

# ENVISIONING THE FUTURE OF ACADEMIC HEALTH CENTERS

Final Report of The Commonwealth Fund  
Task Force on Academic Health Centers

February 2003

Support for this research was provided by The Commonwealth Fund. The views presented here are those of the Task Force on Academic Health Centers and should not be attributed to the Fund or its directors, officers, or staff.

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## PROLOGUE

When The Commonwealth Fund Task Force on Academic Health Centers began its work seven years ago, the health care system was entering a period of unprecedented turmoil resulting from profound changes in private markets and public policy. Much of the Task Force's work during this time focused on defining and understanding the social missions of academic health centers (AHCs). Fortunately, AHCs survived this difficult period without fundamental damage to their missions.

With the retreat of managed care and the relative success of efforts to temper Medicare cutbacks, there is a growing perception that the need to examine AHCs' social role and their sources of support is less pressing. The Task Force disagrees. The U.S. health care system is once again experiencing double-digit cost inflation that, together with a slowing economy, will severely stress public and private purchasers of care and dramatically increase the number of uninsured people.<sup>1</sup>

In fact, our health care system seems to be spiraling toward crisis. Any respite for AHCs from societal scrutiny and pressure is thus likely to be short-lived. If the future is a reflection of the past, reactions to rising costs and ongoing concerns over access to care and quality of health services will present these institutions with new and unprecedented challenges—as well as opportunities—in the pursuit of their special missions.

One example of such challenges and opportunities arises in the context of AHCs' role in the biological revolution of the late 20th and early 21st centuries. The mapping of the human genome has come to symbolize this phenomenon, but other, equally important but perhaps less-heralded accomplishments undoubtedly lie ahead as new knowledge is exploited in basic and clinical applications. The sciences of genomics and proteomics, genetic epidemiology, immunology, cancer biology, and many others are poised to take advantage of and spur on the work of the Human Genome Project. In addition to these advances in the traditional biomedical sciences, progress is accelerating in new fields and in cross-disciplinary applications of traditional and new activities. These include bioinformatics, biomedical engineering, nanotechnology materials sciences, complexity science, behavioral science, outcomes research, and health services research. The doubling of the National Institutes of Health budget, now almost complete, builds upon and propels the biological revolution, as does the growth in U.S. spending on health research and development generally.

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<sup>1</sup> Joel E. Miller, *A Perfect Storm: The Confluence of Forces Affecting Health Care Coverage* (Washington, D.C.: National Coalition on Health Care, 2001).

AHCs have enjoyed an important public trust as recipients of enormous amounts of public funding for biomedical research. As a result, they have played and have the opportunity to continue to play a pivotal role in the biological revolution. However, as the pace of change continues to accelerate, and as opportunities to apply new knowledge grow, AHCs will face new challenges. They will likely be called upon to demonstrate that they are efficient producers of new knowledge and that they can apply that knowledge effectively, partner with nonacademic institutions, and accomplish their goals in ways that meet public expectations for impartiality, objectivity, and protection of human participants in research.

Challenges will also arise in the context of the delivery of health care services. Recent work by the Institute of Medicine on patient safety and quality of care in America has thrown down the gauntlet for all health care institutions to strive for unprecedented levels of safety and quality in caring for all patients. The Institute of Medicine's vision seems destined to be translated into new demands and standards of accountability for institutional performance. AHCs have prided themselves in the past on providing leadership not only in research but also in provision of clinical services. In the future, demonstrating such leadership will require that AHCs pioneer not only new clinical technologies, where they have traditionally excelled, but also new methods for organizing and financing care, where they have not.

These and other challenges and opportunities are discussed in detail in this final report of the Task Force on Academic Health Centers. The report's purpose is to build on the past work of the Task Force by looking forward, in an effort to help AHCs plan for a promising but demanding first decade of the 21st century.

Section I of the report provides background on AHCs as institutions: their definition, role in the U.S. health care system, current status, and some of the future challenges they are likely to face. These challenges grow from changes in the health care needs and characteristics of the populations that AHCs serve and the missions they pursue. As discussed in this section, such changes are driven in part by predictable demographic, economic, social, and scientific forces and have profound implications for the work AHCs must accomplish. This section also outlines critical questions that the Task Force considered in trying to envision how AHCs, individually and collectively, should evolve over the next 10 to 20 years.

Section II outlines principles that guided the Task Force in answering these questions. In many ways, these principles are as important as the Task Force's specific

answers. Section III describes the Task Force’s vision of AHCs both as a group and as individual institutions. The issues covered include: 1) whether AHCs should continue to exist; 2) how many we need, and where we need them; 3) the future organization and structure of the AHC; and 4) approaches to conducting each of the major missions of the future AHC.

Section IV provides recommendations for public and private stakeholders that, in the Task Force’s view, will increase the probability that the Task Force’s vision for the future AHC will be realized.

As in its five previous reports, the Task Force is deeply indebted to its dedicated staff for their excellent work and to The Commonwealth Fund for its generous support.<sup>2</sup> In this last official report of the Task Force, we would also like personally to express our thanks to the members of the Task Force, who have labored long and hard, with insight and creativity, to inspire, plan, and execute seven years of intensive examination of the vital social missions performed by a unique set of U.S. health care institutions.

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<sup>2</sup> The Commonwealth Fund Task Force on Academic Health Centers reports are: *Leveling the Playing Field: Financing the Missions of Academic Health Centers* (1997); *From Bench to Bedside: Preserving the Research Mission of Academic Health Centers* (1999); *Health Care at the Cutting Edge: The Role of Academic Health Centers in the Provision of Specialty Care* (2000); *A Shared Responsibility: Academic Health Centers and the Provision of Care to the Poor and Uninsured* (2001); and *Training Tomorrow’s Doctors: The Medical Education Mission of Academic Health Centers* (2002). They are available at [www.cmf.org](http://www.cmf.org).



## EXECUTIVE SUMMARY

The work of The Commonwealth Fund Task Force on Academic Health Centers has, from its inception in 1995, focused on preserving and enhancing the unique missions of academic health centers: conducting biomedical research, training health professionals, providing rare and highly specialized clinical services, innovating in clinical care, and, in many cases, caring for poor and underserved patients. With this final report, the Task Force presents its vision of the future of academic health centers (AHCs) and their missions in a world that is already strikingly different than when the work of the Task Force began, and that will continue to change at an accelerating pace.

### **Fundamental Questions**

The Task Force poses fundamental questions about the future role of the academic health center and the way AHCs should be organized and managed. These questions are:

- Do we still need the missions of AHCs, and do we need AHCs to perform them?
- If we do need AHCs to continue to conduct their mission-related activities, how many AHCs do we need and where should they be located?
- What should the AHC of the future look like? How should it be organized, financed, and managed and how should it pursue its missions?
- What changes, if any, are needed to public policy and private management to ensure that AHCs in the future will fulfill their social missions as effectively as possible?

### **Guiding Principles**

The principles that guided the Task Force in its deliberations of the fundamental questions are in many ways as important as the recommendations that flowed from them:

- The overriding purpose of academic health centers is to improve the health and health care of their communities and of the larger society in which they reside.
- The AHCs' social missions—teaching, research, provision of rare and high-technology services, continuous innovation in patient care, and care of the indigent—are significant contributors to public welfare, and are likely to grow more important in the foreseeable future.
- The U.S. health care system should be open to and experiment with new methods of pursuing these social missions.

- Academic health centers should demonstrate leadership within the U.S. health care system by seeking continually to analyze and improve their performance.
- AHCs must simultaneously strengthen their academic ties with their parent universities and maintain sufficient freedom of action to compete successfully in an increasingly challenging clinical environment.
- AHCs should maintain their strong role in working to reduce disparities in health and health care between less fortunate members of our society and those with greater advantages.
- AHCs should demonstrate their value by measuring their own performance, sharing those data openly, and providing evidence of continuous improvement.
- AHCs are and should remain heterogeneous, pursuing their social missions through an increasing variety of institutional arrangements.

## **Envisioning the Future of the Academic Health Center**

### *Do We Still Need Academic Health Centers?*

Try as it might, the Task Force found it difficult to imagine how the United States could maximize the health of its citizenry without institutions resembling academic health centers. It seems inefficient at best, and foolhardy at worst, to dismantle the infrastructure that AHCs have developed without first firmly establishing the advantages of any alternative approach to pursuing their missions.

That being said, the Task Force also believes that in the future it may prove necessary to perform more of these missions in organizations that are not part of universities or do not resemble AHCs as we currently know them. These performance sites could include, among many others: freestanding research institutes; community-based sites for graduate health professional education; and a broad array of health care providers in local communities.

### *How Many Do We Need, and Where Do We Need Them?*

The Task Force believes that the national capacity to perform research, teaching, clinical innovation, and highly specialized and indigent care will most likely have to increase over time. While new communications technologies could reduce pressures to create new AHCs temporarily, and some reduction might be desirable in certain locations, the growth in population and in the biomedical enterprise seems likely to require growth in AHCs or similar institutions. In particular, the shift of the U.S. population to the West and South is likely to require growth in the capacity of the AHC sector in those locales. Similarly,

the downsizing or closing of AHCs in some northeastern communities may not be entirely inappropriate.

*What Should the Academic Health Center of the Future Look Like?*

The AHC of the future will consist of a diverse array of institutions in terms of size, the extent to which they pursue their missions, and the ways in which they are organized and managed. Certain institutional characteristics will facilitate effective responses to the changing demands on AHCs.

1. *Institutional culture.* To cope with increasing change and uncertainty, AHCs, collectively and individually, must be able to learn quickly and act expeditiously. This will require changes in institutional culture that increase openness, teamwork, commitment to learning, continuous improvement, accountability, and patient-centeredness. Transforming the culture of AHCs is likely to be a lengthy and complex process.
2. *Organizational framework.* AHCs will be more effective in enhancing their missions if they adopt management structures and practices that have been proven to increase efficiency and reduce errors in medical and nonmedical settings. As a result, AHCs will increasingly rely upon interdisciplinary structures; seek to achieve greater organizational nimbleness and flexibility; develop sophisticated knowledge management and communication capabilities; develop and use financial systems that align incentives across functions and enable managers to reward excellence; and create transparent, robust information systems that support all their mission-related activities.

In the future, most AHCs will specialize in certain missions, and perhaps in certain subcomponents of particular missions. Only a minority will attempt proficiency in the wide array of research, education, and clinical care. AHCs will treat their mission portfolios strategically, seeking balance and diversification among the areas that they pursue and engaging in strategic planning to chart their long-term agendas. Interdisciplinary work will be the norm in all fields, but especially in research.

In the clinical area, AHCs will provide leadership in adopting new technologies, new methods of organizing care, and new means of accountability. No single model of the relationship between AHCs and their clinical facilities will prove essential to success in performing the clinical missions of these institutions. Some AHCs will own key clinical institutions; others will not. Most AHCs will maintain a strong commitment to care of the poor.

## **Recommendations for the Academic Health Center Community**

### *Organization, Management, and Leadership*

Academic health centers should develop rigorous strategic planning activities that will guide their investments in mission-related programs. They should develop programs to identify and prepare leadership to manage the increasingly rapid changes confronting academic health centers and to implement the vision outlined above. Academic health centers should make reforms and build the infrastructure needed to improve their nimbleness and flexibility in responding to environmental challenges. To this end:

- AHCs should strive to be leaders in the application of information technology to improve health care.
- AHCs should develop organizational structures that are more responsive to the needs of the communities they serve.
- AHCs should dramatically improve their internal accounting capabilities and their abilities to manage the flow of funds supporting routine activities and mission-related work.
- AHCs should develop capabilities for performance measurement and improvement, and should train and lead personnel at all levels to value openness, learning, teamwork, accountability, and patient-centeredness.
- AHCs should develop mechanisms to learn about the work of other AHCs, nonacademic health care organizations, and non-health care institutions to identify best practices that may be usefully incorporated into their own activities.
- AHCs should develop mechanisms to assess continually the health care needs of their own communities and of the U.S. population more generally, and should ensure that resulting data are incorporated into strategic planning and management decisions.

### *Research*

- AHCs should develop rigorous, peer-reviewed, accountable procedures to allocate space, internal start-up funds, and other research resources.
- AHCs should develop interdisciplinary research structures and recruit faculty who can lead them.
- AHCs should give higher priority and recognition to new and traditionally undersupported areas of biomedical science, including behavioral science, public

health-related research, informatics, management sciences, clinical research, and health services research.

- AHCs should develop the means necessary to translate results of clinical research into practice.
- AHCs should manage their relationships with industry and their research generally in a manner that protects patient participants, maintains academic values, and sustains public trust in the objectivity of the research enterprise.
- AHCs should provide increased support for and academic acknowledgment of the work of faculty who participate in management of ethical issues in research and practice.
- AHCs should play a leadership role in ensuring that the clinical research enterprise protects the welfare and rights of human participants in clinical investigation.

#### *Education*

- The curricula of AHCs should dramatically increase emphasis on lifelong learning, teamwork, continuous improvement, and measurement of clinical performance in addition to command of biomedical information and culturally competent care.
- AHCs should develop capabilities to educate students, residents, and clinicians online and remotely.
- AHCs should develop capabilities to use simulation at all levels of the educational experience, from students' first encounters with clinical care to continuing education and certification of master clinicians.
- AHCs should train and reward educators with the same generosity as researchers and clinicians.
- AHCs should develop systems of performance measurement and accountability that promote continuous improvement in education.
- AHCs should provide training to prepare clinical researchers for the challenges of an increasingly complex and accountable research environment.
- AHCs should provide leadership in training a culturally competent clinical and research workforce.

### *Clinical Care*

- AHCs should act decisively to improve the safety, quality, and efficiency of the services they provide as part of a process of continual improvement in their performance.
- AHCs should invest in information technologies necessary to automate all appropriate clinical care processes, provide patients with secure access to their medical records, and help patients with self-care and medical decision-making.
- AHCs that fail to achieve the best obtainable outcomes demonstrated by peer institutions should act decisively to improve outcomes or discontinue those clinical services.

### *Vulnerable Populations*

- AHCs should strive to ensure that the quality and efficiency of care provided vulnerable populations is comparable to that available to other populations and should document their performance in this regard.
- AHCs should actively seek and work with partners in local communities to serve the needs of poor and indigent patients.
- AHCs should adopt explicit programs to train staff at all levels to provide care that is culturally appropriate and responsive to the diverse needs of ethnically and racially varied populations.

### **Recommendations for Public Policy**

Supporters of mission-related activities should move as quickly as possible to create alternative mechanisms for supporting the expenses of AHC missions. These mechanisms should meet the criteria of openness, flexibility, administrative simplicity, predictability, and accountability. To the extent possible, the identifiable, nonclinical expenses of mission-related activities (such as the costs of conducting research and teaching) should be covered *in full* by explicit grants and other payments from public and private agencies charged with supporting these services.

Current societal levels of support for mission-related activities (combining all public and private sources) are almost certainly adequate for the near future. A larger proportion of aggregate societal support for the clinical expenses of mission-related activities of AHCs should, in the future, flow through public channels.

### *Academic Health Services Trust Fund*

A variety of public mechanisms could be used to generate and disburse funds supporting the social missions of AHCs. As an example, the Task Force has in the past advanced the concept of the Academic Health Services Trust Fund (AHSTF), a public authority that would provide explicit payments to AHCs that participate in the production of public and merit goods (such as medical research and well-educated physicians) that cannot be supported effectively in private health care markets. To provide incentives for AHCs to make the internal reforms recommended in this report, 10 percent of the funds allocated to the Trust Fund could be set aside to support innovations that bring AHCs closer to achieving reforms needed to meet future challenges and opportunities.

### *Academic Health Services Advisory Commission*

An Academic Health Services Advisory Commission (AHSAC) would advise the federal government on the level and allocation of funds provided by the AHSTF for teaching, research, high-technology and specialized services, and clinical innovation at AHCs and other eligible performers of these missions. The AHSAC would be broadly representative of the institutions that conduct, support, and benefit from mission-related activities at AHCs. In particular, it should include representatives of AHCs, payers, insurers, providers, and the general public. States and, where appropriate, localities could create similar bodies to advise state and local authorities on funding decisions undertaken by these authorities.

### *Level of Support*

The AHSAC would lead an assessment and planning process to estimate national requirements for support of the clinical expenses associated with the conduct of teaching, research, high-technology and specialized services, and clinical innovation at AHCs and other eligible institutions. Assessment processes at both federal and local levels would take into account existing mechanisms and resources for estimating national requirements for mission-related activities and their associated clinical expenses, including reports from the Council on Graduate Medical Education, the Institute of Medicine, advisory groups to the National Institutes of Health, the Accreditation Council on Graduate Medical Education, the Association of American Medical Colleges, and the National Health Council. Total national support for clinical expenses associated with mission-related activities would at least equal 2002 levels for the next five years. These expenses have been estimated by the Task Force at \$11.4 billion for AHCs.

### *Distribution of Federal Support for Clinical Expenses of Mission-Related Activities*

Public support for the clinical expenses associated with mission-related activities in particular institutions and classes of institutions, including academic health centers, would

reflect the institutions' contributions to meeting local, regional, and national needs for these services. Public support would take into account data on the quality, efficiency, and quantity of mission-related activities conducted and, in the case of AHCs, their demonstrated commitment to and progress toward making the changes in internal management and leadership discussed above.

