Predoctoral Education in Family Medicine: A Ten-Year Perspective

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The educational goals chosen by teachers of family medicine for predoctoral students a decade ago differ substantially from the present goals. The original goals were to increase the number of family physicians, provide them with the basic knowledge and skills to practice, integrate the concepts of family medicine into the total medical school curriculum, and develop the "attitudes and ideals" of the good family physician.

A series of basic learning principles were evolved to attain these goals. These included: teach in a practice setting, focus on persons rather than disease processes, use a team approach to teaching, involve students in the planning and evaluation process, and recognize curriculum development as a dynamic process.

The present curriculum has an increased emphasis on clinical skills in family practice and on integration of behavioral science; there is a new emphasis on the role of the physician in the community and a better understanding of health care systems. Future directions for family medicine include increasing the emphasis on interpersonal communications, clinical synthesis, and clinical assessment.

The purpose of this paper is to review the elements of predoctoral education in family medicine during the past decade. These will be viewed from an overall perspective, rather than by individual program. Following this, some of the principal teaching methods will be identified and factors affecting change in curriculum will be considered. The present curriculum, again from an overall viewpoint, will be described in some detail. Several new directions will then be proposed for the future development of predoctoral education in family medicine.

Early Educational Goals

The Willard,[1] Millis,[2] and Folsum[3] reports were released in 1966, calling for more family or personal physicians who would provide comprehensive and continuing care. Needs were identified for a great increase in numbers of family physicians and for changes in training, including the

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need for family practice centers, for role models, for preceptorships, and for an emphasis on training in ambulatory care.

The educational goals chosen reflected the basic needs at that time for survival, growth, and identity. These goals were four:

1. To increase the number of family physicians, especially those selecting rural practice areas
2. To provide family physicians with the requisite knowledge and skills to practice family medicine
3. To integrate concepts of family medicine into the total medical school curriculum
4. To develop the attitudes and ideals of the good family physician.

These goals are both simple and global. The only one lending itself easily to evaluation is the first, numbers entering family practice.

Alfred North Whitehead[4] has pointed out that there are three stages in learning: the stage of romance, the stage of precision, and the stage of generalization.

The stage of romance is that approach which is designed to attract interest, of students primarily, but perhaps of the academic community as well. It constitutes a form of marketing that advertises the more glamorous aspects of a discipline as a means of attracting larger numbers of students to that discipline.

The stage of precision deals with the learning of the various components of an overall goal, including specific skills, a defined body of knowledge, and the identification of attitudes.

The stage of generalization, or synthesis, is that part of the learning process in which the student has an opportunity to assimilate this learning into a total curriculum. The student then finds ways to use this learning.

A review of the four educational goals of a decade ago and of the effort directed toward each indicates that the major activity took place at the stage of romance. In retrospect, this seems appropriate for that state of development of the discipline.

Definition of the educational objectives for each of the four goals was often imprecise, but it should be remembered that at that time any statement of educational objectives was, in most schools, a novelty. It is useful to consider briefly the educational objectives developed for each of the four major goals.

Goal 1–Increased Number of Family Physicians

Most programs stated immediately that an increased number of family physicians was their major goal. Often, one sub-goal was to increase the number who chose rural practice or medically underserved areas.[5,6] While there were programs which did not state increased family physician numbers as a prime goal, it was clearly a point on which they would be judged by the academic community and on which their survival would depend.

The educational objectives to achieve this goal usually attempted to provide students with structured opportunities to observe family physicians in their natural habitat.[5-8] The usual procedure was through preceptorships with practicing physicians, often in rural areas.[9-12] Efforts were made to involve the student directly in all of the practicing physician's activities: office, home, and hospital care; community activities; and often, living with the physician's family. In addition, there were opportunities to work with family physicians in the medical school setting through the family practice center and clerkships. These approaches indicated a basic assumption that a firsthand view of what family physicians do in practice and how much they enjoy what they do would attract others. In retrospect, this seems risky, but it is certainly honest, and it worked.

