Pediatricians and Family Physicians: Future Competition for Child Patients?

Peter P. Budetti, MD, JD, John J. Frey, MD, and Peggy McManus, MHS
San Francisco, California, Chapel Hill, North Carolina, and Washington, DC

The specialties of family practice and pediatrics, as well as the numbers of nonphysician child health practitioners, are growing much faster than is the population of children. Current figures suggest that the aggregate supply of practitioners is already adequate and will be in excess by 1990. These overall statements, however, mask the fact that physicians are unevenly dispersed and that substantial numbers of children have unmet medical care needs. If present trends in practice content and geographic preference continue, the outlook is for direct competition for patients between the specialties in many locations. Major factors that could influence the character of the competitive responses include differences in practice content and location, public and private financing for time spent addressing psychosocial and behavioral problems, changes in Medicaid affecting participation by office-based physicians, and subspecialization trends within both specialties.

The supply of physicians and new health care personnel will experience rapid expansion over the next decade. During the same general time period, the number of children will experience a slow fall and rise, so that children are expected to represent a smaller proportion of the population in 1990 than in 1975. Thus, the number of children per physician will decline substantially.

These projected changes in the relative numbers of child health practitioners and children could have serious implications for the relationship between family physicians and pediatricians in the future. Falling caseloads could lead to open competition for the more financially rewarding and otherwise "desirable" areas of child health care practice. Alternatively, however, the reduced time pressures could lead to innovative changes in both specialties that would help eliminate currently unmet child health needs. In this paper the factors that will determine the shape of child health care practice in the coming years are analyzed, and the likely implications for family practice and pediatrics are discussed.

Projected Growth in Child Health Professions

Pediatrics

The American Medical Association (AMA),[1] the Bureau of Health Professions (formerly the Bureau of Health Manpower),[2-6] and, most recently, the Graduate Medical Education National Advisory Committee (GMENAC)[7,8] have all forecast rapid growth in the supply of pediatricians over the next decade. Earlier publications projected an average increase of over 100 percent, or approximately 25,000 pediatricians, between 1975 and 1990. GMENAC estimated that the number of pediatricians will increase at least 66 percent over the somewhat shorter period from 1978 to 1990.

Unfortunately, GMENAC did not produce accurate estimates for the pediatric subspecialties

From the Institute for Health Policy Studies, and Department of Pediatrics, School of Medicine, University of California, San Francisco, and the Department of Family Medicine, School of Medicine, University of North Carolina, Chapel Hill. Requests for reprints should be addressed to Dr. Peter P. Budetti, Institute for Health Policy Studies, School of Medicine, University of California, San Francisco, 1326 Third Avenue, San Francisco, CA 94143.

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Table 1. Children per Physician, 1978 and 1990

	1978	1990
Children less than 20 years of age*	73,411,000	73,683,000
General child health physicians**†	40,775	59,813
Children per physician	1,800	1,232

*From Budetti P et al[15]
**From US Department of Health and Human Services[8]
†Calculated as (general pediatricians) + (0.25) (family physicians and general practitioners)

and included a large but unknown number of subspecialists in its figures for general pediatrics. Budetti[9] used figures from other sources to construct a baseline estimate of 14,005 general patient care pediatricians in 1978, or 6.3 per 100,000 population. A similar calculation, based upon GMENAC's projections[10] and reasonable interpolations of missing data, is that the number of general patient care pediatricians will be over 29,000 by 1990, an increase of more than 100 percent, to a total of 11.9 per 100,000 population.

Family Practice

The supply of family physicians and general practitioners is now beginning to increase, following a number of years in which the disappearance of general practitioners was not offset by the rate of training of family physicians. Between 1963 and 1975, the total number of family physicians and general practitioners (MDs) fell from 66,875 to 54,557, and their relative supply declined from 34.4 per 100,000 population to 25.0 during the same period.[2] In contrast, as the number of family practice residency programs has grown, a large increase between 1978 and 1990 is now expected. GMENAC projected that the practice pool of family physicians and general practitioners would total 69,350 by 1990[8]; at that level, the ratio per 100,000 population would rise to 28.5. When osteopathic physicians are included, the number of generalists totals 68,027 in 1975 and 94,700 in 1990, or 31.2 and 38.9 physicians per 100,000 population, respectively, in those years.

