

## THE ANNUAL DISTINGUISHED PUERTO RICAN LECTURESHIP

# The Impact of Managed Care on the Academic Missions of Medical Schools and Teaching Hospitals

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I would like to provide a brief overview of some of the challenges facing medical schools in today's health care environment, and share with you some of the steps we have taken in response to these challenges. Six years ago, the cost and availability of health care became a major concern of the public, particularly employers, and as you know became a major political issue in national and local elections.

The spectre of health care costs reaching one trillion dollars and 14 percent of the gross national product was seen as some kind of Armageddon. By the way, some years ago similar experts warned that when health care costs reached 8 percent of GNP, the system would fail. According to a recent report from the Department of Health and Human Services, health care costs topped \$1 trillion for the first time. However, it represented 13.6 percent of GNP and the rate of growth was only 4.4 percent, the lowest increase in thirty years (Fig. 1).

### Figure 1. 1996 National Health Expenditures\*

- \$1.035 trillion
- 13.6% of Gross National Product
- Average Annual Growth dropped to 4.4%, the lowest rate since 1960.

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Four years ago, it was clear that the soaring cost of health care needed to be addressed. In a very public debate, sweeping national health care legislation was proposed and defeated. However, even in the absence of legislation, the marketplace changed dramatically. Reimbursement, which for years had been based upon paying reasonable and customary charges, gave way increasingly to a managed care structure based upon a flat rate, discounted fee-for-service and capitation.

### National Managed Care Statistics

In 1996, approximately 59 million Americans were enrolled in health maintenance organizations (HMOs), representing 22 percent of the population, an increase from 19 percent in 1995. Among Americans covered by public-sponsored health programs, 4.7 million were enrolled in Medicare HMOs and 11.7 million in Medicaid managed care plans; and these numbers are growing quickly. The total number of HMOs increased from 550 in 1993 to about 630 in 1996 (Fig.2). Many of you are

### Figure 2. 1996 HMO Enrollment Data\*

- 59 million Americans enrolled in HMOs, 22% of the population
- 630 HMOs, including 60 new HMOs formed

