

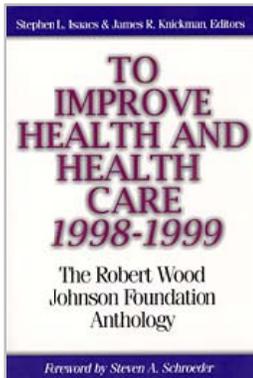
Influencing Academic Health Centers: The Robert Wood Johnson Foundation Experience

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Robert Wood Johnson Foundation

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Editor's Introduction

This chapter takes on a big topic: the interaction between the Foundation and the nation's academic health centers. These centers, which train most of the clinicians who deliver health care in America, have been the engines of innovation, specialization and technological change in the health sector. As a dominant force in the health care world—perhaps *the* dominant force during the 1970s and 1980s—it is not surprising that academic health centers would be an important focus of the Foundation's grantmaking.

This chapter by Lewis Sandy, the Foundation's current executive vice president, and Richard Reynolds, the executive vice president between 1987 and 1996, traces the interaction between the Foundation and the nation's academic health centers over the past three decades. In their assessment, the authors observe that the Foundation's strategies have not always converged with those of academic health centers. In particular, the Foundation has long promoted the importance of educating generalist physicians; academic health centers—often responding to large amounts of money coming from clinical practice and the National Institutes of Health—have tended to concentrate on training specialists and subspecialists. This chapter explains that early grantmaking pursued an "augmentation strategy" in an attempt to persuade academic health centers to add generalist training to the medical school curriculum, whereas more recent grants tried to get academic centers to make fundamental changes in their educational approach. Regardless of the prevailing strategy to influence medical education, Sandy and Reynolds note the Foundation's consistent investment in individuals within academic health centers. Such support reflects the value placed on individual leadership to effect institutional change.

This analysis of the Foundation's efforts to influence academic health centers complements the chapter written by Stephen L. Isaacs, Lewis G. Sandy and Steven A. Schroeder, "Improving the Health Care Workforce: Perspectives from Twenty-Four Years' Experience," that appeared in last year's *Anthology*. It can also be read in conjunction with Terrance Keenan's review of the Foundation's experience in promoting the fields of nurse practitioners and physician assistants—some of which took place in academic health centers—that appears as Chapter Eleven of this year's *Anthology*.

Academic health centers,¹ or AHCs, are an American success story. The envy of the world, AHCs have created an explosion of knowledge in both basic biomedical science and clinical research. AHCs are also the locus of training for the next generation of physicians, nurses, pharmacists and other health professionals, and they run the specialty and subspecialty training programs that create the practitioners of the most advanced medical care in the world. Not only are AHCs uniquely American in their grand scale and aspirations, they have developed a quintessential American trajectory, reflecting the American faith in technology, a can-do spirit and even a bit of the Wild West.

Before World War II, AHCs were relatively modest in scope, had a main emphasis on education and research, and by contemporary terms were modest clinical enterprises. In the 1930s and 40s, the scientific era of medicine began to flourish, with the discovery of insulin, the initial success of antibiotics and new technologies such as blood transfusion. World War II catalyzed further advances in medicine and surgery, and it was logical to believe that more research would produce effective treatments for cancer, heart disease and other killers. Also, the success of the Manhattan Project, which led to the rapid development of the atomic bomb, suggested that combining world-class talent with modern facilities and generous financial support could lead to similar success in conquering disease.

After the war, the expansion of the National Institutes of Health, or NIH, and further advances in medical science provided fertile soil for accelerated growth. In the 1960s, the creation of the Medicare program and its support for graduate medical education, coupled with the national mood of faith in science and technology that led to continued increases in funding for the NIH, created further support for specialty training and research, and continued expansions of the clinical enterprise. AHCs began to develop such technologies as intensive care units, burn centers, heart transplant programs and comprehensive cancer centers. Academic health physicians became household names and even celebrities—Denton Cooley, Michael De Bakey—and the nation's AHCs enjoyed unparalleled prestige, power and influence.

