Undergraduate Education in Family Medicine

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Introduction

It has been strongly contended that family medicine should be part of the core experience for every medical student. The preponderance of faculty members in a number of North American medical schools have now accepted, at least tentatively, this contention and have mounted family medicine teaching programs in their institutions. Despite the fact that the early responses from many academicians were very legitimately, "What do you mean by 'family medicine,' and why do medical students need to learn it?" 83 percent of United States medical schools and all Canadian schools now have identifiable administrative units for family medicine, and others have plans underway.

The purpose of this report is to describe three undergraduate family medicine programs considered to be in the vanguard of the developmental process on this continent. All three programs have full departmental status. The definition of *family medicine* will not be discussed except to state that the term is being used to describe the curricular content and activities of these departments.

Data for this report were culled from printed materials from the three departments and schools, two-day site visits by the authors, and additional correspondence with the departmental chairmen. Site visits included interviews with all senior faculty members of the departments, a number of senior faculty from other departments, top-level administrators (the deans in two and chief curriculum administrators in all three), medical students, and other faculty members, mostly from the departments' full-time or community faculty. Some evaluative opinions were sought from faculty members outside the departments. Data are current as of the onset of academic year 1976-1977.

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Overview of the Three Departments

McMaster University School of Medicine and Southern Illinois University School of Medicine have three-year medical curricula for their students preparing for the MD degree, and the University of Washington School of Medicine has a more traditional four-year program with a three-year option for the exceptional student. The departments of family medicine in the three schools have curricular input in all years. The emphasis, however, is upon involvement in the beginning and final phases of the curriculum. These phases have been described as the *romance* and the *synthesis* phases of education.* Relatively lacking is involvement in the middle or *precision* phase.

Romance in the teaching of family medicine at all three schools takes the form of an early preceptorship, almost always in the office of a faculty-affiliated local family physician. This is largely a passive experience for the student, who has minimal or rudimentary basic clinical skills. Southern Illinois University, because of inadequate numbers of suitable preceptors near the site of basic science teaching at Carbondale, has postponed this experience until the second year, when the students come to Springfield for their more clinically based learning. Most University of Washington (90 percent) and McMaster University (92 percent) students elect preceptorships in family practice during the first year. It is required for all students at Southern Illinois University, but there is more structure, as described later, and it is carried out at the residency program's Family Practice Center for most students.

Students at the three institutions seem to confirm previous studies† that an early preceptorship in family practice is very influential in their career decision. Students interviewed viewed it unanimously as a positive experience, and believed that it assisted their role development, their perspective about the "real world" of medicine, and their motivation for learning medical science basic to clinical practice.

The observations and analysis of materials for each program will be discussed separately for each of the three departments visited. Included will be an introduction, undergraduate curriculum, departmental administration, samples of students' opinions, and a short section on other related departmental programs. The final portion of the undergraduate report will include discussion of future trends in undergraduate family medicine education.

*Baker RM: Teaching Basic Clinical Skills. Proceedings of the Society of Teachers of Family Medicine meeting, Chicago, November 1974. Kansas City, Missouri, American Academy of Family Physicians, 1975

†Schwarz MR: An experiment in regional medical education. West J Med 121:333, 1974

McMaster University

Introduction

McMaster University School of Medicine was established in 1965, and graduated its first class of students in 1972. At present, 100 students are admitted to the undergraduate medical program each year. This program operates on a year-round basis, making it possible for the student to qualify for the medical degree in three calendar years. The school has become well known for its original and revolutionary approach to medical education. The following are some of the major principles upon which the undergraduate curriculum is based.

1. *Students are admitted from a variety of backgrounds.* Science studies are not a prerequisite. Students without a science background are given special teaching in the first year to fulfill the required objectives. The selection process for students emphasizes the ability to solve problems, to work in groups, and to tolerate ambiguity; and also emphasizes the capacity for self-criticism and self-learning. Candidates must have a B grade-point average. Three hundred seventy-five out of 450 selected for interviews are chosen because of a composite score of academic qualifications and personal characteristics deemed important to the practice of medicine. A small number are accepted for interview on one of these criteria only, or by virtue of a high score on reference letters. Approximately half of the students are women. Each candidate is interviewed by one faculty member, one student, and one member of the public. Referees are asked to give specific instances of the candidate's problem-solving abilities. Each candidate is required to submit an autobiography.

2. *The students are given a major responsibility for their own learning.* This includes developing individual learning objectives in consultation with the tutor and participating in their own evaluation. The school makes available an array of learning resources suited to every need, including books, video tapes, slide/tape exhibits, and problem boxes.

3. *All teaching is based on problems.* It is felt that students, from the very beginning should learn to solve problems and should approach the "content" of medicine through this mechanism since this is how physicians learn and what they do.

4. *Strong emphasis is placed on small group learning.* There are no large group lectures. The faculty is regarded as a resource for students rather than as didactic teachers.

5. *Students are introduced to patients at the start of medical school.* The faculty regards primary medical care as the province of the family physician, with all clinical specialties acting mainly as consultants. This is supported by the health manpower policies of the Ontario government, which state that 45 percent of Ontario graduates should enter consulting specialties, and 55 percent either family practice or other careers, eg, emergency medicine, public health, or administration. Residency programs in the five Ontario schools have enough places for approximately two thirds of the graduates entering family practice. However, the provincial licensing laws still allow a graduate to enter general practice after a one-year internship. Most McMaster graduates entering family practice take a two-year program leading to certification by the College of Family Physicians of Canada. The medical schools' senior administrators believe that approximately 50 percent of graduates should enter family practice, and that all students should have experience in family practice, even if choosing another specialty.

