2003 Robert H. Ebert Memorial Lecture

A Revisionist View of the Integrated Academic Health Center

By Judith Rodin

2003 Robert H. Ebert Memorial Lecture

A Revisionist View of the Integrated Academic Health Center

By Judith Rodin

Milbank Memorial Fund

TABLE OF CONTENTS

Foreword iii

Acknowledgments v

A Revisionist View of the Integrated Academic Health Center 1

- Looking into the Abyss
- Crossing the Abyss
- Why Take the Risk?
- A Culture of Excellence and Integration
- How We Made Integration Work
- A *More* Integrated Future

Notes 11

About the Author 16

FOREWORD

The Milbank Memorial Fund and the Association of American Medical Colleges (AAMC) established the Robert H. Ebert Lecture on Academic Medicine and the Public Interest as a memorial to an exemplary physician, scientist, dean, and foundation executive. Ebert Lecturers are persons whose careers and character demonstrate broad and effective concern for medicine and the health of the public. They are chosen by a committee appointed jointly by the AAMC and the Fund. The lecture is delivered in odd-numbered years at the spring meeting of the Council of Deans of the AAMC.

Robert Ebert (1914–1996) was an intensely private public man. He linked the laboratory bench and the clinic, care of individual patients with concern for the health of populations, and excellence in research with innovation in the organization and financing of health services. Ebert served his country and his profession as a clinician, investigator, department chairman, dean, foundation executive, and leader of many boards, committees, and commissions. The institutions he enriched during his career include Oxford University, the University of Chicago, Case Western Reserve University, Harvard University, The Population Council, and the Milbank Memorial Fund.

Paying tribute to Ebert in a talk that preceded the first lecture in 1997 and subsequently published by the Fund, Eli Ginzberg concluded his remarks as follows:

> *Ebert valued peace over contention, consensus over authority. He had an instinctive sense of the way in which institutions become captives of their own history, and he spent considerable time and energy seeking solutions that produced change without upsetting large numbers of persons whose concerns could not, or should not, be ignored. He was a diplomat by instinct, who saw little point in wasting time and energy in conflict if compromise offered a satisfactory alternative.*
>
> *But this man of peace was also a man of thought, who had a deep appreciation of how things were changing, especially in his area of expertise, and he considered it his duty to figure out what to do about the changes that were underway and how to respond to them constructively. Further, he concluded that it was also his duty to initiate and carry through actions to establish a new, improved match between opportunity and results. Ebert always wanted to improve life, not for those who had power and money, but for the average man and woman who had to work long and hard to make ends meet. He directed most of his life to figuring out how he could use his time and energy to improve the access of this population to medical care services; to do so at a price that society could afford to pay; and, in the process, to train the next generation of physicians, equipping them to minister more efficiently and effectively to the critical health needs of the American people. That was the challenge that Ebert set himself, surely from the time that he became dean of the Harvard Medical School, and that remained his goal for the remaining years of his life. In meeting this challenge, he displayed a dedication that must inspire those who now take up his responsibilities and follow his lead into the new century.*

Ebert helped to guide the Milbank Memorial Fund for 30 years: as a member of its Technical Board, a director, and twice as president. Reflecting on his association with the Fund in 1995, he saw a

"significant congruence between the evolution of my own thinking and the Fund's long-standing interest in public health and health policy."

The Board of Directors of the Fund adopted a resolution honoring Ebert that reads, in part, "We cherish Robert H. Ebert, the private as well as the public man. We affirm the moral and intellectual standards he set for himself, for his friends, and for the Fund. We will miss him."

Samuel L. Milbank
Chairman

Daniel M. Fox
President

ACKNOWLEDGMENTS

Jordan J. Cohen, President and Chief Executive Officer of the Association of American Medical Colleges, collaborated with the Fund in creating the Robert H. Ebert Lectures on American Medicine and the Public Interest. The members of the committee who selected the fourth lecturer were David Blumenthal, Director, Institute for Health Policy and Physician at The Massachusetts General Hospital/Partners HealthCare System, and Professor of Medicine and Health Care Policy at Harvard Medical School; Jo Ivey Boufford, Dean, Robert F. Wagner Graduate School of Public Service, and Professor of Public Service Health Policy and Management, New York University; Christine Cassell, President, American Board of Internal Medicine; Haile T. Debas, Professor of Surgery and Director, Global Health Science, University of California, San Francisco; John D. Stoeckle, Professor of Medicine, Emeritus, Harvard Medical School, The Stoeckle Center for Primary Care, Massachusetts General Hospital; and Steven A. Wartman, Dean, University of Texas Health Science Center at San Antonio.

The author gratefully acknowledges Dr. Stephen P. Steinberg's valuable contributions to this article.

The last five years have seen dramatic changes in the climate and operating circumstances affecting academic health centers (AHCs). Our nation has seen the economic havoc brought on by the tightening of health care reimbursements in the wake of the Balanced Budget Act of 1997 and a gradual retreat from the philosophy of managed care; we have fought wars in Afghanistan and Iraq; we remain on heightened alert for acts of terrorism at home; the economy continues to flirt with a "double-dip" recession; and the psychological as well as financial bubble of the 1990s—which made the ambitious plans of many leaders in academic medicine seem so doable—has well and truly burst.

Not surprisingly, this also has been a period of "unprecedented turmoil" in America's health care system—ending with the return of double-digit increases in health costs. The Commonwealth Fund's Task Force on Academic Health Centers recently concluded that America's health care system is "spiraling towards crisis." As the task force described it, we are caught between two irresistible forces. On the one hand, there was the aggressive movement toward vertically integrated health systems that many institutions undertook during the "go-go" years of the early 1990s, which was intended to allow AHCs to compete more effectively for the stream of patients needed to support medical education and training, highly specialized patient care (e.g., burn, transplant, and trauma care), "safety net" care for the poor and uninsured, and clinical research. On the other hand, in an era of rising costs, declining reimbursements, and reduced government support, these same activities, deeply reflective of the special "social mission" of the AHC are "not optimally supported in competitive markets."[1] Of the nation's 4,739 hospitals of all types, these trends most directly impact the 115 academic medical centers that are fully "integrated" with a college of medicine, conduct substantial medical school–based teaching and research, and operate under common ownership or share medical school department chairs and hospital chiefs of services.[2]

In just these same few, short years, I have seen "up close and personal," as it were, the enormous promise and the terrifying perils of the vertically integrated academic health system. I have seen the University of Pennsylvania's newly created integrated health system lift academic medicine at Penn to unprecedented levels of excellence. But I have also seen how dramatic shifts in federal policies and market forces threatened to take down our health system—and the rest of the university with it.

