

The Case of the Disappearing Generalist: Does It Need to Be Solved?

GORDON T. MOORE

Harvard Community Health Plan

DURING THE TWENTIETH CENTURY, THE PROPORTION of American medical graduates choosing subspecialty careers has steadily increased. Consequently, the ratio of generalists—family practitioners, pediatricians, and internists who are specially trained for and exclusively practice primary care—to subspecialists in the United States is lower today than in any other developed country. Furthermore, the prospect of a shortage of generalists is likely.

How important is this trend? Its consequences have not been thoroughly explored. Nevertheless, experts over the years have assumed that the disappearance of generalists is a problem (Millis 1966; Petersdorf 1978; Schroeder 1985; Colwill 1988; Council on Graduate Medical Education 1988; New York State Council on Graduate Medical Education 1988). What is their reasoning? Is there persuasive argument or evidence to suggest that the type of doctor who provides primary care is an important determinant of an optimal health care system?

In this article I will explore three contrasting arguments about the importance of the decline of generalist physicians and what should be done about it. My analysis is schematic in order to highlight different perspectives. Each argument represents a position on how effectively two divergent models of organizing and delivering health services in America would meet our future health care needs: in the first, generalist phy-

sicians provide primary care while subspecialists work only within their areas of expertise; the second model, which is steadily becoming a reality, is composed only of specialists.

Background

The dwindling number of physicians interested in generalist careers has attracted attention and concern for many years (Stevens 1971; Institute of Medicine 1978; Petersdorf 1978; Schroeder 1985; Colwill 1988). Between 1965 and 1986, for example, the proportion of self-designated generalists fell from 42 percent to 34 percent of all physicians, as general practitioners retired and the young doctors in the replacement pool increasingly chose to subspecialize (Colwill 1988).

Although this trend has been in effect since the 1940s, it is not clear that we now have an absolute shortage of generalists in America. The rapid increase in the numbers of medical graduates in the last two decades allowed the smaller proportion of trained generalists to keep up with population growth. Colwill's figures and U.S. census data for 1965 and 1986, for example, indicate that the number of generalist physicians rose from 6.5 to 8.1 per 10,000 Americans, a growth of 24.6 percent. This slight rise probably did little to increase the availability of full-time primary care physicians, however, because the needs of an aging population, the growth of health maintenance organizations (HMOs), and the heightened complexity of medical care all strengthened demand. Furthermore, the increase was small compared with that of subspecialists, whose number rose by 67 percent during the same period, from 7.9 to 13.2 per 10,000 population.

The likelihood is that the proportion of full-time, well-trained primary care physicians in this country will continue to decrease. The annual survey of graduating medical students regarding their career choices, conducted by the Association of American Medical Colleges (AAMC) since 1982, reveals that the proportion of American medical graduates choosing primary care as a career dropped from 38.9 in 1982 to 23.7 percent in 1989 (August G. Swanson, April 1991: personal communication). The number of U.S. medical students matching for residencies in internal medicine (excluding preliminary positions destined for a subspecialty), family practice, and pediatrics declined by 17 percent between the 1986 and 1990 internship match, and Colwill

(1988) projected that only 17.3 percent of the 1991 graduates would enter the primary care specialties.

Foreign graduates constitute an increasing proportion of medical students entering primary care. Of students matching in internal medicine, pediatrics, and family practice in 1990, 25.7 percent were foreign trained, compared with 10.9 percent of graduates who matched into the specialties not linked to primary care (Rowley, Baldwin, and McGuire 1991).

If current trends continue, Americans will experience a decline in the availability of physicians specializing in primary care, and, in this group, a larger proportion will be foreign graduates. Obviously subspecialists will find themselves delivering more primary care in this environment.

The Three Arguments

Two assumptions inform my analysis and critique of the competing perspectives on the significance of the decline of the generalist. The first is that one of America's foremost health challenges is to bring medical care costs under control with the smallest possible reduction in beneficial outcomes, technical quality, access, and service. The second is that any change in American health care will build upon the traditional concept of three functional divisions of medical care: primary, secondary, and tertiary. One might argue about the scope of each component, the balance of resources and manpower allocated to each level, and the optimal separation among the divisions. However, this layered system is the only organizational construct inclusive enough to fit the epidemiology of health and illness, our worldwide delivery of medical care, and the realities of medical capital resources and manpower.