Table 1
McMaster University
Family Medicine Curriculum

Phases I & II	
Basic (20 weeks)	
Small Group Tutors	ADVISOR SYSTEM
Clinical Skills	
Family Medicine Liaison	
Electives: Growth, Aging, and Development	
Phase III	
Organ Systems (40 weeks)	
Community Physicians Elective	
Phase IV	
Clinical Clerkships and Electives (48 weeks)	
Clinical Clerkship in Family Medicine	

The Department of Family Medicine was formed in conjunction with the establishment of the School of Medicine. It took in its first residents in 1966, three years before it accepted its first medical students. The first model Family Practice Unit was opened in 1966 at the Henderson General Hospital. The Department now has four of these units, associated respectively with the University Hospital, St. Joseph's Hospital and the Henderson and Hamilton General Hospitals. The first chairman was appointed in 1969, retired at the end of his term in 1975, and continues as a member of the Department. The new chairman was a part-time member of the Department who had practiced in Hamilton for 15 years. The faculty now has 22 full-time members, who act as supervisors of family practice teams, four of whom work in the Emergency Room of the University Hospital.

Undergraduate Curriculum

The undergraduate medical curriculum covers three years in four phases. These are shown in Table 1.

Phase I is ten weeks long, during which each student is one of a five-member group, led by a faculty member as tutor. The Phase I tutors are key people because they influence the students' development in this critical initial period. The tutor is not an expert in all the problems with which the group will be dealing. His or her role is to facilitate the learning process and to guide students toward all available learning resources, both human and material.

Medical students are also assigned in their first week academic advisors from the faculty, and they continue through the end of their undergraduate years with this advisor. The advisors, who include family medicine faculty, provide guidance to the students in setting objectives, evaluating performance, and identifying and remediating deficiencies.

Of 20 Phase I tutors, four were from family medicine in 1976, and four or five will be from family medicine in 1977. The groups meet for six to eight hours a week, and during this time students are presented with 26 biomedical problems. During Phase I, students also have courses in interviewing, other basic clinical skills, and a course entitled, "Growth, Aging, and Development." The family medicine faculty is also involved in these courses.

A "Family Medicine Liaison Experience" is included in Phase I. Each of the 20 tutorial groups meets three times with faculty family physicians to establish objectives, observe in a family practice individually with the tutor, and summarize the experience. Goals for the Experience are: to introduce students to family practice early in their medical careers, to show them a health care team at work (particularly the work of family nurse practitioners), and to show them a primary care teaching setting which includes one-way mirrors, audio monitoring, and feedback mechanisms between learner and teacher.

Phase II is largely devoted to learning fundamental concepts of cell, tissue, organ, and organism response to various stimuli. Students also continue their courses on clinical skills. The Department of Family Medicine provides three tutors in this phase. It also provides a "Community Physicians Elective," which was taken by 92 percent of the students in 1975-1976. Students are paired with community family physicians and spend one half-day per week in the physician's office for a minimum of three months. Most students elect to continue this involvement until the end of the first year, though the students may negotiate the duration and frequency of the office visits. Students and preceptors meet together twice a year to review the program. Students usually begin by observing clinical care in the office with the objectives of increasing their understanding of the illness role and of the social context of illness. They are also given an opportunity to practice their clinical skills as they are acquired.

The following objectives have been established for the Community Physicians Elective and the Family Medicine Liaison Experience: (1) students shall be able to list the stages in the life cycle of the family; (2) students shall be able to discuss the definition of family and differentiate between the nuclear and extended family; (3) students shall be able to describe the function of the family, the roles of family members, and the resources families have for coping with crises (ie, social, cultural, economic, educational, and medical); (4) students shall be able to discuss the meaning of comprehensiveness of care in terms of identifiable characteristics of physician performance; (5) students shall be able to list the commonly stated expectations patients have of their physicians; and (6) students shall be able to describe how the socioeconomic characteristics of Canadian medical students differ from those of the general population and indicate how such differences may affect patient care.

Phase III is devoted to structure and function in health and disease. It is divided into units based upon organ systems. Family medicine has previously played little part in this phase, but it is expected that senior residents in 1976-1977 will act as resources for the tutorial groups, and three or four family medicine faculty members have been appointed tutors.

Phase IV is approximately 13 months in duration, and comprises required and elective "Clinical Clerkships." The family medicine component is an eight-week, half-time required clerkship. This format was selected because it offers more continuity than a four-week, full-time experience. Students spend three or four half-days per week in clinical units or community practices affiliated with the Department. They have four hours of seminars per week and participate in field trips to other primary care or public health services in the community. This eight-week clerkship is shared with psychiatry.

Two thirds of the clerkship students are assigned to community preceptors and the remainder to one of the four family practice units in Hamilton. Community preceptors are paid approximately $1,200 for their involvement in an eight-week block. Preceptors may teach as many as three clerkship blocks per year. The full-time faculty is responsible for the weekly seminar sessions, which are based on common complaints. The goal of the Clerkship is to increase all students' understanding of family practice regardless of the careers they eventually follow. The Clinical Clerkship suffered from its concurrence with psychiatry because of the lack of integration and the relatively poor organization and teaching outside the Department.