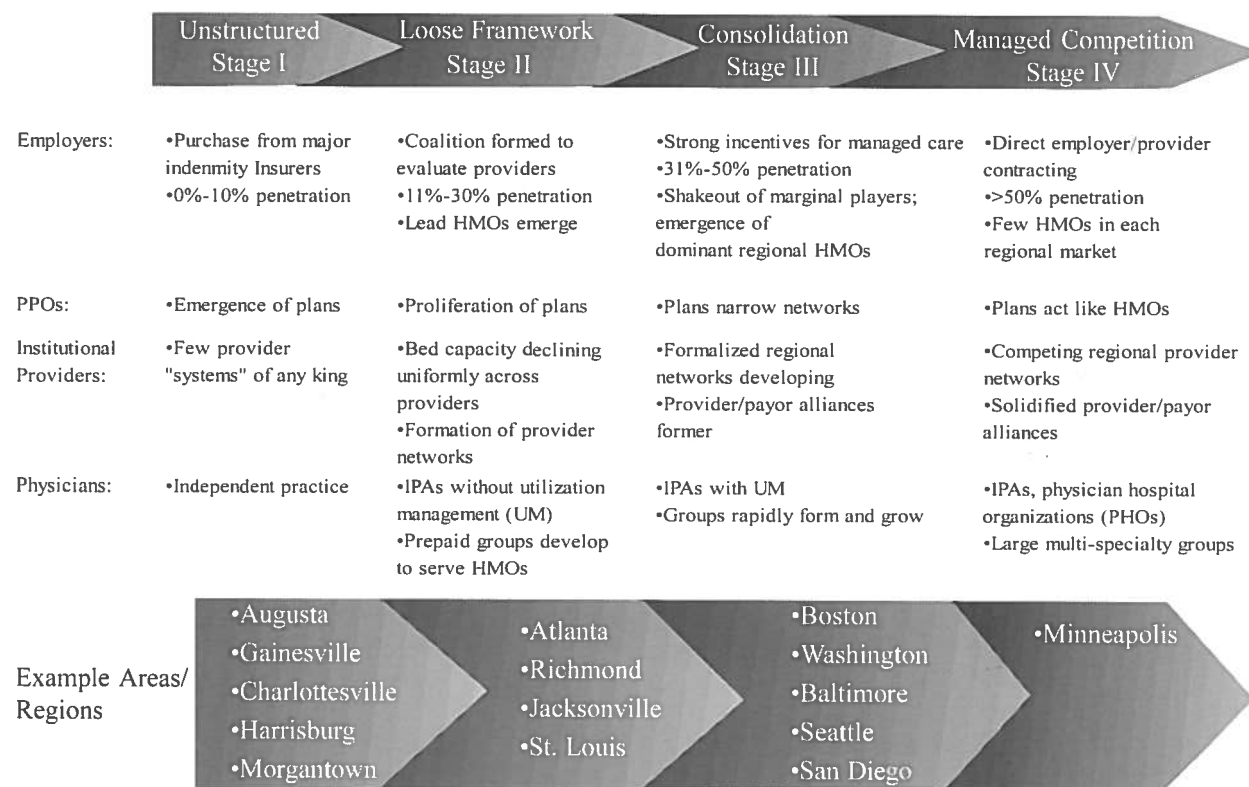
\* Inter Study Competitive Egde

familiar with the various stages of managed care penetration. In Maryland we are now probably in early stage IV. And based upon what Dr. Garcia Palmieri has said, so are you (Fig. 3).

### Maryland Managed Care Statistics

Over 40 percent of the commercially insured residents in Maryland receive their health care coverage through HMOs. According to the Health Care Access and Cost Commission, Marylanders spent \$ 15.5 billion for health care in 1996. Health care spending represents nearly 11 percent of personal income for Maryland residents. Per

**Figure 3.** The Health Care Market is Evolving Through a Series of Stages Which Reflect the Growth and Impact of managed Care on Health Care Delivery“Market Evolution Stages and Indicators



Maryland increased 6.7 percent over the year, while enrollment in other types of health insurance declined 3.5 percent. Over 85 percent of Medicaid recipients in Maryland were folded into managed care organizations (MCOs) last year (Fig. 4).

**The Missions of Academic Medicine.** The primary missions of medical schools and teaching hospitals are education, research and patient care. In the aggregate, we educate most of the nation's health care professionals and carry out the major portion of biomedical research conducted in the U.S. and Puerto Rico. While representing only 6 percent of all hospitals, our academic centers participate in the care of 20 percent of the nation's

**Figure 4.** Health Care Access and Cost Commission Annual Report

- Over 40% of the commercially insured residents in Maryland receive their health coverage through HMOs.
- In 1996, Marylanders spent \$14.3 billion for health care
- Health care constitutes approximately 11% of personal income for Maryland residents
- Per capita spending in the state was \$2,875
- HMO membership in Maryland increased 6.7% over the year

hospitalized patients, and provide 45 percent of the uncompensated hospital care in our country, while receiving only 26 percent of the compensation paid by Medicaid (Fig 5). Carrying out these missions is costly. The unique characteristics of academic medical centers, including the high level of uncompensated care, treatment of more complex diseases, medical education for our future health care professionals, biomedical research and the use of high tech medicine, result in a competitive disadvantage for us in the new managed care marketplace. Indeed, we are handicapped by the very qualities and programs on which we have built our reputations.

Two years ago, I was invited to serve on a focus group assembled by the Association of American Medical Colleges (AAMC) and the Robert Wood Johnson Foundation (RWJ), called the *Forum on the Future of Academic Medicine*. This is an eclectic group consisting

**Figure 5.** Medical Schools and Teaching Hospitals

- Represent 6% of all hospitals
- Participate in the care of 20% of the nation's hospitalized patients
- Provide 45% of uncompensated care
- Receive only 26% of the compensation from medicaid

of university presidents, financiers, former legislators, CEOs of insurance companies and HMOs, economists, public health experts—and two medical school deans. This group startled me by their lack of reverence for us—the academicians. They challenged our elitism, our productivity, the sincerity of some of our missions, and even our commitment to the American public. They suggested that we were behaving like dinosaurs — and everyone knows what happened to dinosaurs. They pointed out that if we did not re-assess and change the way we are operating, much like the process that major businesses have and are continuing to go through, we may not survive to carry out our missions.

This experience, combined with results of a series of surveys and focus groups carried out by the AAMC, has convinced me that we have a serious problem with our public relations, our credibility and our understanding of what the public expects of us. Sure, the public thinks that medical education is important, but they also wonder why some of them don't have access to medical care and why it is so costly. The public overwhelmingly supports medical research. But, they do not know that we are the ones who are performing this research.