The AHSAC would experiment with allocating funds partly in relationship to the level of AHC participation in each social mission. Provisions for support would eliminate geographic differentials in current formulas, especially funding for direct graduate medical education under Medicare, unless those differentials can be justified by objective measures of need, cost of living, and/or the quality and efficiency of the mission-related activities supported. Support for educational missions would continue current trends to move training of health professionals out of traditional inpatient settings and into community-based settings, including physicians' offices and home and long-term care facilities.

In designing equitable and efficient methods of allocating public support, the AHSAC and federal authorities would provide a single allocation to cover the estimated clinical expenses associated with all missions, as well as incentive payments to encourage progress toward the vision of the future AHC outlined above.

#### *Development of Data on Mission-Related Activities*

Government at all levels should invest in research and development necessary to create valid and reliable measures of performance in mission-related areas. Data on the quantity, quality, and productivity of mission-related activities, and their associated clinical expenses at institutions seeking public support for those expenses, should be publicly available.

#### **Recommendations for Professional Organizations**

Professional organizations representing AHCs and their constituent groups and professionals should play a leadership role in helping AHCs meet the health care needs of the American people. They should encourage and participate in the development of methods to enable AHCs to measure the quality, quantity, and efficiency of mission-related activities and to benchmark their performance of mission-related activities against peer institutions.

## I. BACKGROUND

### THE ACADEMIC HEALTH CENTER TODAY

#### **What Is an Academic Health Center?**

Definitions of an academic health center vary. As in our past work, the Task Force continues to define AHCs to consist of allopathic U.S. medical schools and their closely affiliated or owned educational and clinical institutions. In many cases, AHCs also include other health professional schools (public health, nursing, pharmacy, dentistry, allied health professions). Recently, the clinical component of the AHC has become increasingly diverse. For much of the 20th century, AHCs' clinical facilities typically included hospitals and faculty group practice plans. In the 1990s, in response to market forces, a number of AHCs sought to compete more effectively in clinical markets by creating integrated health care systems. Thus, the AHC of the early 21st century frequently includes networks of primary care physicians, community hospitals, community health centers, nursing homes, health plans, and home health care services. At the same time, some AHCs decided to shield themselves from market forces by withdrawing from formal ownership of any clinical facilities by selling off hospitals and even faculty group practices.<sup>3</sup> The AHC sector thus constitutes an increasingly diverse and evolving set of institutions. However, this variety should not obscure the commonality among AHCs. All include a medical school, and all these medical schools must, to serve their core missions, remain involved in the delivery of health care services either through ownership of or close affiliation with inpatient, outpatient, and community-based providers of health care services.

#### **The Role of the Academic Health Center**

##### *Social Missions*

Academic health centers exist to improve the health of their communities and the larger society in which they reside.<sup>4</sup> In this endeavor, they have capabilities and roles that set them apart from other entities and individuals committed to the same purpose. These distinctive capabilities lie in the areas of biomedical research, education of health professionals, provision of rare, nascent, and high-technology medical services, and continuous innovation in patient care. In addition, many academic health centers play a major role in caring for poor and uninsured patients in their communities. The distinctive roles and capabilities of AHCs are often referred to as their “social missions.”

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<sup>3</sup> D. Blumenthal and J. S. Weissman, “Selling Teaching Hospitals to Investor-Owned Hospital Chains: Three Case Studies,” *Health Affairs* 19 (March/April 2000): 158–66.

<sup>4</sup> The Blue Ridge Academic Health Group, *Creating a Value-Driven Culture and Organization in the Academic Health Center* (Charlottesville, Va.: University of Virginia Health System, 2001).

A common characteristic of these social missions is that they are unlikely to be optimally produced and distributed in freely competitive private markets. Several missions have attributes that economists associate with public goods.<sup>5</sup> Public goods have two distinctive characteristics: they are nonexcludable and nonrival.<sup>6</sup> Non excludability means that, once a good is produced, anyone can use that good without getting permission of the producer. Nonrival means that consumption of that good by one individual or organization does not deplete the amount available for others. Basic and some applied biomedical research are examples of social missions of AHCs that meet the classic definition of a public good. Once the results of many types of scientific research are produced, the information is freely available to all interested parties in the published literature, and the use of that knowledge by one party does not diminish the amount available to other parties.

Other missions of academic health centers do not meet the classic definition of public goods, but, nevertheless, have characteristics that make it unlikely that they will be handled well by private markets. Some of these mission-related activities produce so-called “merit goods.”<sup>7</sup> Merit goods can be purchased by an individual, and benefit that individual, so that private markets for these products exist. However, their consumption by the purchaser has benefits for other members of society as well; that is, the use of these goods has positive externalities. Unless these externalities are accounted for in private transactions, merit goods may not be produced in socially optimal quantities or display socially optimal characteristics. Medical education is an example of a merit good. By paying tuition, medical students are prepared for a career that benefits them financially. At the same time, society clearly benefits from having a well-educated medical professional population with certain characteristics.

The public health missions of AHCs and their schools of public health constitute another example of a merit good. In the future, it is likely that AHCs will be called upon to play a greater role in defending the U.S. population against the spread of infectious illness, or in responding to other events causing widespread threats to public health. Even though individuals benefit from such activities, markets systematically undervalue them.

Academic health centers play a prominent role in the following social missions that have characteristics of either public or merit goods:

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<sup>5</sup> A. Garber, “Evaluating the Federal Role in Financing Health-Related Research.” Presentation to the Roundtable on Economics at the National Institutes of Health (1995).

<sup>6</sup> Edwin Mansfield, *Microeconomics; Theory and Applications*, 1st ed. (New York: Norton, 1970).

<sup>7</sup> Charles M. Allan, *The Theory of Taxation, Microeconomics. Penguin Modern Economics Texts. Penguin Education* (Harmondsworth, England: Penguin, 1971).

1. AHCs perform nearly 30 percent of all the health care research and development in the United States and more than 50 percent of research supported by the National Institutes of Health;
2. AHCs train the great majority of the nation's allopathic medical students and nearly half its residents and interns;
3. AHCs provide large amounts of specialized, costly services (such as burn, transplant, and trauma care);
4. AHCs play major roles as safety net institutions caring for poor and uninsured patients in their communities; and
5. AHCs are uniquely suited to conducting clinical research required to innovate in delivery of patient care services.

As the subsequent discussion will illustrate, the heavy involvement of AHCs in activities that are not optimally supported in competitive markets has significant policy implications. To the extent that the American people value these missions, wish them to be pursued, and want AHCs to participate in them, society must find ways outside of normal market mechanisms to support that participation. In the past, AHCs have solved this problem in part by obtaining grants and contracts from state and federal governments, but also in part by cross-subsidizing their mission-related activities from surplus clinical income. They were able to earn those surplus revenues because private health care markets placed few constraints on the prices charged by AHCs or other health care providers. The cost controls of the managed care era raised questions about the long-term viability of this approach. Apart from the viability of such an approach, questions arose about its appropriateness, since activities supported by surplus clinical revenues are largely unaccountable. If we are not to rely on clinical cross-subsidies over the long term to support mission-related activities of AHCs, the practical implication is that government must play a more explicit and prominent role in supporting the work of academic health centers. This logic constitutes a core rationale for many of the Task Force's subsequent recommendations for public policy related to AHCs.

Finally, the Task Force believes that AHCs have one other role that is difficult to define and quantify but is nevertheless important: providing leadership in improving our health care system. In the past, AHCs have performed admirably in providing leadership related to clinical innovation and biomedical research. In the future, the size, talent, and reputation of these institutions will create opportunities for them to lead in efforts to make health care more efficient, more accessible, more patient-centered, and safer. This

perceived obligation to lead provides an important underpinning for the Task Force’s subsequent recommendations concerning the future management of AHCs.

### *Heterogeneity of Academic Health Centers*

A persistent theme of this report will be to highlight the diversity of AHCs. This diversity extends to their involvement in particular social missions. Though AHCs collectively serve the social missions outlined above, they are quite heterogeneous in the extent to which they pursue each mission-related activity. Their heterogeneity reflects their histories, institutional arrangements and capabilities, and the needs of their local communities. Some AHCs are heavily involved in all of the social missions. Others participate extensively in only a few, focusing on education and indigent care, for example, or on education and high-technology services.

A mission common to all AHCs is the education of medical students, also known as undergraduate medical education (UME). Nevertheless, as judged by the size of their medical student bodies, AHCs vary considerably in the extent of their participation in UME (Figure 1). In 1999, for example, the Mayo Medical School in Rochester, Minnesota, enrolled 165 medical students (across all four years), while the University of Illinois College of Medicine in Urbana-Champaign enrolled 1,232. The average AHC enrolled 541 students.

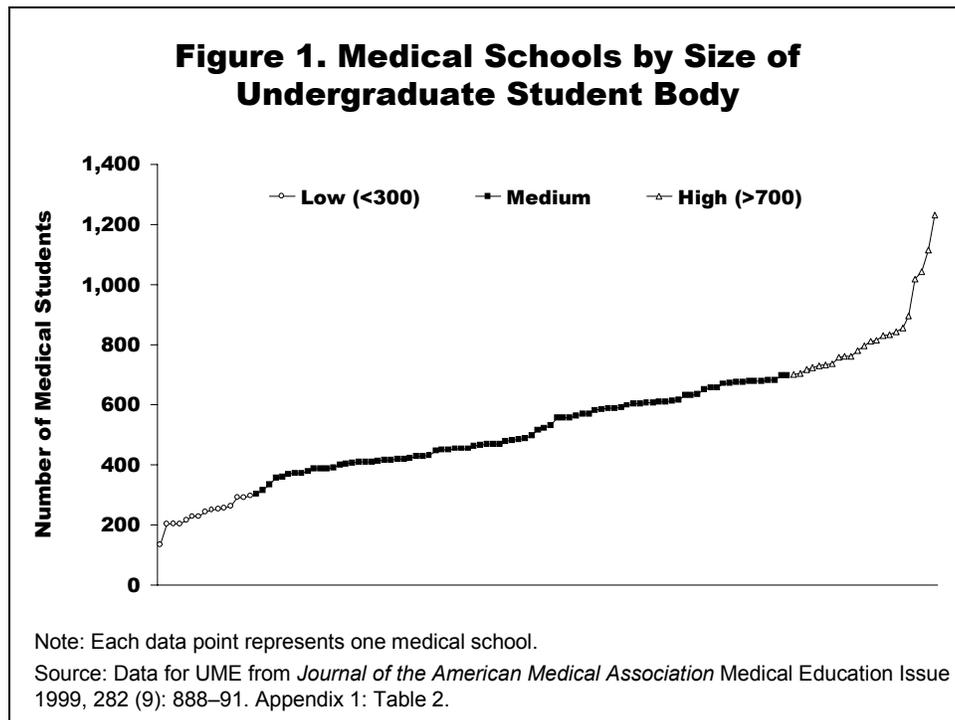


Figure 2 provides further evidence of the heterogeneity of AHCs as indicated by their combined participation in the missions of UME, graduate medical education (GME), and research. The triangles represent small medical schools, defined as those with a total medical school enrollment of 300 or less. The circles represent medium-sized UME medical schools (301–699 medical students), and the squares represent large UME medical schools (700 or more students). The location of each school on the grid is determined by the rank of the medical school for research (as measured by amount of National Institutes of Health, or NIH, funding) along the horizontal axis and their ranking in terms of the number of residents being trained in affiliated hospitals along the vertical axis. For example, a school that receives the most funding from the NIH and at the same time trains the largest number of resident physicians would receive a number one on both axes; this hypothetical medical school would be plotted in the upper-right corner of the upper-right quadrant, which represents both high research and GME intensity.

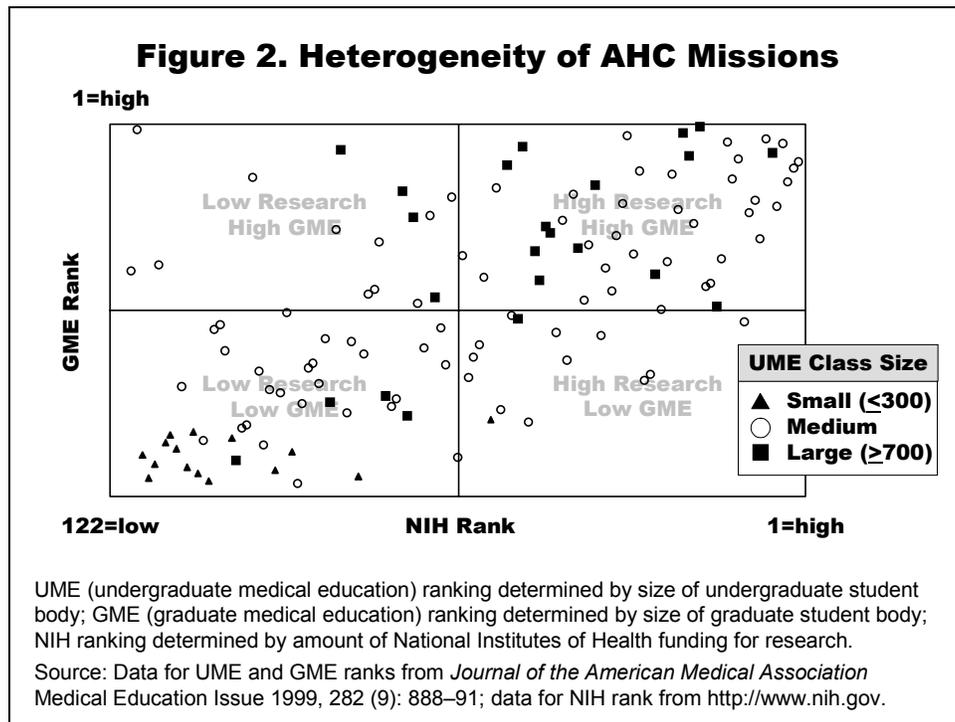


Figure 2 shows that some AHCs are heavily engaged in all of these missions. These schools are represented by the dark squares located in the upper-right quadrant of the grid. They have large UME enrollments, train many residents in owned or affiliated clinical facilities, and also conduct large amounts of research. At the same time, the figure shows that there are groups of AHCs that engage in all three activities but on a much smaller scale. These are represented by the cluster of black triangles (small UME schools) located in the lower-left quadrant, which represents low research and low GME intensity. Other

AHCs participate extensively in two mission-related activities, undergraduate and graduate medical education, while performing very little research. Such AHCs are represented by the four large UME institutions located in the upper-left quadrant of the grid.

A further indication of the diversity of AHCs is variation in their geographic spheres of service and influence. Some AHCs play national and even international roles, serving patients from all over the world on a regular basis and conducting research that sets the pace for investigators around the globe. Examples include the Mayo Clinic, Johns Hopkins University, and the Harvard Medical School and its clinical affiliates. Other AHCs are largely active within particular states and regions, providing sophisticated care for patients from a given state or part of a state, educating physicians who will meet the needs of that geographic locale, and often serving as local safety net facilities. Examples include the University of California at Davis, the University of New Mexico, and the University of Texas at Galveston. Other AHCs fall somewhere in between these two poles.

#### *Interdependence of Academic Health Centers' Missions*

Despite the variation in the commitment of individual AHCs to particular missions, their missions are interdependent in a number of ways. Other things equal, combining all or several missions in one institution improves the overall effectiveness and efficiency of mission-related activities. The premise of the historic Flexner report, which gave rise to the modern AHC, was that excellent medical education could occur only in settings in which teachers and learners were active participants in the discovery of new knowledge and the application of that knowledge to patient care.<sup>8</sup> This reflects a belief, which now seems more relevant than ever, that modern medicine is a science-based endeavor, that its optimal practice requires the application of critical thinking to the interpretation of clinical data, and that the ability to think critically is promoted by exposure during medical education to the scientific process and method. In recent years, with the explosion of medical knowledge, medical educators have increasingly recognized that much of the content of medical education is destined to become outdated during the careers of most clinicians. To remain effective, those clinicians must learn in school the skills and values that support lifelong learning, including an ability to read and interpret the medical literature. Such skills and values are best instilled, many educators believe, in environments in which research and clinical innovation are occurring alongside education.

Interdependence exists as well between medical education and two other social missions: provision of rare and highly specialized services and care for the poor and uninsured. The education of specialist physicians requires that they participate in the care of sufficient numbers of patients with the rare and highly technical problems that those

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<sup>8</sup> A. Flexner, *Medical Education in the United States and Canada* (Pittsburgh: Carnegie Foundation, 1910).

specialists will be called upon to treat. Thus, certain types of medical education will occur most effectively in centers that provide this type of care. The early years of training are also a critical period in forming the professional values that will often last a physician's lifetime. If society benefits when physicians value the care of poor and uninsured patients, and feel comfortable with the problems that afflict them, then exposure to these populations during training is essential. Participation by AHCs in specialized care and in the care of poor and uninsured patients will enhance the educational mission.

Other examples of the interdependence of AHC missions could be cited. These complementarities are one reason that involvement in multiple missions is common among AHCs. The amount of participation in each mission may vary. But participation to some extent in multiple missions is almost ubiquitous among AHCs. In 1999, only two medical schools did not receive any NIH funding for research.

