

# Family Practice And The Health Care System

## Primary Care At A Crossroads: Progress, Problems, And Future Projections

John P. Geyman, MD, and L. Gary Hart, PhD

The tension between generalist and specialist roles in medical education and practice has been marked by recurrent perceived crises for many years in the United States. Primary care was at a crossroads during the 1960s. There was much turmoil within the health care system, and many in the population were unable to gain access to and afford health care. As a result of this turbulence, a major effort was mounted at state and federal levels to increase the proportion and number of primary care physicians. New initiatives included efforts to increase the total number of physicians, passage of Medicare and Medicaid legislation, new emphasis on education programs in primary care, recognition of family practice as a specialty, and emergence of the National Health Service Corps.

Today, 25 years later, the health care system as a whole is unraveling and in crisis as a result of soaring costs, the difficulty of providing access to all citizens, and health care outcomes that have fallen short of those achieved in many other industrialized countries. It is ironic how many of the failings of today's health care system mirror those of the 1960s, and how parallel the approaches to address these problems are to those taken a generation ago. Primary care finds itself again at a crossroads as intense pressures mount for fundamental reform of a health care system that has an inadequate primary care base.

It is timely to take stock of the progress achieved by the initiatives to expand primary care during the last 25 years. Accordingly, this report addresses the following four objectives: (1) to

summarize the results of the initiatives of the 1960s in terms of changes in medical education, the evolving status of primary care, and both specialty and geographic distribution of physicians; (2) to discuss some of the factors affecting the decline of primary care; (3) to consider briefly the problems resulting from a health care system that does not have an adequate generalist base; and (4) to discuss the implications of the current situation with discussion of future projections for primary care.

### An Overview of Progress and Outcomes: A 25-Year Report Card

#### *Definition of Primary Care*

The term *primary medical care* took origin in the United States in the papers of Kerr White and colleagues in the early 1960s. In their landmark article, "The Ecology of Medical Care,"<sup>1</sup> which appeared in 1961, White, et al. presented the basic concepts of population-based health care. They observed that in an average month, 750 of 1000 adults will have an episode of illness; of these, 250 will see a physician, but only 9 will be hospitalized, 5 will be referred to another physician, and 1 will be referred to a university medical center.

With the advent of targeted funding for primary care training programs came a surge of competition and controversy regarding the definition of primary care. Those representing many specialties argued that they provided primary care for common medical problems, such as psychiatrists for anxiety and depression or neurologists for patients with headache. Various definitions were advanced, each a bit different.

In the late 1970s the Institute of Medicine brought some clarity to the definition of primary care with the development of a primary care checklist reflecting five essential attributes (accessibility, comprehensiveness, coordination, continuity, and accountability).<sup>2</sup> A contentious debate continued, however, about the content and essential elements of primary care.

---

Submitted, revised, 30 September 1993.

From the WAMI Rural Health Research Center, Department of Family Medicine, University of Washington, Seattle. Address reprint requests to John P. Geyman, MD, Department of Family Medicine, Research Section, HQ-30, University of Washington, Seattle, WA 98195.

Grant support for this project came from the Office of Rural Health Policy, US Department of Health and Human Services, Public Health Services, Health Resources and Services Administration.

Amidst this debate the American Medical Association (AMA) has recognized four specialties as providing primary care: general and family practice, general internal medicine, general pediatrics, and obstetrics and gynecology. Policy makers in the federal Bureau of Health Professions and the Division of Medicine have acknowledged those in the first three specialty groups as primary care physicians but have held that obstetrics and gynecology maintains a focus more on surgical procedures than on preventive services, diagnosis, and treatment of common acute and chronic conditions. In recent years the Council on Graduate Medical Education (COGME) has adopted the latter definition. While recognizing that the three primary care disciplines are bona fide generalist specialties, the Division of Medicine, COGME, and the Association of American Medical Colleges (AAMC) have now reached a widely held consensus that the terms *generalist* and *specialist* more clearly describe the roles of those physicians providing primary care and more limited non-primary care services, respectively. For the balance of this report, the terms generalist and specialist will be used to differentiate broad types of physicians and health care services.

### ***Changes in Medical Education***

During the last 25 years major organizational changes in medical education have occurred in the generalist disciplines. With the stimulus of federal, state, and private funding, departments of family medicine have been established in 80 percent of US medical schools. The last 25 years likewise have been host to dramatic growth in the number of general internal medicine divisions in medical schools, as well as programs stressing the teaching of ambulatory pediatrics. Trends that gained momentum included the integration of biopsychosocial content into medical training, the decentralization of medical student and resident teaching to community-based settings, and the development of clinical research programs in primary care.

