REVIEW

Family medicine: its core principles and impact on patient care and medical education in the United States

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Abstract. The specialty of family medicine arose out of a combination of American public and professional concerns regarding fragmentation of health care and was intended to foster a type of physician with a scope of clinical competence that would allow the patient, not the disease, to be the focus. Family physicians serve as the patient's personal physician and provide entry to the health care system, provide comprehensive care, maintain continuing responsibility for the patient including necessary coordination of care and referral, and provide care appropriate to the patient's physical, emotional, and social needs in the context of family and community. The specialty is currently second only to internal medicine in size, and makes a significant contribution to patient care and medical education. As family medicine looks to the future, some of its challenges include continuing to attract medical students to the specialty, refine research themes, and gain further acceptance in academic medical centers. (Keio J Med 53 (2): 69–73, June 2004)

Key words: physicians, family, family practice, family medicine

Introduction

Family medicine in the United States was established as the twentieth medical specialty in 1969. Its clinical discipline was called ''family practice'', its academic discipline ''family medicine'', and its practitioner the ''family practitioner'' or ''family physician''. Although these terms have been used interchangeably during its 30 plus years of existence, there currently is a push among its clinical and academic leadership to unify the name of the discipline as ''family medicine'' and the name of the specialty's physician as the ''family physician''. Thus, during the subsequent discussions, these terms will be used.

Birth of Family Medicine in the United States

Previous to the establishment of the specialty of family medicine, primary care in the United States was borne by the general practitioners. General practitioners typically completed one postgraduate year of rotating internship before establishing their independent practice. However, with the acceleration of medical specialization, particularly after World War II, the percentage of general practitioners in the total physician workforce rapidly declined from 79.2% in 1938 to 17.3% in 1970.[1,2]

In 1966, three influential reports by Willard, Millis and Folsom for the Ad Hoc Committee on Education for Family Practice,[3] the Citizens Commission on Graduate Medical Education,[4] and the National Commission on Community Health Services,[5] respectively, pointed out the lack of a competent generalist workforce and the fragmentation of medical care in the United States. These reports consistently recommended that the public should have access to qualified physicians who would not simply respond to isolated disease or organ dysfunction but treat them as individual patients, provide a comprehensive scope of care that is broad enough to treat all members of the family, and care for them in a continuing relationship. They also recommended that the training of this new breed of physicians should begin immediately and provided specific structural and content recommendations to the training program. The three reports provided an impetus for state legislatures, particularly in the Midwest

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and West with their rural constituents, to generously fund their state medical schools to create new departments of family medicine. This also corresponded to the growing public sentiment that echoed the desire for a comprehensive healthcare provider that would guide them through the complexities of healthcare. Consequently in 1969, the American Board of Family Practice was chartered, and in 1970, the American Academy of Family Physicians was created. The family medicine residency programs grew exponentially, so that by 2000, 10,503 residents trained in 472 programs distributed across all 50 states, which is second only to internal medicine in size. Currently, there are over 71,000 family physicians in the United States, with the majority of them working in group practice.[6] Of patients who indicated that they had an individual physician as a usual source of care, 62% cited a family physician as that source, with an internist being second at 16%.[7]

Principles of Family Medicine

The American Academy of Family Physicians expanded on the three aforementioned reports and defined family medicine as a medical specialty which provides continuing and comprehensive health care for the individual and the family. The breadth of the specialty integrates the biological, clinical, and behavioral sciences. The scope of family medicine encompasses all ages, both sexes, each organ system, and every disease entity. Quality healthcare in family medicine is the achievement of optimal physical and mental health through accessible, cost-effective care that is based on best evidence, responsive to the needs and preferences of patients and populations, and respectful of patients' families, personal values, and beliefs. What is unique to the specialty of family medicine are the dimensions of the process that encompass and enable the knowledge and skill base of the family physician. At the center of this process is the patient-physician relationship with the patient viewed in the context of the family. It is the extent to which this relationship is valued, developed, nurtured and maintained that distinguishes family medicine from all other specialties.[8]