The Generalists' Viewpoint

The debate about who is best suited to deliver primary care hinges on competing opinions about the importance and complexity of primary care itself. Subspecialists tend to support a minimalist view: the functions of primary care are simple and its providers need little special training. Generalists, by contrast, assert the need for a broad definition of primary care, comprising complex and challenging functions, if we are to have an effective and affordable system of health care.

Considerable experience supports the generalists' inclusive conception of the elements of primary care as the basis of affordable, improved health care for all Americans. Major conceptual arguments favor their comprehensive view (Institute of Medicine 1978; World Health Organization 1978; Horder 1989). Primary care, as delivered by generalists, coordinates and integrates services in a complex system, provides valuable help where and when it is needed, and broadens medical care to include important preventive, psychological, and social outcomes. Through effective screening and triage, primary medical care also serves as the foundation for efficient secondary and tertiary health services. This broad conception of primary care has won widespread political support from most Western governments and the World Health Organization in its strategy to achieve "health for all by the year 2000" (World Health Organization 1978).

The available research evidence supports the efficacy of primary care. Starfield (1986) reviewed the performance of primary care in the United States and found confirmation of the benefits of accessible, longitudinal, comprehensive, and coordinated care. She as well as others (Becker, Drachman, and Kirscht 1974; Freeman 1984) found evidence that continuity of care was "associated with more indicated preventive care, better identification of patients' psychosocial problems, fewer emergency hospitalizations, fewer hospitalizations in general, shorter lengths of stay, better compliance with appointments and the taking of medications, and more timely care for problems" (Starfield 1986, 194).

Several other studies have documented that access to primary care services can improve health, especially for the poor or sick. The Rand Health Insurance Study (Brook et al. 1983; Keeler et al. 1987; Goldberg and Newhouse 1987) presented evidence of the benefits of free health care, with the poor showing the most demonstrable gains from outpatient primary care. Among the measurable benefits were improved vision, more complete immunization, better blood pressure control, enhanced dental status, and a reduction in estimated mortality. Lurie et al. (1984, 1986) showed that, as Medi-Cal recipients lost their insurance, their satisfaction and clinical outcomes worsened significantly. Thus, it appears that patients who receive primary care services not only fare better than those who do not, but they also experience deterioration of their health when they lose access to this care.

If, as these studies suggest, primary care is worthwhile, who should provide this care? Many argue that primary care generalists are prefera-

ble to subspecialists because they are more accessible to patients, possess broader medical knowledge and skills, are better trained in psychosocial, preventive, and community aspects of care, and—a telling point—cost less.

Generalists are more accessible to patients than subspecialists (Starfield 1986). Subspecialists have less time for primary care and their work usually requires them to practice near a hospital. Generalists have more time available for primary care in the office; because they can locate close to the population they serve, they can provide superior and continuous front-line primary care.

Broad knowledge and skills are the best preparation for the multi-dimensional nature of patient problems and the multiple responsibilities of primary care. Solving undifferentiated, ill-structured problems requires a unique process (Eddy 1986; Grant and Marsden 1987) in which overly specialized knowledge can be a handicap (Kassirer and Kopelman 1989). Cross-disciplinary skills are also needed to make good referral decisions or to integrate contributions from multiple disciplines. By this reasoning, comprehensively trained generalists will, on average, be better front-line performers in detecting, diagnosing, managing, or triaging a large cross-section of presenting problems. It is difficult for a subspecialist to master and keep up with a broad base of knowledge and skills in primary care while staying current with developments in a special field.

Generalists are best able to coordinate and integrate the complex process of medical care. Integrating diverse aspects of care is dependent on knowing the availability, skills, and limitations of a range of specialists. An unbiased generalist can best understand the patient's perspective and provide an informed view of the need for specialty care. Generalists are best equipped to explain and interpret the process of diagnosis and treatment, describe the prognosis and meaning of illness, understand patients' personal needs and desires, and, particularly as physicians with no financial stake in the recommended service, advise them about their treatment options.

