joint inspections by the AMA Council and the Association of American Medical Colleges.

Serious problems were, however, not far away: the faculty developed a rift between University of Michigan graduates and sympathizers and Detroit College of Medicine

graduates and friends with students taking sides. The promotion of three U-M men and the hiring of others touched off old animosities and antagonisms; "bitter factional quarrels" were created by a new faculty organization which placed ten clinical areas under two professors who were not well regarded or respected; and a significant drop in enrollment between 1914 and 1917 reducing fee income brought financial problems. The efforts made to develop a $1 million endowment were without success and a campaign fund was opened to raise operating funds by appealing to the general public but the results were unsatisfactory. Eighteen prominent faculty members beseeched the board of trustees to arrange for a merger with the University of Michigan and such a union was announced in the newspapers but in April 1917 the United States declared war; thus merger and financing plans were deferred. However, to save the college an offer was made to the Detroit Board of Education to adopt the medical school. On February 18, 1918 the Board accepted the college board's formal proposal to assume ownership of the college's assets and run the school as a municipal facility.

In 1918 the school had affiliations with fifteen hospitals and sanitoria but most of its instruction was done at eight: Receiving (operated by the welfare department), Herman Kiefer (operated by the health department), Wayne County (at Eloise), Children's, St. Mary's, Harper, Woman's (now Hutzel) and Grace. The AMA Council, having upgraded other aspects of medical education, was now insisting that schools should have control of their clinical teaching, which meant the appointment of faculty members as heads of hospital departments. (Hanawalt 1968:94) This was effected in 1921 when Receiving Hospital was made the chief center of clinical teaching, supplemented by Herman Kiefer, Children's, Grace, Wayne County General and St. Mary's, with the others being eliminated from the affiliation list. There was a reduction in and a reorganization of the faculty also, with all departments made equal by dropping the designation "subdepartment."

Under the Board of Education the finances of the college grew from an appropriation

in 1918-19 of $30,000 to $240,000 in 1930-33, including an expenditure during the period of $675,000 on a new building and other capital items. During the period of 1918-35 the student body increased from 136 to 401 with the number of graduates rising from 29 to 74. In 1922 the Board started a series of raises in student fees so that by 1935 the initial fee of $25 had been increased to $283, generating revenues of about $90,000 annually.

In 1935 an AMA inspection team examining the school found and reported many positive aspects but also many things requiring improvement; they wrote that the college of medicine "has apparently not kept pace with modern developments in medical education." (Hanawalt 1968:332) The result was that the school was placed on the AMA confidential Class A probation list where it stayed until March 1939.

The Board of Education in 1936 chose a new dean, a physician specializing in medical education, who hired 35 full-time key faculty in three years as well as many important part-time clinical staff members, rejuvenated the research program and instituted graduate degree (M. S. and Ph. D.) and continuing medical education studies. The dean's efforts were so successful that the AMA restored the college to full Class A status in 1939 just a few months before the dean resigned to accept a position at another school.

In 1941, responding to the nation's mobilization for war as well as the rising health care needs of the civilian population, the college increased its first year class by fifteen percent; it also started a summer term for juniors and seniors and from then on the school operated year-round graduating physicians in three years. By late 1942, 117 members of the faculty including all of the full-time surgical staff had departed for military service in World War II.

With the end of hostilities and military contracts, prices and costs were rising, so in 1946 tuition was set by the Board of Education at $500, an increase of over fifty percent, that generated $41,000 per year. This was an era when young physicians returning from

military service desired to become specialists and postgraduate instruction was instituted. To effect these instructional programs a variety of complex cooperative agreements had to be arranged with hospitals. These often dealt with joint staffing, salaries, planning and control and the degree of collaboration ranged from very high at some hospitals to a single "service" at others. These collaborating institutions were referred to as "affiliated," "participating," and "associated." It was during this period from 1945-52 that new relationships were begun with Veterans Hospital, Kresge Eye Institute and Child Research Center of Michigan. Moreover, the college began a close affiliation with the Detroit Institute of Cancer Research and secured a $250,000 grant from the National Institutes of Health to build and equip a floor of Receiving Hospital for research with cancer patients. In 1953 the school renewed an association with Harper Hospital in an "active affiliation" to provide a wide range of undergraduate and graduate instruction and research. In 1955 the new $3.8 million Lafayette Clinic, a neuropsychiatric institute built by the Michigan Department of Mental Health, opened. While it was supported by the state, it became an integral part of the medical school. This became the twelfth of the medical schools' affiliations in 1955-56 with a teaching-bed capacity of more than 3,000: Receiving Hospital, Herman Kiefer Hospital, Children's Research Center, Veterans Hospital, Wayne County General Hospital, Rehabilitation Institute of Metropolitan Detroit, Lafayette Clinic, Harper Hospital, Grace Hospital, Detroit Institute of Cancer Research and Kresge Eye Institute. (Hanawalt 1968:346-47)

In 1956 Wayne University became a state institution and thus the medical school became the Wayne State University School of Medicine. The newly constructed Shiffman Medical Library was opened in 1968. The School entered the second century with a period of unparalleled growth and the creation of a totally new campus in the Detroit Medical Center. With the opening of the Gordon H. Scott Hall of Basic Medical Sciences in 1971, the size of the entering class increased to 256 students, making the medical school the largest single campus medical school in the country. Scott Hall

provides facilities for preclinical and basic science education, basic science departments, research laboratories for basic and clinical programs and the administrative offices of the school. The Helen Vera Prentis Lande Research Building constructed in 1964 houses research laboratories for clinical and basic science faculty. The Louis M. Elision Clinical Research Building opened in 1989 provides research laboratories, experimental surgical suites and specialized research facilities for the departments of internal medicine, surgery, pediatrics and neurology. The C. S. Mott Center for Human Growth and Development provides research space for programs in human reproduction, growth and development (Hanawalt 1968; Walt and Maniker 1993)

In April 1981 a proposed state health plan submitted under a 1978 state law and federal statutes recommending a freeze on medical school enrollments was the subject of hearings before the Michigan House Public Health Committee and the Michigan Senate Committee on Social Services and Health. The document also recommended curriculum changes and financial incentives to increase the number of primary care physicians and entice more doctors to practice in rural areas. At the time only 40 percent of medical graduates elected primary care, compared with a goal of 60 percent. A report from the State Budget Department was expected to forecast a surplus of doctors for the next decade. (*United Press International* 1981)

In May 1983 a Michigan State House Appropriations Committee panel considered recommendations from a task force pertaining to the supply and distribution of physicians in the state as well as the cost of educating them. At that time Michigan's four medical schools produced about 700 doctors each year. Most of the impetus to lower enrollments apparently came from the University of Michigan which admitted 237 students each year. Wayne State's medical school was noncommittal. The University of Michigan spokesman referred to the fact that the federal government had discontinued some of its financial support of medical education which had spurred "a steady growth of medical enrollments in the 1960s and 1970s." (*United Press International* 1983)

In February 1985 the dean of Wayne State University School, Henry Nadler, testified before a special Michigan State Senate committee examining a task force recommendation to reduce medical school enrollments. Dr. Nadler asserted that instead of limiting enrollments, the state should revise its regulations to restrict the number of out-of-state and foreign doctors. (*United Press International* 1985)

Because of an organized effort to increase the number of minority physicians, Michigan medical schools enrolled more women. Forty-one percent of Wayne State University School of Medicine's incoming class in 1987 were women. All four Michigan medical schools had minority and women enrollments in 1987 that were above the national average. (*Chicago Tribune* 1988)

At the request of the U. S. Department of Defense Wayne State University and Detroit Receiving Hospital assembled in January 1991 a 12-member team to assist with casualties in the Persian Gulf war. (*Detroit News,* January 17, 1991)

Nancy Fiedler, public affairs vice president of the Michigan Hospital Association, stated in October 1991 that several of Detroit's hospitals, including Hutzel, Harper, Grace, and Wayne State University's School of Medicine have a cooperative agreement for certain services. An example of this is an AIDs research and treatment clinic which the cooperating organizations have established by pooling their staff members and other resources. (*Oakland Business* October 1991)

Wayne State University School of Medicine's *Annual Report for 1990* acknowledges that academic programs at schools of medicine are financially threatened through decreases in State funding, lower support for graduate medical education (direct and indirect), increasing volume of non-reimbursed care, greater competition for research funding, shifts in patient care sites from inpatient to geographically distributed outpatient clinics, and lower reimbursement for medical services by third-party payers. As a result, the following goals for increasing Wayne State University School of Medicine's financial stability were proclaimed:

(1) Research funding;
(2) state and federal funding for education and service programs;
(3) establishing an integrated network of ambulatory and other clinical programs in partnership with the DMC, to become a strong competitor in the health care arena; and
(4) improving practice plan revenue.

In January 1992 the Detroit Medical Center announced that it had in a matter of a few months created a 13-hospital, 350-physician network to win a contract with Detroit Edison Company to provide medical services to its employees under its new point-of-service (POS) program. In doing so, it engaged some former competitors and will be competing against some of its colleagues. DMC used its small preferred provider organization, DMC Care, as its base for the network. Under a POS plan, those insured have greater physician and hospital choices than in a health maintenance organization but may be required to pay extra to obtain services outside the POS plan. Adding to the seven hospitals it owns, DMC engaged Mt. Clemens General, William Beaumont in Royal Oak, Oakland General in Madison Heights, Bon Secours in Grosse Pointe, Garden City Osteopathic, Crittenden in Rochester and Riverside Osteopathic in Trenton. (*Crain's Detroit Business.* January 3, 1994)

Wayne State University hosted a state-wide conference in March 1994 to explore the ramifications of President Clinton's health-reform proposal on academic medical centers, especially in Michigan. The conference was held at Hutzel Hospital and brought together leading administrators, researchers and clinicians to discuss some of the critical issues. (*Annual Report for 1994.* WSU School of Medicine)

The old rivalry between the Wayne State University School of Medicine and the University of Michigan Medical School flared anew in September 1994 when U-M lured away six of WSU's top cancer physicians and researchers within a span of three months. WSU President David Adamany termed it "aggressive raiding." (*Detroit News and Free Press,* September 3, 1994)

The affiliation between the Wayne State University School of Medicine and the Detroit Medical Center is supported by formal agreements which entail combined efforts

in patient care, medical research and medical education. It is in the DMC's hospitals and other facilities that the Medical School's 2,000 medical students, residents and fellows receive much of their clinical training. The dean of WSU's School of Medicine serves as the chair of DMC's medical board, the chairs of the School's clinical departments officiate as the DMC's chiefs of service; and the School's faculty members render patient care and direct research projects and clinical affairs at DMC's facilities. (*Crain's Detroit Business* September 5, 1994)

The Meyer L. Prentis Comprehensive Cancer Center of Metropolitan Detroit, created in 1976 by Wayne State University and the Michigan Cancer Foundation, was merged with the foundation in June 1994 to form a single organization designed to end duplication of patient care and research, to focus and coordinate research and facilitate fund raising. The provision of research support is to be continued by the WSU School of Medicine and clinical support will be continued by the DMC as a part of an affiliation agreement with the cancer foundation. The new institution was expected to have 350 employees generating $300 million in services and research and involving some 3,000 people in the medical community. A new 50-member board of trustees was formed with all of the 25 foundation board members joining this body. Many but not all of the Prentis members will be appointed and the remainder will come from the communities served. (*Annual Report for 1994.* Wayne State University School of Medicine)

On March 8, 1994 the WSU School of Medicine hosted a statewide conference on "U. S. Health Care Reform and Academic Health Centers," which drew among others, the deans of all four Michigan medical schools and the heads of the U-M Hospitals and Detroit Medical Center. ("U. S. Health Care Reform and Academic Health Centers." *WSU School of Medicine and Michigan Congress of Medical School Deans)*

In August 1994 the WSU School of Medicine and DMC area hospitals succeeded in placing more primary care physicians in residencies. Training more family doctors is both a state and national goal of health care policy. Wayne State and DMC filled all nine

positions in 1994 compared with one of seven in 1993, according to Bruce Deschere, M. D., director of the family residency program operated by WSU School of Medicine and DMC. In addition, a few more medical graduates elected family medicine at area hospitals in 1994. The allopathic hospitals other than those owned by DMC are Providence, William Beaumont, University of Michigan Medical Center, Oakwood, St. John, Bon Secours, Henry Ford and North Oakland Medical Center. Seven local osteopathic hospitals also have family-medicine programs. (*Crain's Detroit Business* August 29, 1994)

The School of Medicine's Class of 1995 saw several curriculum changes. Students in their fourth year clerkships were required to complete a new ambulatory care rotation and were mentored in a one-on-one relationship with a primary care internist. Instead of attending multiple clinics to learn about outpatient care, students spent a full month with one internist to learn primary care medicine as it is currently practiced. Thus, its primary care graduates are assured of being well-equipped to practice in the field in which they will work. *(1995 Annual Report,* Wayne State University School of Medicine)

In October 1995 DMC changed its management structure to prepare it for major national and local health-care reform and to facilitate the marketing of its medical-center programs and services on a regional scale. At the time, the DMC owned the following hospitals: Childrens Hospital of Michigan, Detroit Receiving, Grace, Harper, Hutzel, and the Rehabilitation Institute in Michigan, in Detroit and Huron Valley in Commerce Township. DMC also owns one nursing home, a partnership in a medical-equipment company and is part-owner of a home health-care agency. It also has 45 outpatient centers in the metropolitan Detroit area. In 1994 the DMC, with 2,500 hospital beds and 14,000 full-time employees, reported gross revenues of $1.2 billion and a net income of $33 million.