In that context, the relationship of AHCs to the Robert Wood Johnson Foundation was initiated. When the Foundation became a national philanthropy in 1972, AHCs were viewed as the center of the health and health care universe. It was only logical that the leadership of the Foundation should be sought from

that sector, and David Rogers, a former chairman of medicine at Vanderbilt and dean of the Johns Hopkins University School of Medicine, was recruited as the Foundation's first president.

Although the new president was a rising leader in academic medicine, the Foundation's initial view was that what was needed to improve health and health care was not perfectly congruent with the activities of AHCs. The Foundation's staff and board felt that there was an imperfect fit between the mission of AHCs and the needs of the nation. Although not denying the importance and the value of specialty training and practice, the Foundation felt that the declining interest in primary care and the need for a health care workforce that could care for a population's health needs were critical issues not being addressed by AHC leaders. The application of epidemiological principles to health care itself, or health services research, did not find a natural home either in AHCs or in the NIH. Public health, cleaved from medicine earlier in the century, had minimal input into the training of the nation's health care workforce. At the same time, the policy environment, seven years after the passage of Medicare and Medicaid legislation, looked promising for the extension of health entitlement programs to the rest of the population.

Most of David Rogers's academic colleagues thought he would use the Foundation's funds to support biomedical research. Rogers noted, however, that the NIH was putting billions of dollars into research funding, compared with the Foundation's \$50-million grantmaking capacity at that time. The Foundation thought more leverage could be gained by fostering the public and community responsibility of AHCs. Rogers was strongly criticized by his colleagues for this move. It did, however, represent his own beliefs about what AHCs should do. From that beginning, then, emerged a series of Foundation grants and programs with the aim of influencing academic medicine. What follows is a decade-to-decade analysis of these efforts, their achievements, limitations and lessons.

EARLY EFFORTS: THE 1970s

In our view, two additional strategic factors also influenced the relationship of the Foundation to AHCs: first, the recognized position of the AHCs as the leadership institutions in health care, and, second, the desire to work with the nation's leading people and institutions to ensure quality grantmaking. The more pragmatic requirement of initiating grantmaking expeditiously was also an important, but secondary, consideration.

The earliest grants made by the Robert Wood Johnson Foundation (see Figure 5.1), then, supported people. It made a series of awards to provide scholarships for medical and dental students, and adopted

the Clinical Scholars Program, which had been started by the Carnegie Corporation and the Commonwealth Fund to provide training opportunities in the social, behavioral and management sciences and other nonbiomedical disciplines for postresidency physicians. This strategy not only met the pragmatic requirements of the time but also was consistent with an academically oriented worldview of change. In brief, this view held that leaders of AHCs were masters of their fate, and had the power and the influence to mold their institutional agendas as they saw fit. Therefore, an appropriate philanthropic strategy was to shape and influence the next generation of leaders in the areas of primary care, public health and health services research.

A second dimension of the strategy is what we term the augmentation strategy—that is, building new programs on an existing base. In an expansive time of funding for health care, this was reasonable and logical. It also minimized resistance within AHCs: Why not continue to train specialists and also add new primary care residency programs? Why not train baccalaureate nurses and also develop the new nurse practitioner model? With this approach, the Foundation supported the Primary Care Residency Program and the Nurse Faculty Development Program to develop primary care capacity in medicine and pediatrics, and to build capacity for training nurse practitioners. The Foundation also authorized the Teaching Hospital Group Practice Program to help reorganize academic general internal medicine into a model that reflected the primary care principles of continuity, coordination and access.

The Foundation's investment in primary care residency programs in the 1970s fit the augmentation model to a T. The clear expectation at the time was that the demonstration and training programs funded by the Foundation would be sustained by federal or institutional support, or both. In fact, most of the residency programs funded by the Foundation continued with new federal grant support, and the teaching hospital group practice model became the norm as well. However, the Foundation-supported attempt by the Johns Hopkins University to create a new kind of provider, a health associate, did not succeed. Beginning in 1973, the Foundation provided five years of support to Johns Hopkins to establish an institution that would train these health associates. This program did not survive the combination of a budget crisis at the university, a lack of clarity over the differences between health associates and physician assistants and nurse practitioners, and the lack of continued funding either from the Foundation or from the federal government.