Despite these considerable advances, however, many departments of family medicine in medical schools found themselves in nonreceptive environments, constantly struggling for sufficient funds, faculty, residency positions, space, curriculum time, and respect. At the same time, many general internal medicine and general pediatrics

divisions found themselves overworked and underappreciated by their subspecialty colleagues who commanded a far greater proportion of their parent department's resources, space, activity, and prestige. Fewer than one-half of the divisions of general internal medicine have given high priority to primary care residency training. Most still emphasize inpatient care and training. Many faculty and graduates continue to subspecialize, and medical students continue to opt more strongly for the subspecialties than general internal medicine.<sup>3</sup>

### ***Medical Student Career Choice***

Although the initial interest among graduating medical students in the three primary care specialties was relatively high during the 1970s and early 1980s, in recent years there has been steady erosion in favor of the non-primary care specialties. This decline of student interest is reflected by the match rates into residency programs, as well as responses to AAMC surveys of medical school graduates and medical school matriculants. According to the most recent AAMC medical student graduation questionnaire, graduates' interest in certification in the three generalist specialties dropped from 22.7 percent in 1989 to only 14.6 percent in 1992.<sup>4</sup> This decrease is of even greater concern because in 1989 only 31 percent of those graduates selecting internal medicine residencies and 61 percent of those entering pediatrics residencies planned careers in primary care. Of further concern is the finding that entering medical students interested in family practice dropped from 37 percent in 1978 to 16 percent in 1987 to 10 percent in 1989.<sup>5</sup>

The National Resident Matching Program (NRMP) match just completed<sup>6,7</sup> showed, for the first time for allopathic medical school graduates, a reversal of the downward trend in selection of generalist residency positions. Table 1 displays the trends in positions filled (total and US seniors) for family practice, internal medicine, and pediatrics in selected years since 1983. Although 1993 NRMP results reflect modest gains in fill rates for all three specialties, they by no means alter the overall generalist to specialist imbalance. Of particular concern is the continued decline in fill rate in internal medicine for US seniors and the relatively small number of residency positions in primary care internal medicine; of further concern is that primary care internal medicine positions and

**Table 1. National Resident Matching Program Results For Generalist Specialties, Selected Years.**

	1983-1993				
	1983*	1986*	1989†	1992†	1993†
<b>Family practice</b>					
Positions offered	2,353	2,390	2,456	2,486	2,589
Percent filled	81.0	82.0	71.1	67.5	77.3
Percent filled with US seniors	71.0	70.3	59.8	56.2	63.2
<b>Pediatrics</b>					
Positions offered	1,795	1,944	2,068	2,068	2,046
Percent filled	85.0	88.6	80.0	82.0	86.9
Percent filled with US seniors	66.0	70.3	60.7	64.1	66.5
<b>Internal medicine</b>					
Positions offered	6,276	6,912	7,467	7,403	7,409
Percent filled	86.0	86.6	80.4	82.0	82.9
Percent filled with US seniors	72.0	72.3	63.5	59.8	57.1

\*Source: National Resident Matching Program, Table 4.<sup>7</sup>

†Source: National Resident Matching Program, Table 5.<sup>6</sup>

internal medicine-pediatrics positions represent only about 5 percent and 4 percent, respectively, of the total number of internal medicine positions and have fill rates for US seniors of only 61.5 percent and 64.5 percent, respectively.<sup>8</sup>

### Residency Positions in Primary Care

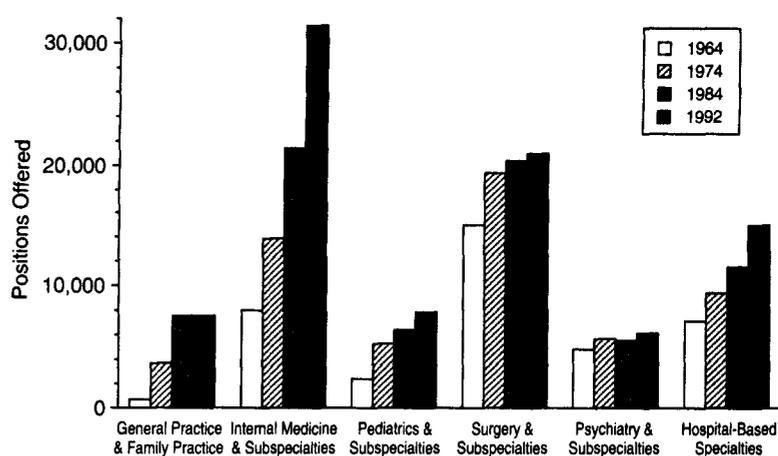
The most dramatic change in the availability of residency positions in the generalist specialties during the last 30 years in this country has been in family practice. Virtually all of today's family practice residency positions, now totaling just more than 7000, were established after 1970. Most of these positions were initiated within the first 10 years after the specialty was established, and their number has plateaued during the last decade, with a slight increase during the past year.

In Figure 1 the growth rates of family practice residency positions are compared with those in the other specialties and subspecialties. The fastest growing groups of specialties are the subspecialties of internal medicine and pediatrics, which more than doubled the number of available positions between 1984 and 1992. There has been sub-

stantial movement to subspecialty training and practice among residents enrolled in residencies in internal medicine and pediatrics. At least 60 percent of internal medicine residents subsequently take subspecialty fellowships and later are likely to include a sizable subspecialty focus in their practices.<sup>3</sup> The recent report of the COGME estimates that 40 percent of pediatric residents will subspecialize. Based on present trends, COGME projects that only about 30 percent of US physicians will be in generalist careers in 2020 AD.<sup>13</sup>

### Funding for Primary Care

A number of approaches have been used to provide funding for expansion of the nation's supply of generalist physicians. At the federal level the Health Professions Educational Assistance Act of 1976 created new grant programs under Title VII within the Bureau of Health Professions designed to support the development of undergraduate and residency training in family medicine, general internal medicine, and general pediatrics.<sup>14</sup> During the last 14 years, these Title VII programs have allocated \$700 million for this purpose. In addition, a majority of states have allocated funds for the training of family physicians. Some foundations have been particularly active in funding primary care educational initiatives, particularly the Robert Wood Johnson Foundation and W.K. Kellogg Foundation. The above programs focused on educational and faculty development programs.