In the reorganization the seven hospital presidents were assigned greater responsibilities and management teams were created to operate the hospitals. Three

regional advisory boards were established to involve local physicians and communities in order to develop treatment services specifically for each region. The three main regions were: the central, in Detroit where DMC's Children's Hospital, Detroit Receiving, Harper, Hutzel and the Rehabilitation Institute are located; the northwest where its Grace Hospital is located; and the Oakland County region where its Huron Valley Hospital is located. Three clinic service advisory boards were also created to develop and coordinate the major clinical services involved in the provision of care. (*Crain's Detroit Business* October 23, 1995)

David Campbell, chief executive and president of DMC, declared in February 1996 that the Detroit-area market for health-care services would probably be reduced to "three or four major systems that are positioned to contract with major employers." (50) To be one of those surviving systems, Campbell said that he is "building an integrated delivery network that acts as a single organization," in order to increase the DMC's suburban presence and offering a full range of services - "more ambulatory sites, diagnostic centers, home care, nursing home care and rehabilitation treatment." Part of the strategy includes mergers and affiliations with other health care providers. In October 1995 Campbell disbanded the governing boards of the DMC's seven hospitals to create a single board for coordinated, central control. One of the DMC's aspirations is to acquire its own HMO in order to compete with Henry Ford Health System's Health Alliance Plan and the University of Michigan's M-Care. Some of DMC's 1995 statistics are:

Licensed beds	2,562
Occupancy rate	73 percent
Inpatient visits	87,251
Outpatient visits	868,964
Emergency visits	253,021
Employees (F/T equivalent)	13,879

(*Detroit News* February 16, 1996)

The Detroit Medical Center, the Detroit area's third largest hospital system with

13,000 employees, announced in August 1996 a plan to cut its costs by twenty percent over a period of three years. This is expected to result in hundreds of job losses and the closing of the Rehabilitation Institute and Hutzel Hospital as inpatient facilities. These reductions were considered necessary to meet the competition from managed care organizations and the possibility of cuts in the reimbursement for medical education. Detroit is said to have forty percent more beds than are needed. However, DMC expects to spend up to $500 million over the next five years to add to its outpatient clinics and information systems and to purchase physician practices. (*Crain's Detroit Business,* August 12, 1996, 1,20)

A study by Pew Health Professions Commission completed in 1996 projected a surplus of 100,000 physicians in the United States in the next ten years. Several studies have concluded that the best ways to avoid the excess would be to reduce the number of residencies, favor U. S. medical school graduates, and erect regulatory barriers to discourage foreign doctors from remaining here after they finish their residencies. (*Detroit News* April 16, 1996)

In July 1995 Peter Karmonas, Jr., donated $15 million toward "a cancer center as good as any in the world." (41) Thus, this gift provided the impetus for the merger in 1996 of four entities (the Michigan Cancer Foundation, the Meyer L. Prentis Comprehensive Cancer Center, and the staff members from the WSU School of Medicine and DMC) into the Barbara Ann Karmanos Cancer Institute. The institute has a $56 million annual budget and engages some 1,600 scientists, physicians and support staff spread out through some 30 buildings in the Detroit Medical Center and WSU School of Medicine campus. Moreover, a $23.2 million multi-story institute headquarters building is scheduled to be constructed beginning in August 1996. Dr. William Peters, a world-renowned breast cancer expert from Duke University, was appointed to head the institute. (*Detroit News* July 8, 1996)

With the merging of Sinai Hospital and Huron Valley Hospital, the new institution

will bear the name Huron Valley-Sinai Hospital and becomes a part of the parent organization, Detroit Medical Center. A new regional specialty center with 35,000 square feet of clinical space is expected to be completed in 1998. (*Oakland Press*, June 17, 1997, A8)

On April 12, 1997 the Detroit Medical Center opened a new $2 million, 10,200 square foot facility at 611 Martin Luther King Drive at Second Avenue in downtown Detroit to serve the Cass Corridor community, officially designated as a medically underserved area. Financing came from DMC and the McGregor Fund. Staffing will be provided by family medicine residents under the supervision of WSU School of Medicine faculty members. (*New Center News*, Vol. 65, No. 16, April 18, 1997, 1A, 4A)

The Detroit Medical Center and Henry Ford Health System are reported to be in serious negotiations with the possibility of a merger. A union of these two Detroit-based entities would join Detroit's second and third largest health systems with aggregate revenues of more than $3.4 billion and a total of about 34,000 jobholders. Henry Ford Health System owns Henry Ford Hospital in Detroit, Henry Ford Cottage Hospital in Grosse Pointe, Henry Ford Wyandotte Hospital and Medical Center in Wyandotte and Bi-County Community Hospital in Warren as well as the Health Alliance Plan, the Detroit-area's largest HMO with more than 500,000 covered lives. (*Crain's Detroit Business*, August 4/10, 1997, 1, 39) However, on September 25, 1997 Raja Mishra reported in the *Detroit Free Press* (E1) that merger talks had been discontinued because both organizations were too involved in major internal changes and were presently both "doing well." They agreed to continue to work "together on selected initiatives" and did not rule out the possibility of revisiting the question of a union sometime in the future. Apparently fear of expected cuts in Medicare and Medicaid revenue, a vital source of income for both organizations, as well as differences in patient base and managerial style, were major considerations in the decision to remain separate.

The Princeton Review declares in its evaluation of WSU's School of Medicine for

prospective students:

> Wayne State is dedicated to improving the health of the residents of Detroit and its surrounding communities through education, research and service programs. Most students share this goal; the majority stay in Michigan at least through residency, and about 50 percent enter primary care . . . Wayne State gives preference to Michigan residents but considers exceptionally well-qualified out-of-state applicants. Both residents and nonresidents may apply through the Early Decision Program but candidates should have GPAs of 3.4 or above and average MCAT scores of 8.5 or better to be considered competitive . . . Among its offerings are a post baccalaureate program for students who have been denied admission and a summer pre-matriculation session for accepted students. (1995:157-58)

Annual tuition for the fall term of 1996 was $9,853 for residents and $19,633 for nonresidents.

REA's Authoritative Guide to Medical and Dental Schools for 1994 states:

> Wayne State University School of Medicine was founded in 1868 and is conveniently located in the north-central area of Detroit. The Detroit Medical Center (DMC), with which the medical school is closely affiliated, is the largest of its kind in the United States, and comprises six health care institutions on 110 acres. The medical school's close partnership with the medical center provides the advantages of a comprehensive clinical education and a practicing faculty. (1994:234)

CHAPTER 5

CASE STUDY OF WAYNE STATE UNIVERSITY SCHOOL OF MEDICINE

This study examines the various problems confronted by the WSU School of Medicine in an era of managed care. These problems fall into the categories of contextual (physical facilities, human resources and organization), operational (medical education, research, and relationships with hospitals and associated clinics) and fiscal dimensions (costs, revenues, and practice plans). It also looks at possible solutions to those problems while discussing what already has been or is going to be done about them.

My approach is to categorize and describe the problems on the basis of the activity or resource involved and follow this by an account of how the institution has sought to meet the challenges that it faces..

Challenges and Solutions

The problems confronted by medical schools in an era of managed care are numerous and complicated. Particularly important are problems of costs and resources. As managed care permeates the health care market, increased cost pressures are brought on all providers. The WSU School of Medicine's *Annual Report for 1990* pointed out that a variety of revenue and cost-related factors had generated problems for it: lower reimbursement for medical services from third-party payors, decreases in state funding, lower support for graduate medical education, an increasing volume of non-reimbursed care, greater competition for research funding, and shifts of patients from hospitals to geographically distributed ambulatory sites. The problems of costs and resources, of course, do not exist independently of other problems, but are inextricably linked to them.

Physical Facilities.

With an annual admission rate for freshmen medical students of 256 and a student

body of more than 1,000, the School of Medicine requires many physical facilities to train medical students. It needs additional plant, property and equipment to conduct biomedical research and treat patients. Gordon H. Scott Hall is the main education building. It provides facilities for pre-clinical and basic science education, basic science departments, research laboratories for basic science and clinical programs and the administrative offices of the school.

The Helen Vera Prentis Lande Medical Research Building houses research laboratories for clinical and basic science faculty. The Louis M. Ellman Clinical Research Building provides research laboratories, experimental surgical suites and specialized research facilities for the Departments of Internal Medicine, Surgery, Pediatrics and Neurology. The C. S. Mott Center for Human Growth and Development provides research space for programs in human reproduction, growth and development and houses the NIH-developed Fetal Alcohol Research Center. The school also works in affiliation with the Barbara Ann Karmanos Cancer Institute.

The School's close affiliate, the Detroit Medical Center, provides Children's Hospital of Michigan, Detroit Receiving Hospital and University Health Center, Harper Hospital, Hutzel Hospital, Rehabilitation Institute, Kresge Eye Institute and Gershonson Radiation Oncology Center on campus. DMC's Sinai and Grace Hospitals are located in northwest Detroit and its Huron Valley Hospital is located in Milford, Michigan. It is in these facilities that Wayne's School of Medicine trains its students and provides medical services to patients. Medical education occurs in a variety of settings including the classroom, laboratories, and in hospital clinical settings. Managed care is having a significant impact on the nature and location of hospital clinical settings. The medical school provides classrooms, laboratories and lecture halls for student instruction. However, for student contact with patients it uses DMC hospitals, clinics and ambulatory facilities. The medical school also assigns students to spend time in the offices of community physicians.

Managed care is forcing a tightening of fiscal resources in the DMC. In August 1996 the Detroit Medical Center announced a plan to reduce its costs by 20 percent over a period of three years. Hundreds of job losses as well as the closure of the Rehabilitation Institute and Hutzel Hospital were the result of these reductions. They were considered imperative, according to official announcements, in order to compete with managed care organizations and to offset the possibility of lowered reimbursements for medical education. However, over the next five years the DMC will add outpatient clinics and information systems as well as purchase physician practices requiring an expenditure of some $500 million. (*Crain's Detroit Business.* August 12, 1996, 1, 20)

A variety of creative solutions have been developed to deal with the problem of physical facilities. Strategies adopted for meeting the competition from managed care include treating patients in ambulatory centers where it is less expensive rather in hospital settings. This requires the closure of some facilities or using them for other purposes. Detroit Medical Center, which owns the hospitals that the medical school faculty use to administer to its inpatient population and teach its medical students, has consequently found that it now has some excess inpatient facilities and must find other uses for them. At the same time, it recognizes a need for clinics and outreach centers in outlying areas that will be more accessible to and attract suburban patients.

David Campbell, Chief Executive and President of DMC, stated in February 1996 that in order to be a survivor and develop a suburban presence, DMC was constructing an integrated delivery network that acts as a single unit; an organization that will provide a full range of services -- more ambulatory sites, home care, rehabilitation treatment, diagnostic centers, and a nursing home. Part of the structure is to be achieved through mergers and affiliations with other health care providers. (*Detroit News.* February 16, 1996) In August 1996 the DMC announced that over the next five years it will add outpatient clinics and information systems as well as purchase physician practices requiring an expenditure of some $500 million. In October 1996 DMC announced a series

of initiatives to expand clinical programs, streamline services and reduce costs by 20% over the next three years. The initiative included the previously mentioned elimination of 360 beds by relocating services from Hutzel Hospital and the Rehabilitation Institute of Michigan. By these steps and by eliminating jobs DMC hopes to reduce costs and increase revenues by $250 million over the next three years to help fund major investments in programs and services, information systems and its ambulatory care network. Facilities scheduled for expansion include Children's Hospital of Michigan Ambulatory Center, a new outpatient rehabilitation facility in Novi and a new Birthing Center and Regional Specialties Center at Huron Valley Hospital. (Casey *Managed Care NewsPerspectives* January 17, 1997)

Casey reported that DMC acquired 19 outpatient clinic sites that were formerly owned by the Michigan Health Care Corporation to improve and upgrade the ambulatory care facilities and their operations. Most of the clinics are located in Detroit.(*Managed Care NewsPerspectives* June 11, 1997)

In December, 1996 DMC entered into an Affiliation Agreement with Sinai Hospital of Greater Detroit and The Jewish Fund. Under the terms of the Agreement, DMC became the sole corporate member of Sinai effective February 4, 1997 in exchange for a consideration of approximately $54 million payable to The Fund. DMC stated that it acquired Sinai to utilize better the health care delivery facilities located in northwest Detroit and intends to consolidate the operation of Sinai and Grace Hospitals at the current Sinai location. The consolidation is expected to be completed in October, 2000. DMC estimates that approximately $135 million will be incurred in the renovation and expansion of the current Sinai Hospital facility. Hutzel is expected to close in March, 1999, Rehabilitation Institute, Inc. is expected to close in April, 1999 and Grace Hospital is expected to close in October, 2000. The closure of these three institutions will remove from services a total of 950 licensed beds. With the acquisition of Sinai, Grace Hospital has been put up for sale but if a buyer cannot be found, the hospital will be demolished

and the land sold. According to officials, the process could take three years to complete.(Casey: *Managed Care NewsPerspectives* September 2, 1996 and January 17, 1997). One of DMC's aspirations is to acquire an HMO which would enable it to compete with Henry Ford Health System's Health Alliance Plan and the University of Michigan's M-Care.

The Detroit philanthropist, Peter Karmonas, Jr., in July 1996 donated $15 million toward a cancer center in the Detroit Medical Center. This led to the merger in that year of the Michigan Cancer Center, the Meyer L. Prentis Comprehensive Cancer Center and the staff members from the medical school and DMC into the Barbara Ann Karmonas Cancer Institute. This new institute has some 1,600 scientists, physicians and support staff in about 30 buildings in the medical center and the medical school with an annual budget of $56 million. In August 1996 construction of a $23.2 million multi-story institute headquarters building was begun. (*Detroit News.* July 8, 1996)

In 1997 Sinai Hospital and Huron Valley Hospital were merged and became a part of the parent organization, the Detroit Medical Center. In 1998 a new regional 35,000 square foot specialty care clinic is scheduled for completion. (*Oakland Press.* June 17, 1997)

The Detroit Medical Center opened on April 12, 1997 a new $2 million, 10,200 square foot health care facility on M. L. King Drive at Second Avenue in Detroit to serve the Cass Corridor residents, a medically underserved area. Funding came from the McGregor Fund and DMC. Family medicine residents from WSU's School of Medicine supervised by faculty members will provide the medical services. The opening of this facility provided another opportunity to train primary care physicians in an urban environment. (*New Center News.* April 18, 1997)

The audited consolidated financial statements of DMC and its subsidiaries for the year ended December 31, 1994, 1995 and 1996 show that it purchased property and equipment amounting to $84,312,000, $101,494,000 and $80,073,000 during those respective years. The DMC ambulatory system consists of 99 sites supplemented by the

private offices of independent physicians who typically participate in DMC's Physician Service Organization (PSO).

To summarize, the School of Medicine has a wide array of facilities available to it in which to pursue its missions of medical education, biomedical research and patient care. Managed care has affected the medical school's needs in terms of plant, property and equipment. The school requires more outpatient clinics and fewer inpatient facilities and, to compete effectively, it must now have access to costly new information and communication systems. This means that its partner, DMC, must make acquisitions and dispositions of fixed assets.

Human Resources.

Medical education requires a sizable staff. Medical school faculty consist of physicians and scientists. Scientists teach and perform research. Physicians may teach, perform research or treat patients; some may perform all three functions. Teaching and patient care are joint products and are carried out simultaneously in the treatment setting.

Casey (*Managed Care NewsPerspectives.* January 17, 1997) reported that DMC medical staff numbers more than 2,400 and that the system has over 1,000 students, and more than 900 medical residents in 31 residency programs.

Some departmental chairs claim that they are presently rather constrained in terms of personnel, whereas others feel that their staffs are adequate (or arguably, even excessive) to meet departmental objectives but all agreed that with more faculty (some specifying additional researchers, managed care experts or others with special skills), they could operate more efficiently. There are others who assert that they do not have an appropriate mix because of prior tenured appointments and subsequently altered needs. Some chairs question whether their mix is suitable in terms of competing in the current marketplace. However, all are aware that a reduction in resources means a contraction in the activities which available funds support and thus impinge upon and constrain departmental goals

(Interviews of October 15, October 20, October 27, October 28, and November 21, 1997).

Because managed care and government payment regulations have forced prices down, faculty physicians must now be more productive in the care of patients. They are required to work more hours and to treat a greater number of patients in order to yield targeted income. This emphasis on patient care means that some physicians may be unable to meet their obligations to teach or to perform research.

A major problem for human resources, according to one chair, is likely to occur because of the change in locus of instruction from inpatient to outpatient settings. Formerly students were primarily introduced to the patient and received training in hospitals. Now they must increasingly be taught in ambulatory locations and in managed care techniques. In the ambulatory centers, however, the teaching is almost one-on-one and therefore more costly. In addition, students' experience a less diverse patient population (Interview of November 21, 1997). A related problem is the need to induce and keep 1,000 or so community physicians to volunteer their time to bring medical students into their offices one-half day each week at a time when they, too, are pressured by managed care and may need to work more hours just to maintain income levels. Assuring the quality of the training, therefore, has become a major concern. Such quality is important because WSU's medical school is in competition with the University of Michigan Medical School and the Michigan State University School of Human Medicine. These schools, like WSU's, are asking some of these same doctors to undertake a like tutorial role for their medical students.

One chair voiced a complaint that is shared by some about HCFA regulations that require a staff physician to be present when a resident serves a patient if the physician is to be reimbursed for those services. He contended that while residents are fully licensed physicians, they are not allowed to practice their profession results in inefficiency and lowered productivity (Interview of October 15, 1997). It is clear that the problem is somewhat misunderstood -- the issue is that residents are already compensated under

Medicare provisions for Direct Medical Education and therefore billing for their services is unallowable.