A third dimension of the initial strategy was investment in faculty development. The Robert Wood Johnson Foundation not only invested in the Clinical Scholars Program but also launched programs to

support faculty development in the emerging discipline of family medicine and, subsequently, in general pediatrics. The Foundation also initiated the Health Policy Fellows program, which it continues to support. The original purpose of this program was to train future leaders of AHCs in the politics of health care and health policy-making at the federal level by offering mid-career academics the opportunity to work for a year in a Washington legislative or executive office.

Assessment

Did the Foundation's strategy work? Yes, in the sense that it supported programs that attracted talented young people at elite institutions and promulgated the importance of health services research, primary care and public health. Yes, in the sense that these efforts got the Foundation off to a solid start in grantmaking and demonstrated that it was an institution of quality and rigor.

Did these efforts significantly influence AHCs? The hope at that time was that, over a decade or two, people supported by the Foundation would rise to prominence within AHCs and steer them toward goals that advanced the health of the public. AHCs did begin grudgingly to accept health services research and clinical epidemiology as legitimate areas of inquiry. However, the Health Policy Fellows had limited impact in influencing the course of their home AHCs. It was becoming clear that the Fellows were not senior enough within their AHCs to initiate change, and that, in any case, single agents for change faced difficulties in altering well-entrenched organizational behavior of AHCs.

And, of course, the policy environment itself did not behave as forecast. The nation did not expand national health insurance nor did primary care become the national norm. Federal support for primary care training programs, although institutionalizing the Foundation's investments, may have masked underlying economic trends and other forces that continued to favor specialty training, research and care.

For example, it became increasingly clear that the health care financing environment strongly encouraged specialty care and training as opposed to primary care. Medicare, Medicaid and generous third-party payments for clinical care provided the monetary fuel for huge increases in the clinical enterprises of AHCs. Faculty members could both raise AHC revenue and increase their own productivity by developing clinical and research fellowships, with explicit support by Medicare graduate medical education funding and NIH funding. In turn, this federally funded group of trainees created a local workforce to develop new and ever-expanding clinical programs that would raise further revenue for subsequent expansion. This "positive-feedback" loop led to a tenfold expansion of medical school clinical faculty, from 7,200 in 1961 to 73,400 in 1995, with an accompanying fourfold expansion, from 4,000 to

16,600, in basic science faculty and only a doubling of medical school enrollment.² Medical school clinical revenues grew from 5 percent of total medical school support in 1961 to 49 percent of total support in 1995, while federal support has progressively declined to around 20 percent of total support. This increasing reliance on growing clinical revenues and on the specialty training and delivery infrastructure necessary to sustain growth, combined with the protechnology bias in fee-for-service reimbursement, has accounted for AHCs' consistent emphasis on specialist training and on high-technology care delivery as opposed to primary care. It also helps explain why issues important to the population's health—public health, substance abuse, universal access to care, behavioral change—have not been priorities for AHCs.

THE 1980s

As the 1980s began, AHCs were strong, growing and relatively autonomous. Yet a few ominous clouds began to appear on the horizon. Medicare's Diagnostic Related Group Reimbursement was the first significant change to the reimbursement of usual, customary and reasonable costs that had fed the growth of fee-for-service medicine practiced at academic medical centers. Although teaching hospitals managed the transition without incident (and even profited), this change was a harbinger of a more fundamental restructuring of health care financing. Health-care costs were continuing to escalate, and academic centers increasingly began to experience adverse effects of their expanded specialty training programs. Many of these trainees, upon finishing their fellowships, promptly set up competitive programs in their local markets.