Just as Penn led the way in the creation of the nation's first vertically integrated health system in 1993,[3] so, too, were we among the first to feel the full effects of dramatically increased insurance claim denials and delays, and reduced Medicare payments, both overall and for medical education, that followed in the wake of the Balanced Budget Act of 1997. At the same time, we were providing $100 million per year in unreimbursed or under-reimbursed indigent hospital care.[4] As a result, the University of Pennsylvania Health System lost $350 million from 1997 to 2000, created $800 million in debt,[5] and its bond rating was downgraded by Moody's Investors Services from Aa3 to A1, while the outlook for the university's higher AA rating was changed from "stable" to "negative."[6]

As other AHCs across the country from Boston to San Francisco suffered similar losses,[7] these dramatic and unanticipated changes led many to worry that academic medical centers were sufficiently vulnerable to place their associated universities at great risk.[8] At Penn, members of the university

community suggested that the time had come to protect the rest of the university from the uncertainties of contemporary health care by separating—or even selling off—our health center. Debate in our board of trustees and on our campus centered on whether and how to shed our “albatross”—and for some, this included the medical school as well as our academic teaching hospitals. However, in the years since, we have worked hard to save and maintain a new type of integrated health system: one that remains both true to its tripartite mission of education, research, and clinical care, *and* financially viable.

The story of how we got into so much trouble and how we recovered is by now well known. But what is most important is not *how* we recovered, but *why* it was important to do so—not just for Penn, but for the future of academic medicine.

LOOKING INTO THE ABYSS

Like many of their peers,[9] the leadership of Penn’s health system in the early 1990s saw vertical “integration” as a way to have it all: the best medical school, the best hospitals, the largest primary care networks—and even nursing homes, hospices, and home health care services, all linked in a continuum to produce leading-edge research, the best inpatient care, the finest doctors, the best nurses, and, of course, a larger market share, which, in turn, would generate the cash to invest in new research, new technologies, new faculty, and the new infrastructure needed to sustain growth in all these areas.[10]

In short, upon the foundation of an already superb medical center, Penn tried to build a premier health system.[11] And it worked—for awhile. To a remarkable extent, the University of Pennsylvania Health System was a medical field of dreams: Our School of Medicine rose to become one of the top medical schools in the nation, ranked fourth in the nation in 2002 and 2003 by *U.S. News and World Report*,[12] with 11 departments ranked in the top tier.[13] The Hospital of the University of Pennsylvania is one of only 16 U.S. hospitals on the *U.S. News and World Report* “Honor Roll” for excellence in multiple specialties.[14] We enjoyed dramatic growth in our funding from the National Institutes of Health, ranking second only to Johns Hopkins in total awards in fiscal years 2001 and 2002—up from fifth in 1996—and increasing by 181 percent in total award dollars and by 106 percent in the number of awards from fiscal years 1996 to 2002.[15] Research, teaching, and clinical care flourished in new enterprises like the Leonard and Madlyn Abramson Family Cancer Research Institute of Penn’s Cancer Center, devoted to undertaking groundbreaking research on the five leading cancers (breast, lung, prostate, ovarian, and gastrointestinal tumors) and closely linking that research with both medical education and prompt application to clinical care in a compassionate, patient-centered context.[16] We also designed and implemented a cutting-edge medical education curriculum for the new century, designed to train medical students to be active learners throughout their medical careers.[17]

As we became a leading provider of health care in the very competitive mid-Atlantic region,[18] we were no longer just treating the very sick—we were seeing more primary care patients in newly purchased medical practices, and we were investing heavily in new programs of health promotion and disease management and receiving national recognition for their effectiveness.[19] Delivering care to a large,

diversified, patient population not only gave our students and faculty a distinct edge in clinical education and research, it also generated the cash—hundreds of millions of dollars—to upgrade facilities and construct several huge biomedical research buildings.[20]

If the reimbursement climate had remained stable, perhaps the system might have continued to work well. But with the passage of the Balanced Budget Act in 1997, which lowered federal Medicare payments, and simultaneous steps by third-party insurance providers to delay or deny their own reimbursements, the cash flow that we had come to expect, and upon which our operations were predicated, slowed dramatically. In five years, we went from a $193 million operating surplus in fiscal year (FY) 1994 to a $200 million operating deficit in FY1999.[21] Like many other health systems around the country, Penn Medicine was slow to adjust to this shift in the financial climate; we had built in too much cost and too much infrastructure; we were insufficiently critical of our own performance and institutional culture; we took on too many functions outside of our core competencies; and we failed to achieve the expected economies of scale. Indeed, the more volatile the marketplace grew, the bigger we got in an effort to stay ahead of the market. And so, the harder we fell when the Balanced Budget Act delivered the final coup de grâce to our bottom line.[22] To say that our trustees, our faculty, and the university community were stunned is an understatement.[23] We were peering into an abyss, and the view was frightening.[24]

CROSSING THE ABYSS

At that point, we faced the same fundamental choices as many of our peers: risk serious financial and educational damage to the rest of the university by continuing to absorb the Health System's deficits; eliminate the threat to the university's financial health by spinning off, selling, or otherwise separating the Health System from the university; or strategically plan and manage our way out of the financial crisis, and do so in a way that would make us less vulnerable to future potential perturbations in the financing of health care in the United States.[25]

In assessing our options, we had to consider two separate—but ultimately related—questions: First, *why* were we in the business of integrated academic medicine, and why on earth would we want to *stay* in it, given the—by then obvious—risks? Second, if we were going to stay in it, *how* would we make it work, for our patients, for our faculty, and for our students, and—both academically and financially—for the university as an institution? Ironically, the answer to both questions was more and better *integration—just* the strategy that got us into so much trouble—but applied very differently this time. Applied more *horizontally*, and less vertically.

WHY TAKE THE RISK?