A key problem in human resources is effective recruitment. DMC reports that it has expanded its recruitment of physicians. As of December, 1996 it employed over 330 primary care physicians. In 1997 with the acquisition of Sinai and Michigan Health Care Corporation, another 135 primary care physicians were added. The DMC medical staff consists of approximately 3,300 physicians, including independent community physicians, employed physicians, and physicians in faculty practice groups.

In October 1996 DMC announced a series of initiatives to expand clinical programs, streamline services and reduce costs by 20% of more over the next three years. One measure called for the elimination of 2,500 jobs or about 16% of its work force, including 30% of the management staff and 10% of nonmanagement. (Casey *Managed Care NewsPerspectives,* January 17, 1997)

When asked about their recruitment practices, some medical school department chairs saw the present as an exploratory phase in which their departments are defining how they do business and their roles in the new environment. This may lead to different recruitment approaches in the future as roles are more differentiated and departmental needs become clarified (Interviews of October 28 and November 17, 1997). Others think that recruitment is unlikely to change a great deal and that the goal will always be to recruit the best physicians for the available positions whatever the environment (Interviews of October 15 and October 20, 1997).` Most chairs assert that they have about the right mix of faculty to meet their educational and research agendas, with an appropriate balance among senior and junior members, skill sets and female and minority representation (Interviews of October 15, 20, and 27 and November 21, 1997).

More than one chair declared that they do not in their recruitment efforts seek the "triple hitter" who is expert in teaching, research and patient care, but look for faculty with excellence in special areas that are increasingly narrow. However, all are aware that

a reduction in resources means a contraction in the activities which available funds support and thus impinge upon and constrain departmental goals.(Interviews of October 27 and 28 and November 21, 1997).

Another solution to human resource problems is a change in teaching method. Because of the movement of so many patients to ambulatory sites the instruction of medical students involves a shift from a hierarchical, bidirectional team-approach utilizing hour-long lessons in the inpatient setting to a one-on-one relationship with faculty and students engaging in short, often three to five minute, sessions in the outpatient locales. Students are also assigned rotations in hospitals other than those owned by DMC. To supplement their experiences, students spend one-half day each week in the offices of community physicians.

Another solution to human resource problems is improvement in physician productivity. Faculty physicians must now, because managed care and government payment regulations have forced prices down, be more efficient and productive in their ministrations to patients. They must now work more hours and treat a greater number of patients to yield targeted income.

Another solution to human resource problems is to expand staff. To channel patients to its hospitals and clinics and increase its patient population the Detroit Medical Center purchased the medical practices of a number of community physicians. These primary care doctors have practice privileges in DMC's hospitals where faculty physicians and other community physicians are carrying on their work.

The minutes of the annual meeting on February 18, 1997 of The Fund for Medical Research and Education (FMRE) reported that faculty practice group revenue had helped fund all of the major recruitment undertaken over the last few years.

In short, the human resource needs of the medical school to fulfill its missions are large and diverse but the key members are the physicians and scientists. The impact of managed care is apparent in the school's increasing emphasis on primary care physicians

and the urgent need for greater production from its clinicians which may reduce the time they can devote to teaching or research. In addition, teaching in outpatient sites is more time-consuming and expensive at a time when the subsidies to teaching faculty are imperiled by marketplace competition and lower government reimbursements.

Organization.

To organize in this sense is to set up an administrative structure for coordinating and carrying out activities. To have an effective business it is necessary to form an organizational structure that is most conducive to efficient management of the enterprise and to place able people in leadership positions. In the crucible of health care delivery, planning and the effective management of change can be decisive of survival.

The objective in this section is to examine the relationship of the medical school's organization to the functions of planning and executive leadership. The managed care environment, because of the challenges it creates for medical schools, may encourage organizational changes, especially in the area of planning.

The School of Medicine of Wayne State University has been operating and granting degrees as a college of medicine since 1868. Its programs are accredited by the Liaison Committee on Medical Education, representing the American Medical Association (AMA) and the Association of American Medical Colleges (AAMC) (M. D. Program); the Liaison Committee of Graduate Medical Education of the American Medical Association and various Residency Review Committees (Residency Programs); and the Accreditation Council of Continuing Medical Education (Continuing Medical Education). The medical school is one of four schools and nine colleges of the University. Its Dean is one of thirteen deans in the university. He reports to the Vice President for Academic Affairs, but with the importance of the School within the university, for all intents and purposes, the Dean reports to the President on most important matters. The Dean is appointed by DMC as Vice President of Medical Affairs but this is, in effect an ex officio

office held by every Dean of Medicine. His staff in the School of Medicine includes five Associate and four Assistant Deans. In the clinical departments he has twenty-five chairs.

The medical school offers educational programs leading to the following degrees: Doctor of Medicine, Doctor of Philosophy, Master of Science and Master of Arts. Graduate education in clinical fields, post-doctoral study and continuing medical education are also offered within the school. Research focusing on human health is the foundation of the activities of the school. Fundamental and applied research in biomedical sciences, clinical specialties, and health care systems is directed by the faculty of the school. Research programs at the school are supported by more than $50 million annually through research grants, contracts and gifts.

Planning for the medical school occurs at several levels. The process has been far from smooth and could become more unsettled with further penetration of managed care. There is the strategic planning by the central university administration. Parallel to this is strategic planning by the medical school. Then there is strategic planning by the Detroit Medical Center, which is the medical school's close affiliate and venture partner. With respect to medical school interests, its dean has a leadership role in these processes because he is not only a Wayne State University executive and head of the medical school but he is also Vice.President for Medical Affairs of the Detroit Medical Center.

The medical school has the following organizational arrangements or structures for planning and strategy formulation: the Faculty Senate; an executive committee; the Dean's Council composed of the associate and assistant deans which meets on a weekly basis; and the Dean's Committee of Departmental Chairs which meet regularly. The Dean is responsible for establishing policy and formulating plans and strategies and he involves a number of these groups in his deliberations. The Faculty Senate which represents its membership initiates and approves policy relating to members of the faculty. Several years ago the medical school performed a self-study and established a statement of vision and mission for the year 2000 and beyond and the methods for

attaining them. The execution of the plan was made the responsibility of the Dean of the medical school and his Associate and Assistant Deans. The medical school plan contains benchmark goals and objectives for all of its main activities such as research and medical education. It is updated frequently. The medical school has a strong desire to expand its academic mission as an urban research institution.

The medical school's planning is embodied within the self-study plan. This was formulated several years ago and management is said to enthusiastically support and pursue it. However, one of its weaknesses may be that management's fervor is not matched by the average faculty member. (Interview of November 18, 1997). Moreover, it is not clear that there is wide degree of faculty or larger university community involvement in the strategic planning process. There are also tensions between management and central university administrators who may have agendas different from those of medical school management; for example, one interviewee recalled an instance several years ago when the medical school wanted to sequester funds for research or some other purpose and this was opposed by the central administration. (Interview of November 6, 1997)

The weaknesses of the plans are the difficulties in forecasting change and the weight of the status quo. Moreover, medical school planning has to be done with a keenly attuned ear to how it will affect its close affiliate, the Detroit Medical Center. One respondent stated that it is difficult to align the differing views of the various interests into a common vision (Interview of October 27, 1997).

The strengths of the plan, medical school officials interviewed argue, lie in the strong leadership and the realistic goals of the medical school in terms of the financial support for the various activities and how those resources will be employed to achieve those goals, as well as targeting areas of excellence and financing them as they develop and show greater promise. (Interviews of November 6 and 18, 1997)

While there has been this shifting of patients away from inpatient care and the

consequent obsolescence of formerly productive facilities, the pressure has increased on faculty and management to maintain patient load because hospital revenue is so crucial not only to DMC's fiscal health but also to that of the medical school which depends on DMC as a major source of support.

About every two years a strategic planning session is held with the participation of both the leaders of the medical school and DMC The Dean's Council monitors the strategic plan and makes appropriate changes in it to meet current and future needs.

With respect to representation on committees, respondents say that the community input for the medical school comes through its Board of Visitors, the members of which are appointed by the Dean. These appointees are persons who represent various interests in the community and provide suggestions and nonprescriptive advice which the Dean considers very seriously. The membership is diverse and consists of academics, politicians, community leaders and others. At the university level the Board of Governors, whose members are elected by the public, serve as the avenue for public comment and critique. Several members of the Board are ex officio.

The Detroit Medical Center has a Board of Trustees comprised of 41 members of whom the President of the Wayne State University and the Dean of the School of Medicine are members. It has an Executive Committee of 22 members. The Board meets quarterly and the Executive Committee meets in the other months. The Executive Committee is empowered to transact the business of the Board between the latters' quarterly meetings.

A key problem of organization of DMC is that there were all too many governing bodies with many of these having an unusually large number of members. The Detroit Medical Center changed its management structure in October 1995 to prepare it for national and local health-care reform and to facilitate the marketing of its medical-center programs and services on a regional scale. Reorganization was necessary to reduce their size and number, invigorate them, give some members more responsibility as regional

care groups were established, provide greater community representation and to infuse them with new enthusiasm and fresh ideas. There were some changes in intrahospital relations and it was intended that there would be closer relations with community leaders (Interview of October 21, 1997).

In the reorganization the seven hospital presidents were assigned greater responsibilities and management teams were created to operate the hospitals. Three regional advisory boards were established to involve local physicians and communities in order to develop treatment services specifically for each region. Three clinic service advisory boards were also created to develop and coordinate the major clinical services involved in the provision of care. (Interview of October 21, 1997). Added to the DMC governing board will be, according to Casey (*Managed Care NewsPerspectives* January 17, 1997), members of the current Sinai Hospital board, representatives of the Jewish Federation and its sister organization, the United Jewish Federation and representatives of the Sinai Health Care Foundation, which will merge with the new charitable foundation.

Changes in community representation in the DMC's board are said by persons interviewed to be under consideration. The objective is to develop a closer relationship with the people in the areas it serves and to instill a greater sense of its facilities and services as valued community assets. The individual hospitals have community input from persons who have used their facilities and other interested people (Interview of October 21, 1997).

In developing its plans, strategies and goals DMC looked at the needs of the population that it serves as well as what it saw as the communities' expectations which may sometimes result in placing more resources in an area than its bare needs. It also wanted to provide a broadly representative health care delivery system and to have a conspicuous presence in the area to maintain market share (Interview of October 21, 1997) .

In striving for greater overall effectiveness and efficiency, respondents declare that

DMC is teaming with the medical school to integrate the leadership and assure that the vision held by the two parties is congruous and congenial. The integration of clinical services requires all physicians to work together and since the medical leaders all have joint appointments in the two institutions and have a common set of goals, protocols, and pathways, these all contribute to a higher standard of care.

In day-to-day hospital operations conflicts between medical school representatives and hospital managerial staff are minimized by following the Association of American Medical College's mandate of having medical school departmental chairs appointed as chiefs of service and the dean as chief medical officer of the hospital system. These and other measures reduce the field of disagreements (Interview of October 21, 1997).

On the whole, interviewees contend that there is a good sense of shared missions between the two organizations. DMC's mission statement recognizes and acknowledges the inherent value of WSU's Medical School academic missions, so that their interests and goals are more common than divergent. While economic self-interest may at times be asserted, it is argued that these conflicts can usually be resolved in terms of the greater good of the combined enterprise (Interview of October 21, 1997).

To sum up, the medical school and DMC have made significant changes in their organizational structures in order to achieve a more disciplined and effective leadership and a common sense of mission. DMC has altered its management structure for hospitals and the planning for both the medical school and DMC has become more focused. Their strategies are designed to position them as potent contestants in the healthcare marketplace.

Medical School Education.

Managed care organizations focus on patient care and will not willingly allow their prices to include any contribution toward the cost of medical education. AMCs in recent decades have relied on patient care revenue partly to fund medical education. Now that

patient care prices are under assault from managed care, AMCs are faced with a serious, continuing dilemma of how to pay for what medical schools have traditionally had as their *raison d'etre* : the education of medical students.

Some WSU School of Medicine chairs perceive that one of the main problems with the changing health care system is that of sustaining the school's mission of excellence in the training of new doctors (Interview of November 21, 1997). A major difficulty, according to one chair, is likely to arise because of the change in instruction from inpatient to outpatient settings. In the past students received virtually all of their non-classroom instruction in the hospital. That is no longer practicable with the movement of patients to ambulatory sites. The increase in funds from research activities is regarded by some as having produced a positive effect on medical education. However, some interviewees think that in the shift, that has already been made, from being a medical school to becoming a medical school with a very strong emphasis on research there has been some slippage in terms of the amount of time, effort and money dedicated to undergraduate medical education. Some faculty members who may be capable teachers may feel that the reward system will not compensate or promote them unless they do a substantial amount of research and publish noteworthy papers. While the rewards for patient care and research are known, those for teaching are much less certain (Interview of November 18, 1997).

Those involved in postgraduate medical education are particularly concerned because the threat to support for that purpose has been provided by patient care dollars. With the coming of managed care and competition, this component for education has been virtually eliminated because payors have not yet been convinced of the need or supplied with a compelling argument to restore it.

Respondents report that, because of the high degree of research specialization of the basic science faculty, few of the them feel comfortable or sufficiently knowledgeable to teach an entire course in basic science. Indeed, they may have been doing research in their

particular specialty for some twenty years. This presents a problem for the student who sees fragmentation and would prefer less detailed information and a more rounded general treatment of the subject matter (Interview of October 23, 1997).

A variety of solutions address the problems of securing sufficient faculty to teach students, finding locations for instruction, and improving the content and delivery of instruction.

Medical school faculty are adapting to the new environment by continuing instruction in the DMC hospitals and teaching students in the ambulatory locales. The contract between the medical school and DMC is not an exclusive one. As large as DMC is, it cannot accommodate for training all of the medical school students because of the shrinking inpatient population so it relies on other institutions to help educate them. OHEP, a consortium of teaching hospitals in Oakland County which includes St. Johns, DMC, and North Oakland Center in Pontiac, has allowed the medical school to work within it to train undergraduates and graduate students at the residency level. The medical school also has students at William Beaumont, Providence, St. Joseph's in Pontiac, Oakwood, Bon Secours and Henry Ford Hospitals. (Interviews of November 18 and 21, 1997). The school is also negotiating with some other hospitals to establish similar arrangements. Reflecting on the importance of this endeavor, one chair said that he has an associate whose sole assignment is to make rounds of five hospitals each day of the week to maintain the relationships with those institutions (Interview of November 21, 1997). The medical school has supplemented this instruction by placing students one-half day each week in the offices of community physicians to develop hands-on experience. One administrator said that there is no concern at present about having enough places for all of the medical school's students. One chair remarked about the presence and loyalty of so many Wayne State University School of Medicine alumni who are willing to give of their time and as long as that spirit exists the school has a competitive edge in this area.

Standardized patients are also now being used to assure students of experiences with a diversified patient group. Standardized patients are those who can demonstrate the symptoms of a disease for study (Interview of November 18, 1997).

Nash and Veloski (1996:1-26) declare that "Both the Institute of Medicine (20) and the Council on Graduate Medical Education (21) have pointed out that primary care is not synonymous with ambulatory care, which is often just specialty or subspecialty care delivered in the ambulatory setting. (22) Academic health centers need access to primary care setting dominated by family practice, general internal medicine, general pediatrics, and obstetrics and gynecology (23-26) . . . that gives the trainee the opportunity for longitudinal care of the patient . . . [and] access to community-based experience that would encourage [her/him] to pursue careers in primary care."

While it is true that few faculty members feel comfortable enough to teach an entire course in basic science, they may have been applying their specialists' expertise in research and at the same time expanding their current knowledge of their fields and earning a significant part of their compensation. Therefore, considering how research has been valued not only for its discoveries but for its underwriting of salaries, it is not surprising that the number of faculty specialists has grown. For example, in physiology there are cardiovascular physiologists, gastroenterological physiologists and so on. One chair stated that 14 people were teaching in the biochemistry course and 38 people were teaching in the pathophysiology course (Interview of November 18, 1997).