Historically, medical schools and teaching hospitals have funded a significant portion of their education and research missions through cross-subsidies gained from patient revenues generated by faculty under the traditional “reasonable and customary” fee system. It is important to understand the impact of an aggressively managed

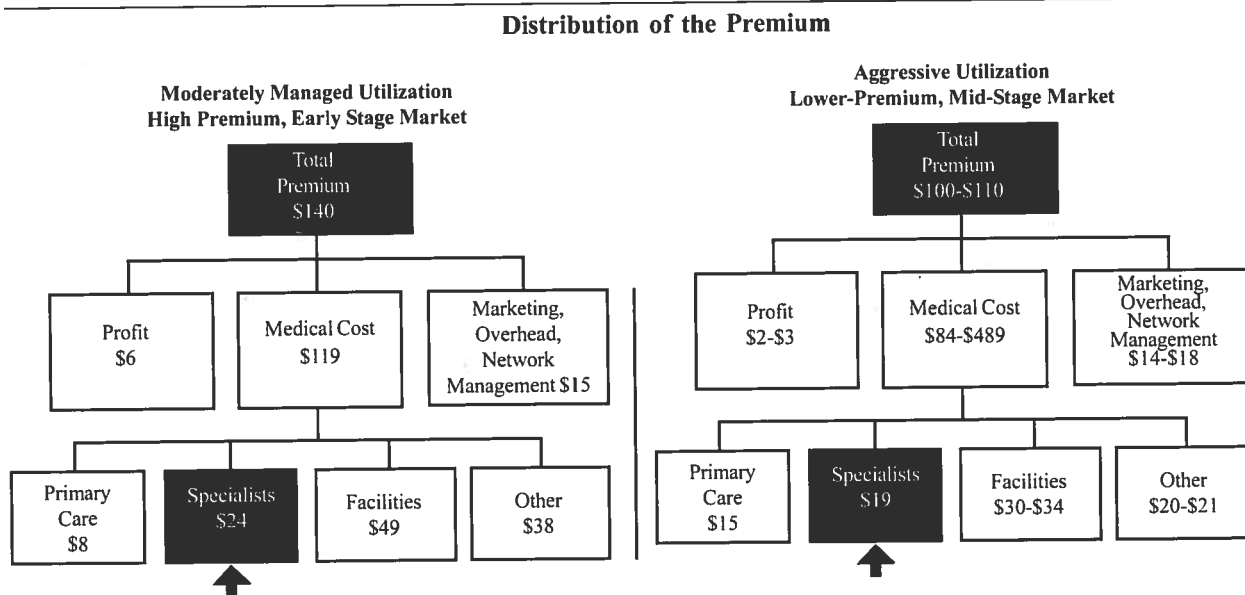
market on the level and distribution of the health care premium (Fig. 6). With managed care, the need to compete with almost a “how low can you go” fee schedule in order to gain clinical contracts has essentially erased the ability to cross-subsidize academic missions. There is little evidence to indicate that MCOs, with a few exceptions, are willing to subsidize education and research as a part of the premium they provide for health care and, in general, they do not include such support in their contracts.

Clinical practice income now constitutes the largest source of revenue to U.S. medical schools — on average about 48 percent of their budgets (Fig. 7). Even research institutions are heavily dependent upon clinical income for support (Fig. 8). Realistically, academic medical institutions will never be able to compete for the health care dollar solely on price, and remain academic centers. As MCOs increasingly refer their enrollees to lower-cost hospitals, academic institutions are losing market share.

Now I would like to briefly discuss some of the impact these health care changes have on medical education, research and clinical care in academic medical centers.

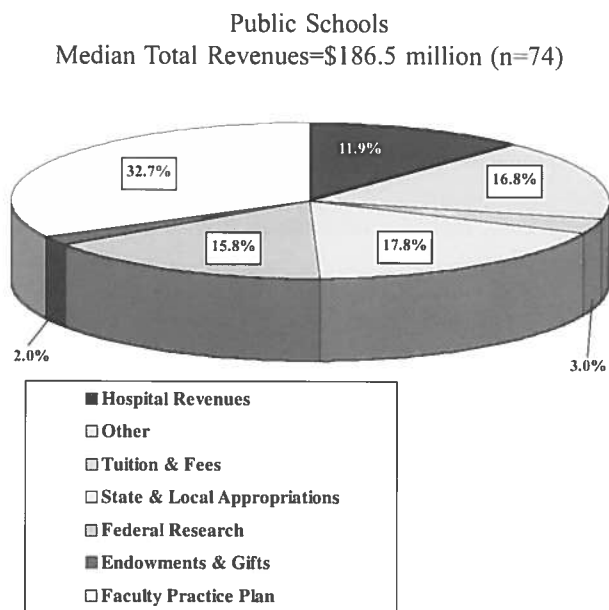
**Medical Education.** Increasingly, patients referred to teaching hospitals have more complex medical problems, so that increasingly these hospitals become less satisfactory environments to educate students and trainees. As medical schools make curricular changes to encourage more students to select primary care careers, schools are faced with an increased need for ambulatory

