HEALTH MANPOWER IN THE MEDICAL MARKETPLACE

by James H. Sammons, M.D.

The American people have repeatedly demonstrated their concern over three basic elements of the medical care they receive: quality, access, and cost. Critical in achieving the nation’s goals in these areas is the development of a coherent, responsive health manpower policy. It is therefore incumbent on both the government and the private health care sector to establish a policy that addresses the following questions:

1. How many health professionals do we need in the United States and where are they needed?
2. How do we produce the number and types of health professionals that we need?
3. How do we minimize the adjustment problems that occur when the relationships between supply and demand change in the medical marketplace?

As a professional association deeply interested in all aspects of medicine, the American Medical Association must be a responsible participant in the process of developing and implementing our nation’s health manpower policy. This article has three major purposes. First, I want to discuss the two major approaches that have been used to design health manpower policy and argue that one of these—the market-oriented approach—is clearly superior to the other. Second, I want to present the specific policies that the AMA has adopted regarding health manpower. Lastly, I want to demonstrate using data from the AMA and other sources that market forces do operate in medicine and offer a rational response to the needs of the public and the medical profession.

Health Manpower Policies: Two Competing Approaches

Basically, the issue of health manpower has been addressed using two distinct frameworks: a forecasting and planning approach and a market-oriented approach. A number of attempts have been made during this century to forecast health manpower supplies and requirements, and many of these have been utilized in debates on proposed government programs. The 1959 report of the Surgeon General’s Consultant Group on Medical

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Education (the Bane report) and the 1970 report of the Carnegie Commission on Higher Education both proclaimed a physician shortage. In part because of these forecasts, the 1960s and early 1970s witnessed a substantial growth in government support for health manpower and a rapid expansion in the number and size of medical schools. Most recently, the Graduate Medical Education National Advisory Committee (GMENAC) has forecast that by 1990 there will be 70,000 more physicians than “required” and that by 2000 this “surplus” will reach 140,000. These predictions have been used in various contexts to justify reducing government support for health manpower development.

Overall, these forecasting efforts have met with mixed results, as indicated in Table 1. Because it takes many years to produce a physician, and because the attrition rate in medical school is very low, the projections in Table 1 that are for a period of less than ten years are often quite accurate. Unfortunately, they have little relevance to policymaking since planning for future health manpower needs has a much longer time frame. On the other hand, the projections for longer periods are not nearly so accurate and may not provide a solid foundation on which to formulate active policies designed to increase or decrease the supply of physicians.

More important, these or other variations on the traditional approach of forecasting the future status of physician manpower may underestimate the ability of the health care delivery system to adjust to a changing environment. In particular, new technologies, revised concepts of adequate health care, innovative practice management approaches, and the

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<th>Projection Study</th>
<th>Estimated Requirements</th>
<th>Estimated Supply</th>
<th>Actual Supply</th>
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<tbody>
<tr>
<td>Ewing Report (1948)</td>
<td>254,000</td>
<td>212,000</td>
<td>248,664</td>
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<tr>
<td>Mountin-Penel-Berger (1949)</td>
<td>233,532-261,172</td>
<td>216,119</td>
<td>248,664</td>
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<td>President’s Commission on Health Needs of the Nation (1953)</td>
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<td>248,664</td>
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<th>Comparative Projections of Supplies and Requirements for 1975</th>
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<tr>
<td>Bane Committee (1959)</td>
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<td>National Advisory Commission on Health Manpower (1967)</td>
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*Source: American Medical Association*
growing supply of physicians and allied health care professionals can all interact to affect the supply of medical care services in ways unanticipated by planning models. The result of these interactions may be a medical services marketplace radically different from the one assumed in the forecasts. Consequently, the AMA does not believe that highly centralized planning in general is an appropriate way to address the health manpower issues facing the nation.

The second approach toward questions of physician supply and demand uses a market orientation. I will be using the term “market” throughout this article, and I think this term needs further explanation. In general, a market involves decentralized decision making by participants. In a market the participants make voluntary decisions about how they behave. In fact, the keystone of a market is the freedom to choose among many alternatives. Practically speaking, markets are situated in institutional environments. The complexity of these institutional arrangements can often obscure the fact that markets ultimately respond in predictable ways to the underlying forces of supply and demand. These responses result in an efficient utilization of society’s scarce resources, making a market system the preferred approach to answering the important health manpower questions I described earlier.

There are several markets that constitute the medical care delivery system, including the markets for health care services, health care employment, and health professions education. Taken together they form a self-adjusting mechanism for determining the flow of resources in the medical care delivery system. These market mechanisms function by producing signals in the form of professional and economic incentives for all participants. If allowed to operate, these markets can provide an environment in which cost-effective medical care is the rule rather than the exception.