Respondents state that some enhancements have been made to medical education. The dean has been very supportive of improvements in the curriculum; he has supported computerization of the Shiffman Medical Library and done other things in both basic science and clinical science representing a very substantial investment (Interview of November 18, 1997).

To recap, medical education has been greatly altered by the advent of managed care. With the treatment of many more patients in ambulatory centers, medical students must

be trained in these sites as well. This instruction is not only more expensive, but the number and kinds of patients the students are exposed to are different than in the hospitals. This has created a need to supplement training capacities. The solution has been to place eligible students one-half day each week in the offices of community physicians. This necessarily expands the role of community physicians in the Medical School.

Research.

Research in U. S. medical schools is important for several reasons. Research grants provides salary support; they provide research opportunities for graduate students and some few other students to engage in research and indulge interests which may lead to careers as researchers. Moreover, research can result in new treatment modalities which can then be brought to the bedside. Furthermore, research sharpens the skills and interests of teachers who can bring these insights to their students. Research is a positive externality, a "public good" that redounds to the benefit of all society.

While few managed care organizations show any interest in research, some of the larger, more established institutions like Kaiser Permanente do perform some research, especially outcome research. Thus, the medical school must operate in an environment where its third party payors are largely unconcerned about research and do not pay for it. However, competition for research funds has become much more intense. This is generally acknowledged but its overall impact on the medical school and its faculty is difficult to assess. Some in the WSU medical school are concerned that, since the school now ranks in the top 25 in terms of research dollars, further gains will be exceedingly difficult to achieve, even if the dollars available grow as they have in prior years (Interview of October 27, 1997). At the same time, more researchers from more universities are submitting better and better proposals. One chair remarked that in order to be competitive for National Institutes of Health grants one should have, by definition, at

least 75 percent of her/his time protected to perform research and be funded. The reason for this is said by one chair to be that the clinical revenues the researcher could generate or the educational subsidy that s/he would receive in the remaining 25 percent would not cover the medical school's costs because it has to maintain a large cadre of people who do not produce sufficient patient care or research income to cover their compensation (Interview of November 21, 1997). The departments are obligated to protect promising investigators' time to get them to a point where they are successful in securing grants and then they may spend so much of their time in research or in seeking funding that it takes them out of the educational arena and exposure to students.

This competition for research support has perhaps been felt most in the basic science faculty, whose niche must adapt to changes in funding priorities at NIH which may demand expertise in a different area in order to compete successfully for grant funds. This situation is blamed at least in part on the rapidly developing discoveries produced by disciplines such as molecular biology.

One respondent voiced a concern about some of the alternate sources of research support. For example, some industrial organizations such as pharmaceutical and biotechnology companies are more active in offering financing for research relating to medicine. However, there is a strong suspicion in some quarters that among them are sponsors which may have specific results in mind and be averse to findings that do not conform with their expectations (Interview of November 6, 1997).

Traditionally, there have been problems with clinical faculty because they are expected to earn a substantial portion of their compensation from patient care and also conduct some research. Thus, there is the potential that, being so heavily engaged in these areas, they will not have time for teaching and supervising interns in clinical settings. There are also those who think that the school may sometimes concentrate on recruiting a certain person to perform research but overlook the fact that she or he is not a competent or willing teacher (Interview of November 6, 1997).

According to respondents some researchers have lost funding support because of rising competition for grants, and this has caused problems because bridge funding or proposal money may be required in order to provide for those faculty members until they are again successful in securing new grants. This may lead also to reassignment of those persons to teaching or clinical care so that their positions can be maintained without depending upon grant awards. Also, some researchers have lost funding because of shifting research priorities and they may never again receive external funding.

Securing additional funds from research facilities is regarded by some respondents as a good solution to improving the quality of medical education. A medical school's research eminence may attract more faculty with different ideas and agendas. Research may increase the school's prestige and thus aid in the recruitment of needed specialists.

Research is regarded by some department chairs as inextricably intertwined with medical education and clinical services; thus, they view excellence in research as fundamentally important in shortening the lag time between laboratory-developed treatment modalities and clinical applications. In this view a school or department is not on the cusp in terms of medical education unless it is engaged in basic and clinical research (Interview of October 28, 1997).

One respondent suggested that those faculty members who lack the training to qualify for new research grants may be offered sabbaticals in which to develop the necessary skills. This could also lead to evaluation of those persons' capabilities as skilled in areas other than research so that their positions can be maintained without depending upon grant awards. Others who may have lost funding may be provided with bridge loans or other financing as they seek new sponsors.

It is contended by some respondents that research has allowed the medical school to target areas of excellence such as cancer, the neurosciences and women's health, and develop them into "centers of excellence." Some argue that among the changes brought to the medical school by research financing are the recruitment of additional faculty,

those with higher qualifications, greater prestige and national reputation, better students, the expansion of the physical plant and greater financial flexibility, providing the school greater independence and less reliance on general university funds to do some of the things that it wanted to do. Some point out that the medical school's increased stature attained through its "Centers of Excellence" is responsible for major gifts such as that of Peter Karmanos, Jr. toward the Karmanos Cancer Institute (Interviews of October 23 and November 6, 1997).

According to the Official Statement of Michigan State Hospital Finance Authority (MSHFA) in connection with an offering on September 1, 1997 of $174,460,000 principal amount of MSHFA Hospital Revenue and Refunding Bonds, the external funding for research by the School of Medicine is expected to total over $40 million in 1997, with an additional $10 million awarded through DMC's hospitals. (A21)

Biomedical research is an important function for medical schools because extramural research grants and contracts provide faculty salary support, offer avenues for graduate students to develop career interests in research and may inspire researchers to become better and more effective teachers. It does, however, involve costs which may not be covered by grantor reimbursements. And, managed care organizations proved reluctant to investing heavily in research. Furthermore, the competition for government research support is keen and the number of academic applicants is growing exponentially.

Threat to Relationships with Hospitals and Associated Clinics.

The medical school's affiliations with hospitals are extremely important to its financial well-being and a key part of the solution to potential financial problems in an era of managed care.. This is particularly the case with DMC because it is a separate entity with a different governing board. While there are obvious common interests, undoubtedly diverging self-interests emerge at times. The medical school depends upon DMC to provide facilities and patients and DMC depends on the medical school to

provide medical direction and faculty positions to staff its health care facilities.

Wayne State University's School of Medicine does not have its own hospital system, as indicated above, but utilizes the facilities of the Detroit Medical Center with whom it has an integral business relationship. DMC not only operates the hospitals with the assistance and direction of the medical school faculty but it also performs a marketing function in attracting patients to its facilities where they are administered to by faculty, DMC and community physicians. There is a mutual dependence in an environment where the fortunes of both are challenged by the changes caused by the spread of managed care..

As to future problems that might develop in the relationship, DMC's revenue margins could decline to a point where it is unable to invest further in clinics or equipment that support research or provide the funds that it customarily does for other purposes.. This would adversely affect the medical school. One of the immediate concerns of the medical school is how successful DMC will be in obtaining and retaining Medicaid patients now that the State of Michigan is letting the contracts by competitive bid for covered lives by county to managed care organizations. If DMC is not sufficiently successful in these procurements and retentions the medical school will lose a substantial number of patients and the patient care revenues they represent. There is reportedly already some erosion in the medical school's Medicaid patient base. The medical school depends upon DMC to provide facilities and patients and DMC depends on the medical school to provide medical direction and faculty physicians to staff its health care facilities.

DMC's facilities are foreseen as facing increasing competition in the future from other health care providers, some possibly better capitalized and offering comparable services in the areas it serves. These competitors may offer new health care services or similar ones at lower prices in attractive, newly constructed specialty clinics in the suburbs. Its officials expect Blue Cross/Blue Shield and other private third-party payors to continue their efforts to force prices down and may also encourage the development and use of HMOs to reduce the demand for acute-care hospital services by the use of preventive

medicine and ambulatory care (Interview of October 20, 1997). During the six months ended June 30, 1997 payments from Blue Cross/Blue Shield represented approximately 12.8% of DMC's revenue. Moreover, Blue Cross/Blue Shield's contract with DMC is subject to cancellation on 120 days notice, according to Michigan State Hospital Finance Authority's Official Statement (page 25) accompanying the offering of $174,460,000 principal amount of Michigan State Hospital Revenue and Refunding Bonds (The Detroit Medical Center Obligated Group) Series 1997A.

. The opinions of the respondents on the failed merger of the Detroit Medical Center and Henry Ford Hospital varied. Some saw the potential for financial savings that might have been available for use in productive ways benefiting the community. Others questioned whether Henry Ford Hospital had the same level of commitment to the city, to the uninsured and to medical education as has the Detroit Medical Center. Among the questions some had were: under the merged system would the level of support for the medical school have been continued and expanded proportionately? What controls would Henry Ford Hospital insist upon over how the medical school carries out its missions? Would there be a loss of academic freedom? Most saw that there would be "a clash of cultures," since Henry Ford Hospital is a closed system staff model, whereas the Detroit Medical Center is an organization with faculty and community physicians. The perception of some was that Henry Ford Hospital's cadre of salaried physicians consists disproportionately of primary care doctors, who may or may not be board certified and are unlikely to share the obligations to perform research or to teach (Interviews of October 23 and 27 and November 6 and 18, 1997). A faculty physician typically is a board-certified specialist or subspecialist whose earnings opportunities may be only limited by the number of hours he wishes to work or the patients he can treat. It is reported by one DMC representative that the merger was not consummated primarily because it would distract from the focus on the patient. It failed because it would have been extremely difficult to make it function properly. Great effort and time would be required to make

the two organizations a unified and operating whole. Further, there was a risk that the payoff might not be there after all of the effort had been expended. The U. S. Department of Justice Antitrust Division did not interpose any objection to the merger after having performed some first-level analysis (Interview of October 21, 1997). In short, a merger of the DMC and Henry Ford Hospital would have faced a severe clash of cultures.

DMC representatives, like others, see an increasing consolidation of hospitals in southeastern Michigan. They think that the other organized delivery systems that are likely to survive are: Henry Ford, Oakwood, William Beaumont, University of Michigan, and St. John's (which may join others in a Catholic hospital system). (Interview of October 21, 1997)

A condition that is different in the relationship between the Medical School and the DMC is that the medical school does not own the DMC. Some administrators think that in the present environment this is an advantage because its relationship with the Detroit Medical Center is so close and harmonious, despite being separate entities and having different governing bodies. One respondent described the tie as "having the best of both worlds." While DMC does provide a large part of the medical school's resources, the school deliberately obtains funds from other sources; thus if the medical school owned its own hospital these other sources might not participate (Interviews of November 6 and 18, 1997).

Another solution is closer ties between the medical school and DMC. Some respondents think that these ties will become closer as competition becomes keener (Interview of October 15, 1997). Others see a movement, already under way, in the direction of a structured position-service organization with an integration of medical school faculty and DMC professionals. This involves the integration of clinical services and at-risk contracting (Interview of October 27, 1997) . While ownership would provide a more perfect alignment and the medical school and the hospital would be able to plan and move forward as one, ownership would involve a substantial risk to the university as

a whole as a number of medical schools have discovered in the past few years.

DMC has a long history of contracting with managed care plans doing business in the region, including current contracts with 22 preferred provider organizations (PPOs) and nine HMOs. These have been mostly hospital contracts on a discounted or negotiated fee-for-service basis. More recently these agreements typically include physician services as well as facility services. Moreover, DMC is a prospective contractor under the State of Michigan's Children's Special Health Care Services program for the provision of care for infants with special needs. DMC also has been approved by the State of Michigan as one of the providers of services to Medicaid patients. The payment method includes a capitated rate per member for physician and other services, plus a DRG rate for each hospital admission. (Information provided by DMC accompanying MSHFA's Official Statement regarding the $174,460,000 issue of Revenue and Refunding Bonds. A-16).

DMC performed a benchmarking analysis of its costs and compared its costs with those of other national and regional providers. This was done both in terms of aggregate and specific costs in order to identify areas for cost reduction on a service by service basis. As a result of this review of costs, DMC established a goal of reducing its cost per adjusted discharge by 20% by the year 2000 and instituted a "Competitive Plan." This plan combines several strategies and is being implemented, monitored and adjusted as additional information is available. Among the strategies are the identification and elimination of excess inpatient capacity, consolidation of some services, the servicing of the needs of the patient population in the most effective and efficient manner as possible, reducing the numbers of layers of DMC's management structure, and investing heavily in clinical information systems to facilitate the delivery of a broad continuum of high quality care at multiple delivery sites. Specific areas targeted for these systems are the clinics, medical records and surgical services management (Information provided by DMC accompanying MSHFA's Official Statement regarding the $174,460,000 issue of Revenue and Refunding Bonds. A15-A16).

The Report of Independent Auditors for DMC and its subsidiaries for the years ended December 31, 1994, 1995 and 1996 show total revenues and other support of $1,247,540,000, $1,302,081,000, and $1,339,899,000, respectively. Increases in unrestricted net assets for those same years were $35,385,000, $78,096,000, and $26,107,000. However, these audited statements did not show the particulars of any transactions between DMC and the Wayne State University School of Medicine. The Notes to the Consolidated Financial Statements do acknowledge that "The DMC and its hospital subsidiaries constitute the academic health center of Wayne State University, and work with the University to integrate clinical services, education and research." (B-7) The Notes also report that the majority of revenues are received under contractual arrangements with the Medicare and Medicaid programs, Blue Cross and Blue Shield of Michigan and various managed care programs. Revenues from the Medicare and Medicaid programs accounted for approximately 26% and 20%, respectively, of the net patient services revenue for 1996. (B-9) The DMC, each of its hospital subsidiaries and certain of its other subsidiaries are nonprofit corporations, exempt from federal income tax under IRC Section 501(c)(3). (B-23)

Fiscal Issues: Costs

The problem of costs for medical schools in an era of managed care is the need to control costs to remain competitive. The managed care environment has given employers new choices. Those employers who provide health care benefits to their employees want to control or reduce the costs of those benefits as much as possible and are therefore likely to favor lower cost suppliers of health care services. This has created general pressure on the part of all providers to reduce costs.

For employers, the costs of those benefits often comprise a significant part of their cost of doing business, especially for those businesses that are labor intensive. In a managed care environment, an employer's competitors can cut their costs by searching for

the least cost sources for hospital and medical costs, compelling the employer to follow suit. In addition, the federal and state governments that pay for the Medicare and Medicaid charges for their program beneficiaries are also greatly concerned with the costs of health care and accordingly regulate the amounts that they will pay for rendered services. AMCs must create strategies to reduce costs so that they can respond to these market and governmental pressures. In doing this, other unanticipated problems arise for AMCs as they try to balance their educational and research missions with the need as producers to deploy and redirect resources in the search for greater efficiency and effectiveness.

For the hospitals associated and affiliated with the Wayne State University School of Medicine, cost pressures exerted by competition from managed care organizations are a major problem (one administrator referred to it as "a killer") (Interview on October 27, 1997). The ability of the hospitals owned by Detroit Medical Center to control costs will impact the contribution which it can make in its collaborative ventures with the medical school. Moreover, the DMC in August 1996 announced plans to restructure its main campus north of downtown Detroit by closing the Rehabilitation Institute and Hutzel Hospital as inpatient institutions (*Crain's Detroit Business,* Vol. 12, Aug. 12-18, 1996, 1, 20). All respondents interviewed seem to believe that the contributions from DMC to the School of Medicine will be less in the future. Moreover, one chair predicted that with the passage of time the local health care market will move from the current 20 to 23 percent of managed care penetration to the much higher level being experienced in California (Interview of October 27, 1997). The likely consequence will be further consolidation in plans, hospital downsizing, and similar retrenchments and, while this will help conform costs, it will result in fewer dollars for the medical school.