Current and Projected Needs for Child Health Care in the United States

Long-term population projections vary as birth and fertility rates change, but the middle-range (Series II) estimate from the Census Bureau places the number of children in the year 2050 only 14 percent over the 1975 figure.[11] In the short term, between 1975 and 1995, there will be a decrease in the total child population until 1984, followed by a rise to the 1975 level by 1995. The number of children then will rise slowly through the middle of the next century.

The implications for child health care of such slow growth in the child population depend on whether the present ratio of practitioners to children is adequate to meet child health needs. Unfortunately, previous attempts to determine appropriate practitioner-to-children ratios do not provide definitive answers.[9] Studies based on actual staffing patterns of group practices suggest that each general pediatrician (or four family physicians, each devoting 25 percent time to child health visits) can care for approximately 1,500 to 2,500 children.[12-14] On that basis, the supply of physicians was already adequate in 1978 and will be in great excess by 1990 (Table 1). GMENAC developed its own estimates of manpower requirements and also concluded that the 1990 supply in each specialty would constitute a surplus.[7,8]

Unfortunately, previous methods to estimate health care personnel requirements do not pinpoint the needs of specific age, geographic, racial, and socioeconomic groups. Without an analysis at that level, it is impossible to determine whether the increasing supply of child health care practitioners will be adequate or excessive. The following brief discussion of group-specific child health needs will bring into focus the issues for family physicians and pediatricians in the future.

During the 1980s, children under 5 years of age will increase by over 21 percent; those 5 to 9 years old will increase by about 18 percent. These younger groups use physician services far more often than do the older ones. Children under 6

years of age average approximately twice as many physician contacts each year compared with children 6 to 17 years of age.[16] Older children and teenagers will experience a very different trend during the 1980s. The 10- to 17-year age group will decline by 6 percent, and the 15- to 19-year-old group will fall by nearly 19 percent. Although these age groups actually use fewer services than do younger children, adolescents may well have a reservoir of unmet needs.

Beyond population trends, there is evidence that some groups of children already have substantial unmet health care needs.[17] Between the early 1960s and late 1970s, the proportion of children with limited or no access to medical care declined dramatically.[18] By 1978, 93 percent of children under 17 years of age were reported as having a regular source of medical care.[16]

Nevertheless, the remainder amounted to over 4 million children who had no regular source of care. In addition, if one includes those children who have a regular source of care but no regular physician, then some 30 percent of all children fall into the underserved category.[16] Thus, although the situation has been improving, a substantial number of children are still without a personal physician.

Children with least adequate access are those in central cities and rural areas, the poor, adolescents, and blacks. In the central cities in 1974, there were over 2.3 million children with no regular source of care.[16] Children in families with total incomes equal to or less than 150 percent of the poverty level have very limited access to a personal physician. In 1978 more than 43 percent of children in those families had no regular source of care or no regular physician.[16]

The percent of children with no regular source of care also increases with age. The rate for 16- and 17-year-old children was nearly 15 percent, more than double the rate for children under 6 years of age.[16] In addition, there are strong signs of unmet adolescent health needs beyond the usual spectrum of medical care: pregnancy, venereal diseases, and other conditions associated with sexual activity; problem alcohol drinking and drug abuse; mental health conditions culminating in high rates of suicide and homicide; learning, language and behavior disorders; and chronically disabling conditions.[15] Thus, adolescents constitute an underserved group whose needs could occupy significant numbers of health care practitioners.

Although racial differences have declined remarkably in the past 15 to 20 years,[18] blacks continue to have a disproportionate degree of unmet medical needs. More than one half of black children in 1978 had either no usual source of care (9.7 percent) or no regular physician (40.5 percent), nearly double the rates for white children.[16] The sample sizes of existing studies make it impossible to differentiate all the interactive effects of race, income, geography, and age, but it appears that black children still constitute a distinct, underserved group.

In sum, even though the overall supply of physicians is already sufficient by many standards, a large minority of children still have very limited or no real access to a personal physician or to other health-related services. A substantial number of underserved children are concentrated in specific geographic, socioeconomic, age, and racial groups. In addition, many adolescents who may have access to medical care have specific health needs that are not being addressed adequately by their present health care practitioners.