#### *Clinical Costs of Mission-Related Activities in Academic Health Center Hospitals*

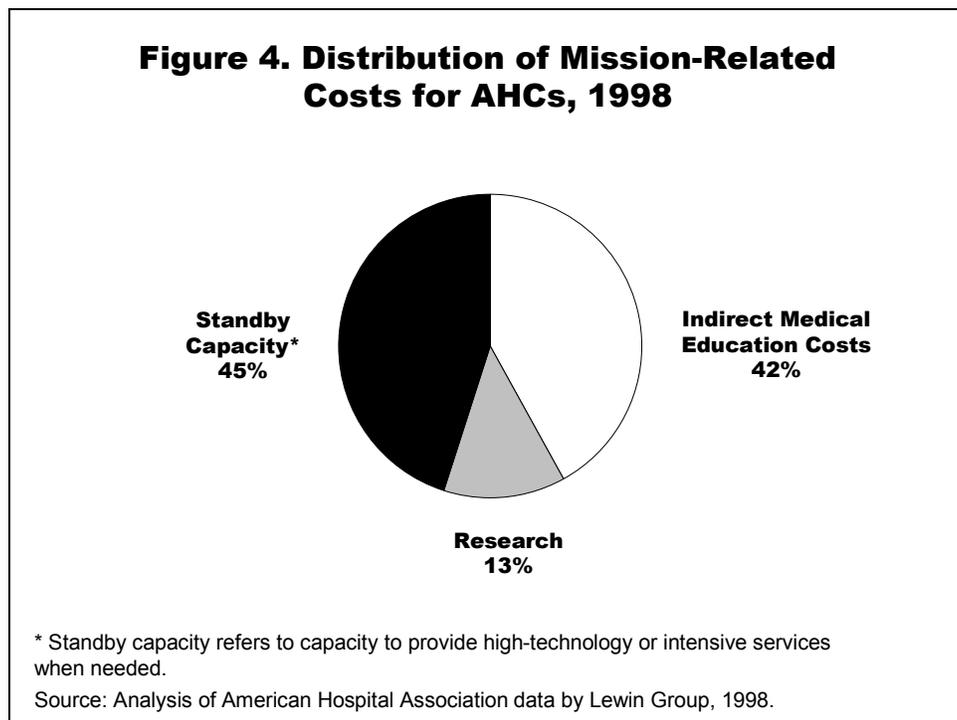
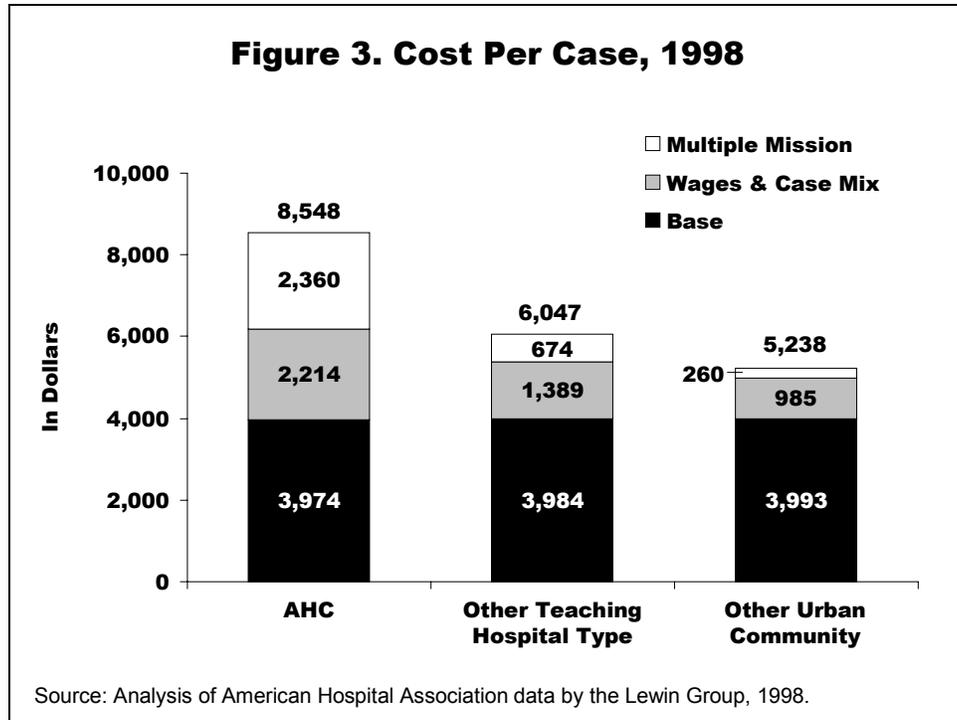
The conduct of mission-related activities in AHCs and other health care institutions is often associated with extra expenses that are not compensated in competitive health care markets. These extra expenses are manifested in part as higher clinical costs at AHCs. The performance of some missions, such as educating medical students and residents and conducting clinical research, makes the provision of care less efficient or requires extra work and the hiring of extra staff.

According to a recent analysis by The Lewin Group, the cost per case for AHC hospitals (\$8,548) was higher than the cost per case for other teaching hospitals (\$6,047) and for other urban, community hospitals (\$5,238) in fiscal year 1998 (Figure 3).<sup>9</sup> The Lewin Group analysis decomposed these total cost per case estimates to provide separate cost estimates for each of the mission-related categories for fiscal year 1998. After accounting for differences in wages, case mix, and other factors that influence cost per case, mission-related costs averaged \$2,360, or 28 percent of total costs, for AHC hospitals. By comparison, mission-related costs for other teaching hospitals accounted for only 11 percent (\$674) of total costs. For AHC hospitals, stand-by capacity (defined as the capacity to provide high-technology or intensive services whose availability is essential to a modern health care system, but that are not always in use) accounted for the largest component of mission-related costs (45 percent), with indirect medical education and research representing 42 percent and 13 percent of total mission-related costs, respectively (Figure 4). After updating these cost estimates to 2002 values using the Centers for Medicare and

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<sup>9</sup> Lane Koenig et al., "Mission-Related Costs of Teaching Hospitals: Estimates of Graduate Medical Education, Clinical Research, and Stand-by Capacity" (Unpublished manuscript, November 2002).

Medicaid Services Prospective Payment System Hospital Input Price Index, total mission-related costs, including medical education, are estimated to be \$11.4 billion for AHC hospitals and \$27.2 billion for all teaching hospitals (Table 1).



**Table 1. Total Clinical Costs of Mission-Related Activities  
by AHC Status, 2002\* (\$ billions)**

	Direct Ed. Costs (DME)	Indirect Ed. Costs (IME)	Research Costs	Standby Capacity Costs	Total Costs	N**
AHCs	4.2	3.0	0.9	3.2	11.4	124
Other teaching hospitals	6.0	3.3	0.2	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 and Medicaid Services (CMS) Prospective Payment System Hospital Input Price Index.

\*\* N is the number of hospitals in the CMS Prospective Payment System Hospital Input Price Index.

Note: Numbers may not add up due to rounding.

Source: Lane Koenig et al., “Mission-Related Costs of Teaching Hospitals: Estimates of Graduate Medical Education, Clinical Research, and Stand-by Capacity” (Unpublished manuscript, November 2002).

### **Problems and Opportunities Confronting Academic Health Centers**

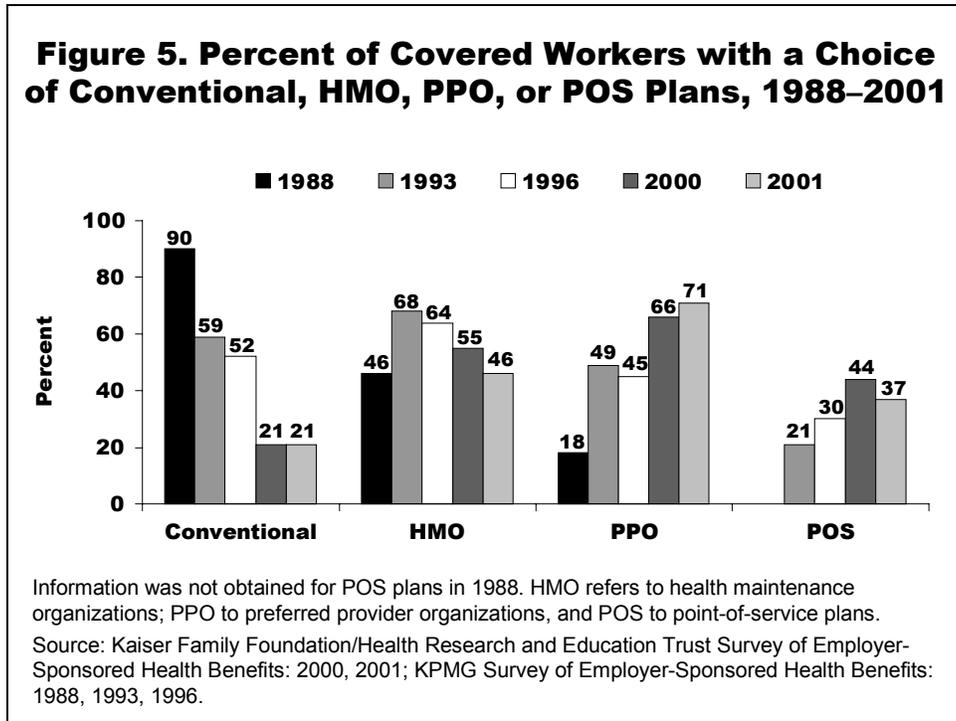
Over the last decade, AHCs have faced unprecedented challenges and opportunities. Past reports of the Task Force on Academic Health Centers have reviewed these in detail. Perhaps the most important challenge facing AHCs has been to find new sources of revenue to subsidize social missions as competitive health care markets and governmental budget tightening have reduced AHCs’ margins from clinical services.

Some of these fiscal challenges may now be easing, at least in the near future. Certain forms of managed care seem to be in retreat. A concerted backlash has developed, and some experts have gone so far as to declare “The End of Managed Care.”<sup>10</sup> As Figure 5 illustrates, the proportion of employers offering workers the choice of participating in health maintenance organizations (the classic and most restrictive form of managed care because they constrain most tightly the network of providers that patients can use) has declined steadily during the mid- and late 1990s. Less restrictive forms of insurance, including preferred provider organizations and point-of-service plans, are being offered more commonly. Case studies by the Center for the Study of Health Systems Change also document declining enrollments in HMOs in many markets.<sup>11</sup> Early evidence further suggests provider alliances, including AHCs, have negotiated much more favorable prices

<sup>10</sup> R. J. Blendon et al., “Understanding the Managed Care Backlash,” *Health Affairs* 17 (July/August 1998): 80–94; Milt Freudenheim, “A Changing World Is Forcing Changes on Managed Care,” *New York Times* Web Edition, July 2, 2001; J. C. Robinson, “The End of Managed Care,” *Journal of the American Medical Association* 285 (May 23–30, 2001): 2622–28.

<sup>11</sup> Center for Studying Health System Change, *Tracking Report* (Washington, D.C.: Center for Studying Health System Change, 2002); D. Blumenthal and J. S. Weissman, “Selling Teaching Hospitals to Investor-Owned Hospital Chains: Three Case Studies,” *Health Affairs* 19 (March/April 2000): 158–66.

from managed care organizations in recent years, and that AHC margins might be improving as a result.<sup>12</sup>

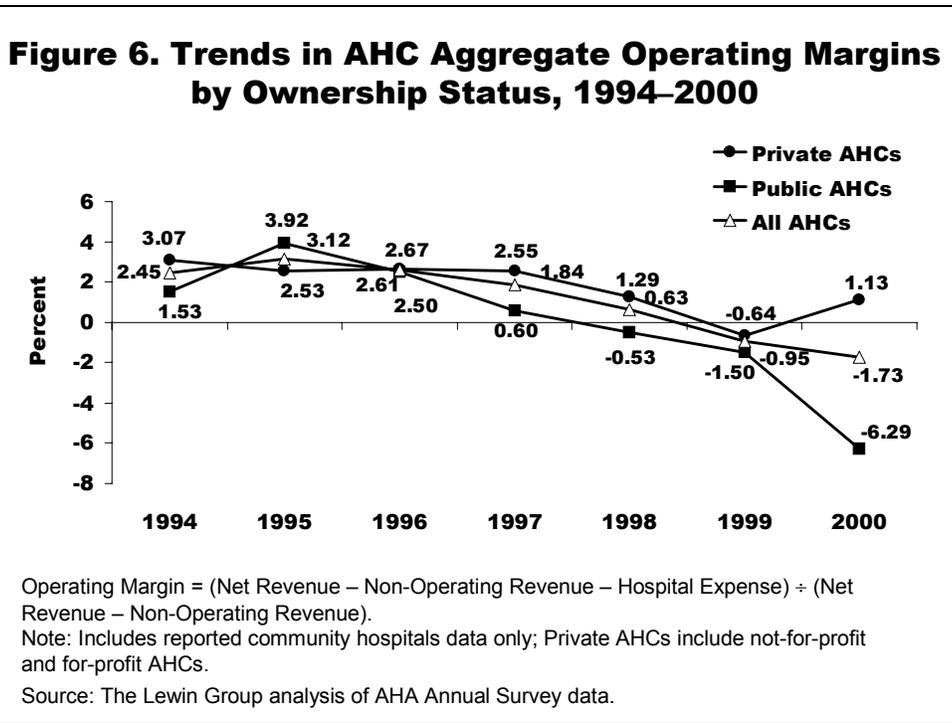


Whether AHC margins are in fact improving is uncertain at this time. At least through the year 2000, no significant improvement in historically low net revenues had occurred for AHCs as a whole, though private AHCs may be doing better than public ones (Figure 6). Even assuming, however, that the financial fortunes of AHCs have improved since 2000, the Task Force believes that this respite from economic pressures does not in any way diminish the need for policymakers and AHC managers to think deeply and creatively about changes necessary to improve the ability of AHCs to perform their social missions now and later. First, rising health care expenditures (discussed below) will inevitably stimulate new societal restrictions on health care spending that will again affect the revenues of AHCs. The Task Force does not believe, therefore, that clinical cross-subsidies generated by AHCs provide a sufficiently reliable or accountable mechanism for funding essential societal services performed by these institutions. Second, the Task Force’s examination of AHCs has revealed the need for internal reforms that will increase the efficiency, quality, and productivity of their mission-related activities.<sup>13</sup> In the past, AHCs may have focused too much on expedient approaches to meeting their short-

<sup>12</sup> Bradley C. Strunk, Kelly Devers, and Robert E. Hurley, *Health Plan–Provider Showdowns on the Rise* (Washington, D.C.: Center for Studying Health System Change, 2001).

<sup>13</sup> The Commonwealth Fund Task Force on Academic Health Centers reports 2002, 1999, and 1997.

term problems, such as mergers and acquisitions or changes in leadership, and paid insufficient attention to fundamental redesign of the processes of care and service that might have achieved larger and more lasting improvements in performance. Third, the changing social context of AHCs will soon create new challenges and opportunities that will stress AHCs every bit as much as the economic pressures of the 1990s. Having witnessed the damage that changes in AHCs' environmental circumstances can wreak, private managers and public policymakers should avoid complacency that may arise from the sense that they have "beaten" managed care. AHCs and policymakers should be acting now to prepare for future challenges and to better meet the health care needs of the American people in a changing social context.

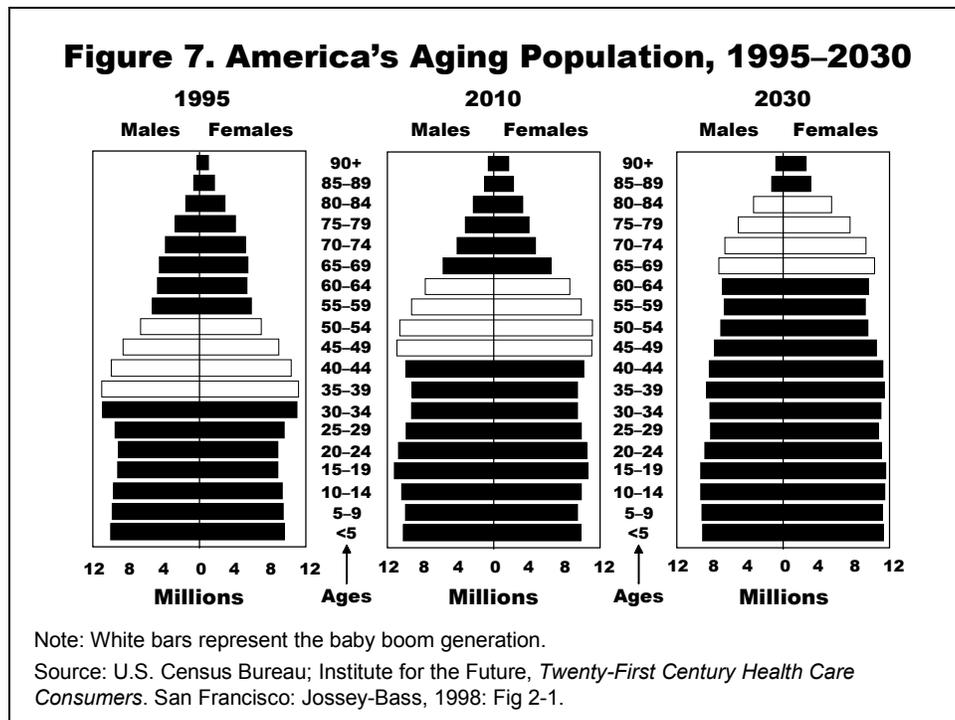


### THE CHANGING SOCIAL AND ECONOMIC CONTEXT OF THE ACADEMIC HEALTH CENTER

As the Task Force looks to the future, immediate issues, such as the strength of managed care, actually pale in importance compared with underlying trends in the economic, social, and health care environment that will confront academic health centers. Private and public policymakers concerned about the missions of AHCs and about the institutions that serve those missions must take these trends into account when formulating short- and long-term plans.