A "Family Practice Elective" is offered as part of the Northern Ontario Medical Program in northern Ontario. Advanced medical students from McMaster University and other schools may spend four to eight weeks with a practice in the sparsely populated northwestern area of the province. In 1974-1975, this program provided rural preceptorships, averaging five weeks each, to 55 students (45 from McMaster University) and to 75 residents.

Departmental Administration

McMaster University operates on the matrix management system. The undergraduate curriculum is planned and administered, not by departments, but by strong interdepartmental committees. The chief role of the Departmental chairmen is resource management. Curriculum committee chairmen, who report directly to the faculty executive and the Dean, negotiate with departments for the faculty

necessary to implement the curriculum. The current chairman of the undergraduate committee of the faculty is a member of the Department of Family Medicine. He reports satisfaction in the newly increased efforts in the undergraduate program by the Department. More faculty members functioning in the tutor role in Phases II and III, with a vigorous approach to teaching, are producing an impact upon students.

The Dean and Associate Dean for Health Sciences express strong support for family medicine and for its Department. The following are paraphrases of their statements. The integral role at McMaster University's onset has assisted in providing a positive milieu. The Department has been involved in all planning and in recruitment for major faculty positions. Based upon province-wide needs for family physicians, the administration desires approximately half of its graduates to enter that field. Decisions about consultative specialties should be based upon numbers needed to support family practice. Benefits accruing to the school seem to include increased understanding of the family, a more humanistic approach, an increased awareness of psychosocial factors, an improved family physician-consultant relationship, the team concept, a different perspective on illness frequency, and an increased knowledge of office-based practice.

Medical Students' Opinions

Three medical students were interviewed at length. All were graduating the following month, one to a residency in family practice, one to surgery, and one to a rotating internship. The student entering the rotating year was doing so because she was unsure about a career choice, leaning toward obstetrics/gynecology or public health. They believed that their 20 classmates choosing this undifferentiated graduate year were also unsure, partly because the three-year curriculum forces a choice after very little clinical experience.

The three students noted that applicants to the medical school, including themselves, are aware that McMaster University is interested in training family physicians. Seventy percent of their class indicated this preference upon entering. During the three years, however, the predominant influence of faculty is toward subspecialization. However, a recent survey of graduates shows that 59 percent are either in training for or are actually practicing family medicine.

All three students noted that they had experienced family practice satisfactorily to judge it as a career. One was disenchanted, though she will continue to consider family practice during her rotating internship. Their experience had made them feel the need for a manageable life-style as a physician; all desired group practice, favored the team approach to care, and wanted to work with resource consultants and other health professionals. The students' exposure to family medicine faculty was highly praised. Some students, they reported, found a few community preceptors "unchallenging." The tutor for Phase I was called "superb, more 'academic' than the others."

Other Programs

Faculty development workshops, called "Educational Skills for Community Physicians," were mounted during the last year. Three one-day programs were given on the following themes.

1. *Setting objectives/monitoring* – Based on typical situations, this workshop explores basic principles of teaching and learning.

2. *Feedback/evaluation* – This workshop concentrates on how feedback and evaluation can be useful, nonthreatening, and accurate.

3. *Community/university* – The emphasis here is on the mutual dependence of the community and the university, the clarification of mutual expectations, and the experiences of students in the community as a complement to university experiences.

Ninety percent of the community faculty members attended these workshops.

An estimated 75 percent of the community family physicians have taught students in their practices. Faculty status is given for this effort, even if unsalaried, provided that the involvement is of sufficient degree and is ongoing. Community faculty usually begin by taking a student who is in the Community Physicians Elective. Success in this experience, as measured by the physicians' enjoyment of teaching and of feedback from students, often leads to involvement in the Clinical Clerkship. This teaching requires more sharing of clinical responsibility while maintaining close supervision. Eventually some physicians choose to have residents in their practices or to enter full-time, academic family medicine.

In 1975-1976, 66 family practice residents were based in the University Hospital and in two affiliated community hospitals in Hamilton. Most ambulatory care activities took place in the model practices in or near those facilities. Students in the clerkship also carried out their patient care in the model units under supervision of the faculty or resident physicians. Family practice residents have enjoyed their teaching roles, and students have appreciated residents' involvement. One McMaster University student said, "You could tell who the family practice residents were because they were more interested in the patients and their families."

Southern Illinois University

Introduction

In 1968 Southern Illinois University was charged by the Illinois Board of Higher Education with the responsibility for developing a new medical school with the purpose of increasing the number of physicians for the state of Illinois in the most economical manner consistent with quality. The University fulfilled these charges by setting up programs based on the existing basic science facilities and community hospitals. There is no university teaching hospital and no intention of building one. A sizable new Family Practice Center has recently been completed. The charter class of 48 students was admitted in 1973. When the school was in its formative stages, a group of citizens from the community assisted in the establishment of the purpose of the school. The emphasis given to family medicine

is evidence of the responsibility felt by the school for providing primary care for southern Illinois. The chairman of the Department of Family Medicine was the first departmental chairman to be appointed and all other departmental chairmen were chosen, in part, for their support of family medicine.