By nature and experience, I am an optimist, and I have reason to believe that academic medicine has a great future in this country. American medicine delivers the best health care in the world in large part because it is powered by the intellectual engine of biomedical scholarship—and medical schools are not

the only locus of cutting-edge research in dynamic fields such as cancer, biology, genomics, or neuroscience. At Penn, for example, biomedical scientists work across the university in the Schools of Arts and Sciences, Engineering and Applied Sciences, Veterinary Medicine, and Nursing, and increasingly today, psychologists, engineers, chemists, computer scientists, health economists, public policy analysts, lawyers, materials scientists, and anthropologists are as essential to medical research as learning how to sew blood vessels together or controlling infection were to the advancement of modern surgery in past decades.[26]

Thus, for medical schools that are not freestanding, there is an extraordinary opportunity to benefit from greater *horizontal* integration—by systematically strengthening the marriage between the university and its academic health system. This may be even more true as we confront an uncertain future; as we try to educate the politicians, experts, and citizens who ultimately determine public policy; and as we try to imagine a future that is more productive and less volatile for our medical centers and our universities.

This, then, is the underlying rationale for the path Penn chose to take: to strategically plan and manage our way—not only out of the crisis—but to an even stronger leadership position. This choice was based not only on considerations of patient care and educational mission, and not only on the need Abraham Flexner identified a century ago: to provide a firm *scientific* basis for medical education.[27] It was also based on a recognition of the changing nature of the problems we face, both in medicine and in society as a whole. It was based on a recognition of the increasing complexity and integration of the world we study and teach and try to heal.

When we identify the most important and difficult problems in today's world—terrorism and other strategic threats to our way of life, the deepening challenges of urban life (housing, drug abuse, education, sprawl, pollution, congestion), intractable ethno-political conflicts, chronic and incurable diseases—we see problems that have failed to succumb to the intensive assault of a single, or even several, disciplines.

Likewise, when we identify the greatest new opportunities to improve the human condition—the promise of fundamental genetic research, the continuing revolution in computing and communications, the revolutionary transformation of the life sciences, the unfathomable potential of space exploration—we see opportunities that are the product of the integration of knowledge from many fields, crossing traditional boundaries between science, technology, arts and culture, social sciences, and the professions.

None of these problems can be solved or opportunities seized by a single, entrepreneurial faculty member, or even a single discipline. Rather, only increased *horizontal* integration of different disciplines, crossing traditional boundaries of departments, schools, and professions, can possibly grapple successfully with such challenges. I believe that the need to confront such complex and multifaceted problems is forcing a fundamental and long-term shift in the nature of research and teaching.

At Penn we are building on the *vertical* integration of the 1990s to enable the horizontal integration of the 21st century. And in all 12 of our schools,[28] we have sought out and recruited the kind of academic

leadership without which such a transformation cannot occur. *All* of our deans and most of our department chairs are committed to finding new ways to transcend traditionally fragmented university structures and "siloed" disciplinary perspectives, to bringing faculty together from both the professional schools and arts and sciences to collaborate in new and increasingly sophisticated ways, and to banishing the philosophical dichotomy between the liberal arts and the professions.

This shift will affect medicine at Penn as much as any other field of professional endeavor. Intellectual and collegial excitement is building at the intersections of disciplines and professions. Ties to bioengineering and medical informatics are burgeoning. Incorporating lessons from behavioral psychology, comparative religion, and cultural anthropology has become a crucial part of influencing the delivery of health care. For practitioners, not just an awareness, but a capacity actually to deal with complex ethical dilemmas is a necessity today, as is recognition of the legal risks and protections within which we deal with patients. Likewise, a physician who is unversed in the social aspects of epidemiology, public health, and individual care will be a less effective clinician.

In short, I saw taking the risk of pursuing more integration not as a choice but as a necessity. And it was a necessity for the university, as well as for the Health System. Just as a medical center can gain enormous resources and synergies from integration, so too can the research university. At Penn, for example, the Schools of Business, Engineering and Applied Sciences, Arts and Sciences, Social Work, Law, Communications, and Nursing would be very different places without the opportunity to do patient-oriented, cutting-edge research. Studying the practice of medicine in vivo creates a practical "test bed" that feeds back into the theoretical activities of disciplines as diverse as psychology, law, politics, philosophy, economics, physics, and computer science.

In this model, new opportunities are created for academic colleagues in other disciplines and professions, for whom medical and health care issues present some of the most challenging and important areas of research and teaching—opportunities that enable the business school to do research on health insurance and risk management, schools of law, social work, and government to develop and test new options for health and human services, and philosophers to teach ethics by confronting students with the real dilemmas of actual medical decision making. Such opportunities realize Penn's ambition of becoming a comprehensive world-class research university by effecting a thorough integration with our academic medical center—and realize the vision of our founder, Benjamin Franklin, that benefit to humanity is the ultimate "aim and end" of all our learning.[29] And while integrated academic medical centers will have to work harder to be as nimble and efficient as our nonacademic competitors, our intellectual, scientific, and cultural resources should make us far more creative and adaptable in the long run—if we can successfully leverage our resources through effective and comprehensive horizontal integration.

A CULTURE OF EXCELLENCE AND INTEGRATION

To some, this vision of the *fully integrated research university of the 21st century* may seem unrealistic, even quixotic. "The cultures are too different," they will say. "The health component will be unable to

compete in the market," they will predict. "Its costs are already one-third higher."[30] (See Table 1.) Or, "the uncertainties of public health care policy will be your undoing," they will warn. And they may be right; but they surely also will be wrong. They will be wrong because the vagaries of public health care policy affect the entire society—including universities—regardless of whether they are tied to an academic medical center. Through the costs of insurance and health benefits, we are all at risk, both financially and medically. Separation of the health care component hardly insulates the university from risk, and it deprives the university of expertise in health affairs of an enormous stream of research dollars and of entrepreneurial opportunities to translate research into marketable developments and societal benefits. They will be wrong because—as in the case of Penn Medicine—the tie to a university can be a stabilizing framework for a health care system. Within reason, it makes risks more—not less—manageable and offers a wealth of expertise to cope with unexpected situations and crises.

TABLE 1: TOTAL CLINICAL COSTS OF MISSION-RELATED ACTIVITIES OF ACADEMIC HEALTH CENTERS (AHCS), OTHER TEACHING HOSPITALS, AND ALL TEACHING HOSPITALS, 2002*

	Direct Education Costs, in $ (billions)	Indirect Education Costs, in $ (billions)	Research Costs, in $ (billions)	Standby Capacity Costs, in $ (billions)	Total Costs, in $ (billions)	Price Index No. †
AHCs	4.2	3.0	0.9	3.2	11.4	124
Other Teaching Hospitals	6.0	3.3	0.02	6.4	15.8	1015
All Teaching Hospitals	10.2	6.2	1.2	9.6	27.2	1139

* Costs have been estimated using the Centers for Medicare & Medicaid Services (CMS) Prospective Payment System Hospital Input Price Index.