**Figure 1. Residency positions offered in the United States, 1964-1992.**

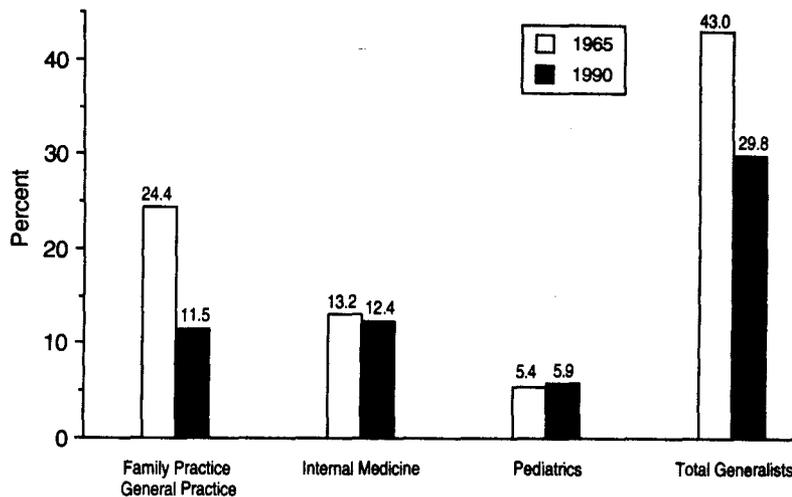
Note: Combined specialty programs not included.

Source: *Directory of Approved Internships and Residencies 1965* (for 1964 data),<sup>9</sup> *Directory of Accredited Residencies 1975-76* (for 1974 data),<sup>10</sup> *1984-1985 Directory of Residency Training Programs* (for 1984 data),<sup>11</sup> *JAMA* (for 1992 data).<sup>12</sup>

A recent study at the WAMI (Washington, Alaska, Montana, Idaho) Rural Health Research Center at the University of Washington analyzed the impact of Title VII funding on the production of generalist physicians between 1976 and 1985.<sup>15</sup> Overall, there was only a marginal increase during the study period in the production of generalist physicians from 31.9 percent to 33.9 percent among graduates of the 121 medical schools studied, with a small decline in the percentage of generalist graduates practicing in nonmetropolitan areas (6.1 percent versus 5.9 percent). Because of the unique success of family medicine residencies in meeting their goals, it was recommended that family medicine funds be continued, but that general internal medicine and pediatrics funding be refocused more clearly on the production of generalist physicians. Federal funding through the Division of Medicine is now being allocated to internal medicine and pediatrics residency training programs as a funding preference if 80 percent or more of their graduates enter generalist practice.

### Specialty Distribution of Physicians

Despite all of the above policy goals and initiatives, the US proportion of generalist physicians decreased from 1960 to 1990, continuing the downward trend since 1931.<sup>13</sup> This trend is based on AMA data for self-reported speciality of practice. Two-thirds of US physicians now enter the non-primary care specialties. Figure 2 provides a stark summary of the decrease of generalist physicians from 1965 and 1990, as prepared recently by Schroeder.<sup>16</sup> It can be seen that family practice decreased from 24.4 percent to 11.5 percent of all physicians during that period, in part because the death or retirement of older general and family physicians resulted in a generational gap created before enough younger physicians were trained to replace them. The absolute number of federal and nonfederal general and family practice physicians also declined slightly from 71,366 in 1965 to 70,480 in 1990.<sup>16</sup> The total for the three generalist specialties dropped from 43 percent to 29.8 percent of physicians. These reductions are in



**Figure 2. Percentage of total physicians: primary care specialties.**

Adapted from Schroeder.<sup>16</sup>

sharp contrast to marked increases for other specialties. Among the medical subspecialties, for example, the number of subspecialty certifications increased by 200 to 344 percent for most of the medical subspecialties between 1978 and 1988.<sup>3</sup> Among the 56 subspecialty areas, there are now 11 subspecialties in internal medicine, 7 in orthopedic surgery, and 7 in pediatrics.<sup>17</sup>

### Geographic Distribution of Physicians

Not only has specialty maldistribution continued to be a problem in the United States, geographic maldistribution of physicians likewise continues as a serious problem. The number of generalist physicians in the large metropolitan areas in 1988 was three times the number of generalist physicians in the smallest nonmetropolitan areas.<sup>13</sup> The major growth of physician supply has been among non-primary care specialists in metropolitan and large nonmetropolitan areas. In 1988, 176 US counties, all nonmetropolitan, with a combined population of 713,700 persons, had no primary care physician.<sup>18</sup> General and family practice is the only specialty that is distributed evenly across all sizes and types of counties.<sup>13</sup> Unfortunately, however, during the last 20 years, the percentage increase for family practice, the widest distributed specialty, was very limited (9.1 percent increase from 1975 to 1988).<sup>19</sup>

Despite the continuing increase in the total number of physicians in the United States, the number of primary care physician shortage areas, as well as the number of medically underserved

persons, has been increasing.<sup>13</sup> In response, the Division of Medicine has now developed an underserved funding preference for Title VII federal training grants in primary care.