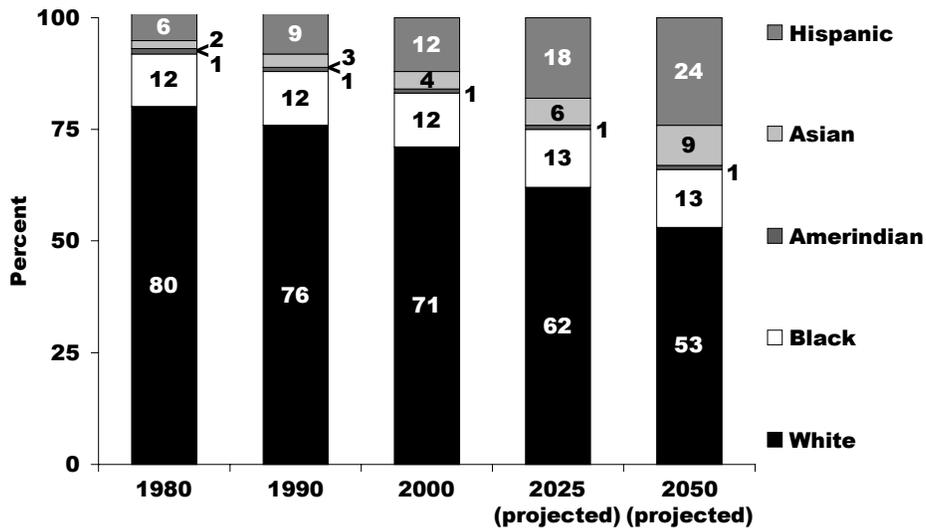
## Changing U.S. Demographics

At least three demographic trends in the American population could have significant implications for AHCs in the future. First, the number of older Americans will increase dramatically over the next 20 years as the baby boom generation reaches maturity, with the fastest growth occurring among Americans who are 75 years of age or older (Figure 7). Second, immigration and varying reproduction rates among population subgroups will produce a U.S. population that, in 20 years, will display much greater racial and ethnic diversity than it has in the past.<sup>14</sup> Hispanics are the most rapidly growing population; they will comprise 18 percent of the population by 2025 (Figure 8). In spite of this overall growth, minority populations still tend to concentrate in selected U.S. regions (Figure 9). Third, the United States continues to experience profound shifts in where people live, a trend that seems likely to continue (Figure 10). Since AHCs exist to improve the health of the American people, changes in the characteristics of the U.S. population are likely to have important implications for the types of work they do, and in some cases, the locations of their facilities.



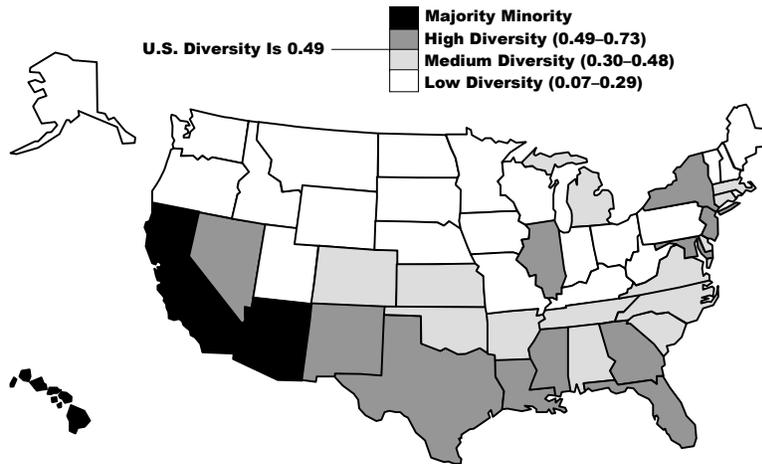
<sup>14</sup> U.S. Census Bureau, "Resident Population by Hispanic Origin Status, 1980 to 2000, and Projections, 2005 to 2050," in *Statistical Abstract of the United States 2001* (U.S. Census Bureau, 2001).

**Figure 8. Trends in Ethnic Composition, 1980–2050**



Source: U.S. Census Bureau, Statistical Abstract of the United States: 2001, Population, Page 17, No. 15: Resident Population by Hispanic Origin Status, 1980 to 2000, and Projections, 2005 to 2050.

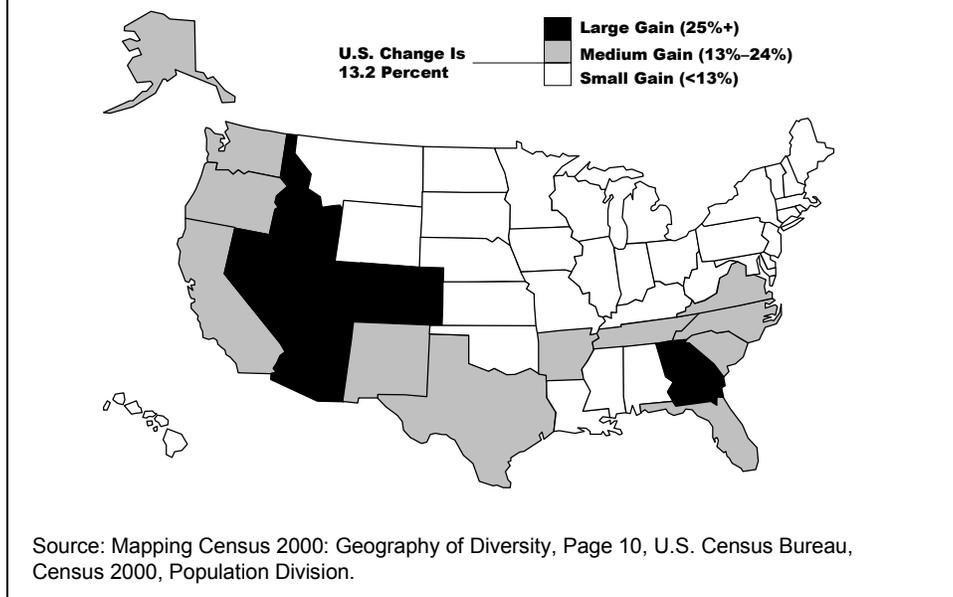
**Figure 9. Diversity by State, 2000**



Note: This graph shows diversity using the “diversity index,” a measure created by the Department of Census, which estimates the likelihood that two randomly selected people in the same region will be of different race/ethnic backgrounds.

Source: Mapping Census 2000: Geography of Diversity, Page 22, U.S. Census Bureau, Census 2000, Population Division.

**Figure 10. Total Population Growth, 1990–2000**

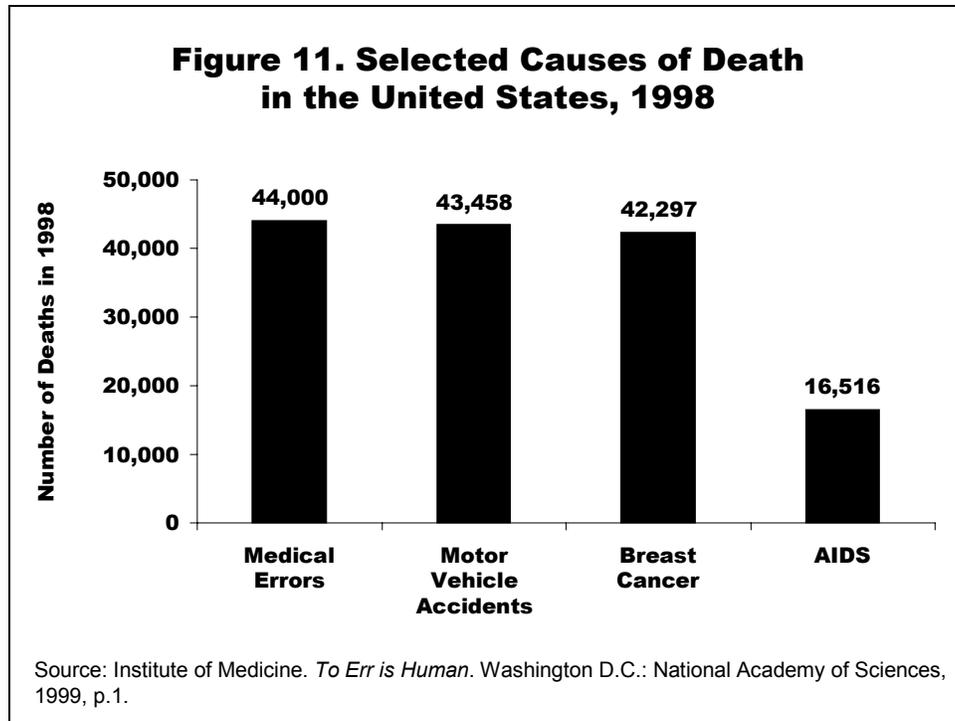


### Changing Nature of Public Health Problems

The terrorist attacks of September 11, 2001, dramatically drew attention to weapons of mass destruction and the potential effects of infectious diseases on the health of populations both in the United States and abroad. However, even before September 11, awareness of the importance of traditional public health issues was growing. There is increasing awareness of behavioral influences on health, including obesity, smoking, and alcoholism.<sup>15</sup> In 1998, 23 percent of the population was obese, 24 percent smoked, and 17 percent engaged in binge drinking. These behaviors have been associated with heart disease, cancer, emphysema, asthma, diabetes, and other afflictions that represent the most frequent causes of death in the United States. Nontraditional public health issues seem likely in the future to have increased priority, as well. Certainly, one such issue is patient safety. Though disagreements exist over the magnitude of the problem, the 2000 Institute of Medicine report, *To Err Is Human*, clearly establishes medical errors as a major, avoidable threat to public health and safety, comparable with AIDS or even motor vehicle accidents (Figure 11).<sup>16</sup>

<sup>15</sup> R. Sturm, “The Effects of Obesity, Smoking, and Drinking on Medical Problems and Costs. Obesity Outranks Both Smoking and Drinking in Its Deleterious Effects on Health and Health Costs,” *Health Affairs* 21 (March/April 2002): 245–53.

<sup>16</sup> Institute of Medicine, *To Err Is Human: Building a Safer Health System* (Washington, D.C.: National Academy Press, 2000).



On an international level, globalization is generating new health concerns and intensifying old ones. In years past, public health officials have been concerned with diseases associated with poverty, including infectious diseases, childhood illnesses, malaria, and infant and maternal mortality. In the latter part of last century, more attention was given to diseases of affluence and older populations, including cardiovascular diseases, diabetes, and cancers. To these familiar concerns has been added a new set of public health challenges that can be described as “diseases of globalization.”<sup>17</sup> Examples include AIDS, new infectious agents such as West Nile Virus and a variant of Creutzfeldt-Jakob disease, drug-resistant tuberculosis, and environmental problems such as global warming. The philanthropist George Soros argues further that developing countries have been unable to cope successfully with the stresses of globalization and, as a result, have been less able to combat these diseases because they are unable to provide important public goods, including health care and environmental protection.<sup>18</sup> At the same time, globalization has led to economic inequality and social dislocation, which are associated with the spread of unsafe sex, violence, and terrorism, including bioterrorism. In some cases, globalization also may foster unrest over issues of cross-national health inequalities. This occurs when developing nations are forced to shoulder the burden of widespread health problems but lack the resources or infrastructure necessary to take advantage of newly available treatments. For example, some African countries have agitated for pharmaceutical

<sup>17</sup> Helen Epstein and Lincoln Chen, “Can AIDS Be Stopped?” *The New York Review of Books*, March 14 2002.

<sup>18</sup> George Soros, *George Soros on Globalization* (New York: PublicAffairs, 2002).

companies to lower the price of drugs that treat AIDS. These concerns have the potential to threaten the entire globe and can only be addressed through coordinated, cross-national efforts.

These developments in public health present challenges for AHCs that will require them to revive neglected areas of research and to expand medical education. AHCs can lead the way toward enhanced understanding of microbiology, epidemiology of infectious illnesses, population-based strategies for preventing diseases and limiting their spread, and the effect of systems and human factors as causes of medical injury.

### **National and International Economic Trends**

A number of powerful and persistent economic trends seem likely to have profound effects on the environment in which AHCs function over the next several decades. The first trend is globalization, that is, the spread of market forces around the world, with most countries engaging in freer trade and widespread deregulation. For the United States, open markets and international competition mean that international trade and investment play a much greater role in our economic life than before. The second trend is the revolution in information technology and telecommunications, which has vastly improved communications and increased the pace at which we compete in global markets. The third trend is the emergence of a knowledge-based economy. This economy is dominated by intangible assets and resources such as the unique knowledge held by individual firms, a focus on services, and marketing of valuable patents. These three trends are creating a world in which innovation is often more important than industrial production, and in which the pace of change is accelerating.<sup>19</sup>

The explosion of Internet usage has likewise led to multiple new applications for health care with potentially profound implications for all providers and consumers of services in the United States and abroad. A Robert Wood Johnson Foundation publication defines the new phenomenon of “eHealth” as the “use of emerging information and communication technology, especially the Internet, to improve or enable health and health care. This term bridges both the clinical and nonclinical sectors and includes both individual and population health-oriented tools.”<sup>20</sup> The availability of new

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<sup>19</sup> As an illustration, there has been strong growth in exports of “weightless” products. For example, the value of U.S. exports in business, technical, and professional services grew 11 percent per year from 1992 to 1999, financial services income grew on average by 19.4 percent a year, and royalties and licensing grew by 8.3 percent per year during this period, compared with a figure of about 6 percent for all exported services, generally. See U.S. Council of Economic Advisers, “Economic Report of the President,” (Washington, D.C.: 107th Congress, 1st Session, 2001).

<sup>20</sup> T. R. Eng, *The eHealth Landscape: A Terrain Map of Emerging Information and Communication Technologies in Health and Health Care* (Princeton, N.J.: Robert Wood Johnson Foundation, 2001).

electronic sources of health information can empower both patients and physicians to improve the health care services they receive and provide, and may create unpredictable changes in the optimal organization of services. The eHealth revolution has drawbacks, as well. The quality of health information provided on the Internet and World Wide Web is highly variable. Poor information can lead to inappropriate self-treatment by consumers, or burden health care providers with the task of correcting misleading or incorrect information. Other eHealth concerns include threats to privacy and confidentiality, unequal access to information by disadvantaged consumers, and problems integrating eHealth strategies into other segments of the health care system.

Whereas many ideas and services are readily traded in global markets, until recently health service delivery has been almost exclusively a local activity. However, advances in telecommunication and robotics are permitting the delivery of health services over long distances.<sup>21</sup> This raises the prospect that health care services may be susceptible to export in new, unanticipated ways. If so, it is possible to imagine a highly competitive international trade in a variety of health care services for which academic health centers and other U.S. health care institutions would be in strong competitive positions. The clear message from the changing economy is the evolving cross-disciplinary nature of the health product. AHCs are uniquely situated as health providers to establish working relationships with other university departments in order to develop new levels of service. But AHCs must also be prepared to respond nimbly to potential new competitive challenges from American and international providers of remote health care services. In the future, academic health centers may find themselves competing not just with the hospital down the road, but with medical centers across the continent and even abroad.

### **Rising Health Care Expenditures**

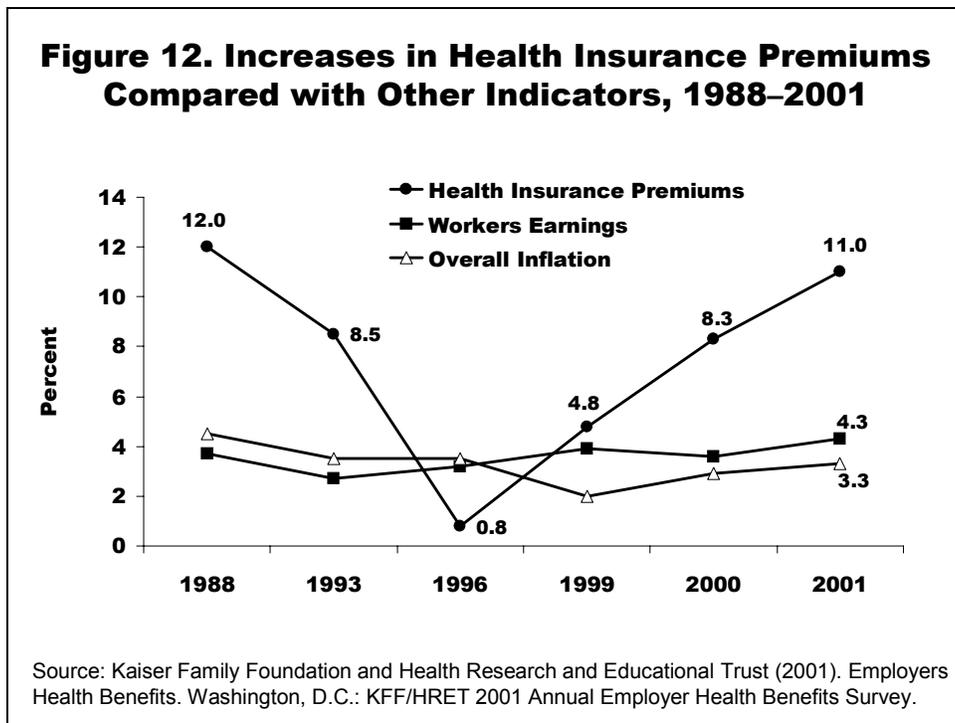
Health care expenditures in the United States have resumed their apparently relentless upward surge. In retrospect, the mid-1990s provided only brief relief from a trend that has persisted with temporary interruptions throughout most of the last century. After a short period of relative calm, private health insurance premiums are again outpacing other economic indicators (Figure 12). The *New York Times* reported that HMOs in 2001 asked for increases in premiums more than 18 percent over the prior year, with some companies charging as much as 60 percent more.<sup>22</sup> Our ability to control health care costs has met with mixed success as a nation. From the introduction of Medicare and Medicaid in the 1960s up until the early 1990s, health costs increased at a clip of 11 percent per year—far

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<sup>21</sup> Craig A. Sable et al., “Impact of Telemedicine on the Practice of Pediatric Cardiology in Community Hospitals,” *Pediatrics* 109 (January 2002): E3.