† The number in the CMS Prospective Payment System Hospital Input Price Index.

Note: Numbers may not add up due to rounding.

Source: This table is based on Table 1 in *Envisioning the Future of Academic Health Centers: Final Report of the Commonwealth Fund's Task Force on Academic Health Centers* (New York: The Commonwealth Fund, 2003). Used with permission. That table was based on L. Koenig et al., "Mission-Related Costs of Teaching Hospitals: Estimates of Graduate Medical Education, Clinical Research, and Standby Capacity" (unpublished manuscript, Nov. 2002).

But none of these synergies is possible unless the institutional *cultures* of the health system and university are thoroughly integrated. And, in the end, it was the *cultural* integration that saved Penn Medicine. More than anything else, it is faculty loyalty to both Penn Medicine *and the university as a*

whole that is enabling us to make integration work. We had surprisingly few departures of faculty during two years of extended uncertainty. Department chairs rallied their faculties. Despite draconian cost-cutting and substantial layoffs in non–mission-critical areas, they remained loyal, and their loyalty was indispensable. The Health System's workforce was cut by 20 percent—some 1,700 positions—and aggressive restructurings and consolidations were undertaken to streamline purchasing and administrative services and eliminate duplication of functions among the Health System's hospitals and physician practices,[31] but patient care and professional education and training did *not* suffer.

In the years since, I have pondered that loyalty, trying to understand what it was that held Penn Medicine together when faculty at other institutions were bailing out. Penn Medicine's new executive vice president and dean, Arthur Rubenstein, has attributed it to a love of the institution, a profound respect for its history of greatness in medicine and medical education, to a recognition that, for all its problems, Penn was—and is—a great place to work, to an abiding commitment to Franklin's legacy to Penn, a legacy of robust pragmatism that—even in his day—valued professional education equally with classical and humanistic studies, and above all, to a sense that we—both medical school faculty and the rest of the university—were and are in it together. In other words, it was Penn's thoroughgoing *philosophy of integration* that saved us. In the end, we remained Franklin's university, which since its founding has always valued the integration of the theoretical and the applied, the liberal arts and the professions.[32]

No one expressed Penn's institutional culture—and the loyalty it engenders in faculty—better than professor Alan MacDiarmid when he received the 2000 Nobel Prize in Chemistry: "You can be the most brilliant scientist in all the world; put you on a desert island with the very best scientific equipment and the very best library and you'll do uninteresting research. You must have interaction. You must have discussion. What place could be better than Penn?"[33]

But no institutional philosophy can succeed unless it is put into practice, unless it is a major consideration in every new faculty appointment, unless institutional leaders are chosen who embody it and will act on it. I do know that in Arthur Rubenstein we have found an academic, medical, and executive leader for Penn Medicine who is richly endowed with precisely those qualities of academic leadership. Like all institutional cultures, this one is a delicate thing to preserve and nurture. But in the end, we chose to make integration work as much because not doing so would have destroyed our institutional culture—both within the health system and the university as a whole—as surely as anything else we might have done.

And the culture of integration could not be more timely. As the Commonwealth Fund's Task Force on Academic Health Centers notes in its final report:[34]

> Cultural characteristics often associated with nimble organizations include openness, learning, teamwork, continuous improvement, accountability, and patient-centeredness. While some of these cultural characteristics, such as a commitment to unfettered inquiry and learning, should be inherent to academic communities, they have not always been exhibited by all parts of the complex institutions that constitute modern AHCs. For example, studies in health care have demonstrated

that medical errors are associated with poor communication patterns and an inability to learn from prior experience.[35] Similarly, other characteristics, such as teamwork, accountability, and patient-centeredness, have not always been emphasized by many AHCs in the past.[36]

Organizationally, AHCs will have to "rely increasingly upon and provide authority to interdisciplinary structures to accomplish their work," the report noted, and concluded that the need to transform the *culture* of AHCs by adopting such cultural characteristics is "immediate."[37]

I believe, as did the Commonwealth Fund's task force, that integration, across departments within the AHC, across research, teaching, and patient care activities, and with the entire research university beyond its walls when the medical school is part of a larger university, is one way to transform the culture of academic health centers. Indeed, it may be the case that freestanding medical schools will need to partner with—if not be part of—research universities in order to gain access to the intellectual, cultural, and other resources that will be necessary to sustain top-flight clinical and research programs in the 21st century.

HOW WE MADE INTEGRATION WORK

As I noted above, it was a *philosophy of integration* that drove Penn's successful response to its own crisis. And this philosophy of integration drove our strategic planning for the future.[38]

First, there was the matter of governance. After recruiting Arthur Rubenstein as the new executive vice president and dean, I asked him to take charge of the planning process. As deliberations continued, we realized that the existing structure of numerous governing boards was too fragmented—too balkanized—to foster nimble and creative interactions and effectively coordinate alignment of our tripartite missions. So in November 2001 the university's Board of Trustees abolished its numerous Health System and School of Medicine governing boards and established a single integrated and wholly owned organization—Penn Medicine—to which it delegated general responsibility and authority to operate, oversee, and coordinate the educational, research, and clinical operations of the entire health system, *including* the medical school.[39]

With a unified board, whose majority is statutorily made up of university trustees, no decisions are made about the clinical component without considering the medical school's—and the university's—academic missions. Coordinated governance now gauges every decision about health-service delivery to ensure beneficial impacts on education and research across the university, while still requiring that the practice of medicine be cost-effective and nimble. And Penn Medicine is strategically embedded in and integrated with the other schools and centers of the university.

Our financial turnaround—we ended FY2003 $20 million in the black (not counting investment income) for our third consecutive year with positive operating revenues—has won back the confidence of our board and the bond rating agencies.[40] Penn Medicine is now well grounded in financial realities, committed to a strict regimen of fiscal accountability and responsibility. Donors and philanthropic groups are betting on the future of medicine at Penn.