This is the one goal subject to numerical measurement. The available data indicate that many students did choose family medicine and that many were influenced by preceptorships and other forms of role modeling.

Goal 2–Requisite Knowledge and Skills

The second goal was to introduce students to the requisite knowledge and skills of family medicine. Subsumed under this general goal were a number of more specific educational objectives: interviewing skills[6,7,13]; collection and recording of medical data—usually the problem oriented medical record[14]; and physical examination.[6]

With these specific objectives, there was a considerable emphasis on addressing the common problems seen by a family physician.[6] And perhaps most innovative, the focus in many medical schools was on the common problems of ambulatory, rather than hospitalized, patients.[15]

The methods introduced here included some seminar and small group exercises, but generally emphasized the one-to-one approach of student with practicing physician, through tutorials, preceptorships, and clerkships, thus providing the student with an opportunity to learn both from example and by practicing under observation.

Goal 3–Impact on the Medical School

Family medicine educators recognized the importance of integrating the basic concepts of family medicine into the total medical school curriculum.[13,14,16,17] This was an opportunity to provide students with realistic career information, regardless of their ultimate career choice. Also, family medicine faculty clearly desired to demonstrate to their academic colleagues that family medicine is a legitimate discipline and that the care provided is at least equal in quality to that of other specialties. Thus, the focus of this third goal was on colleagues as well as students. Dr. B. Lewis Barnett referred to this role of the family medicine curriculum as that of a "citizen of the university."[15]

Educational objectives under this goal made use of several approaches and accepted contributions from various sources: from the principles of epidemiology[14]; from preventive medicine, often in a fairly traditional mode[13,18]; from concepts of community resources and community diagnosis[6,18]; and from health care teams, often including social workers, and a variety of newly developing health care professionals.[16,19-21]

A major contribution to family medicine's impact on the medical school resulted from the emphasis placed on the psychologic and emotional impact of illness or injury. Further impact derived from the consideration of these psychologic and emotional factors as causes of illness or injury in their own right. Along with this perspective, the cultural, social, and economic factors relating to health care were considered, often in separate courses. Ethical and political questions were also raised to provide a basis for analytical thinking. Many departments designed courses or course components to fill obvious gaps in the medical school curriculum, including nutritional information, marital counseling, and sexual counseling. The interdisciplinary teaching in these areas was beneficial for both students and academic colleagues.

Goal 4–Attitudes of the Family Physician

Under this goal, objectives were stated in a variety of often vague terms, but with a pervasive theme variously expressed as caring, compassion, and empathy: acquiring the "attitudes of an excellent family physician," "learning to love one's patients,"[8] and providing "optimal family care."[22] Tutorials, preceptorships, and clerkships were all used for role models to demonstrate the attitudes of the family physician.

Specific educational objectives related to this fourth goal included: focusing on the family as a system,[19] including consideration of the effects of illness of one member on the others, the family as a source of support, and the psychodynamics of a family; attempting to achieve continuity of care by introducing students to patients early in their medical school careers with hopes that the student/patient relationship so formed would continue throughout the remaining three or four years of medical school[5,19]; and providing comprehensive care training, largely through preceptorial experience,[5] to demonstrate to students and patients alike the value of complete care administered by a single provider.

The educational objectives under these four goals, a basis for a first curriculum, constitute remarkable statements. They reflect a conviction that there is a discipline of family medicine which differs from any other; that this discipline is definable; that it can be an optimal form of health care; and that the practice and life-style of a family physician offer such personal satisfaction that they will attract others. While these were regarded by many as questionable assumptions a decade ago, they are now accepted as fundamental truths.

Learning Principles

A series of learning principles evolved that paralleled the development of these goals and educational objectives. These principles have shaped the implementation of curriculum, and interestingly, appear to be as important in educational programs today as they were a decade ago (Table 1).