**Figure 6. Declines in Revenue Per Member Per Month Lead to Reduced Funds Available for Specialists and Tertiary Care Providers**



Source: HCIA Database; Milliman & Robertson's Actuarial Cost Model  
Note: Premiums are per member per month

**Figure 7. Medical School Revenues 1995**



teaching sites and teachers. With the increase in managed care, voluntary physicians are less able to take on the task of teaching medical students or residents, given the certainty of jeopardizing either their income or required productivity level. Full-time faculty are being required to be more clinically productive, but at the same time, they must still teach and develop new knowledge. Moreover, the survival of academic medicine is becoming dependent

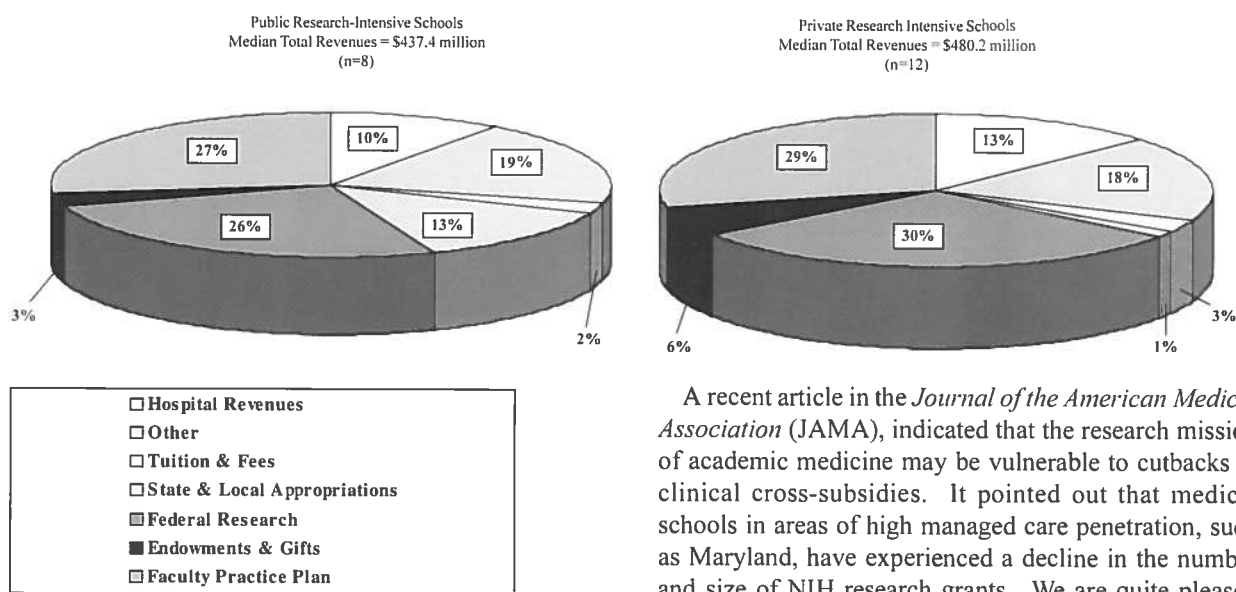
upon the ability to compete for managed care contracts and increasingly the patient base consists of patients in MCOs. While some MCOs are willing to have productive senior residents learn at their delivery sites, few will accept interns or medical students.

Historically, Medicare has funded a significant portion of graduate medical education (GME) in the U.S. This funding has not only provided support for the actual costs of residents and their supervision, but also the increased costs related to patient severity mix and the increased costs associated with education in a teaching setting. There have been constant reductions in GME funding from Medicare over the past five years, but even greater cuts are in store. Because of their large training programs, patient mix and academic milieu, teaching hospitals will feel the impact of these cuts more acutely than will other institutions.