Our new strategic plan expresses an optimistic vision of how an academic health center can achieve greatness, even in a time of enormous uncertainty and high risk. The *Plan for Penn Medicine (2003–2010)* proceeds from the premise that strong governance, proactive strategic planning, sound fiscal management, great people, and a culture of shared responsibility will provide the basis for continued success of the enterprise.[41] At the heart of the *Plan for Penn Medicine* lies a blueprint for integration and coordination. Our key objective has been to recognize and strengthen the valuable intersections of research, education, and patient care that occur within Penn Medicine and across the whole university.[42]

This commitment to full integration in turn mandates *which* strategic investments we will make in facilities, in clinical and research programs, and in retention and recruitment. It creates incentives for a culture of collaboration rather than competition, a culture that stresses the success of the program, the team, and the institution over that of the more traditional department. It mandates strategic investments in selected areas of excellence, especially those that strengthen and leverage the assets and expertise of the rest of the university, as well as of Penn Medicine. These areas include aging, bioengineering, cancer biology, cardiovascular biology, experimental therapeutics, immunology and transplantation, infectious disease and bioterrorism, genetics, neurosciences, diabetes and metabolism, and stem cell biology.[43]

The plan reinforces strategic partnerships with faculty from across the university to leverage Penn's capacity for collaboration and cooperation across disciplines, schools, and professions in teaching and research. Take, for example, our new Institute for Strategic Threat Analysis and Response (I*STAR), a university-wide project designed to respond to the nation's post–9-11 awareness of heightened vulnerability and strategic risks. It started as an initiative among medical school faculty. But they and their colleagues across the campus quickly realized that biological and health threats are but a subset of geopolitical, economic, technological, environmental, legal, and other concerns for our strategic preparedness. And that even training "first responders" in the health care system or working with public health officials cannot and should not be done in isolation from the extraordinarily rich and multifaceted insights that emerge from broader collaborations with social scientists, technologists, policy specialists, media and communications experts, and students of American law, politics, and culture. As a result, within less than a year, the institute has attracted dozens of faculty from across the university. It has become a major resource to policymakers, government, journalists, researchers, the university community, and the general public.[44]

Or, as another example of this "virtual institute" model, we are moving toward the creation of a university-wide initiative focused on the problems of urbanism in the 21st century. Penn is deeply engaged in its local community and richly endowed with urban expertise. And since the problems of urban health care are central to the mission and operations of Penn Medicine's hospitals, it will be a major participant in interdisciplinary urban research, teaching, and service, spanning the arts and sciences; business; engineering; social work; law; nursing, and dental and veterinary medicine; architecture and regional planning; communications; and education.[45]

Or, for another example of effective horizontal integration, take our two distinguished Robert Wood Johnson Foundation training collaboratives: one, well established, in Health and Society,[46] and the other, newly re-launched, for Clinical Scholars.[47] These collaboratives are based on what has been described by their faculty as an "eclectic and expansive vision" of the kinds of knowledge, training, and actions that are needed to improve the nation's health and prepare a new generation of physician-scientists to interact effectively with policymakers, health care managers, advocacy groups, and communities. The collaboratives draw faculty from Penn Medicine, from the social and behavioral sciences, from bioethics and health policy, from management, finance, and leadership studies, from communications, sociology, anthropology, and economics, and from nursing, social work, law, and fine arts.

I realize, of course, that faculty at all universities collaborate. But at Penn, we are strategically building *deeply rooted*, institution-wide, *structural* opportunities and rewards for this to occur. And these are just a few of the ways in which aggressive horizontal integration, building on the strong vertical integration of the past, is positioning Penn Medicine—and the entire university—for leadership in the decades ahead.

A *MORE* INTEGRATED FUTURE

This is our plan. This is the direction in which we are headed. We got into trouble not because we tried for integration; we got into trouble because we tried for only one type of integration—a narrow, *vertical* system, linking all levels of medical care—rather than a *horizontal* system across departments and across the university. For Penn, this commitment, in fact, expresses our view of the new realities the world is now confronting—that in this interconnected, interrelated, global century, we are all—quite literally—in this together.

NOTES

1. Task Force on Academic Health Centers, Commonwealth Fund, *Envisioning the Future of Academic Health Centers: Final Report of the Commonwealth Fund's Task Force on Academic Health Centers* (New York: Commonwealth Fund, February 2003). Available at http://www.cmwf.org/publist/publist2.asp?CategoryID=1 (accessed Oct. 3, 2003).

2. L.E. Robinson, ed., *AAMC Data Book, Statistical Information Related to Medical Schools and Teaching Hospitals* (Washington, D.C.: Association of American Medical Colleges, 2001), 66–71.

3. The University of Pennsylvania Health System (UPHS) comprised four owned hospitals: Hospital of the University of Pennsylvania, Presbyterian Medical Center, Pennsylvania Hospital, and Phoenixville Hospital. The health system also included two multi-specialty medical facilities: Penn Medicine at Radnor and Penn Medicine at Limerick; a primary care provider network: Clinical Care Associates; a subspecialty network: Franklin Specialty Physicians; as well as home health care, hospice, and long-term care. UPHS, distinguished by its historical significance—first hospital (1751), first medical school (1765), first university teaching hospital (1874)—marked another first in 1993 when it created the first fully integrated academic health system.

4. J. Rodin, "The State of the University, 1999–2000," *Almanac* 46 (Nov. 23/30, 1999): 4–5.

5. "Rx for Health System: Keep Hospitals and Take a 501(c)(3)," *Pennsylvania Gazette* 99 (March/April 2001): 14.

6. "Health System's Bond-Rating Slips a Notch," *Pennsylvania Gazette* 97 (Sept./Oct. 1998): 18.

7. J. Rodin, "The Health System's Road to Recovery: Improving Financial Performance and Preserving Medical Excellence," *Pennsylvania Gazette* 98 (Jan./Feb. 2000): 10.

8. "Strong Medicine: Health System Cuts 1,700 after Record Deficit," *Pennsylvania Gazette* 98 (Jan./Feb. 2000): 13–6.

9. J.K. Iglehart, "Academic Medical Centers Enter the Market: The Case of Philadelphia," *New England Journal of Medicine* 333 (Oct. 12, 1995): 1019–23.

10. J. Shea, "Birth of a System," *Penn Health Magazine* 1 (May 1995): 4–7.

11. "Gathering Momentum for the Next Century: Our Long-Range Strategic Plan: 1994–99," *PennPulse* 36 (May/June 1994): 1–23.