Controlling costs is also essential to compete effectively for Medicaid patients. The State of Michigan has a program to move all of its Medicaid eligibles into managed care organizations. It now solicits competitive bids by county from HMOs and similar

organizations.

. According to minutes of the FMRE annual meeting on February 18, 1997, DMC in its Medicaid Request for Proposal submitted to the Department of Management and Budget indicated that letters of intent to participate had been entered into with OmniCare, Wellness Plan, Total and Community Choice Michigan. The medical school has a substantial interest in DMC's procurement efforts because failure in this area is expected to be extremely costly for a number of the medical school's departments, particularly for pediatrics and obstetrics and gynecology. According to the chair of pediatrics, 50 to 55 percent of the care provided by Children's Hospital is Medicaid-related (Interview of October 27, 1997).

Pushed by managed care's marketing advantage in terms of cost, the medical school has adopted various strategies and identified possible solutions to be more effective and efficient. At the same time the medical school strives to sustain its missions and maintain quality of outcome in all of its endeavors. In responding to cost pressures and to secure its financial health, it declared these to be its goals: more research funding; additional state and federal funding for education and service programs; the establishment of an integrated network of ambulatory and other clinical programs in partnership with the Detroit Medical Center; becoming a strong competitor in the health care arena; and improving practice plan revenue. (*Annual Report for 1990.* Wayne State University School of Medicine) Notable possible solutions included the change in treatment locales -- patients whose conditions would allow it would be cared for in ambulatory centers rather than in more expensive hospitals. Another notable possible solution is that prices of medical services would be reduced either through negotiation of fee-for-service rates or capitated charges.

Table 5.1 compares the expenditures of the medical school for academic years 1991-1992 versus 1996-1997. Medicare and Medicaid cost reduction programs are squeezing revenues. The level of reimbursement for the medical school's patient care services from

the government is a primary concern of administrators. If this income stream is adversely impacted all three of its missions will suffer.

Table 5.1
Expenditures of the Wayne State University School of Medicine

	1996-1997	%	1991-1992	%	Percentage Change(+)
Instruction	$127,901,478	33	$92,955,584	35	36
Research	67,973,230	17	44,865,371	17	52
Patient Care	53,896,440	14	40,420,806	15	33
Faculty Support	85,266,426	22	44,621,711	17	91
Administration	19,715,643	5	12,883,483	5	53
University overhead	37,368,711	10	30,863,999	11	21
Total expenditures	$392,121,928	100	$266,610,954	100	47
Expenditures in excess of revenues	$2,022,489		$1,268,908		59

Source: Wayne State University School of Medicine, Revenue Source and Expenditure Reports.

While Medicare's and Medicaid's cost reduction programs parallel those of managed care, they are not a response to managed care. Nevertheless, they accentuate its impact and encourage similar payment strategies to be adopted by other payors. However, managed care organizations can now enroll Medicare eligibles and some of these companies offer plans to qualifiers in southeastern Michigan which include preventive care at no increase in premium over what they are presently being charged by Medicare for treatment of disease. Casey (*Managed Care NewsPerspectives* January 27, 1997) reported that "Both the Clinton White House and Republican lawmakers are considering reducing the amount Medicare pays managed-care plans as one means of balancing the federal budget." Casey also declared that "at present, Medicare pays managed care plans at a rate of 95% of the amount Medicare estimates it pays on average, for beneficiaries

enrolled in traditional, fee-for-service plans. The rate, called the Average Adjusted Per Capita Cost (AAPCC), varies by county. The Clinton administration and GOP want to cap the growth of AAPCC rates and reduce rate disparities between counties . . . " (*Managed Care NewsPerspectives* January 27, 1997)

Another problem for revenues is the potential loss of Medicaid-eligible patients. The State of Michigan has moved its Medicaid eligibles into managed care by putting out invitations to managed care organizations for competitive bids by counties. The Wayne State University School of Medicine does not own an HMO but DMC has a small one. DMC, however, prefers to work with affiliated and cooperating managed care companies rather than try to enlarge its own HMO. The medical school must rely on DMC to secure Medicaid patients. Continuing the Medicare and Medicaid support is extremely important to DMC and the medical school. The chairs of pediatrics and obstetrics and gynecology mention that births and child care have increased markedly in the Detroit area, reaching above the national average during the 1990s (Interviews of October 15 and October 27, 1997). Fifty to fifty-five percent of the care services at Children's Hospital of Michigan in the recent past has been Medicaid-related. While these trends have not yet affected the medical school significantly, its patient load may increase as the state completes its transfer of Medicaid patients . However, this patient load growth depends upon DMC's success in securing these cases as managed care subjects under Michigan's competitive bid process. Furthermore, the move is expected to reduce average level of reimbursement for these services and has the potential to impact some departments adversely.

Loss of federal revenues will have consequences. Some physicians argue that progress in research and patient care are being allowed to deteriorate despite health care's imposing role in the national economy and once permitted to decline, may be extremely difficult or impossible to return to its former eminence (Interview of October 15, 1997).

Some respondents believe that there will be no major overall effect on the medical

school of the federal programs or that they will deflect it in any fundamental way from its tripartite missions. However, they are annoyed at the possibility that the federal dollars will come with more strings attached than before -- that they may necessitate some changes in how the medical school does business, how it educates students, perhaps in the way clinics are organized, and maybe some adjustments in size. In addition to impacting medical education, research and patient care, these changes may involve a departure from the strict compartmentalization to a more integrated, interdepartmental system focusing on the maintenance of the health of a given population. Some think that this may produce a new pluralistic approach with multiple-discipline funding sources for health care services, an innovation which would overcome an economic barrier to one-stop patient diagnosis and treatment (Interviews of October 15 and 27, 1997 and November 6, 1997).

Changes in federal law offer opportunities for expanding service delivery and revenues. The provisions of the balanced budget accord reached in the summer of 1997 extended the availability of mammograms, pap smears and colorectal screening under the Medicare program. Colorectal screening tests had been covered only if the patient had symptoms that suggested s/he might have cancer or another disease.

Changes in the NIH budget offer opportunities. The *New York Times* (January 6, 1998, A20) reports that President Clinton's new budget will propose a $1 billion boost to the National Institutes of Health, a seven percent increase over the current $13.6 billion level. The article predicted that lawmakers from both parties are likely to increase it even more because congressmen have talked of doubling the agency's budget over five years. There is a concern among the Republicans that control Congress that the expansion of managed care has sharply reduced hospital revenues that were previously used to support research.

The overall problem associated with resources from the state is that they are likely to remain flat or grow very slowly, due to competition from other state programs, such as corrections. Further, the School of Medicine state budget is folded into the University

budget so that revenues for the medical school depend in part on University priorities. Wayne State University submits an annual budget request covering all of its schools and colleges, including the School of Medicine, to the Michigan Legislature. The legislature may revise the submission before approval and then allocate the funds to the University. In fiscal year 1997 ending September 30, 1997 the medical school's portion of the total university budget amounted to $34,052,200, or about 11% of the total University's General Fund Budget. The similar figure for fiscal year 1996 was $33,010,600 or 11% of the General Fund Budget.

Table 5.2 shows a comparison of the revenues of the medical school for academic years 1991-1992 versus 1996-1997.

Some administrators think that state funds coming to the medical school through the annual Wayne State University appropriation will remain flat. Others, however, regard the dollars going directly to clinical departments through the university as grossly inadequate and assert that they do not reflect cost of living adjustments. They attribute clinical growth to revenues from patient care and research projects. They see little reason to be optimistic about an increase from this source even though the state economy is strong (Interviews of October 27 and November 6, 1997). The State of Michigan spends some $160 million a year for graduate medical education. In 1997 this was carved out of the overall state Medicaid budget, identified as such and designated for hospitals such as Receiving, Harper, Hutzel, and others. This is a major source of the medical school's funding for graduate medical education and any substantial diminution in this support would seriously jeopardize this part of the school's educational mission.

Table 5.2
Revenues of the Wayne State University School of Medicine

	1996-1997	%	1991-1992	%	Percentage Change(+)
Tuition and fees	$12,234,032	3	$9,870,759	4	24
State appropriations	32,071,304	8	30,055,046	11	7
University overhead	37,368,711	10	30,863,999	12	21
Affiliated institutions	9,428,144	2	8,412,723	3	12
External research	69,275,239	18	40,619,333	15	71
Gifts (1)	4,087,257	1	2,500,000	1	63
Endowment income	1,084,823	-	624,312	-	74
Practice plans	153,852,923	39	92,862,014	34	66
DMC reimbursement	31,886,750	8	18,598,775	7	71
House officers	37,241,300	10	28,300,104	11	32
Auxiliary and designated	1,568,956	-	2,634,981	1	-40
Total revenue	$390,099,439	100	$265,342,046	100	47
Expenditures in excess of revenues	$2,022,489		$1,268,908		59

(1) Does not include endowment gifts to corpus.
Source: Wayne State University School of Medicine, Revenue Source and Expenditure Reports.

According to WSU's 1996-1998 *Graduate Bulletin,* 256 students are admitted annually to the M. D. program and approximately 300 students are enrolled in Ph. D. and Master's degree study in fourteen program areas. Annual tuition for residents for the regular program is $9,566 and for nonresidents $19,061. However, Wayne's Medical School tuition for residents was raised 5.8% to $10,739 and $11,073 for nonresidents for academic year 1998-1999.

The outlook for increases in the state monies coming to the medical school through the university budget does not seem bright despite strong lobbying activity but since this

is not a major source of support this is not regarded as a central problem.

On March 2, 1998 Dr. Irwin Reid, President of Wayne State University, and Dr Robert J. Sokol, Dean of the Wayne State University School of Medicine, attended a hearing held by the Michigan State Higher Education Subcommittee held at Oakland University. Dean Sokol was questioned by Senator John Swartz, chair of the subcommittee, about the medical school's problems. Dean Sokol stated that the medical school and DMC are faced with cuts in Medicaid that would require them to do the same work in 1999 that they did in 1997 for some $90 million less. (*Wayne State University Campus News*, Vol. 1, Iss. No. 1, March 19, 1998)

Some additional money may be claimed from state funds allocated for medical education. The State of Michigan which manages the Medicaid program in the state spends about $160 million each year on graduate medical education. In 1997 it segregated the funds for this purpose and designated them for payment to teaching hospitals. While in prior years the monies were intended for teaching hospitals, some were claimed by managed care organizations and some of these companies did not always pay the money which was due to the teaching hospitals. In response to interest group pressure, the regulations were changed. These funds are now more broadly distributed.

Employer-provided Health Benefits

The overall problem with revenues from patients insured by their employers is that these revenues are threatened by employers moving to managed care so that the number of patients using DMC's facilities decline. Employers that provide health care benefits to their employees usually respond to prices and prefer to contract with lower-priced providers. Health insurers have generally been reluctant to refer their insureds to AMCs because of the latter's higher prices, reducing their revenues from this source. The

employee's regular doctor may not be included among the managed care organization's physicians, therefore, the employee may have to convince the provider's gatekeeper that it is necessary to see his regular doctor. Similarly, the managed care physician may not have practice privileges in the hospital or other care facility that the employee prefers.

Hospital care is expensive and has been particularly so in academic medical centers. In the past the faculty physician has tended to use more high technology, more diagnostic tests, and be less concerned with the expense involved. (Fox and Wasserman 1993:85-93) AMCs, however, have now found it necessary in an unsettled market to change their manner of doing things in an attempt to persuade skeptical employers that their services represent greater value: treating those who do not need to be hospitalized in outpatient centers, ordering fewer tests, getting those who are hospitalized out in fewer days, and so on. Their objective is to offer what they regard to be their superior skills, high technology and efficient facilities to employers at prices comparable to those of managed care organizations. However, many employers who provide health benefits to their employees apparently are not convinced.

The medical school may succeed in attracting additional business from managed care companies unable to handle their patients. Medical schools are now doing business with managed care companies by either negotiating reduced fee-for-service rates or accepting patients on an at-risk capitated basis. The Detroit Medical Center performs the marketing function and thus provides the patients for Wayne State's clinicians. Fees for service are established or negotiated in consultation with medical school faculty. More competitive prices may yield patient revenues that otherwise have been lost because the patients may have been directed to other providers.

Practice Plans.

Perhaps the greatest impact of managed care is felt by the medical school in its departmental practice plans because these plans recognize and apply the patient care

revenues earned by faculty physicians.

The requirements of the faculty practice plans do affect the teaching and research activities of faculty members. Some claim that, if they are organized properly, they should enhance them . Assigning ever more clinical activities to the faculty to produce additional revenue, however, is likely to adversely effect medical education and research. Further, it will adversely affect the physicians' family lives because of the additional hours of work. More effort devoted to patient care means less time to spend on research and educational activities. Neither community nor DMC's physicians participate in any of these plans.

A number of the practice plans have an elected executive committee or board of directors. Some may have subcommittees such as for setting compensation, for making decisions and establishing plan policy. Often the departmental chair is also president or chair of the plan board. Some chairs claim that the plan chair seldom makes decisions in isolation while others admit that they break deadlocks (Interview of October 27, 1997).

One chair considers accountability as an extremely important matter but running such a plan is not the reason that he went into academic medicine (Interview of November 21, 1997). However, accounting records and audited financial reports of the departmental practice plan activities are treated by medical school officials as confidential, even though their functions are acknowledged to be part of a public medical school's operations and made feasible by a right granted by the state. Furthermore, the audited financial reports of DMC aggregate data to such an extent that an investigator without more detail is unable to determine, for example, the annual amounts of Medicare and Medicaid billings for hospital services or the transactions between DMC and the medical school. The financial statements of Wayne State University provide only summary data concerning the School of Medicine's activities and none on the faculty practice plans..

The Fund for Medical Research and Education (FMRE) is a body whose membership

is composed of full-and part-time WSU School of Medicine physicians who are participants in the medical school's faculty practice plans. Its purpose is to manage funds that are allocated to the School of Medicine research and education activities from the practice plans. In the minutes of its general membership meeting of February 18, 1997 the Dean reported that the rate of revenue growth of the total faculty practice service groups had remained constant. However, he declared that a lowered rate of increase in reimbursements was reducing margins. He referred to the number of months that the medical school could continue to operate with the funds provided by liquidating current accounts receivable, assuming that expenditures were kept at the same level. It was reported to be about 16-17 months versus 24 months in 1982-1983 and 14 months in 1992. Moreover, revenue increases were not keeping pace with expense increases. Total service group revenues were about $145 million annually, or about 38% of total medical school revenue, despite continued cuts in reimbursement. In 1995-1996 these practice plan revenues provided $12 million in support of intramural research and medical education. This compares with the medical school General Fund Budget for fiscal year 1995-1996 of $33,010,060. If total service group income for 1997 is about $145 million and that is about 38% of total revenue in the medical school, the latter would be approximately $380 million, or more than ten times the University General Fund budget for fiscal year 1996-1997.

Perhaps the most important solution to potential financial problems in an era of managed care is to secure additional revenues from the departmental practice plans. Without success in securing additional patients and revenues from this source, the financial problems of WSU's School of Medicine may be insurmountable. These

departmental practice plans are designed to collect and account for the revenues generated by faculty physicians in the care of patients. The income is used for a variety of purposes, the principal one being for compensating the departmental faculty members who participate in each. Details concerning the plan are treated as confidential information; consequently, most of the problems relate to appropriate governance and accountability.