There are five fundamental principles of family medicine that underlie this process: access to care, continuity of care, comprehensive care, coordination of care, and contextual care. Access of care is an important attribute, because the family physician functions as the patient's means of entry into the health care system. The family physician is the physician of first contact in most situations and, as the initial provider, is in a unique position to form a bond with the patient. This is further enhanced by the longitudinal care provided by the family physician over the patient's lifetime; thus, the stipulation that care is not limited by age or sex. This latter principle of continuity of care is perhaps one of the two most important principles of the specialty, the other being comprehensive care. The family physician evaluates the patient's total health needs, and provides personal care within one or more fields of medicine. This care emphasizes disease prevention and health promotion. The family physician refers the patient when indicated to other sources of care while preserving continuity of care. The family physician's role as a cost-effective coordinator of the patient's health services is integral to the care provided. This role also allows the family physician to serve as the patient's advocate in dealing with third-party payers, employers, and others. As patient needs differ in various geographic areas, the content of a family physician's practice varies accordingly. This is what is meant by contextual care, in that the family physician incorporates his knowledge of the unique characteristics of the patient, family, and community into his overall care.[8]

Clinical Content of Family Medicine

An oft-repeated question asked of family physicians is the issue of comprehensiveness. To the uninformed, it would seem next to impossible for a family physician to take care of over 90% of a patient's health needs when there are countless diseases that can and do afflict humans. Indeed, if all diseases existed in equal prevalence, family physicians would not be able to function under the current description of the specialty. Fortunately, diseases differ in prevalence, and in a primary care setting, over 90% of a particular symptom may generally be attributed to a handful of diseases. For example, although there are many differential diagnoses of a chronic cough, multiple studies have shown that in approximately 95 percent of cases in immunocompetent patients, a chronic cough of over 2 months' duration results from postnasal-drip due to conditions of the nose and sinuses, asthma, gastroesophageal reflux disease, chronic bronchitis due to cigarette smoking or other irritants, bronchiectasis, eosinophilic bronchitis, or the use of an angiotensin-converting – enzyme inhibitor.[9] Indeed, of all visits to family physicians, only 6.3% require referral to other physicians.[6] The scope of clinical conditions managed by family physicians is extremely broad and ranges from preventive visits such as general medical examination, school and work physicals, through acute visits such as cough, back symptoms, chest pain and dizziness, to chronic disease management such as hypertension and diabetes mellitus. Indeed, among patients with chronic diseases who had an individual physician as their usual source of care, family physicians managed 62% of anxiety/depression, 60% of cancer, 67% of diabetes, 56% of heart disease, and 63% of hypertension.[10]

In the United States, communities and corporations do not have the practice of having their constituents undergo preventive screening on a mass scale. Thus, these services are provided individually by their primary care physicians, notably family physicians. It is no surprise, then, that health promotion and disease prevention comprise much of the family physicians' daily workload. In an annual health maintenance visit, the patient may receive hypertension and obesity screening, cholesterol screening, screening for cancer based on the patient's age and sex, immunizations, and counseling for smoking cessation, exercise, safety, and depression.[11] Indeed, the science of health promotion and disease prevention has become so complex that if family physicians were to implement all recommendations made by the US Preventive Services Task Force, the most authoritative and evidence-based health guidelines in the United States, these alone would take up 7.4 hours of the physician's time per day.[12] This is but one of the challenges family physicians face today.