Nevertheless, the Foundation's strategy of investing in people and in augmenting academic programs seemed quite solid. Graduates of the Clinical Scholars Program were obtaining notable positions in medical schools and were ascending the academic ladder. By the early nineties, the majority of the leaders of divisions of general internal medicine were former clinical scholars. The faculty development programs were also bearing fruit, yielding new leadership in family medicine and general pediatrics.

Given this solid track record, the Foundation's strategy was to stay the course (see Figure 5.2 for a summary of Foundation programs supported in the 1980s). In 1982, it supported the Dental Services Research Program and the Clinical Nurse Scholars Program, which essentially applied the idea of the physician-oriented Clinical Scholars Program to dentistry and nursing.

The Foundation also began to focus attention on curricular change within medical schools. The rapid development of molecular and cellular biology was transforming basic science and raising questions

about the educational focus of academic departments' teaching of medical students. More than ever there was need to integrate the teaching of basic science and clinical training throughout the four years of medical school. New pedagogy such as computer-assisted learning and the use of surrogate patients was rapidly evolving. Behavioral, social, probabilistic and information sciences were deemed as important as the traditional basic science in the general education of medical students. With the current emphasis on general medicine, the establishment of ambulatory practice sites for training in prevention and primary care made sense.

The Foundation was repeatedly asked to fund another Flexner Report. Since its publication in 1910, the Flexner Report has shaped medical education for most of the twentieth century. Though the report had had a major impact on medical education, its postulates were thought now to be archaic and even an impediment to needed change. The Foundation's response was to support an extensive survey of medical educators. A majority of respondents indicated a need for "fundamental changes" and "thorough reform" in medical education. Against this background the Foundation initiated two programs—the Commission on Medical Education: The Science of Medical Practice, and Preparing Physicians for the Future: A Program in Medical Education.

The recommendations of the commission included the integration of basic and clinical sciences, the need for students to have a better comprehension of the role of behavioral and social aspects of disease, the expansion of clinical training into ambulatory care sites, and a medical school governance to make curriculum change feasible. These were thought to be modest in scope, and all had been already noted by previous commissions or task forces. The thrust of the commission's report, however, was to challenge the departmental segmentation and control of the curriculum and to suggest that medical education could be improved from its present status.

What was different from earlier efforts at curricular reform, however, was that the Foundation followed through with the Program in Medical Education that was designed to support the implementation of the commission's recommendations for curricular change, something no other task force or commission had done.

Rather than just tinkering with the existing scheme of medical education, the Foundation supported eight schools through the Program in Medical Education over a five-year period to make fundamental changes in their curriculum in keeping with the commission's recommendations. An extensive evaluation

indicated that they were successful in doing this. The continuation of these changes remains to be seen, but the initial indications are promising.

Assessment

Through its various programs, the Foundation succeeded in supporting new kinds of medical school faculty. Reforms in medical education also proved to be successful,³ but the Foundation's catalytic role is less clear. One might reasonably view the Foundation's role as one of facilitating trends that already existed rather than creating any fundamental shifts.⁴ Perhaps even more significant is the Foundation's sustained investment in scholarship in the areas of health services research, clinical epidemiology, biomedical ethics and other disciplines. This extensive and continuing investment, which occurred through both explicit training programs and Foundation research initiatives and demonstration programs on specific topics, has had the effect of legitimizing these disciplines within AHCs. This effect, which may transcend individual programs and eras, may be the Foundation's most lasting contribution to academic health centers.

The Foundation's success in creating new kinds of academic physicians did not extend to dentistry and nursing. As one of us has argued elsewhere,⁵ the Clinical Nurse Scholars program may have been terminated prematurely. Additionally, the disparate paths available in nursing education may have made efforts at change significantly more difficult. Dental education was buffeted by forces—including falling student demand for dental education and a reduction of dental diseases such as caries—more powerful than those areas of the Foundation's modest investment. Perhaps the clearest example of philanthropic impact was the Program for Training Dentists in the Care of Handicapped Patients, which led to widespread curricular reform in this area.