For example, physicians choose a location or specialty based in part on their perceptions of the current and future professional outlook. Their choices will be guided by the same factors that a centralized agency would attempt to consider: the potential patient population, the ability of an area to support the practice, the degree of professional support, and the extent of related health facilities. However, because individual physicians are at risk as a result of their decisions, they, as opposed to a centralized planning agency, are more likely to make the most appropriate decision.

There is no doubt that the market for medical care is complicated by the prominent decision-making roles played by institutions such as insurance companies, hospitals, and government. Each of these institutions may facilitate or impede market processes, but none can alter certain fundamental interrelationships. For example, the institutional structure cannot change the fact that an increasing supply of services relative to demand will adversely affect existing suppliers.

The government, as a purchaser of services, certainly has a legitimate
role to play in the market. Because society has chosen to help the financially disadvantaged, government programs have been instituted to subsidize the access of these groups to medical care. The fact that government's internal decisions involve a political element in no way makes it an inappropriate participant in the market. In fact, it must be stressed that public reimbursement policies for these programs, for example, will affect behavior primarily through a market process.

In another context, the “market” for medical education involves many institutional participants—medical schools, teaching hospitals, individual residency programs, accrediting agencies, and the government—in a lengthy process that increases the time necessary to respond to market changes. The complexity of the system and existence of substantial time lags do not negate market forces. In fact, the ultimate effects of market forces will be, to a considerable degree, independent of the institutional arrangements.

Interested public and private organizations can make a valuable contribution to the market process. In order to respond quickly to changing incentives, providers and consumers rely on the information that is available to them. The accuracy of the information and the speed with which it is disseminated are important aids to market mechanisms. In particular, I feel that the AMA plays an important role in facilitating the workings of the markets in the medical care sector, even though it is neither a buyer nor a seller of medical care services. The association provides relevant information to other participants more directly involved and represents physicians in practice as well as in training to other involved institutions.

AMA Health Manpower Policy

The American Medical Association has long been concerned with health manpower issues, particularly the number and distribution of physicians. In 1910, the Flexner report surveyed existing medical schools and made recommendations that standardized and upgraded the quality of medical education in the United States. More recently, in June, 1951, the AMA House of Delegates adopted a report entitled Policy of the American Medical Association Regarding the Production of Physicians. This report affirmed that the AMA had “no desire to limit the production of properly trained physicians,” and that the number of approved medical schools was to be determined entirely by the ability of the schools to meet acceptable educational standards.

During the past decade, the American Medical Association has continued to monitor and analyze the rapid changes that have taken place in health manpower. In 1971, the House of Delegates adopted the report Physician Manpower and Medical Education. In addition to reaffirming the 1951 policy statement, the 1971 report observed that there was gen-
eral agreement that demand for health services exceeded supply. The AMA therefore encouraged "all reasonable expansion" of student enrollments in existing medical schools, and the development of new schools in locations where there was "demonstrated local initiative and ample commitment of financial support." At the same time, the AMA also felt that it would be undesirable to attempt long-range projections of health manpower supply and demand beyond the limit of five years. A second report, Physician Manpower and Medical Education II, was adopted in 1978. This report reaffirmed the principles and recommendations of the 1951 and 1971 reports. It also stated a basic tenet of AMA philosophy that "the use of incentives, education, encouragement, and exhortation are infinitely preferable to prescription of numbers, types and location of physicians by legislation or regulation."

It was within this tradition that the AMA's House of Delegates adopted its latest report on health manpower in 1981. This report set out the principles that the AMA will use to guide its actions during the 1980s. On the basic issue of decentralized versus centralized decision making, the AMA believes that, in the absence of extensive regulation, the dynamic forces of the marketplace produce incentives for the appropriate production and distribution of medical care services. The AMA supports the operation of these self-adjusting market mechanisms that are consistent with the quality of medical care to which the medical profession is committed. It is these mechanisms that should determine, insofar as possible, the numbers of physicians practicing in the United States.

I am aware, however, of the special nature of the medical care sector. The high value the American people place on medical care is the reason for extensive professional self-regulation and licensure. Beyond these quality assurance activities, support for maximum individual autonomy is basic to AMA policy.

The association's commitment to quality medical care and quality medical education is independent of any manpower requirements. Criteria for accreditation of medical schools and residency programs should be based on professional judgments of appropriate educational standards. These standards should not be adjusted to reflect changing socioeconomic conditions. Instead, organized medicine must uphold a fundamental professional responsibility to ensure that only qualified individuals enter the practice of medicine.