### Research

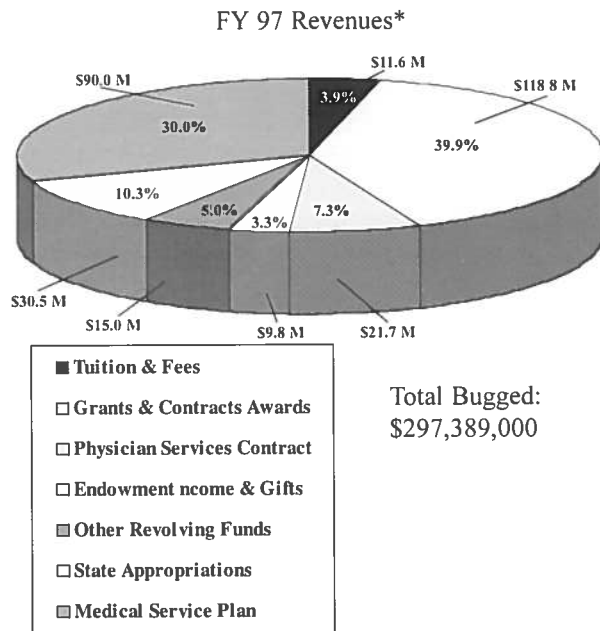
Growth in National Institutes of Health (NIH) appropriations continues to be strong. From 1965 to 1993, annual federal spending for medical research and development grew tenfold, from less than \$1.2 billion to more than \$12 billion. NIH appropriations for FY 98 exceed \$13 billion. Medical schools receive slightly more than 50 percent of all NIH extramural awards. At the University of Maryland School of Medicine, \$119 million of our \$297 million FY 97 budget was generated from research revenues (Fig. 9).

**Figure 8. Medical School Revenues for Select Types of Schools 1995**



A recent article in the *Journal of the American Medical Association (JAMA)*, indicated that the research mission of academic medicine may be vulnerable to cutbacks in clinical cross-subsidies. It pointed out that medical schools in areas of high managed care penetration, such as Maryland, have experienced a decline in the number and size of NIH research grants. We are quite pleased

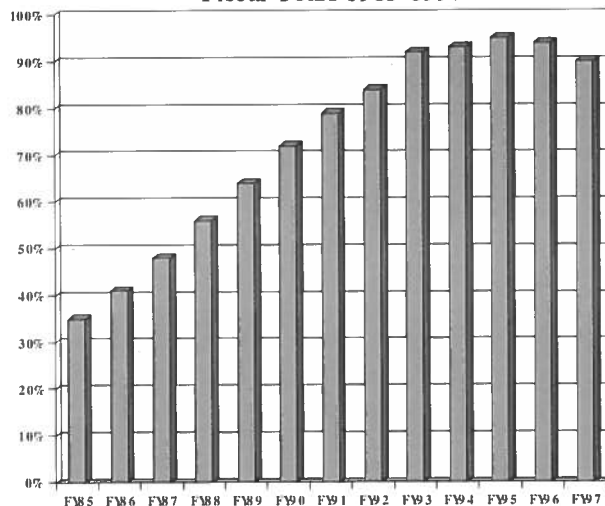
**Figure 9.** University of Maryland School of Medicine



that at our school we have so far been able to buck that trend. In fact, from 1985 to 1995, we have ranked eleventh in the nation in increasing our percentage of NIH funding, and during the past five years we have ranked among the top ten medical schools in our annual percent increase in research funding.

There is also concern that the cost-control incentives

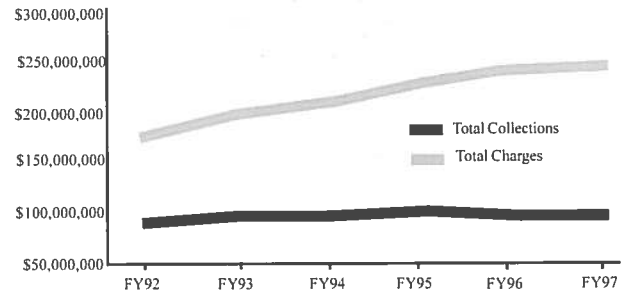
**Figure 10.** University Physicians Inc.  
Cash Collections (in millions)  
Fiscal Years 1985-1997



Data Includes S.T.A.P.A.  
Prepared by UPI 11.18.97

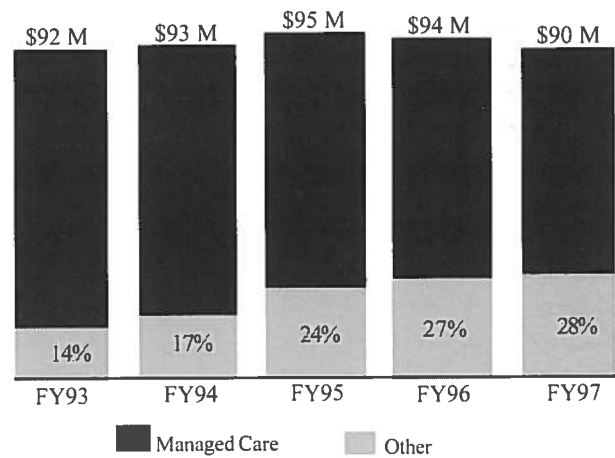
in managed care environments, whether direct or indirect, may lead to under-utilization of current or new technologies, making it even more difficult to recoup the cost of developing expensive new technology. Thus, it is possible that the move to managed care could have a negative impact on the development of new technologies and on biomedical research.

