

Graduate Education in Family Practice: A Ten-Year View

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Assessment of the progress of graduate education in family practice after ten years shows that the original goals established for residency training in this specialty are being effectively met. There are now more than 360 approved family practice residencies in the United States with over 6,000 residents in training. Student interest in these programs has remained at a high level, and attrition has been low. Graduates of these programs have favored partnership and group family practice, and are well distributed in rural, suburban, and metropolitan areas. Heavy emphasis has been placed upon quality control mechanisms for both internal and external review of family practice residency programs. This paper outlines some concerns regarding the present status of family practice residencies, and suggests some directions for future development of these programs.

It has been just ten years since family practice was recognized as the 20th specialty in US medicine with the formation of the American Board of Family Practice in 1969. The past decade has been marked by vigorous activity within the new specialty, particularly in terms of organizational and educational development.

The evolution of graduate education in family practice during the 1970s reflects much of the essence of the specialty's development to date, since the planning and operation of residency training programs required coming to grips with such basic questions as the anticipated role of the future family physician and definition of the goals and curricular content of the emerging residency programs. In 1970, there was just a handful of

operational family practice residency programs in the country. At the close of the 1970s, there are now over 360 approved family practice residencies with more than 6,000 residents in training.

Much has been learned from the last ten years in graduate education for family practice. The purpose of this paper is fivefold: (1) to outline the dimensions of progress from this experience; (2) to discuss briefly some of the important lessons that have been learned; (3) to summarize how graduate education in family practice relates to other changes in graduate medical education; (4) to identify some concerns with respect to today's family practice residency training; and (5) to present some challenges with regard to the future development of graduate education in the field.

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Entry to the 1970s: The Beginnings

Since family practice had no formal place in medical education in the United States prior to

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| Table 1. Growth of Family Practice Residencies* | | | |
|---|-----------------------------|---------------------|---|
| Year | Number of Approved Programs | Number of Residents | Average Number of Residents Per Program |
| 1970 | 49 | 290 | 5.9 |
| 1971 | 87 | 534 | 6.1 |
| 1972 | 133 | 1,015 | 7.6 |
| 1973 | 191 | 1,771 | 9.3 |
| 1974 | 233 | 2,671 | 11.4 |
| 1975 | 259 | 3,720 | 14.4 |
| 1976 | 272 | 4,675 | 17.2 |
| 1977 | 325 | 5,421 | 16.6 |
| 1978 | 358 | 6,033 | 16.8 |

*Information for this table was provided by the Division of Education, American Academy of Family Physicians, Kansas City, Missouri

1969, some fundamental questions needed to be addressed by the pioneering educators in the field. Some of these included the following: Can viable residency programs be organized and maintained at a high level of quality? What are the special requirements for residency programs in various settings ranging from university medical centers to unaffiliated community hospitals? How can appropriate curricula be defined and organized in order to prepare graduate family physicians for their needed roles in a changing health care system of the 1980s and beyond? To what extent and in what ways are linkages between university and community hospital programs desirable? What disciplines should be represented on the faculties of the developing programs? Can interest among medical students in specialty training in this field be developed and sustained? Will graduates of family practice residencies locate their practices in areas of need?

Most of the founding directors of family practice residency programs left active practice as family physicians to enter full-time teaching. They usually left their practice communities and moved to a "foreign" environment of a teaching hospital or medical school. They immediately found a world of new surroundings, including expectant residents, hard-nosed administrators, sharks and alligators. The identity of some of these inhabitants was often unclear to the uninitiated and a new language had to be learned, including that of educational objectives and grantsmanship.

The only signpost available to these beginning family practice educators was provided by a two-page document, the *Essentials for Graduate Training in Family Practice*. Jointly developed by the American Academy of Family Physicians, the American Board of Family Practice, the Section on General/Family Practice of the American Medical Association, and the AMA Council in Medical Education, this document called for three-year, coordinated family practice residency programs involving a broad and balanced clinical training in family practice and its related disciplines. Emphasis was placed upon the importance of the Family Practice Center as the clinical and teaching base of the program, and the hallmark of the curriculum was flexibility. From these uncharted beginnings, the success of the early pioneers and of those to follow during the next ten years is quite apparent by the remarkable progress which has been made during these years.