### ***Organizational and Agency Activity***

There has been active development of various organizational activities in support of primary care training and research within the primary care disciplines themselves during the last 25 years. These organizations include the expanded efforts of the American Academy of Family Physicians, the development of the Society of Teachers of Family Medicine (STFM), the Association of Departments of Family Medicine, the Association of Family Practice Residency Program Directors, the Society for General Internal Medicine (SGIM), the Ambulatory Pediatrics Association (APA), the North American Primary Care Research Group, and the National Rural Health Association.

With regard to coordination of medical education and policy development to promote primary care, various national groups have been established but so far have been relatively ineffective in influencing needed changes in the proportion of generalist and specialist physicians. In 1972, for example, the Coordinating Council on Medical Education (CCME) was established under the umbrella of five parent organizations: the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, and the Council on Medical Specialty Societies. This group was charged with the responsibility to analyze the nation's problem with specialty distribution and to recommend remedial approaches to meet the nation's requirements for health care. The CCME was limited in actual authority and declined to accept a regulatory function, which was offered at one point through a contract with the Department of Health, Education, and Welfare.<sup>20</sup>

The Council on Graduate Medical Education represents the most recent national effort to address the US shortage of generalist physicians. The COGME was authorized by Congress in 1986, and its most recent report in October 1992 called for a firm policy goal of 50 percent of all physicians to be *practicing* in the generalist disciplines, together with elimination of urban-rural disparities and primary medical care shortage areas. Recommended steps for implementation included changes in

medical school admissions, curricula, financial aid, faculty, and administrative structure; in graduate medical education; and in administrative and financial aspects of the practice environment.<sup>21</sup> Within the last several years there has been a flurry of activity now directed to the shortage of generalist physicians, including the formation of the AAMC Generalist Task Force, the AMA Medical School Section Primary Care Task Force, and most recently, the Robert Wood Johnson Foundation new Generalist Physician Initiative, the Primary Care Organizations Consortium, and the American Medical Student Association Generalist Physician-in-Training Project.

### ***Relations among Primary Care Disciplines***

The three generalist specialties have exhibited both cooperative and competitive behaviors during the last 20 to 25 years. Within medical schools and training programs, their relations have more often been competitive than collaborative, including competing for space and resources. Although their approaches to patient care and training have had much in common, their training programs have generally been quite separate.

At the organizational level, the same mixture of competition and collaboration has also prevailed. The North American Primary Care Research Group provided a forum for all three disciplines to develop further research in primary care. Although there has been some participation by internal medicine and pediatrics in that group, the largest involvement has been from family medicine. Recently, the Agency for Health Care Policy and Research (AHCPR) has sponsored annual conferences on primary care research that have expanded the dialogue among the primary care specialties with respect to research.

The most striking example nationally of collaboration among the specialties has been the joint certification program for added competency in geriatrics developed by the American Board of Internal Medicine and the American Board of Family Practice. During the last several years there have been some efforts for organized dialogue and collaboration among the three primary care specialties. Through funding from the Kaiser Family Foundation, for example, conferences were held during the late 1980s involving representatives of STFM, SGIM, and APA to explore mutual interests. Some joint planning has oc-

curred among the several groups for certain workshops, as well as discussion of common approaches to curriculum and training programs.<sup>22</sup> To date, however, the respective residency training programs are more separate than collaborative, and the research activities and literature are largely separate and parallel.

Two recent examples of interspecialty cooperation are the Primary Care Organizations Consortium (PCOC) and the Robert Wood Johnson Foundation new Generalist Physician Faculty Scholars Program. The PCOC is a group convened by the American Academy of Family Physicians, has representatives from 9 major academic and professional organizations for the three generalist specialties, and was established to encourage medical students to choose primary care careers and to explore new collaborative initiatives among the participating specialties.<sup>23</sup> The Generalist Physician Faculty Scholars Program represents the first example of a collegial faculty development program involving all three generalist specialties.

### **Factors Affecting the Decline of Interest in Primary Care**

Many reasons for the declining interest of medical students in generalist careers have been identified, but the following four major categories probably encompass the majority of the reasons for this decline.

#### ***Medical Education Environment***

There is no question that medical students find academic medical centers and most of their educational settings to be dominated by specialists. Most role models are specialists, many of whom have little understanding or regard for primary care. Students see the glamour of high-technology medicine, as well as the relatively higher prestige and reimbursement associated with that type of practice. At the same time, much of the medical school curriculum is presented in non-primary-care-oriented institutional settings in metropolitan areas, and the admissions policies of most medical schools have generally failed to accept responsibility for establishing criteria and selection processes that favor the admission of sizable numbers of medical students who have the attributes and values necessary in primary care. In addition to these problems, past and current financing mechanisms for medical education have

contained further disincentives to generalist training programs.