**Figure 11.** University Physicians, Inc.  
Professional Fee Charges and Collections  
Fiscal Year 92 - Fiscal Year 97



Data Includes S.T.A.P.A.  
Prepared by UPI 11.18.97

**Figure 12.** University Physicians, Inc.  
Managed Care as a Percentage of Practice Income  
Fiscal Years 1993 - 1997

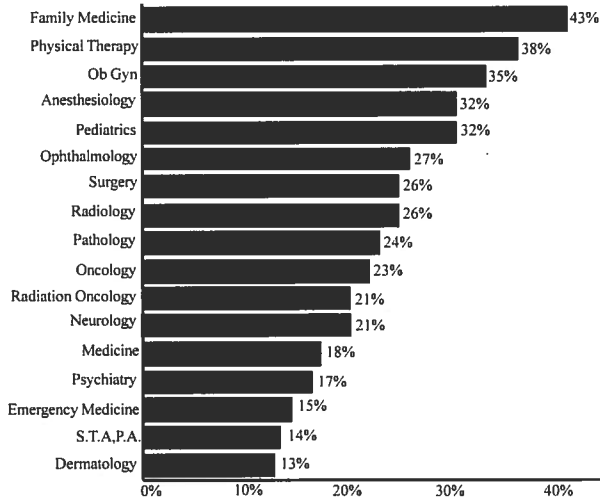


Data Includes S.T.A.P.A.  
Prepared by UPI 11.18.97

**Clinical Services.** Faculty practice plans at U.S. medical schools currently face some of their greatest challenges. Our clinical faculty are working harder and receiving less compensation from payers, leading to an inevitable decline in practice plan revenues. Having long been the major economic engine providing flexible money to most medical schools, practice plans are now being squeezed from all sides.

For ten years, from 1985 to 1995, we experienced a constant, though declining increase in practice plan

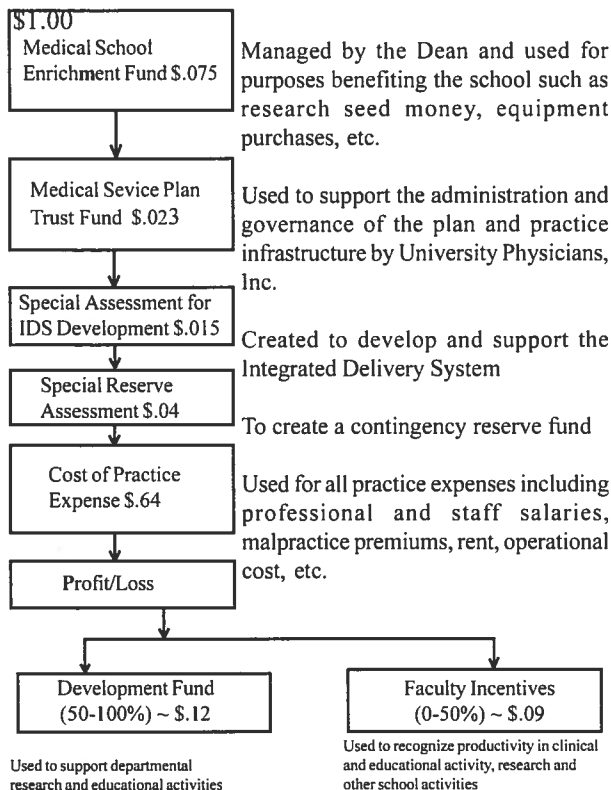
**Figure 13.** University Physicians, Inc.  
Percent Revenue From HMO's  
Fiscal Year 1997



Does not include Neurosurgery, only partial year data available  
Prepared by UPI 11.18.97

**Figure 14.** What Happens to a Dollar of Clinical  
Income?

How a Dollar of Clinical Revenue is Distributed  
According to the Practice Plan



income. In 1996, for the first time, we saw a decline in income from our practice plan (Fig. 10). For the past five years, we have witnessed a widening gap between our total charges and our income (Fig. 11). Managed care as a portion of practice income has increased from less than \$13 million in 1993 to over \$25 million in 1997 (Fig. 12). Moreover, these figures don't begin to tell the entire story since most of our subspecialty fees for fee-for-service clinical care are heavily discounted. For some of our departments such as family medicine, pediatrics and physical therapy, managed care income represents the single largest source of revenue (Fig. 13).