The Foundation's mixed record in the areas of nursing and other health professions may reflect a profound ambivalence about power within AHCs. Although the notion was never explicitly articulated, it was generally believed at the Foundation that the major source of power and influence within AHCs was the medical school and its leadership. Egalitarian impulses contributed to the desire to work across a variety of disciplines, but the tension between egalitarian desire and the search for leverage may have contributed to the Foundation's limited impact beyond medicine.

THE 1990s

By the early nineties, the prevailing winds of change had increased to near-hurricane force. Health care costs had continued to rise, and, in certain areas of the country, managed care growth had begun to affect

the clinical operations of academic health centers significantly. For example, contracts for managed care patients were not as lucrative and limited AHCs' ability to cross-subsidize teaching, research and indigent care. Interest in primary care among medical students and faculty fell dramatically,⁶ and academic health centers continued to expand their clinical programs to support the service requirements of expanding specialty training programs and to increase clinical revenue. The number of medical school clinical faculty, for example, increased 11.9 percent from 1992–93 to 1994–95 alone.⁷

Ultimately more disturbing for AHCs, however, was the gradual erosion of their place at the center of power and influence in health care. By training too many specialists (who in turn set up competing tertiary-care programs), AHCs lost their natural monopoly on specialty care. The growth of managed care created powerful new corporations in the health care arena—organizations with no special reverence for the products and the values intrinsic to AHCs. Many AHCs neglected community concerns, and were viewed as arrogant and insular institutions. Finally, the dramatic growth of overall health care spending led to a continued monetarization of the health care sector,⁸ with the ascension of economics, business and politics over medicine. With such developments in mind, the Foundation created a new generation of programs that were, perhaps paradoxically, both more ambitious and more circumscribed than previous efforts (see Figure 5.3).

First, the Foundation developed programs to encourage medical schools to shift their educational focus toward generalism and away from a predominance of specialists. This move away from a strategy of augmentation was quite explicit, for example, in the Generalist Physician Initiative, whose program guidelines insisted on fundamental changes in the school's overall admission process, curriculum and career path of graduates to encourage generalism. This ambitious program was launched in parallel with a more traditional faculty development program, the Generalist Physician Faculty Scholars Program, and a generalist-oriented research program, the Generalist Provider Research Initiative.

Second, the Foundation's programs to encourage generalism had another thrust—that is, the beginning of an outside-in strategy. Previous efforts to influence AHCs through direct grants to individual agents of change within institutions evolved into grants to support the effort both of AHCs and of potentially influential partners outside the AHCs. For example, the Generalist Physician Initiative insisted that AHCs have external partners such as HMOs, group practices, or insurers. Early experience in the program suggests that these partners have a considerable influence in the production of generalists, in pointing out deficiencies in the preclinical and clinical curricula, and in highlighting the "hidden

curriculum"⁹ of academia that encourages excessive specialization and expensive care. The Generalist Provider Research Initiative supports policy and analytic studies in generalism, but also serves as a way to provide information to shape the policy levers that affect specialty choice.

Third, the Foundation provided support to the Health of the Public Program. This program was designed to encourage AHCs to come up with new ideas for their mission and functions, so that teaching, research, and care would be aligned to better meet the needs of the health of defined populations, such as the community surrounding the AHC. The initial two phases of the Health of the Public Program had been supported by the Rockefeller Foundation and the Pew Charitable Trusts. The Robert Wood Johnson Foundation, in collaboration with Pew, funded a third phase to extend and institutionalize the community partnerships and curricular reforms.

Another target of Foundation grantmaking to influence AHCs in the 1990s included better matching of supply and demand for nurses. The Colleagues in Caring program was designed to bring together employers of nurses—such as hospitals, clinics, home health providers—with educational institutions to plan more rational responses to the way the market operates.

Finally, the Foundation has continued and expanded its support for educating minorities in the health professions. The Minority Medical Education Program, the Minority Medical Faculty Development Program and other efforts reflect the Foundation's long-standing and continuing commitment to diversity in these professions. An analysis of demographic data suggests that the nation's health workforce is getting less diverse and less representative of the nation overall. The Association of American Medical Colleges' program called 3000 by 2000, partially funded by the Foundation, recognizes that the solution to this problem lies in expanding the pipeline by investing in educational programs in secondary schools, and even earlier, to enlarge the pool of minorities that enter the health professions.