Current Patterns of Child Health Services

Differences in Geographic Preference

A clear historical difference between the two specialties has been the ability and willingness of family physicians to practice in lower population areas than those areas attracting pediatricians. More than one half of all family practice graduates were settling in towns under 25,000 population in the first years of their training programs, and that trend has persisted through recent years.[19] In fact, nearly one third of recent family practice graduates are locating in areas that are not within 25 miles of a medium-sized city. As noted by Frey, these trends may be due to the relative advantage of family physicians in achieving economic viability and adequate practice coverage in small towns.[20]

In marked contrast to pediatricians, who are largely concentrated in metropolitan areas, the distribution of family physicians roughly parallels that of the general population.[21] Pediatricians were twice as likely to be the regular source of care for children in the suburbs compared with rural areas.[16] The central cities also lagged behind the suburban areas in their access to pediatric services. For general practitioners, the pattern was quite different. Nearly 60 percent of children in

Table 2. Children's Visits to General Practitioners, Family Physicians, and Pediatricians by Patient's Age, 1975

	Number of Visits by Children Aged 21 Years or Less (thousands)	Percent of Patients in Each Age Group			
		0-2 years	3-5 years	6-14 years	15-21 years
General and family practice	60,296	13.5	14.2	28.4	44.1
Pediatrics	46,127	31.4	29.7	32.8	6.2
Total	106,423	21.2	20.9	30.3	27.7

From National Center for Health Statistics[23]

nonmetropolitan areas reported having a general practitioner as their regular physician, compared with only 18 percent who had a regular pediatrician.[16] Since more than one fourth of the US population still resides in nonmetropolitan areas, the implication is clear that family physicians will be the main source of physician care for children in less populated areas unless pediatric practice locations change significantly.

Child Populations Served

The distribution of child health visits by age also demonstrates a clear distinction: in general, pediatricians care for younger children than do family physicians. It is necessary to examine the age distribution from two points of view: the proportion of each specialty's practice accounted for by children of different ages, and the proportion of all children seen by each specialty. Addressing the first point by analyzing data from the National Ambulatory Medical Care Survey (NAMCS) for 1973 and 1974, Fishbane and Starfield[22] showed that children aged 2 years or less constituted nearly one half (45 percent) of pediatric visits, but less than one third (31 percent) of the visits by children less than 15 years of age to general practitioners. On the other hand, early adolescents (11 to 14 years) accounted for less than one tenth (9.9 percent) of pediatric visits but comprised more than one fourth (25.3 percent) of the young children who saw general practitioners. When older children (age 15 to 21) are included, and visits to family physicians as well as those to general practitioners are counted, the differences are even more impressive (Table 2).

Looking at the relative contribution of each physician group to all child health care, the results vary not only by the age of the children seen but also over time. For children less than 15 years of age, pediatricians now provide the majority of care, having overtaken family physicians and general practitioners in recent years. In 1973, the groups were nearly equal, with pediatricians receiving 36.1 percent and family and general practice receiving 37.4 percent of visits by children under 15 years; by 1977, pediatrics had a margin of some 50 percent, providing 48.6 percent of such care compared with 32.4 percent of family physicians and general practitioners.[15]

For older adolescents, however, the pattern is quite different. Time-series data are not available, but in 1975 family physicians and general practitioners saw more than nine times as many youths aged 15 to 21 years as did pediatricians.[23] Family and general practice provided nearly one half (45.5 percent) the care received by young people in that age group, while pediatrics was the source of only 4.9 percent of their care.

Another difference in the child populations served may relate to income. In 1974 the percent of children with a regular family physician or general practitioner was relatively constant (range, 42 percent to 49 percent) across income levels, while those with access to pediatricians varied from under 15 percent in the lowest income group to over 36 percent in the highest income group.[16]

Developments in Family Practice and Pediatrics Likely to Affect Child Health Care

Family Medicine

The potential for competition between family physicians and pediatricians for patients will exist in part to the extent that family physicians tend to increase their share of child health care. Major factors likely to determine the extent of child

Table 3. Children as a Proportion of the Caseload of Office-Based Family Physicians and General Practitioners

Age of Patients (yr)	Percent of Office Visits to Family Physicians and General Practitioners 1975*	Family Physicians 1977**	General Practitioners 1977†
Less than 15	14.4	16.7	13.5
Less than 2	3.5		
2 to 5	3.6		
6 to 14	7.3		
15 to 21	11.3	12.6	14.6
Less than or equal to 21	25.7	29.3	28.1
Greater than 21 or unspecified	74.3	70.7	71.9

*Adapted from National Center for Health Statistics[23,26]
**Adapted from Mendenhall RC[25]
†Adapted from Mendenhall RC[24]

health care by family physicians include the age distribution of general and family physicians, characteristics of the training of family physicians, and the absolute and relative numbers of physicians in each specialty.