The Dean describes the role of family medicine in the medical school in the following terms. Family medicine is radical, and because of this it acts as a catalyst for change. Family medicine has taken a scholarly interest in medical education. This has helped to restore education to its preeminence in the university, where it has too often been overshadowed by research. Family medicine was the first department to take seriously the evaluation of students and residents. Family medicine has a natural interest in such areas as the medical humanities, ethics, and human behavior. One of the innovations of the school has been its Department of Humanities, with philosophers and historians among its members. Other innovations have included the Departments of Medical Education, Medical Sciences, and Health Systems Research. The latter department is responsible for formulating manpower and health-care policies in southern Illinois. The Department of Medical Sciences is the center for all laboratory research. This is a way of making maximum use of the school's research laboratories. Instead of each department accumulating its own research equipment, it is concentrated in the Department of Medical Sciences, where it is available to the whole faculty.

The Dean believes that the school should support all efforts to deliver primary care, including those by family medicine, general internal medicine, and pediatrics. Family medicine teaching will eventually be carried out in five centers, and there is a desire to avoid the feeling that Springfield is central and others peripheral. Eventually, the budget and faculty size of the Department of Family Medicine will be equal to those of Medicine and Surgery. Currently, the budget of the Department of Family Medicine is fourth, following Surgery, Internal Medicine, and Psychiatry.

Priority for admissions to Southern Illinois University (SIU) is given to applicants from central and southern Illinois. Thirty percent of the students are from towns with a population of less than 10,000. Of the class graduating in 1976, 33 of 43 went into "primary care specialties" (12 to family medicine, 12 to internal medicine). Of the class graduating in 1977, 17 of 47 are applying only to family practice residency programs.

Table 2
Southern Illinois University
Family Medicine Curriculum

Sequence I
Introduction to Clinical Medicine I
Sequence II
Introduction to Clinical Medicine II
Sequence III
Family Practice Clerkship (26 weeks, part time)
Inpatient (4 weeks)
Sequence IV
Elective Preceptorship (2 to 4 weeks)
Other Electives

The Associate Dean for Academic Affairs considers himself "pro family practice," though he believes that there must be a serious evaluation of the discipline in approximately ten years. Success of academic family medicine would be based upon its successful practice model, including the team approach to health care and other innovations, the input to the general clinical curriculum, family medicine courses, and academic work (including curriculum design, clinical research, and publications). The Associate Dean's early assessment of the teaching efforts of the Department of Family Medicine at Southern Illinois University is generally good. Strengths are in the contribution to teaching basic clinical skills and the ambulatory clerkship experience – a requirement for all medical students in their third year. Weaknesses are in the inpatient clerkship, research, and the availability of preceptorships at both introductory and advanced levels.

Evaluation at SIU is centralized in the offices of the Associate Dean for Academic Affairs. Medical educators work with departments to develop learning modules. These modules are established for each department's curricular input, consisting of a title, clearly stated objectives, a rationale, learning resources, and the method by which the student will be evaluated. A half-time educator and support staff are made available to each department for this process.

Undergraduate Curriculum

First year students take "Sequence I" for 12 months in Carbondale, Illinois, where Southern Illinois University has its main campus (See Table 2). Family medicine's main contribution to Sequence I is in the "Introduction to Clinical Medicine" (ICM), a course on interviewing and clinical skills. Family practice faculty from the developing residency program at Carbondale and full-time faculty from the medical school contribute to this course. Apparently, there is opportunity for much more involvement by family practice faculty but, unless priorities are altered, logistics and faculty shortage prevent this. Sequence II takes place in Springfield and includes an "Introduction to the Clinical Clerkship," to which family medicine contributes. The family practice faculty also participates in ICM II.

Sequence III (required clinical clerkships) includes a longitudinal family practice experience and an inpatient block on the "Family Practice Service." The former, the "Family Practice Ambulatory Clerkship," is six months in duration for one half-day per week in the Family Practice Center. The latter is a one-month full-time assignment to the Family Practice Service for a "Family Practice Hospital Clerkship" at the community Hospital adjacent to the model unit.

These Clerkships give the student an experience of continuity. Each student is assigned ten families from the population of the model practice. Families are selected to provide a wide range of ages and of clinical and social problems. The first hour of each half-day session is a seminar devoted to a learning module. Students are released from their block rotations on other specialties for this Clerkship in the Family Practice Center.

An elective preceptorship of two to four weeks is available during Sequence IV, the last part of the 36-month curriculum. Last year, only six

of ten available places were taken. This year, however, 14 students are taking the elective. Experiences are available at rural and suburban sites, or credit may be given for an out-of-state preceptorship. Local sites have been selected by the coordinator of this program who is a full-time departmental member. The coordinator visits each site during the students' assignments, and has developed objectives and evaluational procedures. Three learning modules are assigned to each student during this time. Preceptors have progressed rapidly in acquiring teaching skills. Students report to the coordinator satisfaction with the "real world" experience, though initially they have to adjust themselves to the faster pace of the practice.

During Sequence IV, several other electives are offered. These have been taken by few students because the abbreviated curriculum allows relatively little time for electives. Those available are:

1. Independent Research Project – 4 weeks full or half time
2. Physical Medicine and Rehabilitation – 1 week half time
3. Nutrition – 1 week half time
4. Alcoholism – 2 weeks full time
5. Family Practice Clinic – 6 weeks half time
6. Community Service Agencies – 2 weeks half time
7. Family Life Enrichment Seminar – 6 weeks, 1 day per week
8. Preventive and Problem-solving Counseling – 6 weeks, ½ day per week

Departmental Administration

The chairman of the Department of Family Practice came to Southern Illinois University after 15 years of private family practice and four years of full-time academic family medicine. He is currently a full professor and has been instrumental in the development of the school's curriculum.