Assessment

Although current Foundation efforts are ambitious in their goals, they are more modest in their ability to change the overall course and nature of AHCs. As the twentieth century draws to a close, AHCs are enormous engines of clinical care, training and research, fueled by public and private reimbursement, the NIH and other research funders, and federal and state subsidies for graduate medical education. In spite of the concerns about the effect of marketplace changes and managed care growth on AHCs, most are fiscally and programmatically robust, continue to expand, and have yet to undergo a critical reexamination of their mission and function. The Health of the Public Program, for example, was

successful in articulating the argument for a new vision of academic health centers and in supporting a number of important local efforts at curricular reform and community service. But it lacked sufficient leverage to affect the way AHCs responded to enormous economic and market forces. The Health of the Public grants were modest, often funding only one faculty member at an institution, with limited funds to support innovative programs beyond their initiation. Even larger-scale Foundation investments, such as the Generalist Physician Initiative, are seeing positive trends emanating more from market forces than from direct program effects. In addition, the institutional tendency remains to add on programs rather than fundamentally change core activities.

The Foundation itself has evolved as well. From an initial emphasis on health care institutions and health care delivery, it is currently supporting a widened array of programs and projects that are tackling the challenging issues of substance abuse at the community level, enhancing consumer-directed approaches to care for the disabled, and integration of housing and social services, to name just a few. Many of these efforts are quite remote from AHCs, and efforts to influence AHCs are now probably best viewed as one of a number of areas of Foundation action rather than as a central thrust.

THE FUTURE

Given this experience, what is the Robert Wood Johnson Foundation's current approach to AHCs? First, in addition to continuing the generalist programs developed in the 1990s, the Foundation is investing in an effort to encourage a long-range strategic assessment of the mission and the function of the AHCs. The Forum on the Future of Academic Medicine, sponsored by the Association of American Medical Colleges, is bringing together leaders of AHCs with leaders from outside health and health care to debate the mission, the function, and the role of AHCs in the twenty-first century. The Forum has already identified important areas for further work, such as a better understanding of AHC financial affairs and the need for leadership development. Work in these areas may hold great promise. In parallel, the Commonwealth Fund's Commission on Academic Medicine is contributing important policy analysis to the field, and helping to focus attention on the question of how best to support the mission of AHCs in the current turbulent environment.

Second, the Foundation, with Pew, is supporting a transformation of the Health of the Public Program into a sustainable network. Third, the Foundation is supporting a new nurse executive leadership program, which, although not exclusively focused on academic nursing, will identify and help develop the next generation of nursing leadership. Finally, the Foundation continues to support scholarly

endeavors in the areas of health care organization and finance, home care, substance abuse policy and others that help influence the direction of research within AHCs.

LESSONS LEARNED

After 25 years of grantmaking experience, a number of lessons have emerged.

- First, investments in people pay off. Clinical Scholars, for example, now hold a variety of leadership positions in AHCs, in government and in the private sector. In part, this may be because of the Foundation's sustained commitment to the program over 25 years, and the fact that approximately 750 Clinical Scholars have been trained, more than 60 percent of whom remain in academe. Although fellowship programs are expensive, supporting bright young people early in their career may be a more effective institutional change strategy than direct institutional grants.
- Second, AHCs, like most academic institutions, do not follow a logical, planned process of change. As is true of most complex systems, AHCs react to a variety of external changes—political, economic, social and scientific. For example, the postwar environment encouraged a dramatic growth in specialty training and research, and today managed care is encouraging joint ventures, mergers and other changes in the clinical systems of care in AHCs. Efforts to influence AHCs may perhaps best be accomplished by shaping those broader social and economic forces, as well as by supporting talented individuals through training and research programs.
- Third, both a strategy of augmentation and one of fundamental change can work, with appropriate targeting and resources. An augmentation strategy can succeed if funding can be sustained over time, and a strategy of fundamental change can work if it is targeted to a fairly specific area and sufficient resources are committed.
- Fourth, it is important to work with both elite and nonelite AHCs, although it may be appropriate to pursue different strategies for each. For example, an augmentation strategy is most appropriate for elite institutions, where adding a new program to a premiere institution enhances the program's visibility. But a fundamental change strategy has a greater chance of succeeding in a nonelite setting, where barriers to reform may be fewer and where there may be greater interest in moving the institution in new directions.
- Finally, the role of philanthropy in influencing large and powerful institutions should be kept in proper perspective. Unlike earlier in the century, when philanthropic resources were a much larger fraction of resources devoted to academia, modern AHCs are multibillion-dollar enterprises. Multimillion-dollar foundation grants, although welcome, cannot by themselves transform AHCs or their directions.