Entry to the 1980s: Bench Marks of Progress

Growth of Residency Programs

Perhaps the most remarkable dimension of progress during the last ten years in family practice is the growth in the number of family practice

**Table 2. Attrition in US Family Practice Residency Programs*
First and Second Year Residents, 1977**

| | Number | Percentage of 1977 First Year Residents | Number | Percentage of 1977 Second Year Residents |
|--------------------|------------|---|-----------|--|
| Research | 1 | 0.1 | 0 | 0.0 |
| Teaching | 0 | 0.0 | 0 | 0.0 |
| Administration | 0 | 0.0 | 0 | 0.0 |
| Further Training** | 96 | 5.2 | 18 | 1.1 |
| Practice | 69 | 3.7 | 20 | 1.3 |
| Other | 80 | 4.3 | 21 | 1.3 |
| Totals | 246 | 13.2 | 59 | 3.7 |

*Information for this table was provided by the Division of Education, American Academy of Family Physicians, Kansas City, Missouri
**Other than family practice

residency programs. Table 1 shows the increase since 1970 in the total number of approved family practice residency programs in the United States together with the number of residents in training.

That this growth is qualitative, not just quantitative, is suggested by persistently high levels of student interest in family practice residency training and relatively low levels of attrition of residents from family practice residency programs. These programs have been consistently oversubscribed; more than 2,600 graduates of US medical schools applied for the 2,200 available first-year positions in family practice residencies in 1978. Table 2 shows the reasons for attrition of first and second year residents in 1977. About one third of the residents leaving family practice residencies in 1977 continued on in other family practice residency programs. Of the 5,421 family practice residents in training in 1978, there was an overall attrition rate of only 2.9 percent.

Diversity of Settings

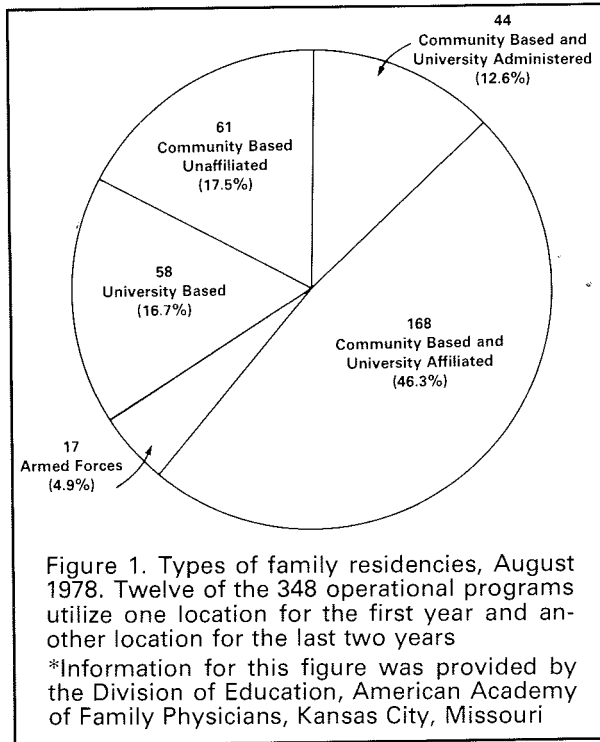
Since family physicians are needed in a wide variety of urban, suburban, and rural settings, and since the nature of family practice varies somewhat by geographic setting, it is most appropriate that a spectrum of settings be represented by operational family practice residency programs. That this is the case is suggested by Figure 1,

which reflects the breakdown in 1978 of family practice residency programs by type and setting. It can be noted that about one half of the programs are in university affiliated community hospitals. The proportion of university affiliated programs continues to increase. Geographic settings vary from large teaching hospitals in metropolitan areas to 200-bed general hospitals in communities as small as 40,000 in population.

In a classic paper on medical education in 1970, Jason stressed the importance of relevance of medical students' and residents' learning experiences to their future practice needs.¹ There is some evidence that the clinical experience of family practice residency training rather closely approximates the clinical spectrum of family practice in the community. The statewide Virginia Study, for example, demonstrated comparable clinical content of teaching and nonteaching family practices as illustrated in Figure 2.²

Organizational Approaches

Various types of organizational approaches have accompanied the development of family practice residency programs in diverse settings. Whether in the medical school or community hospital, the department of family practice has provided an essential base for these efforts. Over two thirds of US medical schools have established



departments of family practice; an additional 17 percent of the nation's medical schools have divisions of family practice or other programs under development. In the community hospital, a growing number of *clinical* departments of family practice have been formed which are increasingly active in educational activities, in monitoring of the quality of care provided by family physicians, and in the delineation of their hospital privileges conjointly with other departments.