The Department devotes about two thirds of its efforts to the undergraduate programs and one third to the residency program. The chairman hopes that additional faculty will afford more time for resident teaching, as well as allow development of more research and continuing education programs.

The current Department of Family Practice consists of:

Springfield:
8 full-time family physicians
4 part-time family physicians
1 clinical psychologist (50 percent)
1 theologian-counsellor (25 percent)
1 research assistant
1 medical social worker with psychiatric experience
3 volunteer family physicians (½ day per month)
Carbondale:
2 full-time family physicians

Faculty recruiting remains a particular problem for Southern Illinois University. Family physicians are in a small minority in the local community. Regional and nationwide advertising has also yielded only a few acceptable candidates. Last year the chairman made a recruiting trip to the United Kingdom where five potential candidates were identified. Three have been hired to date.

Appointment and promotions procedures, which allow remarkable flexibility in criteria, have been established for the entire School of Medicine. Each year, faculty members agree with their chairman on the division of their responsibilities among administrative, teaching, community service, and scholarly pursuits. The last area includes not only research but innovations in education. Yearly review and documentation of effectiveness in these areas lead to advancement. Years of practical experience are considered to be a criterion of appointment at the assistant and associate professorial levels. Accreditation by the American Board of Family Practice is stressed but is not absolutely essential. The "clinical" series of appointments are reserved for those faculty salaried for less than 50 percent time.

Medical Students' Opinions

Four students in Phase III were interviewed at length. They were just completing their core Family Practice Clerkship, both inpatient and ambulatory portions. All were aware that the School policy was to encourage students to be primary care physicians in central and southern Illinois. Three had voiced this intention during the admissions interviews. Those three still planned to enter primary care, though only one is likely to choose a family practice residency program. He still plans to return to southern Illinois. Their impression was that the School has no preference for family practice over general medicine or pediatrics for the graduates.

During the first two phases the students place high priority upon acquiring knowledge of "basic" sciences. They found this remarkably difficult and time-consuming. None of these four students were aware of any opportunities to observe family practice or other clinical care until it was too late to do so. A few classmates had done this on several half-days.

The ambulatory portion of the Family Practice Clerkship was called "very good" or "excellent" by all four students. The major attribute of the experience was that they acquired "an idea of what a family practice physician does." They enjoyed the small amount of continuity that was available and the level of responsibility that was granted them. They criticized the lack of use of practicing offices, saying, "the Family Practice Center is not really family practice." They appreciated the exposure to some office practices during the pediatric rotation, and desired the same for family practice. Two of the students lamented the numbers of "complete work-ups" that were assigned them for their ambulatory care, saying that this was too much like a hospital experience and offered no continuity. They criticized the amount of time it took to have a faculty supervising physician see the patient and sign off orders and prescriptions before the patient could be released.

Overall, the faculty of the Department of Family Practice was judged by the students superior to that of other departments. They noted a flexibility and absence of dogma in their teaching. The students also felt that they were learning more comprehensive management with better plans for follow-up and prevention. Concern for the patient was greater, as demonstrated by greater attention paid to patient education and to involvement of the patient in the management plan.

Other Programs

The two family practice residency programs were discussed earlier. These programs have reached full complement.

Faculty development is becoming a major concern as the Department adds new faculty, mostly from clinical backgrounds. Workshops are being carried out to develop skills in teaching.

University of Washington

Introduction

The University of Washington School of Medicine in Seattle made a major commitment to the development of family medicine at the time of the introduction of its new curriculum in 1968. The Division of Family Medicine was started in 1970, and full departmental status was conferred in 1971.

The University of Washington is a four-year medical school, but options exist for graduation after three years or after more than four years. The basic curriculum is distributed over the first six quarters. This includes the introduction to clinical medicine which begins in the orientation week and continues until the beginning of the "Clinical Clerkships." The introduction includes presentation of the basic clinical skills – and an innovative approach to this teaching is utilized, as described elsewhere.*

Students elect a "Pathway" by the middle of their second year, if not earlier. Four pathways are available: the Family Physician, the Clinical Specialist, the Behavioral Specialist, and the Medical Scientist. In 1975-1976, these Pathways were elected by 40 percent, 40 percent, 10 percent, and 10 percent respectively of the 140 second year students.

In 1969, the WAMI Program (Washington, Alaska, Montana, and Idaho) was started as a major experiment in decentralized medical education. Students took their first-year courses at universities in the states of Alaska, Montana, and Idaho, or at the University of Washington. Subsequently, Clinical Clerkships were also developed in those states. The Department of Family Medicine initiated the process of developing the clinical phase of this program by establishing "Community Clinical Units" in rural areas in Washington and Alaska. Sites have since been added in Montana and Idaho. Community-based learning experiences have now also been developed by obstetrics/gynecology, internal medicine, psychiatry, and pediatrics. A description of this program may also be found elsewhere.†

Admissions policies, at least since 1970, have reflected the University of Washington's commitment to the four-state region and to family medicine as a career. Students strongly believe that declaring an interest in a career in rural family practice in the Pacific Northwest will enhance their chances for admission.