Generalist physicians are better able to recognize and handle psychosocial problems. Content analysis of general practice (Rosenblatt et al. 1983; Fry 1977; Walker et al. 1982; Locke and Gardner 1969) has documented the high proportion of psychological and social issues among patients' presenting problems. Experts believe that training can improve performance in these areas (Balint 1957; Novack 1987). Whereas most

generalist training programs attempt to teach these skills, subspecialty programs generally do not. Starfield, for example, found that primary physicians “provide more comprehensive care, at least with regard to the recognition of psychosocial problems” (1986, 196).

Generalists’ training and their focus on primary care equip them for clinical preventive medicine. Academic specialty training programs do not emphasize preventive medicine because their focus is on advanced disease, which is treated in the hospital (Fried 1990). Moreover, the best opportunities for preventive care occur in a generalist practice. Frequent contact and continuity, combined with intimate knowledge of the patient and community, facilitate early case detection and the application of preventive measures.

A system that uses full-time generalists to provide primary care will be more cost effective than one that relies on subspecialists. First, subspecialists will always charge more for primary care than generalists because the equipment and personnel necessary for delivering subspecialty services require a higher overhead. Specialists also earn more, see fewer patients per week (Gonzalez and Emmons 1986), and order more tests and procedures (Eisenberg 1986). This last trait will be difficult to change because specialists are more likely to assign a higher than warranted probability to an event or outcome because of their ready recall of similar experiences (Kahnemann 1982). Thus, specialists may overestimate the likelihood of serious disease as a cause of presenting symptoms in an unscreened population.

Second, data suggest that primary care generalists reduce costs by having a moderating effect on hospital and specialty utilization. Several prospective studies have shown that continuous primary care can reduce the use of consultants, emergency rooms, and hospital days (Hochheiser, Woodward, and Charney 1971; Alpert et al. 1976; Bergman 1983; Wasson et al. 1984; SPRI 1986). Other studies have associated a higher proportion of generalist physicians in a community with lower hospital utilization (Feldstein 1971; Fuchs 1978; Wilson and Tedeschi 1984; Jarman 1988). Jarman calculated that each general practitioner saves a community approximately three times his or her cost through decreased hospital expenditures (Jarman 1988).

No studies have directly measured the effect of primary care practitioners on total health care costs, but indirect associations suggest that whereas generalists moderate costs, specialists raise them. In Sweden, studies revealed a significant association between increasing numbers of

primary health care visits (SPRI 1986) and lower age-adjusted total health care costs. Maxwell (1981) showed that the lowest national health expenditures occurred in countries that distinguished most clearly between primary and specialty care. Schroeder (1984) analyzed physician supply in Europe and speculated that costs would be higher in countries with higher proportions of specialists, fee-for-service payment, patient self-referral to specialists, uncertified specialty practice, high dependence on specialists for primary care, and broad national health insurance. His model correlated roughly with actual national cost performance.

Some have questioned the quality of care provided by generalists. A recent review by Bowman (1989), however, concluded that the quality of care provided by family physicians appeared similar to that of other specialties. What of the criticism that generalists manage specific diseases less effectively than specialists (Ramsay and Fox 1981; Hayes and Harries 1984; Hart 1988)? It is certainly likely that, for any single disease, the relevant subspecialist's care will be better than that of a generalist. Specialists, however, only infrequently encounter "their" diseases among those that are common in primary care practice. Outside their narrow areas of expertise, specialists' care may be of lower quality (Rhee et al. 1981; Payne, Lyons, and Neuhaus 1984). Given the diverse problems that appear in primary care practice, generalists with broad training are more likely than subspecialists to encounter problems with which they are familiar and, hence, to perform better.

Some might suggest, however, that all diagnosed diseases of moderate complexity should be referred to the appropriate specialists. Such referrals might yield higher-quality care, although at considerable additional expense. Assuming that quality of care is roughly comparable, one can argue that it would be less expensive and more convenient for generalists to care for complex problems that occur with some frequency in general practices. Several studies show that generalist practices can achieve this level of quality (Hart 1987; Singh, Holland, and Thorn 1984).