Several studies have compared family physicians with general internists. Although internists tend to believe that they see patients with more chronic diseases, greater case severity and greater case complexity, these studies do not uniformly support this notion.[13–17] Furthermore, studies have shown that family physicians saw more patients in the office with shorter time and lower cost and resource utilization per patient, but with equal clinical outcome and patient satisfaction.[13–17] These tendencies have also been verified in the hospital setting.[18,19] Currently, 100% of clinically active family physicians see patients in the office, 87% care for pediatric patients, 82% see patients in the hospital, and 29% do obstetric care.[8,20]

Because of the diversity and flexibility inherent in their training, family physicians have adapted well to various geographic settings. Perhaps this is most critical in rural areas, where family physicians comprise the vast majority of the physician workforce. A study to illustrate this showed that if all family physicians were withdrawn from the United States, 58% of all US counties would become Primary Care Health Professions Shortage Areas, whereas if all general internists, pediatricians and obstetricians were similarly withdrawn, less than 8% of counties would become shortage areas.[21]

Residency Curriculum and Selection

The family medicine residency lasts three years, as is the case for internal medicine, pediatrics, and emergency medicine. Table 1 illustrates the actual curricu-

Table 1 Family Medicine Residency Curriculum at Thomas Jefferson University

Rotation	Postgraduate Year		
	1	2	3
Inpatient Rotations			
Inpatient Family Medicine	12 weeks	8 weeks	4 weeks
Inpatient Family Medicine Consults			6 weeks
Inpatient Pediatrics	8 weeks		
Transitional Nursery		4 weeks	
Inpatient Obstetrics	4 weeks	4 weeks	
Inpatient Surgery	4 weeks		
Intensive Care Unit	4 weeks		
Emergency Medicine	4 weeks		
Pediatric Emergency Medicine		4 weeks	4 weeks
Outpatient Rotations			
Family Practice Center Patients	1 half-day/week	2 half-days/week	3 half-days/week
Family Practice Center	4 weeks	8 weeks	
Outpatient Pediatrics		4 weeks	
Family Practice Obstetrics		4 weeks	4 weeks
Outpatient Gynecology		4 weeks	
Outpatient Surgery	4 weeks		
Outpatient Orthopedics		4 weeks	
Sports Medicine			2 weeks
Cardiology			2 weeks
Geriatrics	4 weeks		
Dermatology			2 weeks
Outpatient Subspecialties*			18 weeks
Elective	4 weeks	8 weeks	10 weeks

* Includes: Otorhinolaryngology, Urology, Ophthalmology, Gastroenterology, Rheumatology, Office Procedures, Gynecological Procedures, Geriatric Assessment, Nursing Home, and Community Medicine.

lum over three years at Thomas Jefferson University. As the residents progress from year one to three, they take on progressively more outpatient rotations and responsibilities. The Family Practice Center is referred to as the ''clinical home'' of the residents, where they not only see patients in the continuity clinic but also learn about practice management, systems-based practice, communication and psychosocial skills, and community medicine through various outreach programs. Although block rotations in disciplines such as pediatrics and geriatrics help consolidate knowledge and skills relevant to that particular field, there is a risk that once these block rotations are completed, knowledge and skills will decline without appropriate reinforcement. The continuity clinic, by providing a training ground for the residents to actually evaluate patients of various age, sex, and background with undifferentiated problems, offers such an opportunity for reinforcement and enables the residents with skills and confidence to face undifferentiated problems.[22]

Because real-world clinical medicine often cannot separate patients' biomedical from psychosocial issues, family medicine residency programs often have on staff behavioral specialists, such as social workers or clinical psychologists. They provide education in communication skills, mental health issues and management, community services, and assistance for patients in navigating through the complex maze of various insurance and health services.