A growing number of university based departments of family practice have established networks of affiliated family practice residency programs for such purposes as sharing of clinical and educational resources, collaborative problem solving, faculty development, and related common needs. These networks have supported a variety of organizational patterns adapted to particular institutional and/or regional needs. One such example is the "one-and-two" program; the resident spends the first year related to a large teaching hospital in a metropolitan area and the final two years based in a family practice center in an

outlying community involved with one or more smaller community hospitals.³

Faculty Recruitment

Substantial progress has been made in faculty recruitment. By 1977 there were about 400 full-time family practice faculty in US medical schools, plus a much larger number of full-time faculty in community based family practice residencies. Many thousands of additional family physicians have become involved in part-time residency teaching, usually on a voluntary basis.

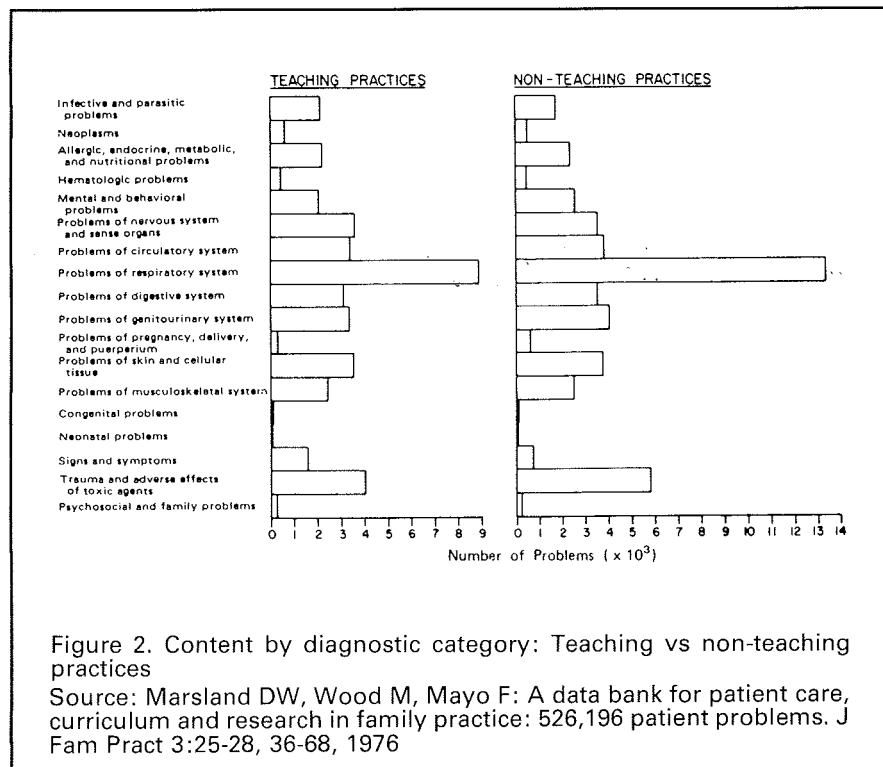
A national study of 240 full-time family practice faculty in 1975 showed their average age to be 45 years; two thirds of this group had completed two or more years of graduate training, usually in general/family practice residencies and had at least ten years of practice experience. Almost all were board certified, usually in family practice.⁴

Most family practice residencies have included other disciplines on their faculties on either a full-time or part-time basis. In the behavioral science area, for example, psychiatrists, clinical psychologists, and social workers are most frequently involved in family practice teaching.⁵

Faculty development efforts have been increasingly active during the 1970s toward augmenting the teaching and research skills of family practice faculty. The Society of Teachers of Family Medicine and the American Academy of Family Physicians have sponsored many regional and national workshops for family practice faculty. There are now over 30 federally funded faculty development programs in the country ranging from short-term experiences to formal, one-year fellowship programs. Two-year Family Medicine Fellowship programs have been established in five medical schools through funding provided by the Robert Wood Johnson Foundation.