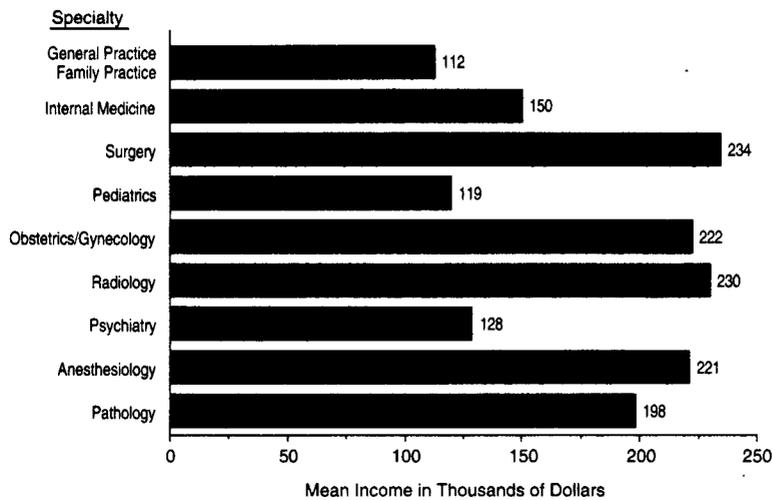
#### ***Lack of a Physician Work Force Policy***

Although many groups have studied the problem of physician specialty maldistribution and made recommendations, the United States still has no coherent and coordinated physician work force policy. For example, the proportion of available residency positions is still heavily skewed toward the non-primary care fields. There is no central responsibility for the specialty mix of residency positions at the national or state level. Teaching hospitals can unilaterally increase their non-primary care residency or fellowship positions in response to their own service or financial needs without regard to regional or national needs and at the same time be reimbursed by the Health Care Financing Administration for such increases in a policy-neutral manner. The status quo tends to be perpetuated by widespread attitudes among medical educators and physicians that specialist physicians can readily practice primary care, even without training in primary care and that there is little problem in basing primary care on physicians who practice a mix of primary care and subspecialty services.

#### ***The Practice Environment***

The gap between physicians' salaries in primary and non-primary care fields has continuously widened during the last 20 to 30 years. In 1990, for example, physician salaries averaged \$164,300.<sup>24</sup> Family physician net salaries after expenses and before taxes averaged \$112,000 in 1991, less than one-half the average surgeon's income. One-quarter of family physicians earned \$74,000 or less. Figure 3 illustrates wide disparities of income by specialty, and the income gap between specialists and generalists has progressively widened between 1981 and 1991.<sup>25</sup>

Physician income by specialty is highly correlated with the number of applications per residency position by specialty and the percentage of positions filled through the NRMP.<sup>26,27</sup> This disparity becomes particularly important when one considers the increasing student indebtedness among graduates of medical school, which by 1990 had reached an average of \$45,840. At that time, more than 25 percent of the 1989 graduating class had debts in excess of \$50,000, with 11 percent having debts of more than \$75,000.<sup>28</sup>



**Figure 3. Mean physician net income after expenses and before taxes by specialty, 1991.**

Adapted from Gonzales and Emmons.<sup>25</sup>

When the amounts were converted to levels of practice income needed 5 years after graduation to repay medical education debts, nearly \$80,000 and \$145,000 net practice income would be required, respectively, to pay off comfortably loans of \$50,000 and \$75,000.<sup>28</sup>

#### ***Individual Behavior, Attitudes, and Values***

In addition to the above, there are clearly a number of characteristics related to individual medical students that have much to do with their continued preference for non-primary care specialties. Perhaps the most important is the observation that the life goals of 1st-year college students have shifted during the last 25 years away from altruistic approaches to life to values favoring their own personal material gain.<sup>5</sup> We cannot expect that medical students are unaffected by these broad societal changes. It is therefore no wonder that many graduating medical students are attracted to the more prestigious, better reimbursed, specialty fields that often have a lifestyle perceived as more conducive to a comfortable personal and family life than the less rewarded activities of primary care physicians. Conversely, it has been found that the social interactional component of the practice of generalist physicians is the most important reason for a career choice in primary care, which probably represents not only a values decision but also personal traits whereby the physician enjoys and seeks interpersonal contact with patients.<sup>29</sup>

#### **Implications and Future Directions**

The foregoing benchmarks of change during the last 25 years in primary care reflect both positive and negative outcomes. On the one hand, thousands of excellent generalist physicians have been well trained and are now serving the public interest in their respective practices. Hundreds of strong educational programs have been developed, appropriate standards of quality have been established, important educational innovations have been introduced, research programs have begun in primary care, and the primary care literature has gained momentum. On the other hand, the

trend toward specialization has continued unabated, and there appears to be an ever-growing shortage of generalist physicians just as the health care system is reaching a precarious state, partly as a result of its lack of a strong primary care base. Thus the paradox: we are at a time that requires many more generalist physicians (the demand has never been greater), but we have an inadequate capacity to produce the required increased number of generalists. The medical education system has changed only at the margins, and the practice environment has changed little, if at all, in favor of primary care in the last 25 years.

Despite the many successes of primary care since the mid-1960s, we have achieved a subspecialty-based health care system with two-thirds of physicians in the non-primary care specialties. The problems of a specialist-based system are legion: increasing fragmentation and cost of care, decreased access to care, and increased utilization of many health care services that are unlikely to warrant their cost in terms of improved outcomes. Schroeder and Sandy<sup>30</sup> have recently called attention to specialty maldistribution as the invisible (and largely neglected) driver of runaway health care costs. It has become apparent from recent studies that specialists provide more services for primary care problems, charge more, request consultations more frequently, and utilize more laboratory and diagnostic services than do the generalists.<sup>31-33</sup> The Medical Outcomes Study<sup>33</sup> has found, for example, that endocrinolo-

gists and cardiologists use more resources than general internists, and general internists use more resources than family physicians, even with appropriate controls for patient mix. That study is still in progress to compare outcomes by specialty, but it appears unlikely that any improvements in outcomes will be found. Indeed, it is arguable that generalist care outcomes could be better than specialist care outcomes as a result of a more comprehensive, coordinated approach of generalist physicians with fewer adverse consequences or errors of omission.