In the specific area of medical education, the AMA believes that the number of U.S. medical schools should be determined by the availability of resources and by the ability of schools to meet acceptable educational standards. The number of students admitted to individual schools is and should continue to be determined by the faculty and administration of each medical school. However, in the uncertain economic environment we are in today, the AMA encourages the development of a variety of
innovative financing mechanisms to assist those medical students who are faced with high costs and dwindling sources of financial aid. Because changes in the physician marketplace are likely to continue, medical education should be sufficiently broad to enable physicians to adapt their practice patterns to these changes once they begin their practices.

These principles recently adopted by the AMA are not based on any specific scenario of future government programs or health manpower supplies and requirements, and they are not based on current conditions in the health care marketplace. Instead, they are grounded on a consideration of what type of mechanism can best respond to change in a manner that is efficient for all participants.

The Changing Medical Marketplace

The past two decades have witnessed some dramatic changes in the medical marketplace that have had a significant impact on health manpower. These events demonstrate that participants in this market respond to change in a rational and efficient manner. In particular, physicians have responded by changing their locations and modifying their practice arrangements. The environment facing practicing physicians has also had a direct impact on the choices made by those considering medicine as a career opportunity.

During the 1960s the demand for medical care expanded rapidly relative to the supply of medical care resources. One major reason was that the U.S. economy experienced an unprecedented period of sustained growth that substantially improved the standard of living of most Americans. This growth in real income naturally increased the public's demand for health care. In addition, this growth, combined with heightened concern over the economic plight of the poor and the elderly, led to the introduction of the Medicare and Medicaid programs in 1965. In total, these greater demands on the health care system pushed the level of national health expenditures as a percentage of gross national product from 5.3 percent in 1960 to 7.5 percent in 1970.¹

Although national health expenditures have continued to grow, the long period of economic expansion ended some time ago, and major new governmental program initiatives have not occurred in recent years. Over the past decade the major changes in the medical marketplace have come on the supply side. Many of these changes were a direct response to the shifts in demand noted above. Laws passed in 1963, 1965, and 1971 provided increased federal support for health manpower training programs, and the effects of these programs were not really felt until the mid-1970s. The federal government also passed legislation that encouraged foreign medical graduates to practice in the United States. Although Congress acted in 1976 to restrict this flow, foreign medical graduates
accounted for about one-third of the newly licensed physicians during the period from 1965 to 1975.\textsuperscript{2}

As a result of the increased demand for medical services initiated in the mid-1960s and subsequent increased financing of medical education, the number of nonfederal physicians per 100,000 civilian population has risen from 152 in 1971 to 194 in 1979. The physician shortages proclaimed by the Bane report in 1959 and the 1970 report of the Carnegie Commission on Higher Education are no longer so apparent. This fact was perceived by the AMA-sponsored National Commission on the Cost of Medical Care, which in 1976 produced one of the first major reports to note the changing trend. The capacity of the physician population to meet demands for medical care is substantially better than before, and current trends are likely to continue in the near future.

With the expanded supply of physicians, the concern over a shortage of physicians shifted to a concern over a surplus. In particular, planners projected that there would be too many physicians in certain specialties and that physicians would continue to cluster in metropolitan areas. However, according to recent studies, physicians have responded to market forces. That is, the physician population has followed the migration patterns of the general population. As the population has moved to the West and the Southwest, so have physicians. A researcher at the AMA’s Center for Health Policy Research has studied the geographic movements of physicians over the period 1974-1978, and found that the largest out-migrations of physicians were from the Middle Atlantic and East North Central census divisions, and the largest in-migrations were into the Pacific and South Atlantic census divisions.\textsuperscript{3}

In addition to these broad geographic movements, recent Rand studies have shown that board-certified physicians have tended to move to smaller communities with low physician density.\textsuperscript{4} Between 1960 and 1977, the percentage of communities with populations between 10,000 and 20,000 that had the services of all five of the largest specialties (internal medicine, surgery, pediatrics, obstetrics/gynecology, and radiology) rose from 3 to 18 percent. For communities with 20,000-30,000 population, the increase was even more dramatic, from 30 to 71 percent over the same period. By 1977, almost all communities with populations greater than 30,000 had all five of these specialties represented.