Sustained Student Interest

Since the advent of family practice as a specialty and the organization of family practice residency programs, a growing number of US medical graduates are opting for careers in family practice. Between 1975 and 1977 the proportion of graduates opting for family practice residencies increased from 12.7 percent in 1975 to 15 percent in 1977.⁶ Many medical schools report 20 to 35



percent of their graduates entering family practice residency training. A positive correlation has been demonstrated between the proportion of graduating classes selecting family practice and the presence of departments of family practice in medical schools, as shown in Table 3.⁷

There is considerable evidence documenting the high caliber of medical graduates entering family practice residencies. One study, for example, compared family practice residents with residents in four other major specialties on the basis of cognitive and noncognitive measures. Family practice residents were found to equal the highest scoring group in cognitive tests and to score higher on affiliation need and lower on aggression and materialism than the other groups.⁸

Curriculum Development

Perceptions were somewhat vague and undefined in 1970 concerning the scope and depth of desirable curricula in family practice residencies.

This uncertainty has been largely resolved in recent years. Although the curricula of US family practice residency programs are by no means standardized, a general pattern has emerged of curriculum content focused on the various stages of comprehensive care—prevention, early diagnosis of asymptomatic disease, care of symptomatic disease, rehabilitation, and care of terminal illness. Emphasis is directed to the family as the object of care and to individual and family development from the perspective of growth over a life cycle. Teaching objectives are oriented toward three distinct capability levels⁹:

1. *Definitive capability* (ie, management of most common clinical and behavioral problems of families and life threatening emergencies).
2. *Partial capability* (eg, initiation of appropriate diagnostic and/or therapeutic measures for more complex problems requiring consultation and/or referral).
3. *Limited capability* (eg, recognition or suspicion of rare or complex problems for referral).

| Administrative Unit | Proportion Choosing Family Practice | | | | N |
|---------------------|-------------------------------------|--------|--------|--------|----|
| | 0-10% | 11-20% | 21-30% | 34-40% | |
| Department | 10.6 | 51.1 | 27.7 | 10.6 | 47 |
| Division | 66.7 | 22.2 | 11.1 | 0.0 | 9 |
| Other | 50.0 | 50.0 | 0.0 | 0.0 | 6 |
| N | 14 | 29 | 14 | 5 | 62 |

Source: Beck JD, Stewart WL, Graham R, et al: The effect of the organization and status of family practice undergraduate programs on residency selection. *J Fam Pract* 4:663, 1977

The resident's experience and training is derived from the ongoing care of his/her patients in the Family Practice Center and in the hospital or on the Family Practice Service, as well as that derived from inpatient and ambulatory rotations on other specialty services and in other community settings. The typical family practice residency involves teaching rotations of about one year in internal medicine and medical subspecialties (including cardiology, neurology, and dermatology); five or six months of pediatrics; three to six months of obstetrics-gynecology; six months of surgery and its subspecialties (including ophthalmology, otolaryngology, orthopedics, and urology); and two months of emergency medicine. A strong thread of behavioral science is presented longitudinally over the three-year program, usually including a short rotation on psychiatry. The resident's time in the Family Practice Center generally increases from one to two half-days per week in the first year to three to five half-days per week in the third year.

It is beyond the scope of this paper to describe in detail the curricular content of family practice residencies. Several examples, however, are representative of the levels of proficiency acquired by graduates of the typical three-year residency in family practice. Graduates of these programs are experienced in the diagnosis and management of most medical problems of adults and children, including proficiency in such procedural skills as liver biopsy, thoracentesis, lumbar puncture, bone marrow aspiration, cutdown, circumcision, and endotracheal intubation. In obstetrics-gynecology, the graduates of most programs are experienced in

prenatal care, normal delivery, postpartum care, recognition of obstetric emergencies, and office gynecology; many graduates have developed proficiency with such procedural skills as dilatation and curettage, termination of pregnancy, tubal ligation, and cold conization of the cervix. Some graduates have elected extra obstetric training to include cesarean sections. In surgery and emergency care, many graduates have acquired proficiency with such procedural skills as vasectomy and other minor surgery procedures, closed reduction of common fractures, tube thoracostomy, and tracheostomy.