When subspecialists double up in primary and secondary care, their subspecialty care may degrade. Hospitals and specialists perform better when they exercise their skills frequently and can concentrate their resources (Hannan et al. 1989). Also, generalists may be more effective at screening and triaging than specialists. In a study of outcomes of tonsillectomy, Roos (1979) documented that postoperative results were superior when patients were screened and referred by primary care physicians rather than by the ear-nose-and-throat specialists themselves.

In summary, the functions of primary care are distinct, important, and best carried out by full-time, specially trained generalists because part-time subspecialists deliver an inferior project. A system in which subspecialists provide most primary care—in other words, try to do two jobs at once—has four major flaws. It will cost more, offer fewer services than what people need, lower the quality of primary care, and reduce the specialist's command of his or her own discipline. Complementarity between generalists and specialists produces the best system of health care. In short, we should act quickly to reverse the downward trend of graduates choosing generalist careers.

The Specialists' Viewpoint

From the perspective of the subspecialists, the declining proportion of generalist physicians does not threaten the delivery of primary care in America. On the contrary, subspecialists already provide more than 20 percent of our primary care (Aiken et al. 1979).

Public satisfaction with primary care would improve if subspecialists were to provide more of it. Surveys (Harris 1987) show that Americans want sophisticated, specialized personal medical services. Subspecialization has given large segments of our population rapid and efficient access to biomedical advances. The heroic family doctor, lovingly portrayed in Norman Rockwell paintings, is no longer the model popular physician. He has been replaced by the white-coated medical specialist describing the latest life-saving advance in diagnosis or treatment on a news broadcast. When they seek medical care, most Americans want the best, and they believe that subspecialists provide it (Ginzberg 1989). And when medical students choose careers, in increasing numbers they want to be the subspecialists who will provide that care.

The rise of specialization stretches back over 50 years (Stevens 1971). Its growth reflects the value placed on biotechnical medicine by physicians, the public, industry, and our government (Ginzberg 1989). The subspecialty model for primary care is quickly becoming the norm. No major effort or political battle is needed to make it come about; no national promotional campaign is required to attract young people to this career path.

Subspecialists argue that they can provide excellent primary care because they can achieve accessibility, continuity, coordination, accountability, and even comprehensiveness as easily as generalists can. Generalists

may be able to locate closer to dispersed rural populations, but subspecialists in densely settled urban areas are easily available to most individuals seeking primary care. Moreover, subspecialty services are moving from hospitals into ambulatory settings, thus becoming more accessible to patients even in outlying communities.

Continuity improves when physicians can provide comprehensive services, which specialist physicians are capable of delivering. Most specialists have general training before they specialize. Moreover, the bulk of primary care consists of self-limited or simple medical problems (Rosenblatt et al. 1983) that even nurses and nonmedical staff can adequately handle using specially prepared protocols (Greenfield et al. 1978). The few more serious problems encountered are best managed by subspecialists. Primary care delivered by subspecialists may even increase continuity because they can manage problems in their specialty that generalists might have to refer out.

Coordinating and integrating medical care are most important when patients are sick, especially when they are hospitalized. Here the subspecialist can do a better job than a generalist primary physician because she or he will be more familiar with hospital services and other specialists.

Some maintain that handling common psychological and social problems generally requires only common sense and good judgment. Our best students are more likely to have these characteristics, and they now go into subspeciality training (Golden 1989). When higher-level skills are required, any physician should refer the patient to a mental health specialist.

The qualities of generalist physicians afford them no unique advantage in preventive medicine. Most medical schools and residency programs teach about preventive medicine, so all students receive similar training. Putting prevention into practice is largely an issue of the patient's motivation, not a result of the physician's special skill or knowledge. One expert (Lawrence 1990) states that "the medical model is better suited to secondary and tertiary prevention than to health promotion (primary prevention)." This suggests that subspecialists may be better equipped to carry out the preventive activities that can be accomplished medically.

Several studies (Noren et al. 1980; Fishbane and Starfield 1981) have shown that specialists provide primary care that is equivalent to or better than the care offered by generalists. Internists and pediatricians with

traditional training took more time with patients, carried out more checkups and well-baby care, and gave more instruction and health education than general and family practitioners. Both groups spent equivalent time in treating emotional problems.