Accompanying the changing geographic patterns, physicians have also demonstrated a willingness to change their practice specialty and setting. A recent study conducted by the AMA’s Center for Health Policy Research found that 18 percent of the physicians in the sample changed their medical specialty during the period between 1974-1978. Furthermore, 24 percent changed their practice setting.\textsuperscript{5} This study did not explicitly relate these changes to particular market forces. However, the findings suggest that the physicians’ services market is quite dynamic.
In the physicians' services market, practice arrangements have shifted in response to the changing environment. Group practices often afford the physician an opportunity to adapt to changes in the economic environment brought about by new technology, shifting referral patterns, and the costs of setting up a practice. During the last decade and a half, group practices, as opposed to the traditional solo practice, have grown substantially. Surveys conducted by the American Medical Association in 1969, 1975, and 1980 have shown that the number of groups increased by almost 70 percent (from 6,371 in 1969 to 10,762 in 1980) and the number of physicians with some group affiliation more than doubled (from 40,903 in 1969 to 88,290 in 1980). Even more significant is the growth in the number of group physicians as a percentage of total active nonfederal physicians—from 16 percent in 1969 to just over 25 percent in 1980.

Trends begun earlier continued or accelerated. Single-specialty groups were not only the fastest growing type of group during the period but were also the most prevalent form at the end of the period. By 1980, single-specialty groups accounted for almost 58 percent of all groups while multispecialty and family practice groups accounted for 33 and 10 percent, respectively.

An additional response to the changing medical marketplace has been an alteration in the predominant legal organizational form. In 1969, almost 70 percent of all groups were organized as partnerships; this percentage fell to 16 in 1980. Conversely, the most prevalent legal organization in 1980—the professional corporation—has grown from a 16 percent share of groups in 1969 to a 71 percent share in 1980.6

A key arena in which market forces affect health manpower is the medical education process. Market forces are continually affecting the choices of both students and schools. The effects, however, are seen years after the initial stimulus. One such stimulus is the economic environment facing existing physicians. Data from the AMA's new Socioeconomic Monitoring System, along with data from previous AMA surveys of physicians, are presented in Figure 1. This figure displays the net incomes of patient care physicians for the years 1970, 1975, and 1981, both in nominal (current dollar) terms and real (adjusted for inflation) terms. These data indicate that although nominal physician incomes have risen dramatically from 1970 to 1981, real incomes have not increased.

The changing medical marketplace has also affected other aspects of a physician's practice. For the typical office-based general practitioner, patient visits declined by 6 percent over the period 1970-81.7 The share of practice revenues required by the average physician to meet expenses grew from 36 percent in 1970 to 44 percent in 1981. As a result greater concern is developing among all types of physicians about their ability to attract patients and to maintain viable practices.
The combined market forces of decreasing financial attractiveness of medical practice and increasing educational costs to students are beginning to affect the workings of the medical education system. The number of medical schools in the United States has stabilized at 126, with few prospects for increases in the near future. The number of applicants to medical school has dropped steadily since 1974-1975, from 42,624 in that year to 36,100 in 1980-1981, a decline of 15 percent.8

Partly as a consequence of those factors, the 17,204 new entrants into U.S. medical schools in 1980-1981 represented an increase of only 190 students over the previous year. This was the smallest rise in first-year enrollment since 1965 and was 86 percent less than the increase of 1,365 students from 1972 to 1973. Thus, both students and schools are responding to the market forces facing practicing physicians.

The primary functions of the American Medical Association include representing physicians and ensuring that the public has access to high quality medical care. In pursuing its essential role in the analysis and assessment of health manpower needs, the AMA will work closely with all interested parties. These include the institutions responsible for medical education, legislatures, and governmental and nongovernmental organizations wherever they confront issues involving the changing medical marketplace.

Markets can favorably or adversely affect participants; these positive and negative incentives are essential for the market to allocate resources efficiently. These circumstances may occasionally impose hardships, and appeals to the common good produced by the market will do little to assuage those directly affected. Nevertheless, the AMA believes that the

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**Figure 1**
Average Nominal and Real Net Income of Patient-Care Physicians 1970-1981

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<tr>
<th>Year</th>
<th>Nominal Net Income</th>
<th>Real Net Income (1970 Dollars)</th>
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<tr>
<td>1970</td>
<td>$41,800</td>
<td>$39,400</td>
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<tr>
<td>1975</td>
<td>$40,400</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$39,400</td>
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supply of physicians should, insofar as possible, be determined by processes of the market. The AMA will help physicians adjust to changing circumstances through the collection, analysis, and dissemination of relevant information.

Some participants in the health care marketplace would prefer that there be more direct control over the allocation and distribution of health care resources. Regulation, far from eliminating adjustment problems, has frequently exacerbated them. Those physicians and providers of medical care who have experienced difficult adjustments to changing market forces should not be misled into believing that a regulatory solution exists.

NOTES