On the average, children and young adults aged 21 years or less constitute about one fourth of the ambulatory caseload of office-based general practitioners and family physicians (Table 3). Younger general physicians, however, tend to see a higher proportion of children than do older physicians.[24,25] Because the field of family practice was recently established and is still expanding, and the number of older general practitioners continues to decline, the average age of practicing generalist physicians will decrease over the coming decades. Thus, these younger physicians will generally tend to have a large proportion of children in their practices.

Several characteristics of family practice training also favor expanding child practices. In particular, those who provide obstetric services are likely to care for a higher percentage of child health problems.[27] Reflecting the growing tendency for family physicians to receive obstetric training, GMENAC forecast that the share of deliveries performed by family physicians will increase from less than 20 percent currently to nearly one third in 1990.[8] Recent surveys of family practice residency graduates reveal that approximately two thirds are currently providing obstetrical care.[28,29] In addition, the substantial pediatric training of many family practice residents will also favor an expansion of child patient care.

In contrast, there are educational trends in family practice training programs that might reduce child health care by family physicians. Recently, increasing interest in specific areas in family practice, such as geriatrics, sports medicine, and holistic health care, raises the spectre of subspecializaion within family practice. While the term *family physician* implies a generalist who cares for all ages and types of patients, if areas of interest became areas of subspecialization, many future family physicians may be less comprehensive in their care and thus represent a proportionately smaller percentage of child health care providers in the United States. In particular, as the proportion of the American population that is 65 years old or older will nearly double from 10.5 percent to as much as 20 percent over the next 50 years,[11] these elderly people will use a high level of physician services and could accommodate many family physicians.

The number of practitioners will certainly be a major factor in determining the overall allocation of child medical care among the specialties. The likely impact of the anticipated large supply is difficult to predict, however, because the recent declines in the share of child health care provided by family physicians and general practitioners noted above took place during a period in which the absolute number of physicians in those two specialties was also falling while the number of pediatricians

was expanding. In contrast, it is now expected that the specialties of both pediatrics and family practice will increase greatly in the coming years. Pediatrics will grow at a faster rate (4 to 5 percent annually) than the total of family practice and general practice (2 to 3 percent), however, because general practitioners are still on the decline. Thus, the ratio of family physicians and general practitioners to pediatricians will continue to fall. Moreover, as the child population shifts to a younger distribution over the next several decades, the demand for care will be greater in the age groups traditionally served by pediatricians than it will be in the older groups. Those developments might suggest that the family practice child health share would decline. But the fact that the absolute number in the specialties and the ratio of physicians to children will reach such high levels makes it uncertain whether this downward historical trend will continue.

Pediatrics

Following the report of the Task Force on Pediatric Education,[30] a new emphasis on general pediatric training has begun to emerge. The Task Force stressed that primary care medical education needs to be expanded and included recommendations that pediatric experiences stress human growth and development and the biosocial aspects of pediatrics and adolescent health. This focus on general—as contrasted with subspecialty—pediatrics could have an important impact on the relationship between family physicians and pediatricians. More pediatricians would be trained for general child health practice, and they would have an increased capacity to deal with an older caseload.

Major barriers to the movement toward expanded programs and curricula in general pediatrics persist, however. Those that have been identified include the research and subspecialty orientation of many pediatric departments, the difficulties of financing ambulatory care training, and the limited primary care patient loads at many facilities. Moreover, as McKay has noted, pediatrics as a discipline is faced with increasing demands for subspecialists as well-trained primary care physicians identify greater numbers of patients as needing specialized care.[31]

Another factor that might slow the trend toward general pediatrics is signs of job dissatisfaction among general pediatricians. Based upon trends in the 1960s and 1970s, the Bureau of Health Professions estimates that more than one third of the pediatricians who change their work direction do so well after finishing their training, most often moving to subspecialties.[6] Another survey limited to board-certified fellows of the American Academy of Pediatrics reported similar results: less than 70 percent of nonacademic pediatricians found general pediatrics intellectually challenging, and nearly one practitioner in six would not again choose to become a pediatrician.[32]

Much of this dissatisfaction could be due to inappropriate preparation for a career in general pediatrics. For example, pediatricians are now encouraged to care for children to 21 years of age. But, based upon the health needs and utilization patterns of older children,[15] it appears that family physicians presently are better suited to handle the problems of older adolescents, particularly those relating to family planning and prenatal care, than are many pediatricians. Most general pediatricians, unlike family physicians or adolescent medicine specialists, are not appropriately trained for this large share of the medical care of young adults, and typical pediatric offices may not provide the most desirable environment for young men and women. Major increases in the capacity of pediatrics to serve children in the older age groups would directly affect the relationships between the specialties.