The critical nature of the importance of the practice plan is easily understood when one spends a moment looking at what happens to each dollar of collected income (Fig. 14). In addition to practice income paying more than 80 percent of the total salaries of our clinical faculty, the practice plan transfers 20 percent or more of its income to departmental and school development. This is over \$18 million per year to support undergraduate and graduate education, research and faculty development—nearly as much as our direct state support.

**What Solutions Have We Developed to Address These Challenges?** While at Maryland we have thus far survived the growth of managed care and its impact on our missions, it is clear to us that in order to continue to position our school to stay "ahead of the curve" in addressing future challenges, we have to change the way we function. We, along with medical schools across the country, are re-assessing, and where appropriate, restructuring our operations. Overcoming future challenges will require changes in our programs, initiatives, and of the leadership structure. Adapting some of the same approaches that successful businesses are using will make us more accountable both to ourselves and to an American public that unfortunately does not truly understand or appreciate our value. To remain competitive, businesses must always be increasing efficiency, generating new knowledge and developing new products. With the exception of efficiency, who does this better than academic medicine?

**School of Medicine Strategic Plan.** Four years ago, we decided that we needed a strategy to respond to the changing health care environment. A group that included faculty, staff, students and many constituents from outside our institution spent over one year crafting the school's first strategic plan. This document, published in 1994, has been our road map, and we believe has helped us develop solutions to many of the challenges we face. Once a strategic plan is developed, it must be constantly reviewed and adjusted to meet the changing environment. It is important to note

that the solutions we are developing at Maryland are not necessarily those that would work in Puerto Rico or other academic medical centers. As has been stated before—if you’ve seen one academic medical center, you have seen one academic medical center.” Some academic health centers are acquiring private practices, some are merging with community hospitals, even other academic medical centers. However, the objectives of these different strategies are the same: to continue to fund the educational, research, and clinical missions while lowering costs and staying competitive.

The groundwork for developing our clinical enterprise took nearly two years to lay and it continues to evolve as we adjust the ways we market and govern ourselves. We recognized that we could no longer be solely dependent upon our traditional faculty practice for income or an appropriate patient base for teaching. Knowing that our success demanded that at least one-half of our patient visits come from sites off campus, and knowing that patients now shop for health care as they do for any consumer good, we realized we had to go to them.

In 1996, the School of Medicine, together with the University of Maryland hospital and University Physicians (our faculty practice), created a new clinical enterprise called University CARE, in order to not only keep up with, but also anticipate the demands of a rapidly changing health care marketplace. A fully integrated delivery system is crucial to our continued success (Fig. 15).

University CARE to date has developed the following initiatives:

- Established five primary care sites in our own West Baltimore neighborhood,

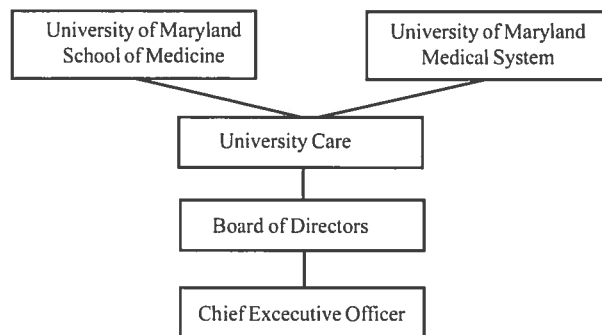
- Created several multispecialty practice facilities in suburban areas. Our newest opened in the Fall of 1997, in collaboration with a local community health system, and features a full range of services from women’s health to radiology with open MRI. We also plan to use this site, as well as several of our urban sites, to educate our medical students and residents,

- Developed “at risk” relationships with insurers and HMOs. One example is our \$21 million, 3-year agreement with four Maryland Blue Cross/Blue Shield HMOs to provide cardiac care services for about 200,000 Marylanders,

- Developed an exclusive relationship with a large physician network. Recently, we have joint ventured with the largest independent physician group in Maryland. Our 10-year agreement stipulates that we will jointly share the risks and benefits of managing the care of approximately 600,000 Marylanders. In two years, this partnership will include 900 primary care physicians, 10

hospitals and numerous specialty networks — all providing care for more than one million patients,  
Forged linkages with community physicians through

**Figure 15. Organizational and Reporting Relationships**



our practice management services support organization (MSO), which provides practice management, information systems and managed care contracting services to affiliated practices,

We are currently looking at merging with or developing a mutually productive relationship with several major hospitals in Baltimore and the surrounding area.