The University of Washington's administration, along with the faculty of the Department of Family Medicine, are pleased with the high proportion of students entering family practice graduate training programs. These numbers have been essentially the same as those in the Family Physician Pathway. In previous years, 35 to 50 percent of the graduates had chosen either family practice residencies or flexible, first-year programs with the intent of entering family practice. Though 20 to 25 percent of students in the Family Physician Pathway elected graduate training in other specialties, mostly internal medicine, pediatrics, or psychiatry, this number was almost exactly balanced by students from other pathways selecting family practice as a career. During the past three years, approximately 35 percent of graduates entered family practice residencies.

The open and candid remarks by the Assistant Dean for Curriculum were verified by other opinions and by the Department's own assessment of strengths and weaknesses. The Assistant Dean believed that the program over its first five years of existence has produced the following major changes: (1) primary care has gained the interest of students, house-staff, and faculty, and has obtained an authenticity in an academic milieu; (2) the academic program has shifted to include more behavioral science, earlier clinical exposure, and inclusion of interpersonal teaching skills; (3) student interest in family medicine has increased; (4) family medicine has become a legitimate discipline and is seen as a laudable career, since role models provided by the faculty seemed competent, scholarly, enthusiastic, and humanistic; (5) teaching and patient care have received more emphasis in all clinical departments of the school; and (6) the community faculty has seen its role in the program increased, with – in a major breakthrough – the entrusting of responsibility for some core material in the second-year course, "Introduction to Clinical Medicine" to the community faculty.

Weaknesses of the Department seem to include the following: (1) faculty members have been overburdened with diverse tasks so that concentrated efforts of quality in limited areas seemed difficult, (2) students have some problems arranging for the amount of time they would like from advisors, (3) the focus of the Department has tended at times to be somewhat parochial, with a lack of understanding of the larger issues that the school faces, (4) research effort has been limited, and (5) patient care has remained traditional, for the most

Table 3
University of Washington
Family Medicine Curriculum

First Year	
Basic	
Orientation	
Introduction to Clinical Medicine	
Introduction to Family Medicine (1/2 day per week for 1 quarter)	
Second Year	A
	D
Organ Systems	V
	I
Continuity Clerkship and Seminar (1/2 day per week for 3 quarters)	S
Third Year	O
	R
Core Clerkships	Y
Fourth Year	S
	T
Electives	E
Community Clinical Clerkship in Family Medicine (6 weeks)	M
Advanced Preceptorship in Family Medicine	

*Baker RM: Teaching Basic Clinical Skills. Proceedings of the Society of Teachers of Family Medicine meeting, Chicago, November 1974. Kansas City, Missouri, American Academy of Family Physicians, 1975

†Schwarz MR: An experiment in regional medical education. West J Med 121:333, 1974

part, with very little innovation in terms of expanding the health-care team, the outreach efforts, the economic arrangements, and the like. It should be noted, however, that a grant has just been received for innovative work with the health-care team.

Overall, students have reported extremely positive assessment of the faculty members of the Department of Family Medicine. They have felt they were good teachers with very organized courses, which has been reflected by the large numbers electing these courses.

Undergraduate Curriculum

Through the advisory process and through core and elective courses, the Department of Family Medicine is involved in all of the medical school years. First-year contact is predominantly through the "Introduction to Clinical Medicine" course and the introductory preceptorship called "Introduction to Family Medicine." During the second year, an elective "Continuity Clerkship" is available for a limited number of students. As part of the Continuity Clerkship, a seminar series is given on topics basic to family medicine. The "Community Clinical Clerkship in Family Medicine" is an elective available to third or fourth year students for a six-week block. In addition, family medicine faculty members serve as advisors for students: informally, prior to Pathway selection and formally, for those in the Family Physician Pathway, during the second, third, and fourth years. This is displayed in Table 3.

Family medicine faculty members function as both chairman and co-chairman for the first-year segment of the Introduction to Clinical Medicine (ICM) course, although the direct teaching is carried out also by generalists from internal medicine and by fourth year students. The objectives are to teach interviewing techniques, the medical history, the problem-oriented record, and the screening physical examination. Approximately 80 hours are available during the first three quarters of medical school for this course. Predominantly full-time faculty are used as tutors.

The screening physical examination is a routinized series of techniques designed for effective detection of abnormalities and efficient use of time. The second-year segment of this course builds upon these principles as specialists become more involved in teaching "the branching examinations." Emergency medicine, pediatrics, the pelvic examination, and the mental status examination are also a part of the second-year ICM. During the latter phases students become more involved with problem identification and principles of problem solving. Clinical laboratory methods are also taught. The culmination of the ICM is the "Basic Hospital Clerkship," in which tutors assist the students in a complete work-up, preparing them for the core clinical clerkships in the various specialties. Faculty from family medicine are involved only to a limited extent in this segment of ICM.

The early involvement of family physicians in this course, and in the orientation week prior to the beginning of the curriculum, means that family physicians are the first clinicians the students encounter. The psychosocial spheres as well as the biomedical ones are brought to their attention, and reinforcement of not only physical but also behavioral skills can be maintained over the entire year. Early and continuing strategies include small group discussions, role playing, video-tape feedback, and clinical simulations for sensitization to sociocultural variations.

The Introduction to Family Medicine course is an elective preceptorship for first year students. Students spend one morning per week for 12 weeks with a family physician in full-time practice. Monthly seminars are held with the on-site faculty. Students keep logs of patients seen and are provided with a reading list covering general concepts of primary care.

Approximately two thirds of the first-year class have elected this preceptorship over the past few years. First year students at the WAMI sites are required to take introductory preceptorships in family practice. Evaluation forms are available for student and faculty evaluation. Most preceptors for this course are given instructor titles and are volunteer, nonsalaried clinical faculty.