Proposed Solutions

Although the simultaneous growth of both specialties out of proportion to the child population portends future competition between pediatricians and family physicians, there are a number of potentially ameliorating factors. The two fields differ sufficiently along certain parameters to suggest that they may be complementary as well as competitive. Perhaps the most important of those parameters include the geographic preferences for practice locations and age distribution of children served. If these complementary aspects predominate, the increases in the supply of family physicians and pediatricians might well allow presently unmet child health care needs to be served.

Unfortunately, there may be scenarios other than beneficial competition or collaboration between the specialties. The most negative development would be continued expansion of the number

of physicians in both fields in the more affluent and desirable locations. This would constitute an example of Tudor Hart's "Inverse Care Law," which states that the availability of good medical care tends to vary inversely with the need for it in the population served.[33] As this principle suggests, there is considerable danger that exacerbated and new inequities might be the major result of simple increases in physician supply in this country, even if some shortages are eventually ameliorated by a "trickle down" effect.

One approach to assure appropriate utilization of an abundant supply of practitioners that has been discussed would be to establish controls on the disbursement and use of personnel at the primary, secondary, and tertiary levels of care. Such a reorganization would be intended to provide adequate numbers of primary care physicians in all communities and assure that as the number of physicians expanded, the maldistribution by specialty would not also expand.

In addition to limitations on specialty and geographic choice by physicians, restrictions on the number of physicians to be licensed in the future have also been proposed. The final report of GMENAC calls for a 17 percent reduction in the number of US physicians to be trained in coming years as well as a large reduction in immigration of foreign physicians.[7] In order to protect against a renewed scarcity of primary care physicians, the report also suggests limits on residency positions and emphasis on currently underserved specialties.

Although seemingly simple, these heavily regulatory approaches are fraught with great difficulties. The political and philosophical problems of designing and implementing such major system changes have emerged in the past decade. Organized medicine is opposed to any overall restructuring, and there is growing dissatisfaction with proposals that emphasize regulatory controls. The development of new medical schools, the physical expansion of existing ones, and the resulting increase in the number of medical school faculty cannot be easily reversed. Perhaps most important, the reduction of medical manpower in the face of continuing unmet medical care needs may be inappropriate and could reverse the relatively recent movement by graduate physicians into primary care training. Finally, recent years have seen a growth in the number of minority physicians, a trend that could very well be reversed by reductions in the number of places available in US medical schools.

As Medicaid and other public programs respond to federal budget cuts and reorganizations,[17] states will be hard pressed to meet current demands, let alone meet currently unserved needs. To design programs that will allow the forthcoming abundance of practitioners to meet child health needs without new money or regulatory programs will require innovative approaches. Davidson, for example, has shown that physician participation in Medicaid increases not only with higher compensation but also with program changes that stabilize and expand eligibility and that reduce the administrative burden of participation.[34] If states take advantage of such information and redesign their health care payment and delivery programs, some beneficial developments might result.

Other system changes to take advantage of the possibly reduced workload of the average child health physician might allow adequate treatment of psychosocial disorders and work in areas of primary prevention, but they are more likely to be costly. There is ample evidence for a substantial reservoir of psychosocial problems not sufficiently dealt with in the existing medical care system. One reason often cited for this failure is the amount of time required to treat these disorders. There is little in the current structure of medical insurance in this country to encourage spending the necessary time on the psychosocial needs of children, because, as Torrens says, providers in the US see their health care system as "a series of loosely linked items of service, each one reimbursed separately, rather than thinking of them as a more integrated and internally related whole."[35] Thus, to take advantage of a situation in which there will be an adequate supply of physicians to care for children, through a combination of pediatricians and family physicians, there must be a rethinking of the financing of medical care to enable physicians to attend to the needs of total persons or families. Caring is expensive, not because of the cost of the technology, as in the curative aspects of medicine, but because of the human resources and humanity necessary to effectively bring the lives of children to their full potential.

Conclusion

There is every indication that the number of child health physicians is growing more rapidly than

is the population of children. Certain developments within each specialty, such as subspecialization rates, might reduce or delay direct competition for patients between pediatricians and family physicians. Based on historical trends and the economic incentives of the current medical payment system, however, it appears that manpower shortages in smaller communities may disappear only slowly, and the reservoir of unmet needs among older children and young adults will continue unless some substantial changes in public programs and private insurance occur. The short-term result is likely to be direct competition between the specialties, principally in medium to large communities.

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