By contrast, many studies have documented variability and deficiencies in the care delivered by general physicians, including inappropriate referral to specialists (Dhowie 1983), low use of diagnostic tests and rates of immunization (Starfield et al. 1985), and poor follow-up and screening (Hart 1988). Numerous studies document that primary care physicians do not measure up to the standard of treatment given by specialists for the same problems (Hulka, Kupper, and Casses 1976; Rhee et al. 1981; Ramsay and Fox 1981; Payne, Lyons, and Neuhaus 1984; Hayes and Harries 1984).

The quality of care delivered by generalists may even worsen in the future as primary care becomes more technically demanding. Because they are in training two years longer than generalists, specialists are better educated and equipped to keep up with advancing knowledge and technologies. Moreover, because our best students now choose specialty careers (Golden 1989), we may expect the competence of specialized physicians to be higher.

Analysts often ascribe the escalating costs of medical care to our dependence on specialization because, as many studies have demonstrated, specialists use more technology and hospitalize more frequently than generalists. These trends may reflect payment and organizational incentives, however, rather than any inherent characteristics of subspecialists. In one study, for example, specialists were less likely than general practitioners to refer patients for coronary arteriography (Young et al. 1987). Other studies note that specialists in HMOs can moderate their use of expensive technologies, probably in response to incentives and orientation that encourage frugality (Dorsey 1983; Hlatky et al. 1983).

Splitting primary and specialty care functions into two distinct manpower groups adds communication and training costs. By encouraging specialist physicians to provide both primary and secondary care, the health care system might enhance convenience and quality to patients at lower overall expense. Thus, the most desirable organizational system for the United States might be composed of two rather than three tiers, with superspecialists providing tertiary care and specialty-trained physicians providing primary and all other care.

In short, primary care is necessary, and subspecialists, most of whom have general training before specialization, can do the work well. Not only are the primary care and subspecialty work compatible, but the public also prefers the two together. People want the best medical care, and, in their minds, that comes from specialists.

The Market-oriented Viewpoint

The market influences our mix of manpower. The public wants, and has been willing to pay for, highly technical curative medical services. Generalists have been disappearing partly because public policy, which reflects national values, has offered higher status and rewards to technical specialization.

Our national "system" stands on the verge of a major reconfiguration that could drastically alter the products delivered, the organizational forms, and the institutional staffing. Among the signs heralding this change are rising public dissatisfaction with our medical care system, declining interest in medicine as a profession, the "corporatization" of medical care delivery, and increasing resistance of the major payers (government and business) to fund all the medical care our current system can deliver.

The market will force medicine to adjust to these new realities. HMOs are an obvious example of this process at work. In the last decade, HMOs grew rapidly—from 9.1 million members in 1980 to 35 million in 1990. If the HMOs outperform the competition, they will continue to grow. If, on the other hand, their structure does not provide better and more desirable care to the American public, HMOs will be replaced by a new model.

Continued growth of HMOs demonstrates how the marketplace can "solve" the decline of generalist physicians. Most HMOs rely on generalist physicians to provide primary care in their carefully structured delivery systems. At least one expert (Abramowitz 1990) believes that HMOs will expand to care for 40 percent of the population by 2000. For this to happen, HMOs would need to employ more generalists than now graduate from training programs, creating a shortage.

HMOs already are responding to this manpower problem by raising compensation and providing employment incentives in an effort to attract and keep generalist primary care physicians. More HMOs are participating in medical school and postgraduate teaching programs, partly

in the hope of inducing the trainees to join their staffs (Moore 1988, 1990). HMOs will continue to find ways to increase their supply of generalist physicians as long as they consider them to be critical to their success.

In summary, no one can accurately predict our needs and plan the shape of our system and its manpower needs. Even if we were to need generalist physicians to meet our future problems, the market would make the necessary adjustments better than planners could. If generalist primary care physicians are really better, patients or employers—like HMOs—will recruit them by improving pay and other incentives until the perceived shortage disappears.