<sup>22</sup> Milt Freudenheim, “Medical Costs Surge as Hospitals Force Insurers to Raise Payments,” *New York Times*, May 25, 2001.

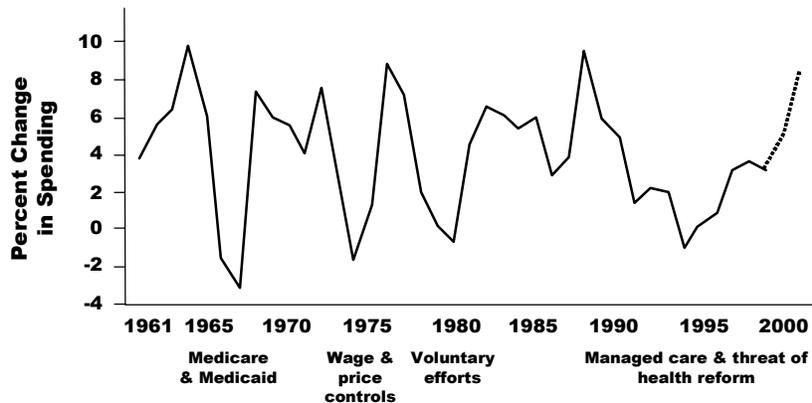
more than other economic indices.<sup>23</sup> As Figure 13 demonstrates, no effort to contain the rise in health care costs in the United States has had sustained success. Whether it was the wage and price controls or the “voluntary effort” of the 1970s, or the threat of President Clinton’s health plan in the 1990s, or managed care, health cost inflation invariably has returned to levels that cause this sector to consume more and more of the domestic product.<sup>24</sup> The likely persistent increases in health care expenditures will be an important environmental factor affecting the future of AHCs. In particular, it seems likely that purchasers of care will find new approaches to constraining health care expenditures that will in some way or other reduce revenues of AHCs in the future. This will place inevitable, renewed pressure on their ability to cross-subsidize mission-related activities.



<sup>23</sup> Institute for the Future and Robert Wood Johnson Foundation, *Health and Health Care 2010: The Forecast, the Challenge* (San Francisco: Jossey-Bass, 2000).

<sup>24</sup> Drew E. Altman and Larry Levitt, “The Sad History of Health Care Cost Containment as Told in One Chart. Managed Care Is Not Alone in Its Failure to Solve the Health Care Cost Problem,” *Health Affairs* Web Exclusive (January 23, 2002).

**Figure 13. Annual Change in Private Health Spending Per Capita, 1961–2001**



Notes: Real change in spending is calculated using the Consumer Price Index (CPI-U) all items, average annual change for 1961–2000 and July-to-July change for 2001. This analysis was inspired by an analysis done by Jeff Merrill and Richard Wassermann more than fifteen years ago. See J. C. Merrill and R. J. Wassermann, "Growth in National Expenditures: Additional Analyses," *Health Affairs* (Winter 1985): 91–98.

Source: D. E. Altman and L. Levitt, "The Sad History of Health Care Cost Containment as Told in One Chart: Managed Care Is Not Alone in Its Failure to Solve the Health Care Cost Problem," *Health Affairs* Web Exclusive, January 23, 2002.

### The New Health Care Consumerism

As participants in the delivery of health care services, AHCs cannot ignore trends in the expectations of the customers and patients who use those services. A new consumerism, accelerated by shifting financial responsibility from employers onto the shoulders of their employees, now characterizes the patients who arrive daily at the doors of AHCs. According to the Institute for the Future, the new health care consumer has four demands: 1) unfettered access to information; 2) choice among health plans, providers, and treatments; 3) the opportunity to be an active participant in their care, including making decisions about diagnostic procedures and treatments; and 4) a level of customer service comparable to what is achieved from the retail and finance sectors.<sup>25</sup> The Institute of Medicine, in its report, *Crossing the Quality Chasm*, notes that patients expect their caregivers, and especially their physicians, to interpret health information for them and to help judge its value.<sup>26</sup> The report finds that there is an overarching "desire for trustworthy information (often from an individual clinician) that is attentive, responsive, and tailored to an individual's needs."<sup>27</sup>

<sup>25</sup> Institute for the Future, *Twenty-First Century Health Care Consumers* (San Francisco: Jossey-Bass, 1998).

<sup>26</sup> Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Washington, D.C.: Committee on Quality of Health Care in America, National Academy Press, 2001).

<sup>27</sup> *Ibid.*, p. 50.

To serve their missions in a consumer-driven environment, AHCs will need to explore the implications of these cultural changes for research, education, provision of high-technology and rare services, clinical innovation, and the care of underserved populations. Indeed, with respect to this latter mission, the implications of consumerism have not been adequately explored. Much of the talk about the new consumer pivots on the demographic segment of the U.S. population with large disposable incomes and good access to information technologies. Disadvantaged patients, with low incomes, less education, and limited literacy, do not have the same access to information and may not be able to take full advantage of the data that are available to them. There is nevertheless a growing trend toward recognizing their needs in the clinical setting. A call for a culturally competent medical workforce draws from the extensive literature on racial and ethnic disparities in health and health care, and on the impact of culture, race, and ethnicity on access to timely, high-quality health services. Even providers whose main practice is in previously racially homogeneous communities are experiencing greater exposure to the increasing diversity of the U.S. population. Evidence suggests that provider–patient communication is directly linked to patient satisfaction, adherence to provider advice, and, subsequently, health outcomes.<sup>28</sup> Thus, it is incumbent on practitioners in the new health care environment to understand that different cultures may possess different values, beliefs, and behaviors regarding health and well-being. These include variations in how patients recognize their symptoms, thresholds for seeking care, ability to communicate symptoms to a provider who understands their meaning, ability to understand the prescribed management strategy, expectations of care (including preferences for or against diagnostic and therapeutic procedures), and adherence to preventive measures and medications. AHCs will be critical in preparing future physicians for the challenges of the new consumerism in general, and for the needs of diverse and vulnerable populations in particular.

### **Persistent and Increasing Disparities in Access to Care**

Since AHCs have a prominent role in caring for disadvantaged populations, their missions will necessarily be affected by trends in the number and characteristics of such populations. Two developments have important implications in this regard. A recent report from the Institute of Medicine found substantial evidence that racial and ethnic disparities in health care exist, and that they result in unacceptable consequences for health outcomes.<sup>29</sup> Although such disparities were found to exist in a broader context of racial inequality, some of the more popular explanations, such as underlying differences in socioeconomic status, patient preferences, and biological makeup, did not account for the full extent of

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<sup>28</sup> M. Stewart et al., “Evidence on Patient–Doctor Communication,” *Cancer Prevention and Control* 3 (February 1999): 25–30.

<sup>29</sup> Institute of Medicine, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care* (Washington, D.C.: National Academy Press, 2002).

disparities. Thus, the report concluded that the health care of minorities is influenced in part by racial bias and stereotypical beliefs on the part of providers and patients. AHCs might be expected to take a leadership role in implementing the policies recommended by the Institute of Medicine, such as increasing awareness of disparities among providers and other stakeholders, increasing the number of minorities among health professionals, supporting the use of community health workers, and enhancing cultural competencies of individual practitioners as well as the systems in which they operate. As they educate young health professionals, conduct research, and care for vulnerable patient groups, AHCs must confront the implications of these cultural, racial, and ethnic differentials in access to health care services.

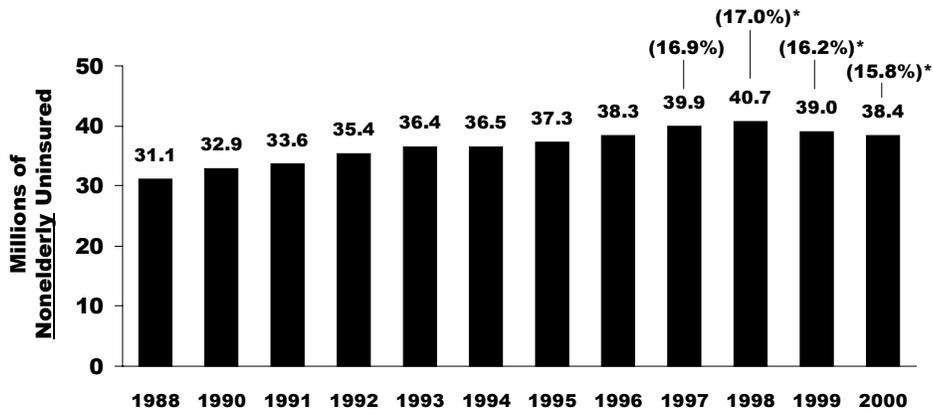
A second important trend concerns the number of uninsured in the United States. During the late 1990s, the United States enjoyed a reprieve from relentlessly increasing numbers of uninsured in our population (Figure 14). The main reasons for the lower numbers were a strong economy with more workers in higher-wage jobs that offered health insurance benefits, flat growth in premiums, and expansion of the Children's Health Insurance Program (CHIP), which decreased the number of uninsured poor children. However, some fear that recent economic trends have unleashed a potentially devastating combination of forces, a "perfect storm" that could increase dramatically the number of uninsured people in the United States.<sup>30</sup> Changes in the unemployment rate are particularly troubling. A new analysis from Massachusetts Institute of Technology, the National Bureau of Economic Research, and the Henry J. Kaiser Family Foundation shows that, for every 100 people who lose their jobs, 85 will also lose their insurance. In other words, a one-percentage point rise in the unemployment rate leads to an increase of 1.2 million uninsured.<sup>31</sup> Rapidly rising health insurance premiums also will increase the number of uninsured because of the difficulty some people will have in maintaining their coverage. Rising premiums combined with even a mild recession could increase the percentage of uninsured nonelderly Americans to as high as 23 percent nationally in the next six to seven years, with the number reaching 60 million or more (Figure 15). As providers of disproportionate amounts of service to uninsured and poor populations, AHCs must be prepared to deal with the likely financial pressures. To do so, they will need to improve the efficiency with which they care not only for uninsured patients but for all their patients, and to make the case for universal coverage more effectively at national levels.

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<sup>30</sup> Miller, *A Perfect Storm* (2001).

<sup>31</sup> Henry J. Kaiser Family Foundation, *Rising Unemployment and the Uninsured* (Henry J. Kaiser Family Foundation, 2002 [cited March 21, 2002]); available from [www.kff.org](http://www.kff.org).

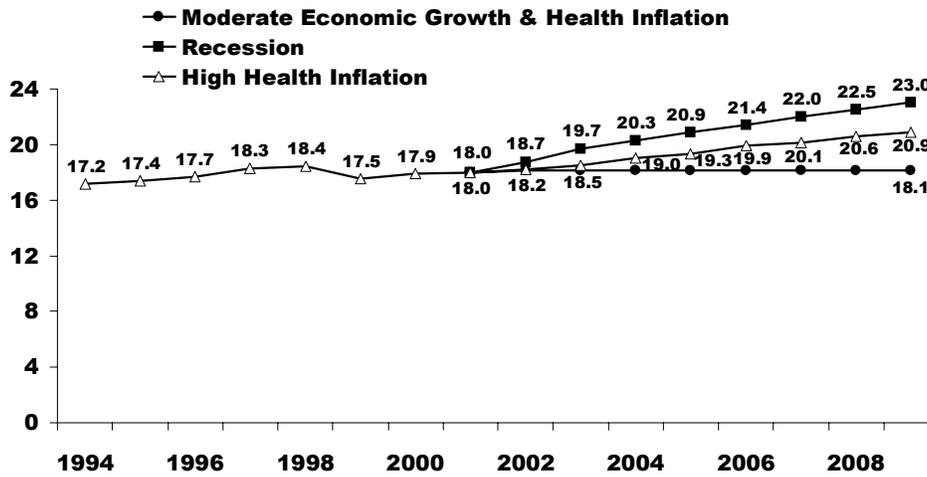
**Figure 14. Growth in the Number of Uninsured Americans, 1988–2000**



Data in parentheses indicate the percentage of uninsured among the total nonelderly population.  
 \* Includes persons covered only by Indian Health Survey; about 300,000 (0.2%).  
 Other adjustments have been made to estimates for other years.

Source: Employee Benefit Research Institute, *Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2001 Current Population Survey*, Issue Brief No. 240, 2001.

**Figure 15. Projected Percent of Uninsured Nonelderly Americans Under Different Assumptions**



Source: W. S. Custer and P. Ketsche. *The Changing Sources of Health Insurance*. Washington, D.C.: Health Insurance Association of America, December 2000.

## **Changing Concepts of the Health Care System's Organization and Function**

Over the next several decades, AHCs and other health providers will confront changes in fundamental concepts of how the health care system should be organized to serve the needs of the larger society. The urge to develop these concepts reflects deep frustration with the intractability of the health care system's basic problems in the areas of quality of care, cost, and access to services. Past solutions have failed to provide relief, and new paradigms are desperately sought.

One attempt to provide this conceptual guidance is embodied in *Crossing the Quality Chasm*.<sup>32</sup> Though nominally about solving the health care system's quality problems, this report proposes sweeping changes that would affect all aspects of the health care system. The report outlines six aims for health care improvement. (See box on next page.) To achieve these ends, it proposes a number of concrete recommendations:

- Instead of care based primarily on visits and episodes of illness, individuals with chronic illnesses need to be treated in “continuous healing relationships.”
- Instead of professional control and autonomy as the predominant mode of practice, care should be customized to individual needs (patient-centered), ceding more meaningful control to the patient and improving coordination and cooperation among caregivers.
- Information needs to be shared and to flow freely, while at the same time protecting confidentiality and privacy. New information systems need to be designed.
- Health delivery systems should move rapidly toward evidence-based models. The infrastructure to support this mode of practice needs to be developed.
- Realigned payment systems should seek to encourage appropriate levels of care, the use of generic drugs instead of expensive, heavily marketed alternatives, and care coordination.

As leaders in the provision of health care services and as educators of young physicians, AHCs will be called upon in the future to participate in achieving this or some other vision of a future and perhaps fundamentally changed health care system. How AHCs approach this challenge will profoundly affect the likelihood of health system improvement.

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<sup>32</sup> Institute of Medicine, *Crossing the Quality Chasm* (2001).

### **Six Aims for Health System Improvement**

- *Safety*: avoiding injuries to patients from the care that is intended to help them.
- *Effectiveness*: providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit.
- *Patient-centered care*: providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions.
- *Timely*: reducing waits and sometimes harmful delays for both those who receive and those who give care.
- *Efficient*: avoiding waste, including waste of equipment, supplies, ideas, and energy.
- *Equitable*: providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

From Institute of Medicine, *Crossing the Quality Chasm*

### **Role of Government in the Health Care System**

The Task Force believes that the future environment of the AHC will be characterized not only by significant change but by important areas of stability. One likely area of stability for the next decade will be the political and ideological context in which AHCs will have to meet existing and new responsibilities. The federal government in particular, and government in general, will continue to play an active role through existing programs, such as Medicare, Medicaid, and CHIP. However, the Task Force believes that control of our health care system will remain dispersed and decentralized, and that the private sector will continue to play the dominant role in shaping future directions of the health care system.

National polls showed that, prior to September 11, 2001, Americans had little faith in government. Most (69 percent) expressed the view that the federal government will “do what is right” only some or none of the time. After 9/11, there was a dramatic increase in the public’s regard for government. In October/November 2001, 41 percent of respondents thought the government would do what is right only some or none of the time, compared with 58 percent who thought this would happen always or most of the time.<sup>33</sup> In post-9/11 surveys, Robert Putnam, professor of government at Harvard University, found “a sharper appreciation of public institutions’ role in addressing not just

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<sup>33</sup> Henry J. Kaiser Family Foundation, *National Survey on Civil Liberties* (Kaiser Family Foundation, Kennedy School of Government, available from <http://www.kff.org/content/2001/3209/CivilLibertiesToplines.pdf>).

terrorism but other urgent national issues,” as demonstrated by a 51 percent increase in the proportion of respondents expressing increased trust in government.<sup>34</sup>

However, the depth and durability of these attitudinal changes are uncertain; even if they persist, it is far from clear that they would affect the willingness of Americans to entrust greater control to government over the financing and organization of domestic services such as health care. From October to December 2001, the issue of terrorism fell from first to third on a list of top concerns of Americans.<sup>35</sup> Health care was sixth. Americans have traditionally distrusted concentrated power in any sector, private or public, and these attitudes are unlikely to change quickly. Without a change in Americans’ fundamental trust of government, effective action to deal with the problems of lack of insurance will prove difficult. Thus, AHCs should not expect relief any time soon from the financial pressures of caring for uninsured populations. This will make it ever more important that they make their internal management of services as efficient as possible.