Only time will tell if we have chosen the right road for a journey that has no helpful road maps.

**New Guidelines for Appointments, Promotion and Tenure.** Last year, the School of Medicine Council (the school’s governing body), on behalf of the faculty, unanimously passed new Guidelines for Appointments, Promotion and Tenure, which include for the first time a Financial Definition of Tenure Policy. This new document will allow us to more appropriately reward faculty for their individual and diverse talents, and their contributions to the school. Further, the document acknowledges the reality of today’s world and the increased time that faculty need to compete academically, by extending to nine years the time frame in which faculty are reviewed for the awarding of tenure. More importantly, I believe this document will allow the school to accept the risks that I believe are needed to move our institution into an even more prestigious position. We are awaiting this document’s approval by the University of Maryland Board of Regents.

**Mission-Based Budgeting.** To help us lay a solid foundation for the most effective management of the school’s resources and to ensure the continued success of our medical school, we are currently engaged in a process called mission-based budgeting. This process includes looking at department and faculty productivity in all of our mission areas—teaching, research and clinical

### **Mission-Based Budgeting**

To help us lay a solid foundation for the most effective management of the school's resources and to ensure the continued success of our medical school, we are currently engaged in a process called mission-based budgeting. This process includes looking at department and faculty productivity in all of our mission areas—teaching, research and clinical care. The overall objectives of this process are to:

Develop processes for broad participation in decision-making, accountability and performance monitoring

Develop recommendations to enable the school to more effectively manage its resources in the future

Align resources with missions, and as a result better meet the needs of our students, our faculty and our community

Last year, it became apparent to me that if we were to have any chance to prevent the deleterious effects of the new environment on our school, we would need to carefully review our budgeting processes, our productivity and our missions. Now, more than ever, it is necessary to understand where and how all of our funds are being generated and expended. Now, more than ever, it is necessary to understand the productivity of our faculty in teaching, research and clinical care. Now, more than ever, it is necessary to assess the relevancy of each of our cost centers and our relationships with our affiliates. Now, more than ever, it is necessary for the medical school senior leadership to play a greater role in the fiscal and programmatic decisions made in our school. Now, more than ever, it is necessary for each of us to understand our interdependence. In the words of Martin Luther King, Jr.:

*"In a real sense all life is inter-related.*

*All men (people) are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly affects all indirectly.*

*I can never be what I ought to be until you are what you ought to be, and you can never be what you ought to be until I am what I ought to be.*

*This is the inter-related structure of reality."*

*—Martin Luther King, Jr.*

It is essential that our faculty and chairs discard the academic affection for functioning as independent silos, and instead begin to think more institutionally.

At the end of the first phase of this project, we will have individual and departmental data on effort and productivity in the areas of teaching, research and patient care. For the first time ever, there will be real data. Most importantly, we will have changed our approach to

understand that 100 percent of our effort has to be assigned to some combination of teaching, research or patient care, and we will be able to match revenues and expenditures to each of these missions. The purpose of this approach is not necessarily to discontinue activities that may not be self-sustaining, such as research, but to understand the amount and source of subsidy and to make enlightened decisions concerning such subsidies. For example, let's consider the case of a faculty member in another medical school - certainly not this one- who during his/her budget meeting with the department chair acknowledges that 70 percent of his salary comes from the departmental practice plan. However, the data indicates that only 20 percent of this faculty member's effort is in clinical practice and that he generates only 15 percent of his salary. The response may be that, "well I am really spending half of my time doing research." Except that the data indicates that there has been no external research funding for four years, no collaboration with other investigators, and two case reports as the only publications. Finally, the response may be that "I am so busy teaching." However, one can document only 100 hours of teaching a year. This scenario is similar to the "shell game" without the pea— as you lift up the shells there is nothing underneath. There may be a good reason to make no adjustments in this faculty member's activities or compensation, or instead it may be appropriate to make significant changes. Most importantly, the information is there, and one does not have the equivalent of a shell game without the pea.

### **Conclusion**

To paraphrase Charles Dickens: "We are in the best of times; we are in the worst of times." The managed care revolution (although it will be modified) and more efficient and accountable health care are here to stay, and increasingly, medical schools and teaching hospitals are feeling the effects. Academic medicine must preserve its unique missions, upon which the nation's overall health depends. I believe that the contributions made by medical schools and teaching hospitals in educating health care providers, developing new technology and therapy through research, and providing service, all represent a national good, and therefore warrant national priority. Unless the revenue losses resulting from managed care and other cost-cutting efforts are stemmed, the vital society benefits academic medicine provides are in serious jeopardy.