Curriculum development in family practice residencies has frequently involved an interdepartmental planning process. An excellent example of such an effort on the national level is the core curriculum in obstetrics-gynecology jointly developed by the American Academy of Family Physicians and the American College of Obstetricians and Gynecologists. This curriculum defines the recommended content of cognitive knowledge and skills for both basic and advanced competency levels.¹⁰

Evaluation Methods

The development of effective evaluation methods has received strong emphasis in US family practice residency training at three levels: (1) at the overall program level; (2) at the level of individual parts of the program (eg, an inpatient teaching rotation); and (3) at the level of the experience and performance of the individual resi-

Table 4. Distribution of Graduating Residents by Community Size*

| Character and Population of Community | Number of Reporting Grads | 1978 Graduating Residents | |
|--|---------------------------|-------------------------------------|--|
| | | Percentage of Total Reporting Grads | Cumulative Percentage of Total Reporting Grads |
| Rural area or town (less than 2,500) not within 25 miles of large cities | 91 | 8.4 | 8.4 |
| Rural area or town (less than 2,500) within 25 miles of large city | 34 | 3.1 | 11.5 |
| Small town (2,500-25,000) not within 25 miles of large city | 257 | 23.8 | 35.3 |
| Small town (2,500-25,000) within 25 miles of large city | 183 | 16.9 | 52.2 |
| Small city (25,000-100,000) | 186 | 17.2 | 69.4 |
| Suburb of small metropolitan area | 38 | 3.5 | 72.9 |
| Small metropolitan area (100,000-500,000) | 90 | 8.3 | 81.2 |
| Suburb of large metropolitan area | 103 | 9.5 | 90.7 |
| Large metropolitan area (500,000 or more) | 72 | 6.7 | 97.4 |
| Inner city/low income area (500,000 or more) | 28 | 2.6 | 100.0 |
| Total | 1,082 | 100.0 | |

*Information for this table was provided by the Division of Education, American Academy of Family Physicians, Kansas City, Missouri

dent. At the program level, external review has been carried out within networks of affiliated residency programs. On the national level the Residency Assistance Program (RAP)¹¹ provides consultation and assistance at the request of individual programs. These approaches have helped to identify strengths and weaknesses within a residency program in such a way that problem solving is encouraged.

On the levels of the individual teaching rotation and of the individual resident's experience and performance, a variety of approaches have been developed. Monitoring of resident experience has been accomplished by use of a problem category index¹² and by practice profiles using a diagnostic index, the E-book.^{13,14} Resident performance has

been assessed by chart review and patient profiles.^{15,16} In-training examinations have been used by many programs,^{17,18} and evaluation of faculty performance has likewise been addressed.¹⁹

Impact of Residency Programs

There is already abundant evidence that graduate education in family practice is effectively addressing the nation's problems of specialty and geographic maldistribution of physicians. As previously noted, attrition from US family practice residency programs has been minimal. The great majority of graduates of these programs enter family practice in the community, and are well distributed geographically. Table 4 shows that 8.4

percent of 1978 graduates located in rural communities with less than 2,500 population and over 50 percent located in communities less than 25,000 in population, while 27.1 percent located in large communities with populations over 100,000 people.

The problems of solo practice clearly played a role in the attrition of physicians from general practice in previous times. Table 5 shows that about 60 percent of graduates of family practice residencies in 1978 entered partnership and group family practice, with only 13.6 percent opting for solo practice.

With regard to the quality of care provided by family physicians, several studies have demonstrated comparable performance levels relative to that of other specialties.²⁰⁻²²

Some Lessons from the Last Ten Years

The following points, in my view, stand out as important lessons from the last ten years' experience in graduate education for family practice.

1. Viability and Quality of Family Practice Residencies

The 1970s have amply demonstrated that excellent family practice residency programs can be developed and maintained with the capability to attract sustained student interest and to produce well-trained graduate family physicians to meet public needs. Quality control mechanisms have been developed which will assure the future viability of these programs.

2. Need for Flexible Approaches

First-rate family practice residency programs can and should be developed in varied settings ranging from university medical centers to 200-bed general hospitals in smaller outlying communities. The organizational approaches and structure, however, of programs in such diverse settings must necessarily be flexible and adapted to local and institutional needs and resources. There is no single or fixed blueprint for a successful family practice residency. The quality and value of learning experiences for residents depend on such

factors as the characteristics of the learning setting, clinical volume, level of resident responsibility, availability and competence of teaching faculty, and the motivation and capability levels of individual residents.