### **THE CHANGING WORK OF THE ACADEMIC HEALTH CENTER**

Changes in the broader society in which AHCs reside will cause changes in society’s health-related needs. These developments have profound implications for each of the social missions currently fulfilled by AHCs:

The *education mission* will confront requirements:

- to prepare health professionals to care effectively for an older, more ethnically and culturally diverse, and increasingly assertive patient population that displays a higher aggregate burden of chronic illness and functional impairment (even though many individuals may live longer, healthier lives);
- to prepare health professionals for exponential growth in the knowledge available to serve patient needs and for accelerating change in the technologies of medicine and health care;
- to prepare health professionals to be responsible and effective citizens of a constantly changing, increasingly complex, and more accountable health care system;
- to make effective use of powerful, new, and ever-transforming technologies for learning and teaching;

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<sup>34</sup> R. Putnam, “Bowling Together,” *The American Prospect* 13 (February 11, 2002): 20–22.

<sup>35</sup> R. J. Blendon, “The Impact of Terrorism and the Recession on Americans’ Health Priorities,” *Health Affairs* Web Exclusive (January 16, 2002).

- to prepare health professionals to participate in population-based strategies for improving health and to support and understand the value of public health initiatives; and
- to prepare health professionals to provide care as part of multidisciplinary teams and to participate in lifelong learning.

The *research mission* will confront requirements:

- to take full advantage of opportunities for interdisciplinary work that cut across the traditional relationships among basic sciences (biological, physical, and computational) as well as clinical, behavioral, and social sciences;
- to develop new knowledge that will empower health professionals to care more effectively for populations that are older, chronically ill, functionally impaired, diverse, and assertive;
- to move new knowledge into clinical practice as rapidly and appropriately as possible;
- to work with industry in a manner that accomplishes the critical goal of technology transfer while preserving essential academic values;
- to broaden participation in patient-oriented research by an increasingly diverse population;
- to improve the efficiency of research in a resource-constrained environment;
- to confront ethical challenges in such areas as protection of human participants of research, advances in stem cell and cloning technologies, increasing abilities to modify the human genome, and ever-growing capacity to extend the duration of human life; and
- to train the next generation of researchers.

The *high-technology and specialized services mission* will confront requirements:

- to continually improve the quality and efficiency of these services, and to demonstrate that quality and efficiency through objective performance measurement;

- to incorporate new information technologies into the provision of high-technology and specialized services, so as to improve their quality and efficiency;
- to compete in an increasingly global market for the provision of health care services;
- to participate in virtually and actually integrated health care systems in ways that ensure patients receive care in the most appropriate location from the standpoint of the cost and quality of service;
- to ensure that services are equitably available to all who need them;
- to ensure that care embodies, insofar as possible, the aims of the *Crossing the Quality Chasm* report: that it is patient-centered, safe, and responsive to the needs and wishes of patients served; and
- to adopt new and perhaps initially inefficient therapeutic methods and technologies and participate in the process that refines them to encourage their widespread adoption into medical practice.

The *indigent care mission* will confront requirements:

- to minimize disparities in care provided to patients of different economic, social, racial, cultural, and ethnic backgrounds;
- to continually improve the quality and efficiency of services available to poor and uninsured patients;
- to adapt to the likely persistence of incremental, uncoordinated, and incomplete governmental and private efforts to provide financial access to care for uninsured Americans; and
- to play a role in caring for immigrant populations.

All of these challenges will be confronted in a world that is functionally smaller as a result of communications technology and economic globalization, so that AHCs will increasingly face the requirement and opportunity to compete with institutions and serve populations located throughout the developed and underdeveloped worlds.

## **FUNDAMENTAL QUESTIONS**

The scope and pace of social change in the United States, and the corresponding challenges to the missions of AHCs, raise a series of fundamental questions about the

future role of the academic health center and the way AHCs should be organized and managed. These questions include:

- Do we still need the missions of AHCs, and do we need AHCs to perform them?
- If we do need AHCs to continue to conduct their mission-related activities, how many AHCs do we need and where should they be located?
- What should the AHC of the future look like? How should it be organized, financed, and managed and how should it pursue its missions?
- What changes, if any, are needed to public policy and private management to ensure that AHCs in the future will fulfill their social missions as effectively as possible?

## II. PRINCIPLES GUIDING THE FUTURE ROLE AND CONFIGURATION OF THE ACADEMIC HEALTH CENTER

In answering these questions, The Commonwealth Fund Task Force on Academic Health Centers has been guided by certain basic principles:

- The overriding purpose of academic health centers is to improve the health and health care of their communities and of the larger society in which they reside. Their social missions—teaching, research, provision of rare and high-technology services, continuous innovation in care, and care of the indigent—are means toward that larger end.
- These social missions are significant contributors to public welfare and are likely to grow more important in the foreseeable future. Thus, society should find ways to support institutions that serve these missions.
- The U.S. health care system should be open to and experiment with new methods of pursuing teaching, research, provision of rare and high-technology services, continuous innovation in patient care, and care of the indigent. In the future, some of these activities may be appropriately conducted to a greater extent by institutions other than academic health centers. No particular institution or institutions are entitled to claim ownership of the missions pursued by AHCs. The rights and responsibilities associated with these activities are acquired through demonstrating the quality and quantity of work performed.
- AHCs should demonstrate leadership within the U.S. health care system by seeking continually to analyze and improve their performance in all dimensions.
- Given their unique position at the interface between the university and the health care delivery system, AHCs face the special challenge of demonstrating leadership in both academia and the marketplace. This will require that they simultaneously strengthen their academic ties with their parent universities and maintain sufficient freedom of action to compete successfully in an increasingly challenging clinical environment.
- AHCs should maintain their strong role in working to reduce disparities in health and health care between less fortunate members of our society and those with greater advantages. Pursuing this role requires that AHCs work closely with partners in their local communities devoted to the same purpose.

- Like all health care institutions, AHCs must be accountable to the larger society. They should demonstrate their value by measuring their own performance, sharing those data openly, and providing evidence of continuous improvement.
- AHCs are and should remain heterogeneous, pursuing their social missions through an increasing variety of institutional arrangements. Not all academic health centers can or should pursue their social missions in the same manner or pursue all missions to the same extent.

### **III. ENVISIONING THE FUTURE OF THE ACADEMIC HEALTH CENTER**

We outline our vision of the future AHC by responding to the fundamental questions outlined in Section I. The first three questions are addressed in this section. The fourth question, relating to recommendations for policy and management, is addressed in Section IV.

#### **DO WE STILL NEED ACADEMIC HEALTH CENTERS?**

Given the social, economic, and demographic environment, the Task Force concluded that the social missions served by AHCs have enduring value and that the importance of those functions is likely to grow dramatically in the future. Thus, some way to sustain the social missions associated in the past with AHCs will be necessary. Furthermore, given their strong past involvement in these social missions, their accomplishments, and their unique advantages (including the ability to exploit the interdependence of those missions), academic health centers are likely to remain vital to the successful pursuit of those missions and to the overriding goal of improving health. To conclude otherwise would require answering the following questions:

- Which other institutions should perform the nearly 50 percent of National Institutes of Health–funded research now conducted by medical schools and their closely affiliated educational and clinical facilities?
- Which other institutions should teach the nation’s health professionals, and how would those students be prepared to participate in, and partake in the results of, biomedical research and clinical innovation in the future?
- Which other institutions will train the next generation of clinical and clinically oriented biomedical researchers?
- Which other institutions will provide their clinicians the protected time necessary to conduct clinical research and to experiment with new forms of clinical care?
- Which other institutions will serve as providers of last resort in their communities, serving the patients with the most rare and difficult illnesses, and the patients whom no one else will accept because they are otherwise economically unattractive?
- Which other institutions will test and implement nascent clinical practices when they are still relatively unproven?

The Task Force found it difficult to imagine how the United States could maximize the health of its citizenry without institutions resembling academic health centers. The AHC model has some basic attractions that argue for its continued role in a future health care system. These attractions flow from the unique and essential interdependence of AHC missions. In economic terms, those missions have characteristics of joint products. That interdependence suggests that performing them in the same institutions, as AHCs uniquely do, has significant benefits for the quality and efficiency of those activities. It seems inefficient at best, and foolhardy at worst, to dismantle the infrastructure that AHCs have developed without first firmly establishing the advantages of any alternative approach to pursuing their missions.

The fact that a powerful reason exists for the continued utility of AHCs makes it all the more important that they continue to change and evolve alongside the needs of society. The Task Force firmly believes that AHCs must address issues related to the management, organization, culture, and conduct of their mission-related activities. The Task Force has commented extensively on needed changes in past reports. In reviewing the research missions of AHCs, the Task Force recommended that AHCs take steps to reengineer the research enterprise so as to improve efficiency and reduce costs, provide researchers and staff with formal training in the management of research, establish research consortia, and engage in centralized purchasing of research supplies and equipment.<sup>36</sup> Other recommendations for research included increasing the academic standing and prestige of clinical researchers in the AHC and raising investment in applied research and development of new cost-reducing health care technologies. The Task Force's report on the specialized care missions of AHCs recommended that AHCs should continue their efforts to reduce the costs and/or increase the value of high-technology and specialized care and that they should be actively involved in quality improvement and patient-centered activities related to those services.<sup>37</sup> Further, AHCs should ensure the appropriate use and availability of their high-technology and specialty care services. Concerning the education missions of AHCs, the Task Force recommended that AHCs should make the continuous improvement of medical education one of their highest priorities, that they develop new capabilities to measure the costs and quality of medical education, and that they establish mechanisms that encourage faculty to engage in educational activities and to expand and improve their teaching skills.<sup>38</sup> AHCs should address these and other issues if they are to fulfill their ultimate purpose of contributing as effectively as possible to the health of the American people.

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<sup>36</sup> The Commonwealth Fund Task Force on Academic Health Centers (1999).

<sup>37</sup> The Commonwealth Fund Task Force on Academic Health Centers (2000).

<sup>38</sup> The Commonwealth Fund Task Force on Academic Health Centers (2002).

Furthermore, the Task Force believes that, in the future, it may prove necessary to undertake more research, education, clinical innovation, and indigent care in organizations that are not part of universities or do not resemble AHCs as we currently know them. Such institutions have included in the past, and will continue to include in the future:

- With respect to biomedical research: freestanding research institutes; basic science facilities within universities; independent community-based clinical research networks; and industrial laboratories.
- With respect to health professional education: community-based sites for graduate health professional education, including individual and group practice settings; community health centers; and community hospitals and clinics.
- With respect to specialized and high-technology services: referral centers other than university-based clinical facilities and nondomestic providers of services with demonstrated capacity to provide less expensive and/or higher-quality services at a distance.
- With respect to care for poor and underserved populations: a broad array of health care providers in local communities.

Competition from other types of organizations will improve the performance and responsiveness of AHCs to the needs of the larger society (as it already has in patient care) and will benefit both AHCs and the American people. Furthermore, academic health centers arguably play too large a role in the provision of some mission-related activities at the current time. For example, in the area of clinical research, AHCs have no comparative advantage in performing routine industry-funded clinical trials that are intended purely to accumulate data for regulatory or for marketing purposes. Recently, AHCs have appropriately started to deemphasize such activities after a frantic, somewhat indiscriminate effort to attract industrial research funding during the increasingly competitive financial environment of the 1990s.<sup>39</sup> Similarly, past work of the Task Force has demonstrated that indigent care has become more concentrated in AHCs during the managed care era.<sup>40</sup> The unplanned and unexamined shift of this social mission toward one set of health care institutions needs to be reconsidered with a view to the viability of AHCs and the quality and convenience of care available to poor and underserved populations.

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<sup>39</sup> K. Getz, *Top AHCs Turn Away from Industry-Sponsored Trials* (Boston: CenterWatch, 2002).

<sup>40</sup> The Commonwealth Fund Task Force on Academic Health Centers (2001).

## **HOW MANY DO WE NEED, AND WHERE DO WE NEED THEM?**

The optimal number and location of AHCs (and of other institutions that perform similar functions) depend on the health care needs and aspirations of the American people and the distribution and composition of the nation's population. A number of trends cited above suggest that those health care needs will grow in the future and that demand for services traditionally provided by AHCs will consequently increase. This leads the Task Force to conclude that the national capacity to perform research, teaching, clinical innovation, and highly specialized and indigent care will most likely have to increase over time. New communications technologies for providing these services at a distance may somewhat reduce pressures to create new AHCs to meet these demands, but it seems imprudent to arbitrarily reduce the number of AHCs even if some reduction might be desirable in certain locations, or if alternative organizations demonstrate their capability to meet national needs for mission-related activities. Given the shift of the U.S. population to the West and South, any growth in the capacity of the AHC sector, especially with respect to teaching and provision of highly specialized services, is likely to be needed first in those locales. According to this logic, the recent opening of new medical schools in Florida and Nevada seems consistent with prevailing demographic requirements. Similarly, the downsizing or closing of AHCs in some northeastern communities may not be entirely inappropriate, painful as it is for the affected institutions. Nevertheless, the contraction of the AHC sector in such places as Boston and Philadelphia must be carefully monitored to ensure that key mission-related activities, which often serve national rather than strictly local purposes, are not adversely affected. Similarly, where the clinical affiliates of AHCs provide essential local clinical services, the loss of these services could create deficits in capacity that will need to be addressed.

## **WHAT SHOULD THE ACADEMIC HEALTH CENTER OF THE FUTURE LOOK LIKE?**

To contribute as effectively as possible to the health and health care of the American people, the future academic health center will have to be prepared for change and uncertainty. AHCs, collectively and individually, must be able to learn quickly and act expeditiously—to learn about the evolving needs of the American people and new ways to serve those needs, and to implement rapidly and effectively the changes necessary to respond to those needs and opportunities.

Collectively, AHCs will be more effective in meeting these challenges if they consist of an array of institutions that are diverse in size, in the extent to which they pursue their missions with differing levels of intensity, and in the ways in which they are organized and managed. A pluralistic AHC community will offer opportunities for cross-

institutional learning and for experimentation with alternative approaches to management and governance. However, amidst this diversity, certain institutional characteristics will facilitate effective response to the changing demands on AHCs. These characteristics can be grouped into two classes: cultural and organizational.

Institutional culture refers to the deeply shared assumptions, beliefs, and ideologies of members of an organization.<sup>41</sup> 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.<sup>42</sup> Similarly, other characteristics, such as teamwork, accountability, and patient-centeredness, have not always been emphasized by many AHCs in the past.<sup>43</sup> While the need to adopt such cultural characteristics may be immediate, transforming the culture of AHCs is likely to be a lengthy and complex process. AHC leaders must be patient, recognize the potential positive and negative effects of culture on their organization's future, and implement and evaluate their actions in light of the organization's culture.<sup>44</sup>

Organizationally, AHCs will be more effective in enhancing their missions if they:

- rely increasingly upon and provide authority to interdisciplinary structures to accomplish their work;
- display greater organizational nimbleness, flexibility, and openness to new management styles and approaches;

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<sup>41</sup> M. W. Peterson and M. G. Spencer, "Understanding Academic Culture and Climate," in *Organization and Governance in Higher Education*, M. W. Peterson, E. W. Chaffee, T. H. White, eds. Fourth Edition (Needham, Mass.: Simon and Schuster Custom Publishing, 1991: 140–154).

<sup>42</sup> Institute of Medicine, *To Err Is Human* (2000).

<sup>43</sup> E. G. Campbell et al., "Understanding the Relationship Between Market Competition and Students' Ratings of the Managed Care Content of Their Undergraduate Medical Education," *Academic Medicine* 76 (January 2001): 51–59; The Commonwealth Fund Task Force on Academic Health Centers (1999); The Commonwealth Fund Task Force on Academic Health Centers (1997); Institute of Medicine, *Crossing the Quality Chasm* (2001), p. 48.

<sup>44</sup> W. Tierney, "Organizational Culture in Higher Education: Defining the Essentials," *Organization and Governance in Higher Education*, M. W. Peterson, E. W. Chaffee, T. H. White, eds. Fourth Edition (Needham, Mass.: Simon and Schuster Custom Publishing, 1991: 126–139).

- develop sophisticated knowledge management capabilities that include greatly enhanced capabilities for communication within and between AHCs and between AHCs and their communities;
- develop advanced measurement systems to enable accountability both internally and externally;
- develop financial management systems that align incentives across functions and enable managers to reward excellence;
- consciously learn from other organizations inside and outside the health care system; and
- develop capable, transparent, robust information systems that support all of their mission-related activities.

### **RESEARCH IN THE FUTURE ACADEMIC HEALTH CENTER**

In the future, most AHCs will specialize in certain elements of the research mission. Only a small minority will attempt proficiency in the wide array of research—including basic, clinical, social, behavioral, nursing, and public health research—now undertaken within the broad AHC community. AHCs will treat their research portfolios strategically, seeking balance and diversification among areas of study and engaging in strategic planning to chart their long-term research agendas. Interdisciplinary work will be the norm in all research fields, and interdisciplinary structures will have the authority to promote faculty, allocate space, and hire and fire personnel.

The research missions will hold themselves accountable through validated performance metrics that will be available both to internal managers and external funders. The Wellcome Trust has demonstrated how research funding, outputs, and impact can be analyzed on a national basis.<sup>45</sup> The feasibility of replicating this analysis in the United States should be investigated.