I offer the following discussion of the managed care market of the medical school and indicate some of the government and private payor strategies that are likely to impact the practice plan revenues in the current and coming periods. Their effects could be far-reaching.

DMC is increasing its suburban presence and moving toward a full range of services: "more ambulatory sites, diagnostic centers, home care, nursing home care and rehabilitation treatment." The strategy involves mergers and affiliations with other health care providers. (*Detroit News.* February 16, 1996) It also involves the addition of outpatient clinics in some of its regions. (*Crain's Detroit Business.* April 12, 1996, 1,20)

Casey (*Managed Care NewsPerspectives.* October 7, 1997) reported as of October 1997 that managed care penetration in the Detroit-area market had reached 25% with a Stage 2 rating. Sachs (*Hospitals & Health Services Administration.* Fall 1997, 3-26) characterizes a Stage 2 market as a loose, fragmented market with a growing managed care presence. Consumers at this managed care life cycle stage select an HMO over traditional indemnity offerings and PPO products for economic reasons such as cost sharing and premiums, and convenience reasons, such as geographic access. The most important selection factors are the location of hospitals and doctor's offices, whether there are deductibles, the cost of premiums, who is their doctor, simplicity of paperwork, and

prescription coverage. Least important are experience with the plan and plan reputation.

The managed care market of Wayne State University Medical School and its partner, Detroit Medical Center, is primarily urban and inner-city, although DMC has one hospital in suburban Oakland County and is taking steps to build modern clinics in some of the outlying areas. They are long-established providers in the metropolitan area, which is the domicile of a number of very large health care systems.

DMC, according to Casey (*Managed Care NewsPerspectives.* February 5, 1997 and September 17, 1996), has about a 14% market share while its nearest area rival, the Henry Ford Health System, has 11%. Casey also asserts that, because of the opposition of the United Auto Workers Union and its 240,000 members from the "Big 3", managed care has been slow to develop in the Detroit area. He also suggests that the absence of a for-profit hospital company in the Detroit Metropolitan Statistical Area has somewhat tempered the competitive need to merge services. (*Managed Care NewsPerspectives.* August 14, 1997) However, he earlier noted the rapid movement toward consolidation as small, independent providers fell into line under some of the leaders of the industry and several acute facilities were converted to outpatient centers. Moreover, DMC acquired 19 outpatient clinic sites that were formerly Michigan Health Care Corporation properties. Most of these were located in Detroit. (*Managed Care NewsPerspectives.* June 11, 1997)

In a report dated September 11, 1997 Fitch Investors Service rated the $173,655,000 Michigan State Hospital Finance Authority Revenue and Refunding Bond, Series 1997A, issue for DMC as "A". Fitch described DMC as dominating the tri-county market. However, it receives more than 60% of its revenue from Medicare (30%), Blue Cross (11%) and Medicaid (17%), a share that Fitch characterizes as relatively stable over the

past three years.

The analysis listed the following as strengths and "risks.":

Strengths	Risks
Strong market position. expected during hospital consolidation period.	Thin operating margins
Comprehensive strategic plan featuring hospital consolidation and cost reduction plans.	Challenges related to integration of system hospitals.
Extensive physician and ambulatory care. network.	Competitive metropolitan Detroit market
Solid balance sheet.	Continued revenue pressures from managed care and governmental payors, especially given relatively high cost position.
Affiliation with medical school.	

Casey warns that cutbacks in Medicare reimbursements could cause Detroit-area hospitals to lose hundreds of millions of revenue over five years. While Medicaid HMOs have generally been among the most profitable in the past two years, changes in distribution and the use of the competitive bid process will likely reduce reimbursements to these plans. (*Managed Care News Perspectives.* October 7, 1997)

Casey declared that with declining premiums and lower profit margins already putting pressure on Michigan HMOs, initiatives by public and private purchasers to hold health plans and providers more accountable are expected to stimulate ever more competition in the Detroit market. Purchasers are also evaluating health plans and hospitals as a part of their purchasing strategy. One major employer, General Motors, is benchmarking HMOs and using its employer contribution policy to steer salaried employees to those plans that score highest on measures of efficiency and quality. (*Managed Care NewsPerspectives.*

August 14, 1997)

According to minutes of the FMRE annual meeting on February 18, 1997, DMC in its Medicaid Request for Proposal submitted to the Michigan Department of Management and Budget indicated that letters of intent to participate had been entered into with OmniCare, Wellness Plan, Total and Community Choice of Michigan.

Casey asserts that "the 1998 budget bill that reduces Medicare spending by $115 billion over five years means hundreds of millions in lost revenue for Detroit-area hospitals. Henry Ford and DMC are expected to take substantial hits because 30% of their patients are on Medicare." (*Managed Care NewsPerspectives*. August 14, 1997)

In a recent presentation on the medical school and its operations to Dr. Irwin Reid, the new President of Wayne State University, Dean Robert J. Sokol described the medical school faculty practice plan as "a method to gain educational and research dollars for the medical school, [and] coordinating faculty educational responsibilities with the related demands of clinical private practice." Membership in the practice plans is voluntary and the 19 independent practice groups operate under contractual agreements with the university to provide clinical education and related patient care. A service agreement fee of 8.7% of the practice group's revenues is paid into The Fund for Medical Research and Education (FMRE), a "third-party beneficiary organization." In fiscal year 1996-1997 FMRE received $13,967,000 as its fee and incurred expenses of $12,131,000 for medical center academic programs. As indicated in Table 5.2, practice plan revenue in 1996-1997 amounted to $153,852,923.

Dean Sokol's persuasive account of the social value of the medical school's financial enterprise offers an understandably vague account of the array of prospects for revenue improvement and reimbursement shrinkages. Revenue increases are expected in pediatrics, pathology and emergency medicine and from savings through common billing mechanisms in neurology and pediatrics. However, expected decreases due to changes in the HCFA payment structure for specialty surgeries range from 10% to 44% while

anticipated increases from HCFA reimbursements for specialty services in internal medicine, general medicine and family medicine range from 1% to 19%. No overall evaluation is made of the net value of these changes.

Data as to the contributions made by the practice plans to instruction, research, patient care, faculty support, administration and overhead are shown in Table 5.2. The "franchise fee" seems to be in the nature of a "dean's tax" which at other public medical schools may reach more than 20% of practice plan income while at the same time contributing significant sums to academic initiatives and sponsoring its own research.

While the literature makes clear the threat that policy makers are intent on reducing very sharply payments to hospitals, it is difficult to predict what final form the legislation will take or the effect it will have on the practice plans and FMRE. However, if the multi-billion dollar reduction is enacted, DMC will undoubtedly be severely impacted and with its already "thin margins," its partnership obligations to the medical school sorely tested. The medical school's Revenue Report for 1996-1997 (Table 5.2) shows $31,886,750 in income received from DMC Reimbursement and $9,428,144 from Affiliated Institutions. These could be substantially diminished. Moreover, HFCA's plans for changes in reimbursements for medical services are usually copied by other third-party payors, which could result in additional revenue loss.

Some respondents state that the Dean not only establishes the basic principles of the practice plans including the dean's tax, he also has a role in plan decisions, new faculty appointments, reviewing salaries when the medical school is to pay a part of a faculty member's compensation, and so on. Others say that he plays no role in their plans. Hospital executives may attend some plan meetings and participate in some of their decisions; other chairs deny that hospital executives have any role in their plans' activities (Interviews of October 15, 20, 27, and 28 and November 21, 1997).

One faculty member suggested that it may be a mistake to generalize about departmental practice plans because there may be as many different characteristics as

there are people in them and that there may be no two exactly alike (Interview of October 28, 1997) . However, several respondents declared that the departmental practice plans are an *essential* part of their operations, providing according to some the only discretionary funds that chairs have. Some departments use the revenues for expenses other than compensation: textbooks and travel for fellows, a large amount for research and some to residents. While net revenues, if sufficient, may provide some discretionary funds for departmental chairs to use for such activities as intramural research or recruiting faculty, some respondents describe the plans as "absolutely critical of achieving the academic mission." The teaching and research missions are acknowledged as important but, according to some chairs, their departments could not exist without the income from departmental practice plans.

All practice plans are subjected to an audit by a CPA firm each year with copies of the audit reports given to the Dean. The University Board of Governors has access to departmental practice plan records as well.

The DMC medical staff consists of approximately 3,300 physicians including independent community physicians, employed physicians, and physicians in faculty practice groups. These physicians practice in a variety of settings, such as small single specialty primary care offices, large free-standing multi-specialty centers, and hospital-based ambulatory care facilities. The DMC ambulatory care system consists of 99 sites supplemented by the private offices of independent physicians who typically practice in DMC's "Physician System Organization" (PSO). The latter is jointly owned by the DMC, the medical school practice plans and independent physicians. It contracts on behalf of its member physicians with a variety of managed care organizations.

My search for the impact of managed care on the Wayne State University School of Medicine narrows to the school's departmental practice plans and to the medical school's partner, DMC. DMC accounts for all of the facilities revenue of the medical center, while the medical school's departmental practice plans account for all of the medical

service revenue generated by the medical school's faculty. The success of these partners' efforts to meet the competition from managed care are reflected in their annual financial statements of operations. The annual reports of DMC's financial operations are available and show that through the year ended December 31, 1996 it had net revenues in excess of expenses of $26,107,000 out of total revenues and other support of $1,339,899,000. However, the unaudited results of consolidated operations for the six months ended June 30, 1997 reflected a loss of $1,451,000. Furthermore, the manner in which DMC's financial results are reported makes it impossible to learn certain relevant information from them such as the transactions involving the medical school, the particulars of the revenue generated from major sources such as Medicare, Medicaid, Blue Cross and Blue Shield, etc. Comparative figures on revenue would tend to indicate whether the strategies implemented were paying off in terms of increased revenue or profits.

The audited financial statements of the medical school's departmental practice plans are only available to insiders: the dean, the Board of Trustees, etc. Details of their performance are not made available to the public upon request, as are all the other Wayne State University audit reports. However, sufficient details were made available to complete Table 5.2..

Conclusion

The auto industry dominates the economic activity in southeastern Michigan and the escalating costs of the health care contracts of the 264,000 UAW members that the Big Three pay for represent a nagging problem for the automakers. Economic conditions have been favorable for a number of years and these companies have added manpower to meet production demands. Opposition by the UAW to for-profit HMOs is credited with keeping these more aggressive organizations out of this area, plus the unwillingness of the car makers in recent contract negotiations to risk labor unrest by challenging the health care provisions of the existing union contracts. Evidence of the manufacturers' concern with the cost of health care is manifest in their direct approach to providers to

push for firm commitments for no increases for at least five years. Furthermore, 1998 is perhaps the first year in many that manufacturers have discounted some new car models, so there may be the beginnings of an oversupply of automotive vehicles. In addition, the presidents of all of the Big Three companies have reputations as cost-cutters. With a deteriorating car market, it will be much more difficult for organized labor to maintain the present level of employer-paid health care benefits. Moreover, most of DMC's facilities are located in the inner city with a large population of unemployed. Layoffs accompanying an economic downturn would undoubtedly increase the already heavy load of uncompensated care on the medical school and DMC.

The Michigan market is an attractive market to health care providers domiciled in other states. Columbia/HCA tried to buy an interest in a Lansing hospital but was rebuffed in a legal challenge. A California for-profit health care organization approached Blue Cross/Blue Shield of Michigan for a merger or acquisition but apparently the latter had plans to expand to other states as a mutual company.

The medical school has performed reasonably well over the past six years in a managed care environment. Between fiscal year 1991-1992 and 1996-1997 its practice plan revenue increased 65.68%, or an average of more than 10% per year. However, the annual service agreement fee to FMRE leveled off in 1996-1997 and increased in that year less than one percent from 1995-1996. Salary reimbursements from DMC over this six year period increased by 71.45%.

Fitch Investors Service, LP, which rated DMC's bond offering of $173,655,000 in September 1997 pointed to DMC's several advantages such as strong market position, comprehensive strategic plan for hospital consolidation and cost reduction, but stressed its thin operating margins (1.6% in 1994 and 1995 and 2.4% in 1996), its competitive marketplace, and its relatively high cost structure in an environment with continued pressures on prices.

The medical school's partnership with DMC involves a considerable dependency and

risk since the latter is a separate organization with a very large enterprise to manage effectively, a substantial amount of long-term debt and enormous assets specifically built for health care purposes to manage most effectively . A medical school's relations with its allies may be strained and weakened by such problems

The medical school relies upon DMC to perform the marketing function and to provide facilities for patient care and some research and medical education. While the dedication and commitment are presently mutual, severe unforeseen circumstances such as a rapidly deteriorating financial condition or an urgent need or desire to sell or merge with another organization for example, could cause DMC to pursue a course solely in its own best interests.

Generally speaking, the acute care hospitals and health systems in the Detroit Metropolitan Statistical Area (MSA) had relatively strong profits in 1997. By contrast, the Detroit Medical Center lost $76 million at its hospitals and outpatient clinics in its fiscal year ended June 30, 1997. (*Detroit Free Press,* November 5, 1998, F2) Its system provided $136 million in uncompensated care during that period. (*Crain's Detroit Business*, September 14, 1998) DMC blamed the loss on the cost of merging Grace and Sinai Hospitals and moving parts of the Rehabilitation Institute. However, some doctors said that part of the reason was that some physicians had taken their patients to other facilities. (*Medical Data International, Inc., Managed Care NewsPerspectives*, September 11, 1998) DMC announced that it was putting the merger of Sinai and Grace Hospitals on hold because of the rising costs of effecting the union. (*Crain's Detroit Business,* October 18, 1998)

Moody's Investors Service reduced the rating on DMC's $513 million in outstanding bonds from A2 to A3 and assigned an A3 rating to a $105 million bond issue to be floated by Michigan State Hospital Finance Authority . (A *Moody* rating of A indicates that the bonds possess many favorable investment attributes and are to be considered as upper medium grade obligations. Those believed to possess the strongest investment

attributes in the A category are designated by the symbols Aa1 or A1. Factors giving security to principal and interest are considered adequate but elements may be present which suggest a susceptibility to impairment sometime in the future). The rating service based its revised evaluation on the decline in DMC's operating margin, despite a strong market position, caused by losses at Sinai Hospital, unexpected larger declines in profit at its health clinics and increases in bad debts. In addition, consolidations and cost reduction efforts were more expensive than had been anticipated. *Moody's* stated that DMC was expected to again become profitable in late 1999 or 2000 (*Modern Healthcare,* September 7, 1998, 44) *The Bond Buyer* (September 4, 1998, 20) asserted that "The downgrade reflects growing losses at physician practices, limited progress in reducing the gap between DMC's high cost structure and competitors,, and delays in key consolidations of inpatient facilities."

Fitch IBCA also reduced the ratings of DMC's bonds, both those outstanding and those scheduled to be sold beginning the week of September 7, 1998. *PR Newswire* (August 20, 1998) declared "The challenge of consolidating three of its eight hospitals and turning around a recently acquired unprofitable ambulatory network has caused an erosion of DMC's profitability. While DMC continues to exhibit a solid balance sheet and debt service coverage, as well as a leading market share position in the highly competitive greater Detroit metropolitan area, *Fitch IBCA 's* rating reflects its belief that significant operational improvement is at least three years away."

The medical school could be in a vulnerable position if:

1. Managed care moves from Stage 2 to Stage 3 or 4.

   Stage 3 is characterized by the beginnings of plan consolidation -- tightening utilization, increased competition between plans, and the beginning signs of market maturity. Consumers at this managed care life cycle stage select an HMO over traditional indemnity offerings for cost and convenience reasons. As consumers begin to acquire system operation knowledge, however, plan benefits and services join the list of driving selection factors. Stage 4 is characterized by a tight market with fewer players, a high degree of competition and continued strict utilization control.