3. Value of University Affiliation

The increasing trend toward university affiliation of community hospital based family practice residencies reflects a growing awareness that more can be accomplished through the cooperative efforts of groups of programs than by isolated individual programs. The partnership between medical school departments of family practice and affiliated family practice residencies within a network provides many benefits to all parties, including sharing of clinical and educational resources, joint planning and problem solving, enhanced linkages with predoctoral and continuing medical education activities, and the potential for collaborative research.²³

4. Hazard of Overcommitment

Regardless of the setting of a newly established family practice residency, there are invariably many more expectations of the potential service and teaching roles of the program than can reasonably or effectively be met. The quality and integrity of the teaching program itself must be the guiding factor in deciding whether or not a program will accept clinical or teaching roles in other facilities or programs, such as Emergency Rooms, family planning clinics, other health department programs, and satellite clinics.

5. Need for "Critical Mass" of Residents

Especially during the early years, some family practice residencies were established with as few as two or three residents in each year of the three-year program. It has become clear, however, that a larger group of residents is required to meet the needs for continuity of care and coverage of the Family Practice Center and the major teaching rotations, and to meet other necessary commitments of the program. It is the general consensus today that the smallest effective "critical

| Table 5. Practice Arrangements of Graduating Residents | | |
|--|---------------------------|-------------------------------------|
| Type of Practice Arrangement | 1978 Graduating Residents | |
| | Number of Reporting Grads | Percentage of Total Reporting Grads |
| Family Practice Group | 411 | 30.2 |
| Multi-Specialty Group | 138 | 10.2 |
| Two-Person Family Practice Group (Partnership) | 262 | 19.3 |
| Solo | 185 | 13.6 |
| Military | 130 | 9.6 |
| Teaching | 70 | 5.1 |
| USPHS | 61 | 4.5 |
| Emergency Room | 12 | 0.9 |
| Hospital Staff (Full-time) | 51 | 3.8 |
| None of the above | 39 | 2.8 |
| | 1,359 | 100.0 |
| Information for this table was provided by the Division of Education, American Academy of Family Physicians, Kansas City, Missouri | | |

mass" for a family practice residency is 12 residents (4-4-4).

6. Importance of Shared Funding Sources

There are four major sources of funding to support family practice residency programs: (1) patient care revenue; (2) contributions from participating hospitals; (3) state funding, often on a capitation basis; and (4) other grants (eg, federal, foundations). Many primary care services are inadequately compensated under current third-party reimbursement policies, and extensive teaching commitments necessarily limit the service capability of a program. It is, therefore, not possible for a program to generate much more than one half of its total costs from patient care services. The continued support of participating hospitals is vital, together with ongoing supplemental funding by government.

7. Clear Identity of Family Practice Residents

Since the first year of most family practice residencies is largely hospital based for block

rotations on the major teaching services not unlike the traditional rotating internship, many first year family practice residents have experienced difficulty in establishing their identity in family medicine. This problem can be effectively addressed by means of an orientational family practice rotation early in the first year and by other focused experiences in family medicine during that year.²⁴

8. Importance of Structured Third Residency Year

Some of the early family practice residencies were relatively unstructured, particularly during the third year, even to the extent of a totally elective third year. It was found that such loose curricula often led to inadequate breadth and depth of curriculum over the three-year program, and some programs experienced attrition of residents due to the relative lack of curricular structure. Today's family practice residency curricula are more carefully structured over the three-year program, usually including greater use of *selectives* (especially in the medical and surgical subspecialties) during the third year.

| Primary Care Physicians | 1980 | | | 1990 | | |
|-----------------------------|-----------------------|---------------------|---------------------|-----------------------|---------------------|---------------------|
| | 1975 Utilization Rate | 30 Percent Increase | 75 Percent Increase | 1975 Utilization Rate | 30 Percent Increase | 75 Percent Increase |
| Totals | 97,990 | 127,390 | 171,480 | 107,910 | 140,280 | 188,840 |
| General and Family Practice | 64,900 | 84,370 | 113,580 | 71,400 | 92,820 | 124,950 |
| Pediatrics | 14,300 | 18,590 | 25,030 | 15,910 | 20,680 | 27,840 |
| Internal Medicine | 18,790 | 24,430 | 32,880 | 20,600 | 26,780 | 36,050 |

*Calculations based on 1975 utilization rates and specified increases in those rates

9. Value of Concurrent Learning Experiences

The customary organizational approach to many learning experiences in medical education is to establish block rotations on hospital and/or ambulatory teaching services for periods of one or more months. This approach is both awkward and wasteful of time for many curricular needs in family practice residencies. Many curricular areas can be effectively organized as concurrent rotations (eg, two half-days per week) in combination with other teaching rotations. Examples of this approach include dermatology, otolaryngology, ophthalmology, allergy, and other subspecialty areas.