### **MEDICAL EDUCATION IN THE FUTURE ACADEMIC HEALTH CENTER**

Future AHCs will also specialize in certain elements of the educational mission. A minority will attempt proficiency in the array of educational functions undertaken within the broad AHC community such as education related to primary care, specialty care, preparation for teaching and research, training for organization and management, nursing education, public health training, training in the social and behavioral sciences, and dental

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<sup>45</sup> G. Dawson et al., *Mapping the Landscape. National Biomedical Research Outputs 1988–1995* (London: Wellcome Trust, 1998).

and veterinary training. Trainees may move physically and virtually among AHCs to gain additional education if their own institution does not have all the resources or programs they seek.

Future AHCs will rely heavily on powerful new educational technologies, which will themselves be in constant flux. Some students may undertake substantial parts of their preclinical and clinical training using online education and simulated experiences. Some medical schools will provide large portions of their preclinical education via the Internet. For certain curricular components, part of the educational experience will occur in small groups, oriented toward problem-solving experiences that will help to prepare clinicians for lifelong learning. Learning in the traditional lecture format will be increasingly uncommon. AHCs will incorporate training in leadership and team-building into their basic educational curricula and will remain open to training new types of health professionals to meet the changing health care needs of the U.S. population and its health care workforce. Reforms in governmental policies supporting and regulating graduate medical education may be necessary to permit AHCs to accomplish these objectives.

The use of computer simulation for teaching clinical skills will complement actual clinical experience, which in turn will be broader and more diverse than current experiences. Clinicians of all types will get more intense training in types of care that reflect the needs of the changing American population, including: management of chronic illness, care of elderly and disabled individuals, and care of culturally and ethnically diverse populations. The trend toward increased training in non-hospital settings will continue and accelerate, as will training in skills necessary to function in an increasingly complex, accountable health care system. These competencies include the ability to work in multidisciplinary health care teams, to participate effectively and provide leadership in quality management and improvement activities, to develop and interpret data on performance measurement, and to interact effectively with an assertive patient population. Education in the future will include proficiency in medical informatics as a core competency. Clinicians will be trained to assist patients in obtaining online information useful to patient self-management.

The evaluation of the quality of medical education may continue to be vested in professional organizations such as the Liaison Committee on Medical Education and the Accreditation Council for Graduate Medical Education (ACGME). In the area of undergraduate medical education, the Association of American Medical Colleges has undertaken the Medical School Objectives Project to assist medical schools in revising undergraduate medical education curricula and producing physicians capable of meeting

the nation's future health care needs.<sup>46</sup> While the project recommendations have been implemented at some medical schools, additional implementation efforts will be needed in the future.

In terms of graduate medical education, the ACGME has shown leadership by establishing a set of six general competencies that all resident physicians should be expected to develop.<sup>47</sup> These competencies will be increasingly taught and tested in future programs, and residents will not graduate until they demonstrate:

1. *Patient Care* that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
2. *Medical Knowledge* about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
3. *Practice-Based Learning and Improvement* that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
4. *Interpersonal and Communication Skills* that result in effective information exchange and teaming with patients, their families, and other health professionals.
5. *Professionalism* as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. *Systems-Based Practice* as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

The ACGME plans to incorporate the assessment of those competencies into graduate medical education program reviews conducted by Residency Review Committees. In preparation for these new evaluation requirements, the ACGME has produced a "Toolbox of Assessment Methods," consisting of 13 assessment methods and references to articles in which more complete information about each method can be found. These methods are being refined in pilot projects and demonstrations, with input

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<sup>46</sup> Association of American Medical Colleges, *Report I: Learning Objectives for Medical Student Education*, Association of American Medical Colleges, 1998. Available at: <http://www.aamc.org/meded/msop/msop1.pdf>.

<sup>47</sup> Accreditation Council for Graduate Medical Education, "Outcomes Project," (ACGME, 1999).

from specialty boards and medical experts. The ACGME and similar organizations should take the next step by working with AHCs to identify best educational practice based on the results of assessments conducted with its new measurement tools.

To assist the ACGME policymakers as well as their own faculty and academic leaders in achieving these educational aspirations, future AHCs will undertake significantly more research and evaluation concerning optimal methods to educate the future health care workforce.

### **CLINICAL CARE IN THE FUTURE ACADEMIC HEALTH CENTER**

In the future, some AHCs will specialize in the provision of certain types of services. A small minority will remain equally capable in the full continuum of care, including primary and preventive services, secondary care, high-technology and specialized services, long-term care, mental health services, and rehabilitation. Most AHCs will focus their efforts on high-technology and specialized services, and, within that area, on a subset of such care. But some AHCs will specialize in primary and community-based services. Regardless of their particular clinical focus, all AHCs will have relationships with other local and national academic and nonacademic institutions that enable them to offer patients the right care in the right place, and to ensure that trainees have necessary clinical exposures.

AHCs will provide leadership in adopting new technologies, new methods of organizing care, and new methods of accountability. AHCs will identify, value, support, and promote both clinical researchers and master clinicians—individuals who have demonstrated the ability to translate new basic knowledge into clinical care. AHCs will have advanced information systems, use electronic medical records, automate ordering of services and communication among physicians and with patients, and provide real-time computerized decision support for clinicians and patients that embodies up-to-date guidelines and protocols. Multidisciplinary teams will provide the majority of care in academic health centers. Some AHCs will provide care regionally, nationally, and internationally using robotics and telemedicine, and by competing in new national and international markets for provision of specialized and high-technology services. AHCs will routinely measure critical indicators of cost, outcomes, and quality, and these data and knowledge will be shared with internal and external groups to improve performance and meet purchasers' information needs. AHC care will be virtually or actually integrated with care in a full array of alternative sites, so that movement of patients between levels and locations of service occurs in a seamless and patient-centered manner.

No single model of the relationship between AHCs and their clinical facilities will prove essential to success in performing the clinical missions of these institutions. Some AHCs will own key clinical institutions, while others will not. But close, interdependent, and collaborative relationships will be necessary to fulfilling the potential of AHCs in the future.

### **CARE OF VULNERABLE POPULATIONS IN THE FUTURE ACADEMIC HEALTH CENTER**

In the future, most AHCs will maintain a strong commitment to care of poor, underserved, or economically unprofitable patient populations. This will be true of both publicly and privately owned facilities, though the involvement of public facilities will continue to be substantially larger than that of private ones. The involvement of AHCs in indigent care will continue because of their traditions, their sense of community responsibility, and their location in urban centers.

In its previous report on AHCs and indigent care, the Task Force acknowledged that providing care for patients who cannot pay is a mission that few institutions actively seek unless there are ways to cover the associated expenses.<sup>48</sup> Therefore, the viability of these indigent care activities will continue to depend on the availability of financing for this mission. The special needs of publicly owned institutions, including Veterans Administration facilities, will need to be recognized because of the large role these institutions play in care for poor populations.

The future AHC will also maintain a commitment to serving vulnerable populations aside from financially disadvantaged groups. These populations include certain racial and ethnic minorities, high-risk mothers and children, the chronically ill and disabled, persons with HIV/AIDS, mentally ill and disabled individuals, alcohol or substance abusers, victims of violence and abuse, the homeless, immigrants, and refugees.<sup>49</sup>

AHCs will continue to have major responsibilities to care for patients with special medical needs, the “medically vulnerable.” These individuals need services that are rare, highly specialized, complex, innovative, or not readily available from providers in their communities. Many of these services involve care such as advanced burn or trauma care, transplant services, inpatient care for AIDS patients, and highly sophisticated neonatal intensive care. Importantly, AHCs accept transfers from less capable hospitals and provide standby capacity for critical community resources, such as trauma and burn care units,

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<sup>48</sup> The Commonwealth Fund Task Force on Academic Health Centers (2001).

<sup>49</sup> Lu Ann Aday, *At Risk in America: The Health and Health Care Needs of Vulnerable Populations in the United States*, 2nd ed., *Jossey-Bass Health Series* (San Francisco: Jossey-Bass Publishers, 2001).

which may require added costs to equip units with readily available technology and specialists for only sporadic use. Finally, as institutions of last resort, AHCs will continue to treat patients with extremely complex or rare conditions for whom the cost of care may not be fully recognized by existing reimbursement systems.

Since all AHCs have the responsibility of training the next generation of physicians, many of these future practitioners must be willing to serve indigent patients and be located in underserved rural and inner-city areas. Therefore, even institutions that have little involvement in the care of vulnerable populations because of geographic circumstances or choice of mission will encourage faculty and trainees to spend time working and training in settings with greater exposure to these populations. Likewise, future practitioners must be skilled in providing services valued by disadvantaged populations, and must do so in ways that are sensitive to the cultural backgrounds of their patient base. Faculty will consciously model involvement in care of vulnerable populations so as to encourage trainees to adopt this commitment.

Financing the care of indigent patients will continue to rely on local tax appropriations, state support of faculty salaries and other special funds, disproportionate share monies from Medicare and Medicaid, and individual contributions of professional time by faculty. These monies will be better targeted in the future to safety net institutions that provide needed care. At the same time, all AHCs will recognize the need to coordinate services with other safety net providers and reduce costs. Therefore, care of the poor, uninsured, and other disadvantaged groups will receive the same attention to quality and efficiency as does care provided other populations. AHCs will lead local coalitions of institutions and groups that share a commitment to this mission in devising innovative approaches to addressing these issues on local and regional levels.

## IV. RECOMMENDATIONS FOR POLICY AND MANAGEMENT

Achieving this idealized vision of the future AHC will challenge the ingenuity, imagination and wisdom of AHC managers and public policymakers. Even with concerted effort, the vision is likely to remain elusive, since unanticipated opportunities to improve will constantly arise. The purpose of current actions should be to set AHCs on a path that moves them closer to the vision.

### RECOMMENDATIONS FOR THE AHC COMMUNITY

#### **Organization, Management, and Leadership**

AHCs should collectively and individually develop rigorous strategic planning activities that will guide their investments in mission-related programs. AHCs should develop programs to identify and prepare leadership to manage the increasingly rapid change confronting academic health centers and to implement the vision outlined in Section III. AHCs should make reforms and develop the infrastructure needed to improve their nimbleness and flexibility in responding to environmental challenges.

- AHCs should strive to be leaders in the application of information technology to improve health care. Therefore, they should place the highest priority on investment in information technology and the personnel needed to support and use it effectively. Information technology should be designed to meet the unique needs of each of the AHC missions, but also to bring together the many groups and professionals that the AHC comprises.
- AHCs should develop organizational structures that are more responsive to the needs of the communities they serve. Ideally, these structures would be simple, flexible, and adaptable to changing community and mission needs.
- AHCs should dramatically improve their internal accounting capabilities and their abilities to identify and manage the flow of funds supporting routine activities and mission-related work.
- AHCs should develop capabilities for performance measurement and improvement.
- AHCs should train and lead personnel at all levels to value openness, learning, teamwork, accountability, and patient-centeredness.
- AHCs individually and collectively should develop mechanisms to continually learn about the work of other AHCs, nonacademic health care organizations, and

non-health care institutions to identify best practices that may be usefully incorporated into their own activities.

- AHCs should develop mechanisms to continually assess the health care needs of their own communities and of the U.S. population more generally, and should ensure that resulting data are incorporated into strategic planning and management decisions.

### **Research**

- AHCs should develop rigorous, peer-reviewed, accountable procedures to allocate space, internal start-up funds, and other research resources.
- AHCs should develop interdisciplinary research structures and recruit faculty who can lead them.
- AHCs should give higher priority and recognition to new and traditionally undersupported areas of biomedical science, including behavioral science, public-health related research, informatics, management sciences, clinical research, and health services research.
- AHCs should develop means necessary to translate the results of clinical research into practice.
- AHCs should manage their relationships with industry and their research generally in a manner that protects patient participants, maintains academic values, and sustains public trust in the objectivity of the research enterprise. This will require disclosure of such relationships by both faculty and institutions and vigilance to ensure that potential conflicts of interest do not harm the welfare of human participants in research.
- AHCs should provide increased support for and academic acknowledgment of the work of faculty who participate in management of ethical issues in research and practice.
- AHCs should play a leadership role in ensuring the ability of the clinical research enterprise to protect the welfare and the rights of human participants in clinical investigation.

### **Education**

- The curricula of AHCs should dramatically increase emphasis on lifelong learning, teamwork, continuous improvement, and measurement of clinical performance in addition to command of biomedical information and culturally competent care.

- AHCs should develop capabilities to educate students, residents, and clinicians online and remotely.
- AHCs should develop capabilities to use simulation at all levels of the educational experience, from students' first encounters with clinical care to continuing education and certification of master clinicians.
- AHCs should train and reward educators with the same generosity as researchers and clinicians.
- AHCs should develop systems of performance measurement and accountability that promote continuous improvement in education.
- AHCs should provide training to prepare clinical researchers for the challenges of an increasingly complex and accountable research environment.
- AHCs should provide leadership in training a culturally competent clinical and research workforce.

### **Clinical Care**

- AHCs should act decisively to improve the safety, quality, and efficiency of the services they provide as part of a process of continual improvement in their performance.
- AHCs should invest in information technologies necessary to automate all appropriate clinical care processes, to provide patients with secure access to their medical records, and to help patients with self-care and medical decision-making.
- AHCs that fail to achieve the best obtainable outcomes demonstrated by peer institutions should act decisively to improve outcomes or discontinue those clinical services.

### **Vulnerable Populations**

- AHCs should strive to ensure that the quality and efficiency of care provided vulnerable populations is comparable to that available to other populations and should document their performance in this regard.
- AHCs should actively seek and work with partners in local communities to serve the needs of poor and indigent patients.
- AHCs should adopt explicit programs to train staff at all levels to provide care that is culturally appropriate and responsive to the diverse needs of ethnically and racially varied populations.

## **RECOMMENDATIONS FOR PUBLIC POLICY**

### **Support for Mission-Related Activities**

The continued performance of mission-related activities by AHCs and other institutions will require support for the costs of those activities, including associated clinical expenses that cannot be recovered in health care markets. Ideally, the mechanism or mechanisms chosen to support these costs should be open, flexible, administratively simple, predictable, fair, equitable, and accountable. The level of support should ideally be dictated by the needs of the American people for biomedical research, education of health professionals, high-technology and specialized services, and indigent care. In addition, in an increasingly interconnected world, support for AHCs mission-related activities should recognize the responsibility of the United States to meet international health care needs.

### **Mechanisms of Support**

In the past, society has relied on a complex mixture of public and private mechanisms to support the mission-related expenses of AHCs. Public support has taken the form of explicit payments to fund biomedical research (from the National Institutes of Health and other sources), some educational expenses (from direct graduate medical education payments under Medicare and federal and state grants to support primary care and other training), and some indigent care costs (from the Medicaid disproportionate share hospital program, local subsidies, and Medicare). Other governmental support has taken the form of add-ons to Medicare and Medicaid payments (from indirect medical education at federal and state levels and the Medicare disproportionate share hospital program). Private support has for the most part taken the form of the higher prices charged private payers by AHCs; it sometimes takes the form of charitable contributions to AHCs from individuals or private foundations.

This heterogeneous approach to funding the vital social missions performed by AHCs does not embody the desired properties of openness, flexibility, administrative simplicity, predictability, and accountability and does not provide a firm foundation for building the AHC of the future. It is difficult to track these streams of support because of their complexity and diversity. This makes it hard to understand whether current funding levels meet societal needs. It also interferes with efforts to measure AHC performance and hold both AHCs and public sponsors of mission activities accountable for their actions. Subsidizing mission-related activities with surplus clinical income is an inherently unpredictable and increasingly vulnerable source of support for essential public services and creates perverse incentives by encouraging overutilization of inpatient care.

A preferred mechanism or mechanisms would explicitly and transparently fund the expenses of AHCs' mission-related activities. Given current economic and political conditions, developing such mechanisms may be challenging in the short term. In particular, the Task Force recognizes that there may be no alternative over the next three to five years to the current reliance on clinical cross-subsidies of mission-related expenses. However, the Task Force believes that increased efforts are necessary to make these cross-subsidies explicit, to quantify and monitor them, and to understand their distribution among AHCs and among different geographic regions. This will enable government at all levels, interested private parties, AHCs themselves, and the American public to track whether support for mission-related activities is eroding, whether productivity is commensurate with funding levels, and whether more urgent action is needed to change the mechanisms, amounts, and distribution of societal support for those activities.

In the longer term, the Task Force believes that public and private supporters of mission-related activities should move as quickly as possible to create alternative mechanisms for supporting the expenses of these activities. These mechanisms should be open, flexible, administratively simple, predictable, and accountable. To the extent possible, the identifiable, nonclinical expenses of mission-related activities (such as the costs of conducting research and teaching) should be covered *in full* by explicit grants and other payments from public and private agencies charged with supporting these services. These include the National Institutes of Health and other public funders of biomedical research and the Health Resources and Services Administration and other agencies that support educational expenses.

It has been argued that paying completely for such identifiable, nonclinical expenses of mission-related activities may have the adverse effect of reducing the entrepreneurial drive of AHCs, which would face reduced pressure to raise funds to cover costs that are not fully paid for by government sponsors. Government will, therefore, lose the ability to leverage its monies, turning one dollar of public funds into more than one dollar's worth of research, teaching, or indigent care. While this argument may have some merit, it is rarely, if ever, explicitly considered or debated by policymakers, nor have its implications been considered in the new health care environment. Until such debate is engaged and concluded, government should pay the full costs of the identifiable, nonclinical, mission-related activities that government engages AHCs to undertake.