> Consumers at this point select an HMO over traditional indemnity offerings and PPO products for cost and geographic reasons. As consumers acquire more experience with and information about managed care alternatives, they also become more discriminating in the selection process. Typical demands focus on improved process issues and medical care. In Stage 4 markets it becomes abundantly clear that consumers willingly relinquish ties to a single physician, if the institutional brand delivers on its care promise . . . [the suggestion is that] consumers want it all, and by Stage 4, believe they can get it. The desired package includes a plan with a low premium and low deductibles, simple paperwork, convenient delivery locations, and comprehensive benefits, including outstanding pediatric services and prescription coverage -- cost, convenience, and coverage. (Sachs 1997, 3-26),

2. The cumulative cutbacks in reimbursements and third party payments drastically reduce the profit margin in medical and facility services,

3. The medical school is forced to reduce admissions substantially thus reducing tuition and house officer revenue,

4. DMC and the medical school are unable to reduce costs to the point where they remain competitive, and

5. DMC is unable to maintain and possibly increase market share for facility and medical services.

Among the alternatives that present themselves to the School of Medicine are:

1. Adding to the development staff and starting a major campaign to increase the size of the endowment fund in order to support the necessary research and educational activities that continues the growth of the School of Medicine in terms of prestige.

2. Encouraging faculty and other medical school staff members to become more involved in networking and marketing the medical center's services across a much broader geographical area.

3. Integrating the practice plans. This could facilitate the cost reduction program that might otherwise be impeded by the awareness that reducing average hospital stays, diagnostic tests, etc., for example, would reduce certain physicians' income. By moving away from the stand-alone plans, doctors who face the loss of income by affecting institutional savings could be made whole by income from other sources, assuming that hospital admissions remain relatively stable. Such savings should benefit all faculty in the

long run by making the medical center a more attractive health care facility.

Wilczak (1990:83-87) asserts that "most FPPs lack strategic direction. Very few plans have developed mission statements and supportive strategic plans; therefore, the direction of faculty practice is often dictated or at least heavily influenced, by the medical school or teaching hospital . . . FPPs should make maximum use of negotiating leverage with third-party payors, employers, and vendors." (84,85) Wilczak also declares

> The growth and increased complexity of FPPs will require a new generation of physician leaders, who must capitalize on the physician talent within their organizations by identifying and encouraging physicians to become actively involved in the administration and direction of the practice . . . Patients are demanding and receiving higher levels of service. They no longer tolerate poorly trained staff, interminable waiting times, or lengthy appointment lead times. In this age of consumerism, FPPs must respond to patient demands by creating a service-oriented culture. They must create patient demand through a well-defined and well-executed marketing strategy. (86) Traditionally, FPPs have been somewhat loath to consider long-term capitalization . . . As faculty practice plans develop capital requirements for buildings, management information systems, and satellite practices, they will require alternate longer-term methods of financing thus relieving the burden of financing long-term projects with current income. (87)

In an attitudinal assessment of faculty practice plans conducted by MacLeod et al. in 1997 (1997:1072-75), the investigators found among other things, that in some communities both academic and community respondents remarked about how much increased competition had affected alumni relationships with the medical school. (1074)

4. Allcorn and Winston (1996:846-57) recommend that AHCs be reorganized along a service-line matrix management model following their missions of patient care, biomedical research and medical education. Each service line would have its own chief executive and managers with responsibility for providing revenue and controlling expenses in their areas. Each becomes a profit center that requires accountability and productivity from faculty and staff. This is offered as a business-like approach that may replace the traditional model of using all income streams to pay for operations, a model which has been found wanting in this period of financial stress. This structure, however, may not promote institutional goals as well as an integrated practice plan.

5. Reassessing the monetary incentives in the integrated practice plan for faculty to bring them in line with the need to be more productive and increase revenues.

6. Encouraging faculty physicians to be even more receptive to a unified approach to becoming a more successful participant in Michigan health care.

7. Assuring that departmental chairs have the skills to meet the new needs of managed care marketplace. The data base developed by AAMC that shows the sizes of medical school faculty and a variety of measures for each department and for some divisions of clinical departments should be helpful in accomplishing this. This data base provides benchmarking information for planning and management. The Advisory Panel on the Mission and Organization of Medical Schools which urged AAMC to develop the data suggested that business acumen, planning and coordination are crucial to effectiveness. It also argues that group practices should be aligned other than on a departmental basis. (Haupt et al. 1997:182-84)

8. Investing in the development of promising new researchers to participate in the increased NIH appropriations. Successful investigators could produce a substantial return.

What has been the impact of managed care on the Wayne State University School of Medicine? The competition from managed care has forced it to examine how it does business and how to improve its operations so that it can contend in the marketplace and earn a competitive return. This has involved many changes, notably in efforts to reduce the costs of compensation and facilities and gain more professional productivity from its faculty, but also actions to increase its market share. Some of the consequences of these actions are reflected in FMRE's 1997 Annual Report and DMC's financial statements for the year ended June 30, 1997.

CHAPTER 6

TWO MEDICAL SCHOOLS: COMMONALITIES, CONTRASTS AND GENERAL IMPLICATIONS

Similarities

There are many similarities between the two medical schools. Both are public medical schools. The University of Michigan has a "Center of Excellence" in cancer research and treatment; Wayne State University has the Barbara Ann Karmanos Cancer Research Institute for the prevention, detection and treatment of cancer. They both have renowned physicians and research scientists in various disciplines and both offer the latest and most advanced therapeutics and technology. And both share many of the same problems.

Both schools struggle with reducing the costs of medical and faculty services to competitive levels while trying to maintain their tripartite missions. Some of the cost reduction efforts such as decreasing average hospital stay, reducing the number of x-rays and other diagnostic tests, etc., tend to lower physicians' incomes and thus introduce another problem: how to compensate these doctors for actions which further the interests of the institution but not necessarily the short-term interests of the individuals involved.

Formerly, students received all of their advanced training and patient contact in hospitals. Now that only the sickest patients are treated in hospitals, medical education has had to move with the patients to the outpatient clinics. As a consequence, medical education is now more time-consuming and costly than before. Furthermore, the medical student may not see enough patients to ensure exposure to a full range of illnesses or be able, because of the patients' short-term stays in the ambulatory clinics, to observe patients on multiple occasions as s/he would in the hospital setting. This has also created a need to supplement students' experiences by placing them one-half day each for 12 weeks in the offices of community physicians who volunteer their time for this training.

Medical schools in Michigan compete with each other for these placements. The attendant problems for the medical schools are not only to cultivate and retain these community physicians but to ensure that the quality of the instruction the students receive is maintained at these off-campus sites.

The marketing function for both medical centers has become more important than ever before. The medical schools must become deeply involved in ways to use most effectively their reputations for excellent, competitively-priced care to attract and retain patients and to convince employers, HMOs and other health care providers that their services and access to them are a good value.

Both medical schools regard biomedical research as a vital link between medical education and patient care. Such research inspires and informs teachers and students alike and it brings new discoveries to the bedside. However, with increased competition for grants and the pressures on revenues from patient care, both medical schools are faced with finding the means to support established researchers who are temporarily unsuccessful in their grant applications and promising young scientists who are building foundations for their careers. Both schools also miss the salary supplements which these research grants provide. Reduced patient care revenues curtail the amount of funds available for intramural research projects.

Although both are public medical schools, the annual appropriations provided by the state are not, according to respondents, sufficient to pay all of the costs of the education of the students they admit. The revenues from patient care have traditionally been used to supplement the pay of the faculty who teach. With the diminution of patient care revenues, both medical schools may eventually be forced to consider and actively support government intervention -- perhaps a tax on health care services. However, the faculty at both schools are strongly opposed to regulations, especially those involving the training of physicians or specifying the number and kind of doctors to educate. They would prefer for market forces to determine whether there are too many specialists/subspecialists and

whether there is too much emphasis in medical schools on clinical productivity.

Perhaps the most daunting problem for both medical schools is to integrate and motivate their faculties and staffs in a manner that will enable them to employ their skills most efficiently in a team effort to satisfy their patients' health care needs and ease the organizational stresses that are consequences of the changes in the health care environment.

With the increasing competition from managed care, administrators of these state medical schools face a continuing struggle to find a tenable, publicly-acceptable balance among the educational, research and patient care missions of their institutions. This imbalance has been brought about by a multiple of events, but most particularly the marketplace competition created by the introduction of managed care. It has forced AMCs to reorganize and to direct more of their energies to the acquisition, care and retention of patients, the main source of their earnings.

Differences

The University of Michigan owns its hospitals. Wayne State's School of Medicine relies upon the Detroit Medical Center, a separate non-university entity, to market its services, provide training and treatment facilities and to bill and collect for facility services. While Wayne State's School of Medicine and DMC are very close partners with compatible objectives, interlocking managerial appointments and linked financial fortunes, DMC's investments in the health care business are substantially greater than those of the medical school. Consequently, both medical schools bear somewhat similar risks in this area although the University of Michigan may be more responsible for its own destiny than Wayne State. The reason for this is that the University of Michigan has unity of management in that both the hospital system and the medical school are overseen by central administration executives. Nevertheless, while the University of Michigan's hospital system has in the main been profitable, its long term risk exposure may be

greater because of the university's ownership of vast physical facilities designed for a single business purpose. The value of Wayne State's medical school plant, property and equipment is more modest in comparison.

The departmental practice plans at Wayne State's School of Medicine are free-standing organizations while those at the University of Michigan's Medical School are integrated. The latter arrangement offers the potential of greater flexibility in providing system-wide incentives, investing in promising new ventures and offering opportunities for physician unity and teamwork. However, integration is not universally popular with physicians, especially those whose departments perform better financially than the others in the school.

Wayne State's School of Medicine and its affiliate, DMC, take pride in being inner-city and highly valued community assets and they promote the image of unique resources safeguarding the health of a defined population. Most of DMC's hospitals are located on Wayne State's medical campus in Detroit but it does have one hospital in suburban Oakland County. The two partner institutions serve primarily the counties of Wayne, Oakland and Macomb but they are increasing their suburban clinical presence. The University of Michigan's Medical School is located in Ann Arbor, a city of about 100,000, some 40 miles west of Detroit. Its hospitals and most of its specialty clinics are also situated in Ann Arbor. However, in recent years it has extended its referral networks around the state and has now opened clinics in Livonia, Farmington Hills, Canton, Plymouth and Novi in order to better serve patients in the Detroit metropolitan area.

The School of Medicine at Wayne State University admits 256 undergraduate medical students annually while the University of Michigan Medical School enrolls 170. Wayne's medical school boasts of its diversified student body and of its minority enrollment which it contends is larger than any other state medical school. This policy is regarded as reinforcing its ties with the urban community and furthering its social mission.

With the formation of the Faculty Group Practice by the physicians at the University of Michigan, the balance of power between the medical school and the hospital system seems more nearly equal there than at Wayne State's medical school where DMC is the owner of the hospitals and outpatient clinics as explained above. An effective framework appears to be taking shape at the University of Michigan for ensuring the equitable resolution of divergent managerial problems and for serving the best interests of the university as a whole. The final need may be met by establishing a productive tension among the Dean, the FGP and the hospital management. The new EVPMA has the opportunity to supply the leadership to make this a reality.

What The Two Case Studies Tells The Reader About The Problems of Medical Schools In An Era of Expanding Group Care

What can be learned from these two case studies about the problems of U. S. medical schools in an era of managed care? The case studies demonstrate that with the emergence of alternative delivery systems and the involvement of the state and federal governments all of the schools' missions are affected: medical education, biomedical research and patient care.

As Rein et al. (1997:218) and others have discovered, medical education is a complex, costly process. With the advent of managed care and the treatment of more patients in ambulatory centers, the training of medical students is much more time-consuming and labor intensive and greater care must be devoted to ensuring that trainees experience an adequate number and mix of cases. As a part of this effort these two medical schools have found it necessary to induce and keep community physicians to mentor students who elect to spend one-half day each week for 12 weeks in these doctors' practices, this at a time when these physicians are feeling the competitive time and cost pressures to maintain their own professional incomes. Furthermore, these schools have

employed more family care physicians who are involved in medical education as well as patient care.

Although representatives at both schools insist that they have not neglected the education of students, it is clear that the time and effort devoted to medical education is under considerable pressure from both research and patient care. The revenue from patient care subsidizes both of these missions so it is vital to survival.

Among the problems faced by these medical schools in the area of research is how to provide salary support to those investigators whose grants do not pay sufficient compensation to match the pay of their peers and how to finance key researchers who are temporarily without awards or how to fund opportunities to promising graduate students to stimulate their interest in careers as investigators. They must also find internal funds to sponsor intramural research.

Both schools have experienced problems resulting from increased competition from academicians for research funds and the shifting agendas of granting agencies. In addition, they value research both for improving teaching ability and for making the schools more attractive institutions to students, prospective recruits and donors.

The spread of managed care has brought pressures on the prices of health care services in all areas of patient care. These AMCs now treat many more patients in ambulatory centers and employ many more family physicians and generalists. New facilities have been acquired and obsolete beds have been retired. With the vast number of uninsured, currently 43 million, these medical schools face an increasing volume of non-reimbursed care as well as considerable scheduled decreases over a period of five years in reimbursement for the care of Medicare patients. Cost containment in all areas of their practices is the rule and includes reductions in the length of hospital stays and the number of diagnostic tests, the more efficient utilization of clinics, laboratories and available hours, the provision of clinical guidelines and the use of outcome measures.

Another important impact of managed care competition is the demand for greater

clinical productivity. Faculty physicians must now critically examine how they practice in order to achieve greater efficiency and lower their costs. Both DMC and the U-M Medical School acquired the practices of some primary care physicians earlier in the program but like some other institutional purchasers, found that is was difficult to keep these doctors productive without providing financial incentives.

These AMCs have discovered that large investments in computer equipment and communication networks are required to permit on-line responses and increase managerial effectiveness and control costs, especially in a capitated environment.

Managed care has forced these AMCs to changes the types of appointments offered to new faculty as well as the purposes of new hires which is primarily to deliver patient care.

Following the lead of managed care organizations, these AMCs are focusing more on preventive medicine.

Among their numerous responses to managed care competition has been to alter their organizational structures to act more expeditiously in making policy and implementing their strategies. The medical school at University of Michigan established its own HMO, M-Care, which it employs to market its managed care services. Detroit Medical Center also formed an PPO. U-M Medical School integrated its patient care activities with those of the University Hospitals & Health Centers, establishing the Clinical Delivery System to insure more teamwork and cooperation as well as to achieve unity of effort in planning and management. It also replaced its free-standing departmental practice plans by a multi-specialty faculty practice, the Faculty Group Practice, to integrate clinical and academic roles and responsibilities and balance institutional agendas. Departmental chairs lost some autonomy under the reorganization but some are relieved that focus will be on overall institutional priorities rather than individual departmental preferences.

DMC acquired Sinai Hospital, merging it with Huron Valley Hospital and scheduled the closure of Grace and Hutzel Hospitals and the Rehabilitation Institute.

The two medical schools provide a contrast in operating strategies in that the

University of Michigan owns its hospital system while Wayne State University does not, relying instead on the Detroit Medical Center to provide patient care facilities. DMC also furnishes the marketing and facility billing services for the medical school. Both have demonstrated that good relations with hospitals are very important as referral agents and as sites for student rotations, elective clerkships and residency placements.

These case studies emphasize the critical role played by the revenues generated by practice plans. Nothing is more critical for the medical schools' financial viability than these revenues. They are essential and key to the accomplishment of the goals of education and research.