Obstetric care in family medicine is unique in that each resident follows several pregnant patients continuously until the completion of delivery. With the help of an attending family physician proficient in obstetrics, the residents are able to participate in their patients' longitudinal care. However, as mentioned previously, the fact that less than a quarter of family physicians in active practice deliver babies has set up a debate within the specialty leadership whether every family medicine resident should receive obstetric training or not.[20]

The mission of the family medicine residency program is to train residents to become outstanding board certified family physicians who are prepared for lifelong learning and teaching, community service and practice. This is accomplished by creating an environment that emphasizes: commitment to comprehensive patient care throughout the life cycle in the context of family and community; academic excellence including attention to principles of education and rigorous critical thinking; and commitment to reaching out and providing care for the under-served in the office, the hospital and the community. The Department of Family Medicine at Thomas Jefferson University views resident selection as a critical process to the future of the department. Although we value academic performance through clinical courses, we emphasize three characteristics in selecting residents: highly developed interpersonal skills, unwavering commitment to patients, and a heightened sense of responsibility. All faculty and residents participate in the interview and selection process.

Once trainees finish the residency, they are eligible to sit for the board certifying examination and will have the option of going directly into practice or choosing a fellowship over an additional one to two years of training. The accredited clinical fellowships that would grant certificates of added qualification include sports medicine, adolescent medicine, and geriatrics. Additional training also may be obtained in obstetrics and procedures such as colonoscopies for those planning to practice in rural settings, and research and teaching for those who desire academic careers. Of note, family medicine was the first specialty in the United States to require recertification. Board-certified family physicians must successfully take a recertification examination every seven years to remain diplomates of the specialty.[6]

Undergraduate Education

Family medicine plays a key role in undergraduate medical education. It should be noted that medical schools in the United States are graduate schools, and thus may be entered only after completing a bachelor's degree in college. From the department of family medicine, first-year medical students study various topics in medical anthropology, culture and ethics. First and second-year students also undertake small group teaching sessions where they are asked to apply the basic science knowledge they just obtained from lectures to real clinical scenarios. The second-year students are introduced to clinical interview and examination by taking lectures on various body system examinations then actually interviewing and examining patients in the hospital under close supervision by the teaching physicians.

The increasing emphasis in the United States on ambulatory training arose due to shorter hospital stays and sicker patients being discharged home for outpatient follow-up. Third-year medical students rotate mandatory six-week clinical clerkships, where they are expected to interview and examine ambulatory patients prior to the teaching physician. The hands-on experience of seeing ten to fifteen patients a day trains the students to gather pertinent data, establish rapport and therapeutic alliance, and counsel and educate patients on various preventive health and acute and chronic disease management issues. This is supplemented by lectures, grand rounds, resident morning reports and conferences, problem-based learning, home visits, community oriented primary care, and preceptorships with community physicians. The fourth-year medical students

Table 2 Undergraduate Medical Education in Family Medicine at Thomas Jefferson University

Education Format	Year in Medical School*			
	1	2	3	4
Lectures	×	×	×	×
Workshops	×	×		
Small Group Teachings	×	×		
Outpatient Patient Encounters	×		×	×
Clinical Examination Rounds		×		
Problem-Based Learning		×	×	
Home Visits			×	
Community Medicine			×	
Morning Reports			×	×
Grand Rounds			×	×
Resident Conferences			×	×
Community Physician Preceptorship			×	×
Outpatient Subinternship				×
Inpatient Subinternship				×
Hospital Teaching Rounds				×
Hospital Attending Rounds				×

* In the United States, medical schools are 4 years in length.

rotate as outpatient or inpatient subinterns, where they act essentially as residents, with the exception of writing orders and prescriptions, which must always be co-signed by an actual physician. The various learning strategies, which are summarized in Table 2, are implemented to approximate the real-life clinical setting and to enable the students to be independent, life-long learners.

Summary

Since its inception in 1969, family medicine has made significant strides in patient care and medical education. It is now the second largest specialty in the United States, and family physicians make up the bulk of the physician workforce in rural counties. Family physicians serve as the patient's personal physician and provide entry to the health care system, provide comprehensive care, maintain continuing responsibility for the patient including necessary coordination of care and referral, and provide care appropriate to the patient's physical, emotional, and social needs in the context of family and community. As family medicine looks to the future, some of its challenges include continuing to attract medical students to the specialty, refine research themes, and gain further acceptance in academic medical centers.

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