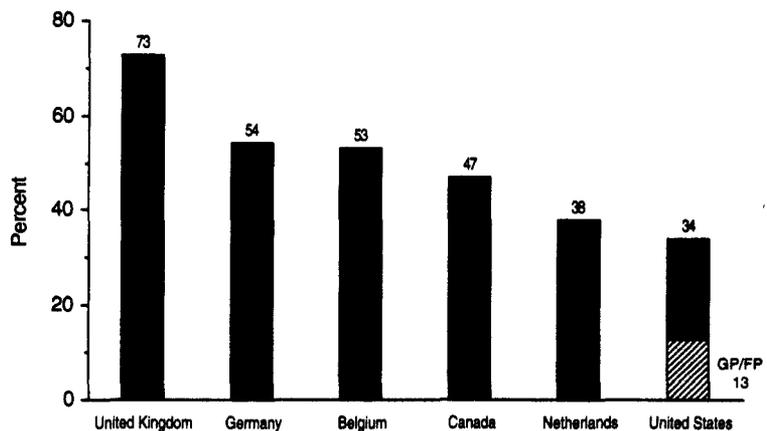
The preponderance of specialists throughout the country is in many ways aligned with the interests of larger hospitals, medical centers, and ancillary services. In this respect, we can expect them to be a potent force for maintaining the status quo.

When the US health care system is compared with those of other industrialized Western countries, it does not fare well. Applying five criteria of quality, Fuchs<sup>34</sup> recently reported that only in *technology* can this country's health care system claim to be the best in the world; we fall far short of many other countries when one considers *public health, service, efficiency, and distributional equity*. As Rosenblatt<sup>35</sup> has pointed out, the Medical Outcomes Study helps to account for how such countries as Canada and Great Britain, where about one-half of the physicians are generalists and provide almost all of the primary care, are able to achieve excellent outcomes of care at a fraction of the cost expended in this country. Figure 4 compares five industrialized Western countries in terms of the proportion of specialists among total physicians.<sup>36</sup> When one considers the likely future increase in managed care programs (already accounting for a national average of 15.9 percent of the population, with some states more than 30 percent — California, Massachusetts, and Minnesota),<sup>38</sup> one can anticipate that the future shortage of generalists will have more serious consequences.

The problems of primary care in rural areas are even more alarming than in metropolitan areas. The problems of providing rural health care are not just scaled down ver-

sions of the problems in metropolitan areas. These problems are exacerbated by geographic isolation, economic difficulties, and low population density. For instance, a rural hospital might be the only such provider for a large geographic area, but the service area population might be comparatively sparse and poor. Thus, the hospital is faced with low revenues and relatively high fixed costs. These situations are compounded by other related problems, such as the difficulty of recruiting and retaining rural health care providers. The many problems of medical practice in rural areas are well-known and persistent, including patient populations who are older, have more chronic illness, and are poorer; difficulties maintaining viable hospitals and providing emergency medical services, in particular, and providing access to all medical services, in general; long work hours for providers with additional demands of night and weekend coverage; and problems obtaining equitable reimbursement and meeting educational and social needs of providers and their families.

Although there have been substantial increases in the national physician supply, a perpetual shortage of physicians in rural areas has persisted.<sup>19</sup> Likewise, the increasing but small numbers of midlevel physicians, who are also becoming more specialized and urban oriented, have not alleviated this shortage.<sup>18</sup> It has been estimated that 17 million Americans live in rural areas with a shortage of primary care physicians.<sup>39</sup> Based on the above wider view of the progress and shortcomings of the primary care movement in the United States during the last 25 years, one cannot



**Figure 4. Generalists as percentage of physicians: selected nations, early 1980s.**

Adapted from Schroeder<sup>36</sup> and *Physician Characteristics and Distribution in the US*. (AMA 1983).<sup>37</sup>

escape the conclusion that an incremental approach to change has been largely ineffective. What change has taken place has largely been at the margins of the educational system; so far, very little change has been achieved in the practice environment. More direct and stronger policy changes must be implemented if the nation is ever to reestablish its generalist base of physicians.