CHAPTER 7

FUTURE DEVELOPMENTS

Bradley (1966:16-17) predicts that over the long term as cost reductions and discounting produce diminishing returns, improvements in quality will mean the difference between failure and financial viability. More informed consumers with knowledge of key outcome measures and personal responsibility for health care choices will make the patient a more dominant player in the system. He envisions a greater emphasis on the total costs of health status by employers, taking into account disability, workers' compensation and other similar expenses incurred to promote and provide a productive workforce. He thinks that direct contracting with providers, bypassing managed care organizations and insurers, will occur and that regulation will not only become more intense but will focus on quality and performance.

Fonner suggests that

> Looking across the U. S. health care delivery landscape in five years, we will continue to see a multiplicity of ownership structures, significant decentralization, and an imbalance between levels of well-being and quality of life among populations representing different economic strata. Although more coordination, collaboration, and consolidation will be occurring, the overall landscape will not look appreciably different. It may take decades to effect wholesale, meaningful change. (1996:9)

Connerton (1996:17-20) thinks that the employers who feel that they have overcome inflation in health care costs will be shocked when they see substantial cost-shifting return, referring to a study by Lewin-VHI which forecasts a shift of about forty percent of proposed cuts in public spending to private payers. She declares that most buyers of health care services show little interest in limiting their contracting to quality performers and that there is now no mechanism for proscribing the providers who concentrate on low cost rather than quality.

On the other hand, Halverson (1996:23-24) argues that providers now recognize that the consumer/buyer marketplace will hold them accountable for their performances. He fears that they will form competing care organizations or regional monopolies in order to

avoid being forced to make changes in the way they do business.

According to Simons (1996:24), there will be

> more consolidation . . . more growth of managed care . . . more competition . . . more collaboration among purchasers, more choice of plans and less choice of providers for patients, more reengineering and cost-cutting, and more concern about quality of care and our capacity to assess it.

He contends that despite the seeming end of the 1993-94 debate the problems of access and cost are still as dominant as before. He, too, foresees a massive wave of cost-shifting by providers, resulting in much of it being absorbed by employees who will share in the costs or forego wage increases. This could renew the call for wide-ranging reform.

Berman et al. (1994) declare that demographics and technology will have the greatest impact on the shape of the future health care environment. The greater number of frail elderly and the feminine movement, they assert, assure the continuance of steadily rising costs. Moreover, the economic segmentation of society and the emergence of successive generations of persons receiving public assistance are causing fresh and renewed health problems to be dealt with, so that demand and need will be expanding. Furthermore, our society is composed of members with higher educational attainments, higher incomes and higher expectations which have been fed by health care advances. However, resources are "both finite and limited." The authors argue: "We have learned how to say 'give us more.' Now we must learn how and when to say 'enough.'" (675)

Meyer (1996:66-74) points out that one of the latest developments in health care marketing is the promotion of "centers of excellence." He declares that ". . . unless a facility is in the *outcome business,* they really cannot become a self-proclaimed center of excellence." (68) In order to be a candidate as a center of excellence, a health care entity must emphasize accountability, quality management, competition-based and verifiable results, price and value, he argues. Outcome studies are said to be based on "1) clinical findings measured by health care providers; 2) function and quality of life as reported by patients; and 3) utilization of health care services reported by both patients and

providers." (82)

One respondent predicts that the successful future medical school departments will need a blend of tenure track and clinical faculty members. The tenure track faculty will perform in their traditional roles, dividing their time between the laboratory and the bedside, and the clinical track members will be devoted solely to patient care. He argues that with the increased reliance on patient care, a much larger clinical group will be required to support the academic mission. Moreover, in his view there will be an integration of academic physicians with community practitioners instead of an integration of disciplines. The community physicians will be trained in the latest therapeutics and technologies and treated as extended members of the medical school's clinical faculty.

Another interviewee thinks that as the business of medicine becomes more cost-competitive, the traditional partnerships and affiliations based on common educational and research interests will be succeeded by relationships based on financial and economic concerns. In addition, he believes that programs such as residency training at individual hospitals may disappear and that many providers will be purchased or absorbed by others or fail.

One executive asserted that the administration regarded the future role of the University of Michigan Medical School to be not as a medical center but as a health care system, i. e., a tertiary medical facility with primary care ambulatory sites and links with area hospitals that see the advantage of preferential referral relationships with tertiary centers. However, the medical school must make available to those local hospitals something of value above the ordinary: excellent care facilities, education programs to enable their physicians to keep their skills current, evidence-based practice guidelines and other unique services that the institution's talented faculty can supply

Others think that in the future care will be delivered more quickly, therefore, a major task for management is to train staff members and get them prepared to perform productively at different sites while moving through a care continuum. One respondent

predicts that managed care will aid the medical school in developing affiliations with some local hospitals because they will be under similar pressures and will want to develop care of the highest quality and learn from the faculty's clinical expertise.

With respect to financial prospects for the immediate future for heathcare organizations in southeastern Michigan, the University of Michigan Hospitals & Health Centers forecast that increasing patient volume, especially for outpatient services, will push fiscal year revenues up to more than $975 million -- a 2..9% increase over fiscal year 1998, according to Gilbert S. Omenn, Executive Vice President for Medical Affairs. However, the extra physicians, nurses, support staff and supplies required to care for additional patients -- along with $15 million to fix the Year 2000 computer problem -- will push expenses up more that 5% to nearly $974 million. H&HC administrators project a $1.5 million operating gain for the new fiscal year -- a :"grocery store-type of margin," says Omenn, which will force the system to intensify its cost-reduction program while continuing ongoing efforts to improve the quality of patient care. Omenn said that revenue pressure will continue to intensify over the next five years as the H&HC absorb $216 million -- or about $40 million annually in projected reductions from Blue Cross/Blue Shield of Michigan and Medicare. (*University Record*, Vol. 54, No. 1, September 8. 1998, 11-12)

Gail Warden, President and Chief Executive Officer of Henry Ford Health System of Detroit, said in an interview with a reporter from *Monitor,* HFHS's employee publication, that "this is the worst financial year in more than a decade. In fact, we anticipate that the System will finish the year 'in the red.' Most health care organizations like ours are in the midst of tough times. We've all been hit by government cutbacks and medical cost inflation that is twice the general inflation rate. At the same time, there is pressure from employers that make it difficult to raise prices." (*Monitor.* Vol. 46 , No. 39, September 28, 1998, 1)

APPENDIX

1. Interviews. The primary source of information for the two case studies is from material gathered in the course of interviews with hospital executives, medical school administrators, and departmental chairs at the respective medical schools. I interviewed the following faculty and hospital executives:

	Wayne State University School of Medicine	University of Michigan Medical School
Associate Deans	5	5
Departmental chairs	4	4
Departmental chief associate chair		1
Hospital executives	1	1

Time period during which the interviews took place:

October and November 1997 for Wayne State and December 1997 and January and February 1998 for The University of Michigan.

2. The interview questionnaires used are as follows:

QUESTIONNAIRES FOR RESEARCH STUDY B03-32-97(b-03)-X

Part 1 - Questions for medical school dean or his top staff members

1. A. There has been much discussion and speculation about the effect on academic medical centers of the radical changes taking place in the health care marketplace, many expressing fears that some centers may even cease to exist while others may be fundamentally altered. From your perspective how do you think your medical school will be affected?

B. Academic programs of medical schools are reported to be financially threatened by a number of factor. Do you see any problems for your medical school resulting from:

i. State funding?

ii. Increased competition for research funds?

iii. Cost pressures on the hospitals associated with the medical school?

C. What are the strengths of your medical school that you see as being most helpful in remaining competitive and viable?

D. What organizational arrangements or structures does your medical school have for planning and strategy formulation?

E. What do you regard as being their strengths?

F. What are their weaknesses?

2. A. Some academic medical centers own their own hospitals, while others do not. Do you think such ownership is a positive factor in the operation of the medical school?

B. A negative factor?

C. Why do you think that this is so?

D. What problems do you see as apt to occur in your medical school's relationships with its affiliated hospitals that could affect the programs for which you are responsible?

E. One of the major trends in the hospital sector in the country has been the increase in mergers. There has been reports about a possible merger of the Detroit Medical Center and Henry Ford Hospital. What effect do you think that this merger, or any other possible merger, will have on your program?

3. A. The number of research grants and total research funds available to your medical

school has increased substantially in the last decade. What changes have these increases brought to your medical school?

B. Has access to these funds affected the teaching function? If so, in what way?

C. Have there been positive effects? If so, in what way?

D. Have there been negative effects? If so, in what way?

E. Some critics have argued that with the increased specialization of medical school faculty members in some schools instruction by the basic science departments has suffered. Have there been any problems experienced by your school in this respect in supporting its broad goals of medical education?

F. Have some researchers lost funding support because of increasing grant standards? If so, has this caused any problems?

G. Have some researchers lost funding support because of the shifting research priorities of grant agencies? If so, has this caused any problems?

4. What issues that we have not covered are most likely to emerge in the future for academic medical centers that might affect your medical school?

5. Can you furnish me with a copy of the organization chart for your area of responsibility?

6. Can you provide me with any reports such as annual activity reports or data that will aid me understanding better the nature and scope of the activities for which your are responsible?

Part 2 - Questions for Departmental Chairs (Hospital Departmental Chiefs of Service)

1. How are changes in the metropolitan Detroit (southeastern Michigan) area health care

market likely to affect the university's school of medicine?

2. How will the relationships between your school of medicine and its affiliated and cooperating hospitals likely evolve over time?

3. How do the funding demands of the medical school's research support interact with the function of medical education?

4. How will the evolving pattern of support from funding agencies affect your medical school programs?

5. Does your department have an adequate number of faculty to meet departmental objectives? Could you use more members for greater efficiency?

6. Do you have the appropriate mix of faculty to meet departmental objectives?

7. Are the demands for meeting departmental objectives likely to lead to different recruitment approaches in the future?

8. In what ways does the operation of the departmental practice plan affect your ability to discharge your responsibilities?

9. Do the requirements of the faculty practice plans affect the teaching and research activities of faculty members? If so, how?

10. How are practice plan decisions made? I. By committee? ____ ii. By departmental chair? ____ iii. Does the dean have a role in these decisions? ____ iv. Do any of the hospital executives participate in these decisions? ____

11. Do you regard the funds generated by the departmental practice plan as adequate ?

12. A. Are the practice plan funds likely to increase in the future? If so, i. By a large amount? ____ ii. By a moderate amount? ____ iii. By a small amount? ____

B. Are the practice plan funds likely to decrease in the future? If so, i. By a large amount? ____ ii. By a moderate amount? ____ iii. By a small amount? ____

13. There is a continuing debate concerning whether the medical school curriculum as presently constituted is providing appropriate training for today's physicians, especially with the rise in managed care and treatment in ambulatory settings. What is your assessment of your medical school's current efforts in preparing students for medical careers?

14. Have there been changes in the curriculum in response to current changes in the delivery of health care?

15. Are there any further curriculum changes that you regard as being desirable? If so, when should they be instituted?

16. How do the planning structures for the medical school work? Are there any plans for changes in these processes in the future?

17. Can you furnish me with a copy of the organization chart for your area of responsibility?

18. Can you provide me with any reports such as annual activity reports or other information that would aid me in understanding better the nature and scope of the operations for which you are responsible?

Part 3 - Questions for executive(s) of hospital system

1. One analyst has w written that "perhaps no institution will be more affected by the changes occurring in health care than teaching hospitals associated with academic medical centers." Do you agree with this view?

2. What do you think are the principal problems that Detroit Medical Center (University Hospital) faces?

3. Have these developments resulted in any redesign in the ways in which your hospitals provide care?

4. Integrated delivery systems are increasingly being introduced in hospitals. What steps has the Detroit Medical Center (University Hospital) taken in this direction?

5. DMC Care was established in 1991 (M-Care was established in 1986). What role do you envision for DMC Care (M-Care) in the future of the Detroit Medical Center (University Hospital)?

6. Do you think that the views on "quality of care" of those physicians who work in academic medicine and those who practice in the community on managed care contracts are in any way in conflict? If so, can they be reconciled over the near term? If so, how can this be accomplished?

7. Are your plans, strategies and goals based on a survey or needs assessment of your current and future patients and the communities in which they live?

8. Since today's health care environment is one of the contraction rather than expansion, medical schools and hospitals are searching for ways to work together more effectively. What are some of the ways your hospital system has found to achieve greater overall effectiveness and efficiency?

9. What organized procedures do you have in place in the hospital system for assuring good patient care?

10. In day-to-day hospital operations how are decision-making responsibilities allocated between medical school representatives and hospital managerial staff?

11. In planning and policy formulation how is a balance maintained between the sometimes diverging interests and goals of the hospital system and the medical school?

12. What do you see Detroit Medical Center (University Hospital) looking like in five or ten years? What changes will the system under go?

13. In your opinion, what organized delivery systems are likely to survive in southeastern Michigan if managed care penetration reaches forty percent or above?

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ABSTRACT

FINANCIAL PROBLEMS CONFRONTING U. S. MEDICAL SCHOOLS IN AN ERA OF EXPANDING GROUP CARE

by

CHARLES H. McMURRAY

May 1999

Advisor: Professor Charles J. Parrish

Major: Political Science

Degree: Doctor of Philosophy

This dissertation shows the impact upon two academic medical centers (AMCs) from the competition from managed care. From fiscally sound and thriving organizations a decade ago, many medical schools are now facing severe money problems.

U. S. medical schools derive a large share of their general operating revenues from patient care, through the income of practice plans. Since neither tuition nor research generate sufficient funds to cover medical school costs, income from practice plans is vital. The reason most frequently given for the medical schools' fiscal problems is the penetration by managed care organizations into the markets in which AMCs' practice plans once flourished.

Interviews were conducted with faculty members at two public medical schools in Michigan, Wayne State University School of Medicine and the University of Michigan Medical School, during the period October, 1997 and February 1998 to gather information for this study. The dissertation reports the transformation that has been taking place in medicine and the coping strategies that AMCs have adopted to remain competitive. Among the strategies adopted were organizational restructurings, greater clinical productivity, employing more primary care physicians, treating a greater number of patients in ambulatory centers, introducing cost-containment measures, and increased marketing efforts.

Although some of the evidence is indirect since neither medical school disclose definitive details of their practice plans' financial activities, both schools examined appeared to do well in the past fiscal year. The leadership is encouraged but not satisfied with these results. The conclusion is that the changes and adjustments such as the vigorous efforts to reduce costs, increase productivity and market share have contributed substantially to their success. However, economic conditions in their areas of operation and the relatively mild stage of managed care competition (Stage I) are undoubtedly contributive factors which must also be considered in any assessment of their performances. It is appropriate that they are not relaxing their efforts or their vigilance with the real possibility that managed care penetration may reach the same level as in California and certain other regions of the country.

AUTOBIOGRAPHICAL STATEMENT

Name: Charles H. McMurray Date of birth: August 13, 1916

Education

Ph. D. Political Science
Wayne State University, Detroit, Michigan, 1999

M. A. Political Science
Wayne State University, Detroit, Michigan, 1992

Master of Laws Law
Wayne State University, Detroit, Michigan, 1983

J. D. Law
Wayne State University, Detroit, Michigan, 1966

M. B. A. Accounting
University of Southern California, Los Angeles, California, 1952

B. S. Accounting
University of Detroit, Detroit, Michigan, 1950

Professional Affiliations

Member, Michigan State Bar Association
Member, American Institute of Certified Public Accountants

Awards

American Jurisprudence Prize for Excellence in Contracts by the Joint Publishers of the Annotated Reports System, Wayne State University School of Law, Detroit, Michigan

Service Recognition Award, Senior Citizens Legal Aid Project, 1983-1987.

Service as an Arbitrator, American Arbitration

Healthcare Experience

Senior Management Financial Consultant, Blue Cross and Blue Shield of Michigan, 1979-1981