10. Integration of Behavioral Science

Considerable effort has been directed to behavioral science teaching in most family practice residencies. At times, this teaching has been insufficiently related to the resident's everyday management of common clinical problems. To the extent that this disparity exists, behavioral science teaching may be viewed as ineffective and off-target. The goals of behavioral science teaching in terms of knowledge, skills, and attitudes must be intimately related to the resident's daily role in patient care along the lines of Engel's psychobiomedical model,²⁵ which combines psychosocial and biomedical factors into a single, integrated approach to patient care.

Family Practice and Specialty Redistribution

The last few years have seen increasing recognition by health planners and policy makers that there is no longer a shortage in the aggregate number of physicians, and that the real problems of physician supply involve specialty and geographic maldistribution of physicians. Two key elements of current health manpower policy involve the termination of expansion in the total output of graduates of US medical schools and redistribution of the "mix" of graduate medical education (GME) positions by specialty.

There is mounting evidence that a growing number of the nonprimary care specialties are already in surplus. Although there was a reduction of 8.4 percent in the total number of general/family physicians, internists, and pediatricians between 1965 and 1972, there was an increase of 19.6 percent in the number of surgical specialists and an increase of 33.6 percent in the number of other specialists during that same period.²⁶

Current federal health manpower policy calls for a minimum of 50 percent of graduate medical education (GME) positions to be in the three primary care fields (family practice, general internal medicine, and general pediatrics), with 25 percent of all positions in family practice. This kind of redistribution will involve reduction in the size and number of residency programs in many of the other specialties. The American College of Surgeons has already called for a reduction in the

| Disease | Underlying Problems |
|--------------------------------|--|
| 1. Curriculosclerosis | Hardening of the categories |
| 2. Carcinoma of the Curriculum | Uncontrollable growth of one segment of curriculum |
| 3. Curriculoarthritis | Dysfunction of articulations and communications between related segments of curriculum |
| 4. Iatrogenic Curriculitis | Excessive tampering and meddling with curriculum |
| 5. Curriculum Hypertrophy | Progressive increase in didactic teaching requirements |
| 6. Idiopathic Curriculitis | Mask for poor teaching |
| 7. Curriculum Ossification | Casting in concrete; often epidemic |

number of residency graduates in the surgical specialties from 2,600 per year to between 1,600 and 2,000 per year.²⁷

It is quite likely that some form of national health insurance will be enacted during the 1980s. Table 6 represents current federal projections for demand-based requirements for primary care physicians in the United States in 1980 and 1990 based upon three estimated rates of utilization of services, any one of which will require a major increase in the number of practicing family physicians.²⁸

Only time will tell whether the currently accepted target of 50 percent (for the proportion of the three primary care disciplines of total GME positions) will meet the nation's needs. This may fall short of the mark, particularly since a substantial number of graduates from residencies in general internal medicine and general pediatrics later subspecialize in practice.²⁹ In any event, more family practice residency programs are still needed, together with expansion of many existing programs, and the long-term need for family physicians may even require an increase in the presently accepted goal of 25 percent of US medical graduates opting for careers in family practice.

Major Concerns Today

The progress of graduate education in family practice during the last decade has been quite remarkable, but present challenges are great and

much remains to be done. I have four major concerns with respect to the current status of family practice residency training:

1. High-Risk Diseases of Curriculum

With regard to predoctoral medical education, Abrahamson has recently described several important diseases of the curriculum (Table 7).³⁰ These same diseases occur in graduate medical education, and family practice education is at full risk for these endemic problems.

Several examples of these problems bear mention. First, with regard to *curricular hypertrophy*, there is constant pressure in this direction. New additions to the curriculum are conceived and developed, together with expansions of existing curriculum, and the tendency is to implement these additions without contraction of existing curriculum. This tendency can become pathologic if it progresses to decompensation on the downslope of Starling's curve. Two specific examples of common curricular deficiencies in many family practice residencies today are orthopedics (especially the care of common fractures) and problems of aging. It is inevitable that other areas will need to be incorporated into future curricula, and methods of inclusion must be developed which avoid "congestive failure of the curriculum."