The Continuity Clerkship elective course is dependent on the availability of community faculty for its existence. A limited number of positions are available for students in the first two years. During 1975-1976, 38 students were able to elect the course, though more desired to do so. Students spend one half-day per week during the entire year with their preceptor in clinical activities. Instead of a merely observational role, however, objectives that coordinate with the second-year ICM teaching and the organ-system portion of the basic curriculum have been established for the students' activities. Students must attend seminars if they participate in the Continuity Clerkship. For the first two quarters, these cover the following: family planning, laboratory methods, office equipment, practical prescription writing, hospital responsibility, geriatrics, peer review and audit, community resources, stresses on physicians, starting and financing an office practice, alcoholism, medical records, malpractice and other legal issues, private medicine, office management, community responsibility, behavioral science problems, and estate planning. In the third quarter, the seminar centers on preventive medicine and health maintenance topics.

The course entitled Community Clinical Clerkship in Family Medicine is intended to offer the student an opportunity to "put it all together." Initially, students were encouraged to elect this Clerkship during the fourth year because their more advanced clinical skills would facilitate the learning of management in the ambulatory family practice setting. However, the need for students to evaluate family practice as a career prior to deadlines for the National Intern and Residency Matching Plan, and prior to the choice of further clinical courses during their fourth year, has changed the attitudes of Departmental faculty.

The relatively extensive experience with this Clerkship in rural sites has been described previously.* It consists of a six-week, full-time assignment to a rural teaching family practice with two to five family physicians at each site. Students are assigned in pairs and are provided with living quarters in the community and reimbursement for travel costs. They experience not only the office practice but the concomitant hospital and community aspects of the practice. They are also introduced to concepts of practice management.

*Phillips TJ: Clinical clerkships in family medicine. J Fam Pract 1(3/4):23, 1974

The community faculty for this course is part-salaried, and the faculty contracts to have two students at its site at all times, except for one six-week block during the year. Therefore, 14 students are usually assigned to each of the five sites each year. Cost accounting has reckoned that these advanced clinical students require one to two hours per faculty supervisor per day that the supervisors would otherwise spend in seeing patients in their offices. Reimbursement is made on this formula and costs approximately $12,000 per site per year in addition to travel and living expenses.

Clerkship faculty have had the opportunity to attend a meeting at the end of each quarter for student evaluation and for planning. This has also provided an excellent forum for interchange of ideas and skills. Slowly, over the years, this faculty has gained remarkable quality and has been very influential in other activities of the Department. Objectives, evaluational forms, and other aspects of the Community Clinical Clerkship have been primarily designed by this faculty. Both the group practices and the communities have considered their involvement in the teaching program to be beneficial and a source of pride. Students have been welcomed into community activities, including service organizations, political offices, and health-related groups. Initial concerns about medical students' acceptability to community physicians, office staff, patients, and the rural community have proven to be easily surmountable.

The "Advanced Preceptorship" course is offered in order to establish flexibility in duration and location for students' special desires. A preceptorship was designed to provide students during their clinical years with an experience in family practice. Urban, suburban, rural, Health Maintenance Organization (HMO), ghetto, and other particular settings are available for students electing this preceptorship. Because of the quality of the Community Clinical Clerkship, only a few University of Washington students elect the Advanced Preceptorship each year. Outside students, however, have been provided with preceptorships under this arrangement. The objectives and evaluational forms for the Clerkship are used for this experience as well, but preceptors are not expected to carry them out as completely or as systematically.

Most students elect the Family Physician Pathway in the middle of the second year. At that time, they are given an orientation by the full-time family medicine faculty member assigned as their advisor (about ten students per faculty member). The orientation includes general advice about clinical electives and descriptions of the clerkships. Also, mechanisms are established to make available further advice both from full-time and community faculty.

Departmental Administration

The first Departmental chairman resigned as of July, 1976, after six years in the position. He had been a solo family physician in Sitka, Alaska, for eight years prior to accepting a full-time teaching position at the University of Rochester. His training had consisted of a two-year, general practice internship/residency at the University of Colorado following medical school at Johns Hopkins. The Family Medicine Review Committee, composed of chairmen of other major departments in the School of Medicine, filed a report as a prelude to the search for a new Departmental chairman. The report notes the remarkable successes achieved by the Department in the development of residency programs, undergraduate programs, and early efforts at research projects. This document enumerates the weaknesses previously mentioned by the school's administration, noting also that research efforts should be increased when the teaching and clinical loads of the family medicine faculty are lessened by further available Departmental faculty. Recommendations of the Review Committee for the future of the Department of Family Medicine include the following. (1) The Department should be maintained and receive continued support from other clinical departments and from administration; (2) The special focus of the Department should be on common medical problems in the community and their prevention and treatment, on the ability to handle more complex clinical problems when necessary, and to refer appropriately for more specialized help when necessary, on the development and maintenance of interactions with other departments and schools, on a special concern for the management of the patient within the framework of family and community, and on the interactions that bear on illness or well-being; (3) The undergraduate teaching role of the Department should continue, in general, as at present, with appropriate reexamination and adjustment; and (4) A stronger base of scholarship and research should be developed in the areas of epidemiology, collaborative studies on various domestic and hospital treatment regimens, cost effectiveness of a variety of procedures and routines, health-care delivery approaches, etc. Other recommendations pertain most directly to the residency programs administered by the Department.