12. *U.S. News and World Report* 132 (April 15, 2002): 70; 134 (April 14, 2003): 76.

13. Ibid. 134 (April 14, 2003): 76.

14. Ibid. 133 (July 22, 2002): 45; 135 (July 28/Aug. 4, 2003): 47.

15. For NIH awards to medical schools by rank in fiscal year 1996, and NIH awards to medical schools by rank in fiscal year 2002, see National Institutes of Health, Office of Extramural Research (Bethesda, Md.). NIH award data for fiscal years 1996–2002 is available at http://grants1.nih.gov/grants/award/award.htm#trends (accessed Oct. 3, 2003).

16. "The Abramson Vision: Family-Centered Cancer Care and Research," *Almanac* 44 (Dec. 16, 1997): 28. See also http://oncolink.upenn.edu (accessed Oct. 3, 2003).

17. For an overview of the University of Pennsylvania School of Medicine's Curriculum 2000, see http://www.med.upenn.edu/admiss/curriculum.html (accessed Oct. 3, 2003); G. Morrison, "University of Pennsylvania School of Medicine," *Academic Medicine* 75 (2000): S316–318; M.A. Ledger, "Heirs of Dr. Morgan," *Penn Medicine* 11 (Fall 1997): 16–25; and J. Shea, "A Blueprint for a New Curriculum," *Penn Health Magazine* 2 (May 1996): 4–6.

18. The region has six medical schools, over 100 hospitals, including numerous teaching hospitals, and 25,000 physicians. In the region, Penn Medicine competes not only with Temple, Jefferson, Hahneman-MCP (Drexel), and Tenet hospitals, among others, but also with Johns Hopkins and the New York City medical centers, including Memorial Sloan-Kettering, New York University, and Columbia-Presbyterian.

19. Penn Medicine was the first academic health system to win the Excellence in Health Care Risk Management Award for the effectiveness of its physician-designed Health and Disease Management Program. See http://www.uphs.upenn.edu/news/News_Releases/oct98/excellen.shtml (accessed Oct. 3, 2003). It is also the recipient of the 1998 Ernest A. Codman Award from the Joint Commission on Accreditation of Healthcare Organizations for its effective use of an innovative health and disease management program to increase patient satisfaction and improve clinical outcomes. See http://www.uphs.upenn.edu/news/News_Releases/oct98/codman.shtml (accessed Oct. 3, 2003).

20. Major expansion to Penn Medicine's facilities during this period included the construction of three biological research buildings, costing approximately $208 million, as well as many other upgrades and renovations of existing structures.

21. M. Van Der Werf, "Changing Economics of Health Care Are Devastating Academic Medical Centers," *Chronicle of Higher Education* (May 21, 1999): A38; K.S. Mangan, "Teaching Hospitals Face Loss of $4.2 Billion over 5 Years in Medicare Cuts," *Chronicle of Higher Education Daily Report* (Oct. 1, 2002) (available at http://chronicle.com/daily/2002/10/2002100104n.htm [accessed Oct. 3, 2003]).

22. J. Rodin, "The State of the University, 1999–2000," *Almanac* 46 (Nov. 23/30, 1999): 4–5; "Faculty Senate: Special Meeting Coverage," *Almanac* 46 (March 7, 2000): 2.

23. "Strong Medicine: Health System Cuts 1,700 after Record Deficit," *Pennsylvania Gazette* 98 (Jan./Feb. 2000): 13–6.

24. "Health System's Bond-Rating Slips a Notch," *Pennsylvania Gazette* 97 (Sept./Oct. 1998): 18.

25. M. Van Der Werf, "Changing Economics of Health Care Are Devastating Academic Medical Centers," *Chronicle of Higher Education* (May 21, 1999): A38; K.S. Mangan, "Teaching Hospitals Face Loss of $4.2 Billion over 5 Years in Medicare Cuts," *Chronicle of Higher Education Daily Report* (Oct. 1, 2002) (available at http://chronicle.com/daily/2002/10/2002100104n.htm [accessed Oct. 3, 2003]).

26. O.H. Wangensteen and S.D. Wangensteen, *The Rise of Surgery: From Empiric Craft to Scientific Discipline* (Minneapolis: University of Minnesota Press, 1978), 255–68.

27. A. Flexner, "The Proper Basis of Medical Education," in *Medical Education in the United States and Canada. A Report to the Carnegie Foundation for the Advancement of Teaching, Bulletin, Number Four* (Boston: D.B. Updike, Merrymount Press, 1910), 20–7.

28. In addition to the School of Medicine, the University of Pennsylvania consists of the Annenberg School for Communication, School of Arts and Sciences, School of Dental Medicine, School of Design, Graduate School of Education, School of Engineering and Applied Science, Law School, School of Nursing, School of Social Work, School of Veterinary Medicine, and the Wharton School.

29. B. Franklin, *Proposals Relating to the Education of Youth in Pensilvania* (Philadelphia: B. Franklin, 1749).

30. Task Force on Academic Health Centers, Commonwealth Fund, *Envisioning the Future of Academic Health Centers: Final Report of the Commonwealth Fund's Task Force on Academic Health Centers* (New York: The Commonwealth Fund, February 2003). Available at http://www.cmwf.org/publist/publist2.asp?CategoryID=1 (accessed Oct. 3, 2003). As the Commonwealth Fund report on academic health centers documents, the conduct of mission-related activities (i.e., educating medical students, performing clinical research, and providing indigent care) in AHCs and other health care institutions is often associated with extra expenses that are not compensated in competitive health care markets, and in FY1998, mission-related costs averaged 28 percent of total costs per case treated in AHC hospitals. This is two and a half times the 11 percent attributable to mission-related costs in other teaching hospitals. See also Table 1, above.

31. J. Rodin, "The Health System's Road to Recovery: Improving Financial Performance and Preserving Medical Excellence," *Pennsylvania Gazette* 98 (Jan./Feb. 2000): 10.

32. B. Franklin, *Proposals Relating to the Education of Youth in Pensilvania* (Philadelphia: B. Franklin, 1749).

33. J. Rodin, "No Better Place than Penn," *Almanac* 47 (Jan. 9, 2001): 1.

34. Task Force on Academic Health Centers, Commonwealth Fund, *Envisioning the Future of Academic Health Centers: Final Report of the Commonwealth Fund's Task Force on Academic Health Centers* (New York: Commonwealth Fund, February 2003). Available at http://www.cmwf.org/publist/publist2.asp?CategoryID=1 (accessed Oct. 3, 2003).