In response to these refractory and intertwined problems, COGME<sup>13</sup> has recently made the following eight recommendations as necessary strategies to reach a long-term national goal of 50 percent of residency graduates practicing in the primary care specialties:

1. Establishing a national physician commission and state physician commissions
2. Implementing the manpower plan through consortia that might include medical schools, teaching hospitals, community health centers, health maintenance organizations, and other educational entities
3. Allocating graduate medical education positions and funding based on local and regional needs
4. Capping allopathic and osteopathic medical school enrollment
5. Capping Medicare and other funded 1st-year residency positions at 10 percent more than the number of US graduates
6. Developing financial incentives to attract more underrepresented minorities and generalists to primary care
7. Establishing graduate medical education incentives for primary care practice in underserved, inner city, and rural areas
8. Providing increased incentives for primary care practice in underserved, inner city, and rural areas

As seems clear from the national experience during the last 25 years, preferential funding mechanisms of primary care education programs also require other enabling changes in both the medical education and practice environments. A coordinated national strategy is needed that will encompass at least the following elements:

1. Changes in the missions of medical schools, including admissions processes and procedures, curricula, mix of faculty, advising programs, and faculty development

2. Expansion of loan repayment or forgiveness and scholarship programs for medical students aspiring to generalist careers
3. Reimbursement reform to eliminate disincentives to generalist practice and to rein in excessive reimbursement for invasive procedures and other specialty services
4. System changes that place the generalist physician at the base of the health care system, eliminating direct access to the specialist
5. Regionalization of health care services, with stabilization of necessary facilities and services in rural and underserved areas and expansion of the National Health Services Corps
6. Elimination of redundant hospital services, with subspecialists based largely in tertiary care facilities
7. Expansion of group practice, with varied types of collaborative arrangements within regionalized networks of providers
8. Cooperation among generalist disciplines, with even the potential for merger to a single generalist discipline in the long-term future
9. Melding of person- and family-centered health care with population-based concepts
10. Research, development, and dissemination of management and information systems relevant to primary care of defined populations
11. Development of quality assurance and information-based monitoring systems tied to cost-effective outcomes of care
12. Prevailing service ethic within health care, with concept of basic health care as a right well established
13. Simplified administrative process for reimbursement of health care services
14. Medical liability tort reform

### Conclusion

It is clear that we are seeing a replay, a generation later, of many of the forces that resulted in important changes in the 1960s in response to access and cost concerns about US health care. An important part of any solution is to strengthen the generalist physician base. Despite all the good intentions by policy makers and many others who joined the effort, initiatives of the 1960s have failed to remedy the inevitable problems of a health care system dominated by specialists and their increasingly high technology services.

The magnitude of the generalist-specialist imbalance of physicians in the United States is brought home with the realization that the best case scenario for the proportion of generalists among practicing physicians in 2020 AD is only 43 percent even if all of the COGME initiatives are fully implemented. This outcome is unlikely, because these assumptions include 70 percent of first-year allopathic residents entering generalist residency training starting in 1993. The COGME goal-oriented proposal calls for the development of 2000 additional family practice residency positions and assumes that the subspecialization rate of internal medicine and pediatric residents will decrease to 50 percent and 20 percent, respectively. These challenging targets, even if met, will not equalize the generalist-specialist mix at 50-50 until sometime between 2020 AD and 2030 AD.<sup>13</sup> If history is any predictor for the success of such a proposal, experience would indicate that the COGME recommendations need to be put in a more regulatory than advisory mode. Close integration will be required with the accreditation process, the financing mechanisms for graduate medical education, and system changes in the practice environment.

What lessons can be learned from the last 25 to 30 years? It is apparent that incremental change, which largely ignores the underlying problems, does not work. There were modest gains in the medical educational establishment to strengthen generalism, but these changes failed to alter the culture, values, and mission of academic medical centers while leaving in place all of the disincentives to generalist practice in the practice environment. The result is a health care system, still an inverted pyramid, with escalating costs so out of control as to require urgent reform before the country's deficit can have any chance to be brought under control. The United States finds itself alone in the world among industrialized nations with such a predominance of specialist-based health care and no remedial mechanisms in place. We now know what the real problems are, so it is not enough to commission more studies and advisory groups.

Despite today's crisis in US health care, which is even more serious than a generation ago, there are many positive signs. There is, for the first time, a widespread consensus that some kind of fundamental restructuring is needed. Public opinion is galvanized on this point, and even the major organizations and provider groups are trying to

be seen as part of the solution. The public is much more enlightened about health care than a generation ago, and activated patients play a larger role in the decisions about their own individual and family's care. We have the potential for the best health care system in the world, which will become more widely accessible and affordable if restructured to build on its strengths and correct its weaknesses. We are gaining experience with managed care and are starting to appreciate the potential of population-based health care. A new option is beginning to take shape, which will force physicians, both generalists and specialists, to share risk with hospitals and other providers in the ongoing care of defined populations. Advances in information transfer are despecializing medical knowledge, making recent advances more widely and rapidly accessible to practitioners. At the same time, increasing attention is being directed to the development of clinical practice guidelines that can help to target the use of medical procedures and resources to cost-effective situations. In medical education the gains in the experience of training of generalists are in place and can be built upon to expand the roles and numbers of generalist physicians.

That the present health care system has priced itself out of the market and can no longer meet the nation's needs provides an opportunity to restructure the system in a fundamentally different way. The next few years are certain to hold more chaos rather than less as the country grapples with the health care issue. Many hospitals and perhaps even some medical schools will close, and many disgruntled physicians will drop out of practice. We will see, I hope, a new partnership emerge among government, the private sector, and health care providers that will rebuild the nation's health care system in the public interest. The status quo cannot endure this time. New territory must be charted, and there is today an unprecedented energy and momentum for major change that, I hope, can be equal to the task.

## References

1. White KL, Williams TF, Greenberg BG. The ecology of medical care. *N Engl J Med* 1961; 265:18: 885-92.
2. A manpower policy for primary health care. Washington, DC: Institute of Medicine, National Academy of Sciences, 1978:16-26.
3. Petersdorf RG. General internal medicine: fad or future? *J Gen Intern Med* 1989; 4:527-32.