There is already some evidence of *cur-*

riculosclerosis of the curriculum of family practice residencies. The natural result of the accreditation process over time is "hardening of the categories." For example, there is a tendency by some today to regard four or five half-days per week in the Family Practice Center for second and third year residents as absolutely essential for the teaching of continuity of care. While the importance of continuity of care in family practice cannot be disputed, there is no evidence to date that this amount of time spent in the Family Practice Center—rather than two and three half-days per week in the second and third residency years, respectively—leads to improved learning outcomes compared to lesser amounts of time. A recent study of the continuity of care in a family practice residency program showed that continuity of care for individual patients averaged 75 percent for first year residents scheduled in the Family Practice Center only one half-day per week, with continuity of care provided by another resident on the team for an additional 17 percent of visits.³¹ Two additional reasons to avoid excessive time commitments in the Family Practice Center are the need to preserve sufficient flexibility to accommodate revisions and additions to the curriculum (particularly through concurrent learning experiences during other scheduled rotations), and the importance of preparing residents to share patient care responsibilities with their colleagues as members of a group practice.

Curriculoarthritis must be prevented by maintaining a high index of suspicion. An example of this problem, involving loss of freely mobile articulation between curricular elements, is the relative lack of integration of behavioral science teaching with common clinical management in some programs.

2. Study of Clinical Experience in Family Practice

The organizational, educational, and logistic aspects of family practice residency training have necessarily received the most attention by family practice faculty to date. Most family practice residencies already have implemented the basic tools needed to monitor and study the clinical experience within their teaching practices, including the use of the problem oriented medical record, practice profiles, age-sex registers, classification, and data retrieval systems. Few programs,

however, have yet developed an adequate priority for critical study and review of the process and outcomes of care in family practice. A milieu of critical inquiry among family practice faculty and residents is vital to the long-term success of these programs and to the development of family medicine as an academic discipline. The dividends of this process include expansion of the body of knowledge which family physicians will teach, increased practice satisfaction, and, most importantly, improved patient care.

3. Complacency Toward Future Development

Because of the successful development of family practice residencies to date, it would be easy to become complacent concerning the need for future improvements and further development. In addition, since the ongoing management of family practice residency programs is totally absorbing, it would also be easy to become complacent about the need to expand the output of family practice residency programs to meet societal needs.

The 1980s will require improvement of existing family practice residencies, the expansion of some programs and initial development of others, the refinement of teaching methods and skills, the maintenance of effective quality control efforts, and the expansion of the content areas taught by family physicians.

4. Instability of Long-Term Funding

Present funding of family practice residency programs is an unstable patchwork of federal, state, and local support. Under existing reimbursement policies, revenue from patient care will not support more than one half of the total costs of these programs. Participating hospitals find themselves caught by the constraints of hospital rates commissions, and federal support of family practice residencies has favored start-up and "last-dollar" funding, not supplemental support of ongoing operational costs. In order to stabilize the funding of family practice residency training and to allow expansions of the output of programs to meet the public need, ongoing state and federal support is urgently needed as well as revision of reimbursement policies to more adequately cover the range of services provided by family physicians.

Challenges for Future Development

Based on the foregoing and by way of summary, the following challenges relate to the future development of graduate education in family practice.

1. The patient is the reason for teaching, and clinical excellence represents the foundation of any good teaching program.

2. A spirit of critical inquiry is the basis for learning and improved patient care.

3. Balance and integration of curriculum content must be sought through a continual process of curriculum review and development.

4. The feedback loop from residency graduates must be carefully considered in future curricular changes.

5. Ossification of accreditation requirements must be avoided, and sufficient flexibility preserved to facilitate future improvements of residency programs.

6. The core content in obstetrics-gynecology jointly developed by AAFP and ACOG is an exemplary model for interspecialty curriculum development in other areas.

7. Family practice residency programs have both the opportunity and the responsibility to become involved with predoctoral and postgraduate education in family medicine.

8. The potential role of family practice residencies in scholarly activity, development and testing of innovations in patient care, and teaching should not be underestimated.

9. An ongoing emphasis on quality control should accompany the expansion of family practice residency training to meet the public need in the 1980s.

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