35. L.T. Kohn, J.M. Corrigan, and M.S. Donaldson, eds., Committee on Quality of Health Care in America, Institute of Medicine. *To Err is Human: Building a Safer Health System* (Washington, D.C.: National Academies Press, 2000).

36. E.G. Campbell, J.S. Weissman, J. Ausiello, S. Wyatt, and D. Blumenthal, "Understanding the Relationship between Market Competition and Students' Ratings of the Managed Care Content of Their Undergraduate Medical Education," *Academic Medicine* 76 (2001): 51–9. The Commonwealth Fund Task Force on Academic Health Centers (1997, 1999); Committee on Quality of Health Care in America, Institute of Medicine, *Crossing the Quality Chasm* (Washington, D.C.: National Academies Press, 2001), 48.

37. Task Force on Academic Health Centers, Commonwealth Fund, *Envisioning the Future of Academic Health Centers: Final Report of the Commonwealth Fund's Task Force on Academic Health Centers* (New York: Commonwealth Fund, February 2003). Available at http://www.cmwf.org/publist/publist2.asp?CategoryID=1 (accessed Oct. 3, 2003).

38. "Rx for Health System: Keep Hospitals and Take a 501(c)(3)," *Pennsylvania Gazette* 99 (March/April 2001): 14.

39. "Change in Governance," *System News* (Jan. 2002): 1–3. Available at http://www.uphs.upenn.edu/prnews/publications/System_News/system_news.01=02.pdf (accessed Oct. 3, 2003).

40. "Leaving the Negative Behind," *System News* (Jan. 2002): 1. Available at http://www.uphs.upenn.edu/prnews/publications/System_News/system_news.01=02.pdf (accessed Oct. 3, 2003).

41. "An Update on Strategic Planning," *PennPulse* 91 (July 2002): 2.

42. School of Medicine, University of Pennsylvania, "Plan for Penn Medicine" (unpublished strategic planning document, Philadelphia, Pa.: University of Pennsylvania, 2003).

43. Ibid.

44. For current information on Penn's Institute for Strategic Threat Analysis and Response (I*STAR), see http://www.istar.upenn.edu (accessed Oct. 3, 2003).

45. Committee on the Urban Community, University of Pennsylvania, "Urbanism at Penn, A Strategic Approach to the 'Century of the City'" (unpublished strategic planning document, Philadelphia, Pa.: University of Pennsylvania, 2003).

46. For more information on Penn's Robert Wood Johnson Health & Society Scholars Program, see http://www.upenn.edu/rwjhssp (accessed Oct. 3, 2003).

47. "Robert Wood Johnson Foundation Site for Clinical Scholars," *Almanac* 49 (Feb. 18, 2003): 3. Available at http://www.upenn.edu/almanac/v49/n22/rwjf.html (accessed Oct. 3, 2003).

ABOUT THE AUTHOR

Judith Rodin, Ph.D., is president-elect of the Rockefeller Foundation. In 1994, she became president of the University of Pennsylvania, the first woman to be named to the presidency of an Ivy League institution, and served in that position until 2004. During her presidency, Dr. Rodin guided the University through a period of unprecedented growth and development that transformed Penn's academic core and dramatically enhanced the quality of life on campus and in the surrounding community. Under her leadership, Penn invigorated its resources, doubling its research funding and tripling both its annual fundraising and the size of its endowment; launched a comprehensive and internationally acclaimed neighborhood revitalization program; attracted record numbers of undergraduate applicants, creating Penn's most selective classes ever; and rose in the *U.S. News & World Report* rankings of top national research universities from 16th in 1994 to 5th in 2003. Dr. Rodin's presidency also marked the largest capital construction period in Penn's history, with more than $1 billion invested in new buildings, renovations, and restorations.

In addition to being the first woman to be named to the presidency of an Ivy League institution, Dr. Rodin was also the first Penn alumna to serve as president. She holds faculty appointments as a professor of psychology in the School of Arts and Sciences and as a professor of medicine and psychiatry in the School of Medicine. She returned to Penn after 22 years on the faculty of Yale University, where she served as provost from 1992 through 1994.

Rodin serves on the boards of the Brookings Institution and Catalyst, and on the boards of Aetna, Inc., AMR Corporation, Electronic Data Systems, and Comcast Corporation. She is also a Trustee of the BlackRock Funds. She chaired the Council of Presidents of the Universities Research Association. She chairs the board of Innovation Philadelphia and the Knowledge Industry Partnership, and she serves on the steering committee of college presidents for America Reads and the executive committee of the Philadelphia Chamber of Commerce. Rodin is also a member of the Council on Competitiveness.

After completing her Ph.D. at Columbia University in 1970, Rodin joined the faculty of New York University as an assistant professor of psychology. She moved to Yale in 1972, was promoted to associate professor in 1975, named a full professor of psychology in 1979, and added the title of professor of medicine and psychiatry in 1985. Prior to her appointment as Yale's provost in 1992, she served two years as chair of the department of psychology and one year as dean of the Graduate School of Arts and Sciences.

At Yale, Rodin earned an international reputation as both a pioneer of the women's health movement and one of the only psychologists ever to master both the biological and psychological factors that lead to obesity. From 1983 to 1993, she chaired an international research network studying health-promoting and health-damaging behavior for the John D. and Catherine T. MacArthur Foundation. Rodin's research also contributed to society's understanding of aging by demonstrating that elderly people who are given control over their environment are more active, healthier, and live longer than those who are consigned to helplessness.

Rodin has published more than 200 articles and chapters in academic publications and authored or co-authored eleven books, including most recently, *Public Discourse in America: Conversation and*

Community in the Twenty-first Century (University of Pennsylvania Press, 2003), which originated in the work of the Penn National Commission on Society, Culture, and Community, which she convened and chaired.

During her presidency at Penn, Rodin served on President Clinton's Committee of Advisors on Science and Technology and co-chaired the transition team of Philadelphia Mayor John F. Street. She also served from 1994 to 1995 on a Presidential panel to review security at the White House.

Rodin has been elected to the American Academy of Arts and Sciences, the American Philosophical Society, and the Institute of Medicine of the National Academy of Sciences. She holds honorary doctorates from Brown University, New York University, Arcadia University, and the University of Pennsylvania.