4. Kassebaum DG, Green D. Interest in generalist careers continues to wane. *AAMC Reporter* 1992; 2(1):1.
5. Colwill JM. Where have all the primary care applicants gone? *N Engl J Med* 1992; 326:387-93.
6. NRMP data: March 1993. Washington, DC: National Resident Matching Program, 1993, Table 5.
7. NRMP data: April 1987. Evanston, IL: National Resident Matching Program, 1987, Table 4.
8. Report from Division of Education. Kansas City, MO: American Academy of Family Physicians, March 1993.
9. Directory of approved internships and residencies 1964-1965. Chicago: American Medical Association, 1965, Table 10.
10. Directory of accredited residencies 1975-1976. Chicago: American Medical Association, 1975, Table 9.
11. 1984-1985 Directory of residency training programs accredited by the accreditation committee for graduate medical education. Chicago: American Medical Association, 1984, Table 4.
12. Medical education in the United States, 1991-1992. Appendix II: graduate medical education. *JAMA* 1992; 268:1172.
13. Council on Graduate Medical Education. Third report. Improving access to health care through physician workforce reform: directions for the 21st century. Rockville, MD: US Department of Health and Human Services, Public Health Service Health Resources and Services Administration, Bureau of Health Professions, Division of Medicine, 1992:11, 12,48,68-70.
14. Leroy L, Lee PR, editors. Deliberations and compromise: the Health Professions Educational Assistance Act of 1976. Cambridge, MA: Ballinger, 1977.
15. Rosenblatt RA, Whitcomb ME, Cullen TJ, Lishner DM, Hart LG. Have American medical schools increased their production of primary care physicians? The effect of federal grants. *Am J Public Health* (in press).
16. Schroeder SA. The troubled profession: is medicine's glass half full or half empty? *Ann Intern Med* 1992; 116:583-92.
17. American Academy of Family Physicians Directors' Newsletter. Kansas City, MO: American Academy of Family Physicians, September 14, 1992:3.
18. Health care in rural America. US Congress, Office of Technology Assessment, OTA-H-434. Washington, DC: US Government Printing Office, 1990:251-7.
19. Study of models to meet rural health care needs through mobilization of health professions education and services resources. Vol. 1. Rockville, MD: Health Resources and Services Administration. Bureau of Health Professions, June 1992:100.
20. Specialty distribution and the CCME. *J Med Educ* 1977; 52:861-2.
21. Green D. Generalist Task Force and the COGME set ambitious goals to correct specialty imbalance. *AAMC Reporter* 1992; 2:1.
22. Odegaard CE, Inui TS. A 1992 manifesto for primary care physicians. *Pharos* 1992; 55(3):2-6.
23. Murray JL, Wartman SA, Swanson AG. A national interdisciplinary consortium of primary care organizations to promote the education of generalist physicians. *Acad Med* 1992; 67:8-11.
24. Firshein J, editor. Doctor's income averages 164K. *Faulkner & Gray's Medicine and Health* 1992; 46(21)(May 25):1.
25. Gonzales ML, Emmons DW, editors. Socioeconomic characteristics of medical practice, 1993. Chicago: American Medical Association, 1993:142, 146.
26. Ebell MH. Choice of specialty: it's money that matters in the USA. *JAMA* 1989; 262:1630.
27. Shulkin DJ. Choice of specialty: it's money that matters in the USA. *JAMA* 1989; 262:1630.
28. Petersdorf RG. Financing medical education. *Acad Med* 1991; 66:61-5.
29. Taggart MP, Wartman SA, Wessen AF. Influences on the choice of primary care. Today's gatekeepers to the medical care delivery system. *Med Care* 1987; 25: 671-4.
30. Schroeder SA, Sandy LG. Specialty distribution of U.S. physicians — the invisible driver of health care costs. *N Engl J Med* 1993; 328:961-3.
31. Welch WP, Miller ME, Welch HG, Fisher ES, Wennberg JE. Geographic variation in expenditures for physicians' services in the United States. *N Engl J Med* 1993; 328:621-7.
32. Franks P, Clancy CM, Nutting PA. Gatekeeping revisited — protecting patients from overtreatment. *N Engl J Med* 1992; 327:424-9.
33. Greenfield S, Nelson EC, Zubkoff M, Manning W, Rogers W, Kravitz RL, et al. Variations in resource utilization among medical specialties and systems of care. Results from the Medical Outcomes Study. *JAMA* 1992; 267:1624-30.
34. Fuchs VR. The best health care system in the world? *JAMA* 1992; 268:7:916-7.
35. Rosenblatt RA. Specialists or generalists. On whom should we base the American health care system? *JAMA* 1992; 267:1665-6.
36. Schroeder SA. Western European responses to physician oversupply: lessons for the United States. *JAMA* 1984; 252:373-84.
37. Physician characteristics and distribution in the US. Chicago: American Medical Association, 1983.
38. Managed care digest: HMO edition, 1992. *Med Benefits* 1992; 9:16:1-2.
39. Rural health professions facts: supply and distribution of health professionals in rural America. Chapel Hill, NC: North Carolina Rural Health Research Program, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 1992.