The department consists of 11 full-time faculty in the School of Medicine, including a new chairman. The departmental faculty members believe unanimously that clinical research and research in medical education should become a major emphasis in the coming years, without sacrificing the quality of the teaching, patient care, and administration. They plan increased efforts in this regard.

Medical Students' Opinions

Two fourth year medical students from the Family Physician Pathway were interviewed. They spoke highly of the first two years of contact with the family medicine faculty in the advising process and in courses, but felt relatively ignored in the third and fourth years. They commented positively on the contributions to various inpatient rotations by family practice residents who were also rotating on those services.

Other student evaluations of various courses taught by the Department were reviewed. The Community Clinical Clerkship in Family Medicine has been very positively received over the years, with many praising it as their single best experience in medical school. The first year Introduction to Clinical Medicine and the preceptorship experience are also highly valued. The Continuity Clerkship was begun very recently, yet, in its first two years, it has been oversubscribed and has received quite positive appraisal. One of the faculty noted that family physicians tended to be assessed positively because of students' newly acquired image of the physician as nonauthoritarian, and as consumer-ori-

ented, unconstrained by guild mentality, cooperative rather than dominating in the health-care system, and pluralistic in his or her approach to practice.

Other Programs

While the University Hospital Residency Program has 19 residents, there are a total of 86 in the affiliated network. Four of these network programs are in Seattle, so there is significant opportunity for interchange between students and residents. The Spokane Residency Program, with its Community Clinical Clerkship in Family Medicine, furnishes faculty for the newly developed teaching site in that city. The model unit, the Family Medical Center at University Hospital, functions as a teaching site for students in the Continuity Clerkship, but it has been felt strongly by the faculty that, for most student experiences, the "real" community settings are more appropriate.

To this point, continuing education programs of the Department are limited. A major review course is carried out during one week in the spring, coordinated by a member of the family medicine faculty. This is well attended and the attendees have attested to its high quality.

Discussion

Not surprisingly, activities in the undergraduate area correlate strongly with available resources, especially the number of full-time faculty members. It should be noted that all three departments are quite new and in a state of flux. Their assessment of their own faculty's quality is variable. They all lament the huge effort required to recruit and hire faculty, and the small pool of available, experienced academic family physicians. All departments are responding to the schools' explicit priority to assist the regions in their health manpower needs. Success in meeting these needs is the prime yardstick by which the departments' efforts are being measured.

All three schools have made a major commitment to the discipline of family medicine, at least for the time being, and are active at the administrative level in encouraging assistance for the Departments of Family Medicine from the more established departments. Family medicine faculty members have been in important administrative and policy-making roles in the schools. They have been active in representing the schools to the public and the legislature.

The three departments' commitment to teaching has appeared to be a positive influence upon each of the schools. Probably because of inexperience, most family medicine faculty members have been anxious to learn educational skills and they call upon medical educators for assistance in curriculum design. This approach has generated what students have perceived as more well-organized courses and a more humble attitude in the teaching role. One curriculum dean noted a shift in effort by other groups toward better teaching methodology. It was acknowledged that Departments of Family Medicine had had a most beneficial effect on the teaching of ambulatory medicine.

Patient and community service has been developed almost exclusively for its role in creating quality model practices for residents and students. All three departments have these models at the most closely affiliated teaching hospitals. They are also using heavily community faculty practice settings, especially for medical students. A very significant benefit of community teaching seems to be the improvement of the relationship between the schools and the rest of the medical community.

Research and other scholarly activities, as demonstrated by publications, have been little emphasized during the first years of the three departments. However, the departments all state that, as successful teaching programs emerge and increased staff facilitates diffusion of teaching and administrative tasks, departmental priorities are shifting towards research activities. The two United States schools are under considerably more pressure to mount research efforts, usually to conform to more traditional appointment and promotion policies.

Future Trends

From the preceding review of three "exemplary" undergraduate programs in family medicine, some implications stand out in summary.

1. Faculty members and departments of family medicine are strongly committed to teaching.

2. Medical students value the availability of family physicians as role models.

3. Emphasis upon the family practice setting as a teaching site increases the "real world" image of the students' clinical experience.

4. Experience in clinical practice and incorporation of community faculty assists the medical school in developing improved relationships with the regional medical community.

5. Family medicine experience fosters "the team approach" to primary care, including allied health and mental health professionals.

6. Public and governmental observers value the development of family medicine as an evidence of commitment to solving health manpower needs.

Many other benefits pertain, depending upon the local, state, and regional setting. This is clearly done at a cost to the medical school. The small number of family physicians with the necessary administrative, teaching, and research skills is a problem which will not be fully solved in the near future. Allowances must be made by the medical school for this situation. The traditional yardsticks applied for the measurement of academic quality cannot be applied while priorities rest upon developing administrative structures, teaching clinical skills, and producing quality primary care health professionals.

The first ten years of family medicine have been gratifyingly successful in many respects in some medical schools. The variation is immense, however, both in the quantity and quality of effort. A medical school's effort seems to depend on the commitment of the faculty and administration, the cooperative assistance of the established disciplines, space and salary allotments, and financial support. To this date family medicine remains in its "honeymoon phase" with the laity and legislators. Early indications are that some hopes are being met. Disillusionment will surely be the result, however, if innovative changes in health-care delivery, primary medical care, preventive medicine, and medical education do not follow. The discipline can only survive if its teaching proves effective and its research productive.