For clinical expenses associated with mission-related activities—that is, for the extra costs of AHC clinical care that result from participation in social missions—a rational alternative to the current heavy reliance on clinical cross-subsidies is needed. At least two measures will ultimately be required to achieve this objective. First, the expenses of

indigent patients should be covered through a universal entitlement to basic health insurance coverage. Second, even in the absence of universal health coverage, the extra clinical expenses associated with research, education, and unprofitable high-technology and specialized services should be covered by identifiable public authorities working in cooperation with other interested private stakeholders to cover the clinical costs of mission-related activities.

Defining the optimal public strategy for accomplishing this objective will require debate and experimentation, but the Task Force believes that developing such public policies will be important to achieving our collective health care goals. The mechanism should involve participation by government at all levels—federal, state, and local. The Task Force believes that current societal levels of support for mission-related activities (combining all public and private sources) are almost certainly adequate in the near term. The creation of new public mechanisms for supporting the clinical expenses associated with mission-related activities offers the opportunity to reconsider how much of that support should flow through public authorities, and how much should continue to be provided by the private sector. An important advantage of public mechanisms is that they are more open and accountable than currently existing private devices, which rely on the ability of AHCs to charge higher prices in unpredictable, unstable, and highly competitive private health care markets. This suggests that a larger proportion of aggregate societal support for the clinical expenses of mission-related activities of AHCs should, in the future, flow through public channels. The Task Force recognizes that the development of such new public policies and authorities will occur over time and will evolve with the needs of AHCs, with political trends, and with changing health care circumstances. As one example of such a mechanism, the Task Force has in the past advanced the concept of the Academic Health Services Trust Fund (AHSTF), which, it believes, would embody many of the desired attributes of a system for supporting AHC missions. However, an AHSTF is not the only possible approach to this problem, and is reviewed here as an illustration rather than a policy prescription.

### **Public Authority for Covering Clinical Expenses of Mission-Related Activities**

An AHSTF would provide explicit payments to AHCs that participate in the production of public and merit goods that cannot be supported effectively in private health care markets. The monies for this Trust Fund could be provided through a number of devices including current Medicare payments for direct and indirect medical education, a tax on health care premiums, contributions from general revenues, direct congressional appropriations, contributions from state and local governments, and contributions from private groups with an interest in the capabilities of AHCs, such as pharmaceutical and device manufacturers.

To provide incentives for AHCs to make the internal reforms recommended in this report, 10 percent of the funds allocated to the Trust Fund could be set aside to support innovations that bring AHCs closer to achieving reforms needed to meet future challenges and opportunities.

#### *Academic Health Services Advisory Commission*

- The federal government would create an Academic Health Services Advisory Commission (AHSAC) for the purpose of advising it on the level and allocation of funds provided by the AHSTF for teaching, research, high-technology and specialized services, clinical innovation at AHCs, and other eligible performers of these missions.
- The AHSAC would be broadly representative of the institutions that conduct, support, and benefit from mission-related activities at AHCs. In particular, it should include representatives of AHCs, payers, insurers, providers, and the general public.
- States and, where appropriate, localities could create similar bodies to advise state and local authorities on similar decisions undertaken by these authorities.

#### *Level of Support*

- The AHSAC would lead an assessment and planning process to estimate national requirements for support of the clinical expenses associated with the conduct of teaching, research, high-technology and specialized services, and clinical innovation at AHCs and other eligible institutions.
- Parallel assessments would be conducted at state and regional levels to ensure that the needs of local populations for these social missions are understood, and where necessary, local sources of support are mobilized to complement federal contributions.
- Assessment processes at both federal and local levels would take into account existing mechanisms and resources for estimating national requirements for mission-related activities and their associated clinical expenses, including reports from the Council on Graduate Medical Education, the Institute of Medicine, advisory groups to the National Institutes of Health, the Accreditation Council on Graduate Medical Education, the Association of American Medical Colleges, the National Health Council, and other organizations.
- Total national support for clinical expenses associated with mission-related activities would at least equal 2002 levels for the next five years. These expenses have been estimated by the Task Force at \$11.4 billion for AHCs.

## **Distribution of Federal Support for Mission-Related Clinical Expenses**

- Public support for the clinical expenses associated with mission-related activities in particular institutions and classes of institutions, including academic health centers, would reflect their contributions to meeting local, regional, and national needs for these services.
- Public support for the clinical expenses would take into account data on the quality, efficiency, and quantity of mission-related activities conducted. In the case of AHCs, such support would also take into account their demonstrated commitment to and progress toward making the changes in internal management and leadership discussed above. The AHSAC would experiment with allocating funds partly in relationship to the level of AHC participation in each social mission. Analyses by the Lewin Group suggest that the indirect clinical costs associated with research, teaching, and high-technology and specialized care missions of AHCs vary, and that these variations can be taken into account in creating a fair and effective allocation formula.
- Provisions for support would eliminate geographic differentials in current formulae, especially funding for direct graduate medical education under Medicare, unless those differentials can be justified by objective measures of need, cost of living, and/or the quality and efficiency of the mission-related activities supported.
- Support for educational missions would continue current trends to move training of health professionals out of traditional inpatient settings and into community-based settings, including physicians offices, home care, and long-term care facilities.
- In designing equitable and efficient methods of allocating public support for the clinical expenses associated with mission-related activities, the AHSAC and federal authorities would provide:
  - > a single allocation to cover the estimated clinical expenses associated with all missions, adjusted for the amount and quality of each mission-related activity at each institution; and
  - > incentive payments to encourage progress toward the vision of the future AHC outlined above.

### *Development of Data on Mission-Related Activities*

Regardless of the precise mechanism or mechanisms created by public authorities to provide explicit support of the mission-related expenses of AHCs, AHCs and public

authorities must develop improved information on the content and amounts of mission-related activities undertaken at AHCs. Therefore:

- Government at all levels should invest in research and development necessary to develop valid and reliable measures of performance in mission-related areas.
- Data on the quantity, quality, and productivity of mission-related activities and their associated clinical expenses at institutions seeking public support for those expenses should be publicly available.

### **RECOMMENDATIONS FOR PROFESSIONAL ORGANIZATIONS**

Professional organizations representing AHCs, their constituent groups, and professionals should play a leadership role in helping AHCs meet the health care needs of the American people. They should also encourage and participate in development of methods to enable AHCs to measure the quality, quantity, and efficiency of mission-related activities and to benchmark their performance of mission-related activities against peer institutions.

## RELATED PUBLICATIONS

In the list below, items that begin with a publication number are available from The Commonwealth Fund by calling our toll-free publications line at **1-888-777-2744** and ordering by number. These items can also be found on the Fund's website at **www.cmwf.org**. Other items are available from the authors and/or publishers.

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**#594** *Teaching Hospitals and Quality of Care: A Review of the Literature* (September 2002). John Z. Ayanian and Joel S. Weissman. *The Milbank Quarterly*, vol. 80, no. 3. The authors review major studies that compare the quality of care in teaching and nonteaching hospitals and conclude that teaching hospitals generally offer better care for common conditions, particularly for conditions affecting elderly patients.

**#543** *Financial Performance of Academic Health Center Hospitals, 1994–2000* (September 2002). Allen Dobson, Lane Koenig, Namrata Sen, Silver Ho, and Jawaria Gilani, The Lewin Group, Inc. According to the authors, in 2000, academic health center (AHC) hospitals and major teaching hospitals ran at an operating loss, with margins of –1.4 percent and –2.6 percent, respectively. Moreover, the financial performance of AHC hospitals and major teaching hospitals has declined more sharply since 1996 than at other hospitals.

**#516** *Training Tomorrow's Doctors: The Medical Education Mission of Academic Health Centers* (April 2002). This policy report from The Commonwealth Fund Task Force on Academic Health Centers asserts that training at our nation's teaching hospitals may not be keeping pace with the changing nature and demands of modern medical practice. The report details curriculum inadequacies, changing medical practices, and the uneven nature of medical education across the country. It also reveals that there is not enough data to measure adequately the performance of academic health centers in conducting their educational missions or assessing the associated costs.

**#500** *Preparedness for Clinical Practice: Reports of Final-Year Residents at Academic Health Centers* (September 5, 2001). David Blumenthal, Manjusha Gokhale, Eric G. Campbell, and Joel S. Weissman. *Journal of the American Medical Association*, vol. 286. According to this study, more than one of 10 medical residents say they feel unprepared to handle certain treatments and procedures relative to their specialties despite years of solid training.

*The Relationship of Market Forces to the Satisfaction of Faculty at Academic Health Centers* (September 2001). David Blumenthal, Nancyanne Causino, Eric G. Campbell, and Joel S. Weissman. *American Journal of Medicine*, vol. 111, no. 4. Copies are available from *American Journal of Medicine*, Box 0121, University of California, San Francisco, San Francisco, CA 94143-0121, Tel: 415-447-6100, Fax: 415-447-2799, E-mail: [ajm@medicine.ucsf.edu](mailto:ajm@medicine.ucsf.edu).

**#486** *Status of Clinical Research in Academic Health Centers: Views from the Research Leadership* (August 15, 2001). Eric G. Campbell, Joel S. Weissman, Ernest Moy, and David Blumenthal. *Journal of the American Medical Association*, vol. 286, no. 7. In this study, the authors report that close to half of the research leaders at U.S. medical schools do not consider their clinical research enterprises to be healthy or robust, and that they also question the overall quality of the clinical research being conducted.

*Use of Preventive Care Services, Beneficiary Characteristics, and Medicare HMO Performance* (Summer 2001). Jessica Greene, Jan Blustein, and Kelly A. Laflamme. *Health Care Financing Review*, vol. 22.

**#443** *A Shared Responsibility: Academic Health Centers and the Provision of Care to the Poor and Uninsured* (April 2001). This policy report of The Commonwealth Fund Task Force on Academic Health Centers recommends revamping the way care for the poor and uninsured is financed in the United States, with proposals ranging from expanding health coverage for the uninsured to revising Medicare and Medicaid payment policies for teaching hospitals.

**#408** *Managing Academic Health Centers: Meeting the Challenges of the New Health Care World* (October 2000). This report of The Commonwealth Fund Task Force on Academic Health Centers describes strategies undertaken by the nation's academic health centers (AHCs) to improve management of their patient care and research missions in the face of continuing tumult in the U.S. health care system.

**#390** *Health Care at the Cutting Edge: The Role of Academic Health Centers in the Provision of Specialty Care* (July 2000). This policy report of The Commonwealth Fund Task Force on Academic Health Centers identifies the specialty care mission of academic health centers (AHCs), shows how AHCs are the main providers and initial developers of many rare procedures and treatments, and reports that AHCs provide a disproportionate share of specialty services to poor and uninsured patients.

*A Tale of Two Systems: The Changing Academic Health Center* (May/June 2000). David Blumenthal and Nigel Edwards. *Health Affairs*, vol. 19, no. 3. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, [www.healthaffairs.org](http://www.healthaffairs.org).

*Distribution of Research Awards from the National Institutes of Health Among Medical Schools* (January 27, 2000). Ernest Moy, Paul F. Griner, David R. Challoner, and David R. Perry. *New England Journal of Medicine*, vol. 342, no. 4. Copies are available from Customer Service, New England Journal of Medicine, P.O. Box 549140, Waltham, MA 02454-9140, Fax: 800-THE-NEJM, (800-843-6356), [www.nejm.org](http://www.nejm.org).

**#381** *Trends in Specialized Surgical Procedures at Teaching and Nonteaching Hospitals* (January/February 2000). Rebecca Levin, Ernest Moy, and Paul F. Griner. *Health Affairs*, vol. 19, no. 1. This article examines how the risks and high costs associated with the large number of complex surgical procedures performed by major teaching hospitals have serious implications for the perceived efficiency of these institutions.

*Academic Health Centers on the Front Lines: Survival Strategies in Highly Competitive Markets* (September 1999). David Blumenthal, Joel S. Weissman, and Paul F. Griner. *Academic Medicine*, vol. 74, no. 9. Copies are available from David Blumenthal, M.D., Institute for Health Policy, Massachusetts General Hospital, 50 Staniford Street, Boston, MA 02114.

**#330** *New Approaches to Academic Health Center Affiliations: Public Hospitals and the Department of Veterans Affairs* (April 1999). Jo Ivey Boufford, Larry Gage, Kenneth W. Kizer, Luis R. Marcos, John H. Short, and Katherine E. Garrett. This issue brief summarizes a panel discussion regarding new approaches to academic health center affiliations that took place at New York University's Robert F. Wagner Graduate School of Public Service.

**#312** *From Bench To Bedside: Preserving the Research Mission of Academic Health Centers* (April 1999). This policy report of The Commonwealth Fund Task Force on Academic Health Centers is intended to provide a resource for future policy development and management related to research mission of academic health centers. It also examines how recent changes in the health care market and public policies may hamper the ability of academic health centers to conduct research as effectively as they have in the past.

**#337** *Market Forces and Un-sponsored Research in Academic Health Centers* (March 24/31, 1999). Joel S. Weissman, Demet Saglam, Eric G. Campbell, Nancyanne Causino, and David Blumenthal. *The Journal of the American Medical Association*, vol. 281, no. 12. This article looks at how increased competitive pressures on academic health centers may result in reduced discretionary funds from patient care revenues to support un-sponsored research, including institutionally funded and faculty-supported activities.

**#307** *Patterns of Specialty Care: Academic Health Centers and the Patient Care Mission* (January 1999). James A. Reuter, Georgetown University. The author defines the specialty care mission, presents an initial qualitative evaluation of patterns of this care in academic health centers, major teaching hospitals, and non-teaching hospitals, and attempts to identify measures for tracking future changes in the provision of specialty care.

**#291** *New Bottles for Vintage Wines: The Changing Management of Medical School Faculty and Reforming the Structure and Management of Academic Medical Centers: Case Studies of Ten Institutions* (June and July 1998). Paul F. Griner and David Blumenthal. *Academic Medicine*, vol. 73, nos. 6 and 7. In the first article, the authors offer a comprehensive review of innovative practices to reform faculty responsibilities. In the second article, the authors explore changes instituted by medical schools to improve their efficiency.

**#265** *Key Issues in Community Hospital and Academic Medical Center Consolidations* (April 1998). David Altman, The Lewin Group. In an effort to inform community hospital leaders of the issues involved in hospital acquisitions and mergers, the author developed this primer to explain the motivations and principles involved in consolidations, to assess consolidation options and the critical points that must be addressed, and to provide lessons derived from institutions that have recently consolidated.

*The Social Missions of Academic Health Centers* (November 20, 1997). David Blumenthal, Eric G. Campbell, and Joel S. Weissman. *New England Journal of Medicine*, vol. 337, no. 21. Copies are available from the *New England Journal of Medicine*, Customer Service Department, P.O. Box 9130, Waltham, MA 02254-9130.

**#249** *The Balanced Budget Act of 1997: Implications for Graduate Medical Education* (October 1997). James A. Reuter, Institute for Health Care Research and Policy, Georgetown University. The author examines the effects that the Balanced Budget Act of 1997 will have on graduate medical education (GME), including: phasing out Medicare support for GME from premiums paid to managed care plans; capping the number of residents for which Medicare will provide support; creating a system of incentive payments that will encourage teaching hospitals to downsize their training programs; and reducing payments to teaching hospitals for indirect medical education costs.

**#234** *The Financing of Academic Health Centers: A Chart Book* (August 1997). James A. Reuter, Institute for Health Care Research and Policy, Georgetown University. This chart book presents a current, comprehensive picture of the financial status of the three major components of academic health centers: AHC hospitals, medical schools, and faculty practice plans.

*Academic Health Centers in Competitive Markets* (July/August 1997). James A. Reuter and Darrell Gaskin. *Health Affairs*, vol. 16, no. 4. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, E-mail: [healthaffairs@projhope.org](mailto:healthaffairs@projhope.org).

*Relationship Between Market Competition and the Activities and Attitudes of Medical School Faculty* (July 1997). Eric G. Campbell, Joel S. Weissman, and David Blumenthal. *Journal of the American Medical*

*Association*, vol. 278, no. 3. Copies are available from Eric G. Campbell, Health Policy Research and Development Unit, Massachusetts General Hospital, 50 Staniford Street, 9th Floor, Boston, MA 02114, e-mail: [ecampbell@partners.org](mailto:ecampbell@partners.org).

*Relationship Between National Institutes of Health Research Awards to U.S. Medical Schools and Managed Care Market Penetration* (July 1997). Ernest Moy, Anthony J. Mazzaschi, Rebecca J. Levin, David A. Blake, and Paul F. Griner. *Journal of the American Medical Association*, vol. 278, no. 3. Copies are available from Ernest Moy, Center for the Assessment and Management of Change in Academic Medicine, Association of American Medical Colleges, 2450 N Street, NW, Washington, DC 20037-1127, e-mail: [emoy@aamc.org](mailto:emoy@aamc.org).

**#231** *Leveling the Playing Field: Financing the Missions of Academic Health Centers* (May 1997). This policy report of the Task Force on Academic Health Centers reviews the pressures academic health centers face due to market forces and how these pressures affect their ability to carry out their academic and indigent care missions. The report discusses the need for public action to support these missions and presents a set of policy recommendations related to financing them.