The Arguments Considered

How will American policy makers respond to these three perspectives? Will they intervene to stimulate increases in primary care generalists, leave well enough alone, or let the market set our manpower policy?

For policy makers to take action to reverse the long-standing decline of generalism, they would have to be convinced that primary care, as delivered by generalists, is substantially better than the version offered by subspecialists. However, the arguments put forward by advocates for both generalist and specialist perspectives are inconclusive. The evidence is simply not available to provide a solid foundation for policy choice. International health policy trends, national medical cost comparisons, and theoretical considerations mildly favor a separate system for primary care. The marketplace favors specialism, as inferred from its robust growth in almost all developed countries. Without clear evidence of an advantage for either approach and lacking a history of centralized manpower planning and regulation, America is unlikely to create such a system now. At most, policy makers might support weak interventions or retreat to a stance that requires no action—the free market position, which, if history is any guide, will continue to favor subspecialization.

Is there nothing that the defenders of generalism can do to halt the continuing decline of medical student interest in primary care? One answer may lie in using the power of the market by creating, and promoting, a better product. Medical graduates will choose careers in primary care when they perceive that the work of generalists is intellectually challenging, medically effective, indispensable and unique, and amply

rewarded by the public. And the public will support payment reform favoring generalists when the primary care they deliver is what they want and need.

What characteristics of generalist physicians could contribute to this resurgence? First, they must perform impeccably. We would accomplish a great deal by guaranteeing that all primary care graduates have mastered, and can maintain, superior performance in tasks we already know they are called upon to accomplish in practice. We frequently fail to achieve this goal now (McPhee et al. 1987; Wigton and Steinmann 1984).

For example, primary care generalists can act as gatekeepers to help patients and insurers achieve the best value for what they spend (Manning et al. 1984; Eisenberg 1985; Martin et al. 1989) and as case managers to compensate for the fragmented care generated by increasing specialization (Dietrich et al. 1988). In addition, generalists must demonstrate that they provide better personal medical care than subspecialists for common medical problems, especially those of moderate severity. This means that generalists must perform at least as well on technical measures of quality, while adding other benefits that specialists cannot equal, such as greater accessibility, integration of psychological and biological approaches, simultaneous treatment of multiple problems, better merging of medical, social, community, and workplace factors into personal medical care (Kark 1981; Nutting 1987; Tarlov 1988) and more effective preventive medicine that truly enhances health and function (Belcher, Berg, and Innui 1988).

We also should identify, and assure that trainees can provide, significant new supplementary functions that build upon traditional generalist activities. If generalists with these skills could dramatically ameliorate some of our country's greatest health care problems, they could revitalize primary care and bolster its role. For example, generalists might provide highly technical home care services to meet the special needs of the growing population of homebound elderly and chronically ill for whom expensive hospital services are not appropriate. Generalists might provide psychotherapy to enhance the emotional well-being of the many patients who cannot afford specialized psychiatric services (Balint 1957). Generalists could also be the experts who help industry reduce the lost productivity and burdensome expense of worker disability. Finally, the broad skills of generalists could qualify them to fill a central role in enhancing the performance of our medical care system by providing con-

tinuous quality improvement as outlined by Berwick (1989) and Bensen and Townes (1990).

Finally, generalists should be in the best position to revitalize the perception of medicine as a healing and comforting profession. As we enter an era of increasingly limited resources for biotechnical medicine, this capacity—at the heart of the doctor–patient relationship—may offer a durable, and valued, replacement for technology withheld because of marginal effectiveness.

Revitalizing primary care will not be easy. Individual consumers, the public at large, and prospective physicians will all have to want what primary care offers and be prepared to choose it over other alternatives. Generalists can still create a unique, vital, and rewarded role by improving and expanding upon what they do now. Success will require a fundamental recommitment to the caring traditions of medicine while adding well-conceived new functions, along with the systems, support, and training needed to achieve them unfailingly. Industry, especially Japan's, has shown us the importance of listening to and responding to its customers. No less is needed from generalist primary care to assure its future.

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Address correspondence to: Gordon T. Moore, MD, MPH, Director of Teaching Programs, Harvard Community Health Plan, Teaching Center, Two Fenway Plaza, Boston, MA 02215.