For the Foundation, whose mission is to improve health and health care for all Americans, AHCs have a special role and place. Their role in creating new knowledge, in providing advanced care and specialty training, and in educating the next generation of health professionals is unquestioned. Their role in improving community health, in caring for the underserved, and in being held accountable for societal goals is undergoing vigorous debate. In addition, the commitment of the AHCs to diversity is undergoing both internal and societal challenges at a time when such a commitment is needed more than ever. Nevertheless, AHCs remain in large part a public trust¹⁰ and should be held accountable for their

contributions to the society's health. By investing in people, by identifying and shaping those forces that have an impact on AHCs, and by carefully targeting philanthropic investment in the right areas at the right time, the Robert Wood Johnson Foundation continues to seek to influence AHCs to improve health and health care for the American people.

As the twenty-first century draws near, perhaps what is needed is a new concept of the AHC and its function and purpose. A soul-searching look at mission, at function and at structure may help catalyze creative responses to the future that are not merely reactive but make a compelling case for continued public trust, support and acclaim.

Notes

¹ According to the Association of Academic Health Centers, AHCs vary in their organization and structure, but all centers include a medical school, at least one other health professional school or program, and one or more owned or affiliated teaching hospitals.

² D. Korn, "Reengineering Academic Medical Centers: Reengineering Academic Values?" *Academic Medicine* 71(10), Oct. 1996, 1033–1043.

³ An evaluation of the Program in Medical Education by Gordon Moore indicated the funded schools did indeed change, but so did comparison schools. The funded schools felt strongly that the Foundation had made a major impact in updating their curriculum.

⁴ N. A. Christakis, "The Similarity and Frequency of Proposals to Reform US Medical Education: Constant Concerns," *JAMA* 274(9), Sept. 1995, 706–711.

⁵ S. L. Isaacs, L. G. Sandy and S. A. Schroeder, "Grants to Shape the Health Care Workforce: The Robert Wood Johnson Foundation Experience," *Health Affairs* 15(2), Summer 1996, 279–295.

⁶ J. M. Colwill, "Where Have All the Primary Care Applicants Gone?" *NEJM* 326(5), Feb. 1992, 387–393.

⁷ J. Y. Krakower, J. Ganem and P. Jolly, "Review of US Medical School Finances, 1994-1995," *JAMA* 276(9), Sept. 1996, 720–724.

⁸ E. Ginzberg, "The Monetization of Medical Care," *NEJM* 310(18), May 1984, 1162–1165.

⁹ F. W. Hafferty and R. Franks, "The Hidden Curriculum, Ethics Teaching and the Structure of Medical Education," *Academic Medicine* 69(11), Nov. 1994, 861–871.

¹⁰ S. A. Schroeder, J. S. Zones and J. A. Showstack, "Academic Medicine as a Public Trust," *JAMA* 262(6), Aug. 1989, 803–812.

FIGURES

5.1 RWJF-Authorized AHC Programs in the 1970s (Millions of Dollars)

5.2 RWJF-Authorized AJC Programs in the 1980s

5.3 RWJF-Authorized AJC Programs in the 1990s