She has also received numerous awards and honors. In September 2004, Rodin received the prestigious 2004 Philadelphia Award for her "commitment to elevating the economy of West Philadelphia and the quality of life for its residents; for her leadership roles in galvanizing Philadelphia's higher education institutions in order to keep the region's brightest graduates here and for promoting the region as a high-tech business location."

Dr. Rodin has been named president of the Rockefeller Foundation, one of the world's oldest and largest private philanthropies. She will assume her new position in March 2005.

SELECTED PUBLICATIONS OF THE MILBANK MEMORIAL FUND

A complete list of the Fund's reports may be viewed online at www.milbank.org. Reports published since 1993 are available electronically. Single or multiple copies of reports that have print editions are available without charge while supplies last.

Using Health Research in Policy and Practice: Case Studies from Nine Countries
by Ray Moynihan
co-published with AcademyHealth
2004 52 pages

Emergency Preparedness, Bioterrorism, and the States: The First Two Years after September 11
by Gerald Markowitz and David Rosner
2004 92 pages

Evidence-Based Mental Health Treatments and Services: Examples to Inform Public Policy
by Anthony F. Lehman, Howard H. Goldman, Lisa B. Dixon, and Rachel Churchill
2004 44 pages

Addressing the HIV/AIDS Pandemic: A U.S. Global AIDS Strategy for the Long Term
co-published with the Council on Foreign Relations
2004 44 pages

Evaluating Health Services: A Reporter Covers the Science of Research Synthesis
by Ray Moynihan
2004 64 pages

Making Sense of the System: How States Can Use Health Workforce Policies to Increase Access and Improve Quality of Care
by Edward Salsberg
co-published with the Reforming States Group
2003
Available electronically only at
http://www.milbank.org/reports/2003salsberg/2003salsberg.html

Food Safety Updated: Developing Tools for a More Science- and Risk-Based Approach
by Michael R. Taylor, Margaret O'K. Glavin, J. Glenn Morris, Jr., and Catherine E. Woteki
co-published with Resources for the Future
2003 56 pages

Implementing the Resident Assessment Instrument: Case Studies of Policymaking for Long-Term Care in Eight Countries
2003
Available electronically only at http://www.milbank.org/reports/interRAI/030222interRAI.html

September 11 and the Shifting Priorities of Public and Population Health in New York
by David Rosner and Gerald Markowitz
2003 68 pages

Rebalancing Long-Term Care in New Jersey: From Institutional toward Home and Community Care
by Susan C. Reinhard and Charles J. Fahey
2003
Available electronically only at http://www.milbank.org/reports/030314newjersey/030314newjersey.html

2000-2001 State Health Care Expenditure Report
co-published with the National Association of State Budget Officers and the Reforming States Group
2003 92 pages

Proactive Hazard Analysis and Health Care Policy
by John E. McDonough
co-published with ECRI
2002 36 pages

Achieving Better Health Outcomes: The Oregon Benchmark Experience
by Howard M. Leichter and Jeffrey Tryens
2002 60 pages

2001 Robert H. Ebert Memorial Lecture: Health Care Quality and How to Achieve It
by Kenneth I. Shine
2002 24 pages

Informing Judgment: Case Studies of Health Policy and Research in Six Countries
co-published with the Cochrane Collaboration
2001 212 pages

1998-1999 State Health Care Expenditure Report
co-published with the National Association of State Budget Officers and the Reforming States Group
2001 204 pages

CALIFORNIA/MILBANK BOOKS ON HEALTH AND THE PUBLIC

The following books are co-published with and distributed by the University of California Press. For information or to order, call 1-800-822-6657 or visit http://www.ucpress.edu.

The Employee Retirement Income Security Act of 1974: A Political History
by James A. Wooten
2005 430 pages
$65.00 cloth

Sick to Death and Not Going to Take It Anymore! Reforming Health Care for the Last Years of Life
by Joanne Lynn
2004 208 pages
$24.95 cloth

What Price Better Health? Hazards of the Research Imperative
by Daniel Callahan
2003 341 pages
$29.95 cloth

When Walking Fails: Mobility Problems of Adults with Chronic Conditions
by Lisa I. Iezzoni
2003 380 pages
$60.00 cloth; $19.95 paper

Death Is That Man Taking Names: Intersections of American Medicine, Law, and Culture
by Robert A. Burt
2002 256 pages
$29.95 cloth; $18.95 paper

Deceit and Denial: The Deadly Politics of Industrial Pollution
by Gerald Markowitz and David Rosner
2002 464 pages
$45.00 cloth; $19.95 paper

Big Doctoring in America: Profiles in Primary Care
by Fitzhugh Mullan
2002 302 pages
$29.95 cloth; $19.95 paper

Public Health Law and Ethics: A Reader
edited by Lawrence O. Gostin
2002 536 pages
$60.00 cloth; $35.00 paper

Public Health Law: Power, Duty, Restraint
by Lawrence O. Gostin
2000 518 pages
$29.95 paper

Experiencing Politics: A Legislator's Stories of Government and Health Care
by John E. McDonough
2000 336 pages
$21.95 paper

The Corporate Practice of Medicine: Competition and Innovation in Health Care
by James C. Robinson
1999 306 pages
$21.95 paper

The Fund also publishes the *Milbank Quarterly*, a multidisciplinary journal of population health and health policy. Information about subscribing to the *Quarterly* is available by calling toll-free 1-800-835-6770, or at www.milbank.org/quarterly/.

Information about other work of the Fund is available from the Fund at 645 Madison Ave., 15th Floor, New York, NY 10022, (212) 355-8400. Fax: (212) 355-8599. E-mail: mmf@milbank.org. On the Web: www.milbank.org.

©2005 Milbank Memorial Fund

Milbank Memorial Fund
645 Madison Avenue
New York, NY 10022

All rights reserved. No part of this publication may be reproduced, stored in any retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without prior permission.

The Milbank Memorial Fund is an endowed operating foundation that engages in nonpartisan analysis, study, research, and communication on significant issues in health policy. In the Fund's own publications, in reports or books it publishes with other organizations, and in articles it commissions for publication by other organizations, the Fund endeavors to maintain the highest standards for accuracy and fairness. Statements by individual authors, however, do not necessarily reflect opinions or factual determinations of the Fund.

ISBN 1-887748-61-X

Design and Typography:
The Boland Design Company