The first of these was articulated by Dr. John Geyman in his 1971 book, *The Modern Family Doctor and Changing Medical Practice*.[23] He stated that "family medicine cannot be successfully taught separately from family practice,"

Table 1. Learning Principles of Family Medicine

1. Teaching ought to be in the context of patient care.
2. Teaching should focus on persons rather than disease.
3. Team teaching is a valid analogue of team health care.
4. Student participation is an essential ingredient in curricular development.
5. Curriculum development is a dynamic process.

that teaching ought to be in the context of the application of skills in patient care, and that, in fact, the student cannot learn the family physician's special attitudes and skills apart from their actual application. Geyman pointed out that family medicine is a discipline of synthesis, and that dissecting it into components, if this were the only teaching method, would not convey the function of an integrating specialty.

This principle has been adopted by nearly all programs described in the literature during this period. An ingenious variety of mechanisms were used, including the long established preceptorship, the newly developed clerkship, the integration of medical student teaching into family practice centers, an assortment of tutorials, and the assignment of students to specific families.[8,24]

The second principle was that teaching ought to focus on persons rather than on disease processes, considering the patient *in toto* rather than concentrating solely on the things that happen to him. Family medicine is a people centered discipline and the educational programs must reflect this "people-centeredness." Teaching programs have reflected this comprehensive, personal approach by assigning students to follow individual families, by inviting patients to meet with individual or small groups of students, and by involving patients in most teaching efforts.[11]

Thirdly, a team approach in teaching offers a natural didactic counterpart to the team approach in health care. This principle is variously expressed, but it generally means that just as a variety of health care professionals participate together in health care, a diverse group of health care professionals has great contributions to make to the educational program. Libby A. Tanner, MSW, was among the first to demonstrate this by integrating social workers as active participants in educational programs for students.[20]

Fourthly, student participation constitutes an essential ingredient in curricular development. It was recognized early on that objectives jointly chosen by learner and teacher are much more likely to be achieved. The importance of student participation, and of mechanisms for this process, was described by Dr. Hiram Wiest as well as by others.[11] This principle seems so well established now that it is hard to imagine that a decade ago it was a great novelty in many institutions.

Curriculum development, at least in this discipline, is always a dynamic process. This fifth principle has emerged in spite of eagerness to develop an ideal, static curriculum in family medicine. Instead of seeking an ideal curriculum, leaders have recognized that a mechanism for a continuous process of orderly and logical change in the curriculum is a more realistic goal. This process ought to be responsive to the measurement of outcomes, the varying needs of learners, and to varying resources. The tracing of curricula over the last decade certainly establishes this as a widely adopted principle.

There are many factors affecting determination of changes in curriculum. These may be clustered together under four general categories. In selecting new directions in curricular approaches for the future, it is helpful to consider some of these factors.

Philosophy

As a new discipline, family practice finds its ideas and self-understanding constantly changing as it seeks to more accurately identify what family physicians are, what they have to offer, and what they had best be doing.[25] This identification depends to some degree on perceived needs, as expressed by patients, as understood by students, and as influenced by the educational requirements of the milieu in which family physicians work.

An accurate definition of the content of the discipline depends on the collection and analysis of data. A knowledge of what family physicians do, both in private and in teaching practices, is imperative. Thanks to the monumental work of Drs. David Marsland, Maurice Wood, and Fitz-

hugh Mayo,[26] and the corroboration in smaller studies by others,[27] an accurate estimate of the kinds of clinical problems encountered by family physicians is now possible. There is also a need that is just beginning to be addressed, to gather information about the processes used in approaching problems in family practice.

The results of these considerations are manifest in the present curriculum. While there has always been concern for focusing on clinical problems that are common, the meaning of the term "common" is now known with certainty, and it is possible to design clinical teaching programs with confidence. As the process of care in family practice becomes understood, teaching programs are increasingly emphasizing the kinds of interviewing, interactions, and examinations that constitute the practice style of the discipline.

Resources

The availability of resources, sometimes regrettably, is a prime determinant of curriculum changes. The principal resources wielding this power are faculty, money, space, and equipment.

Faculty usually teach best within those areas which they know and like best. It is now possible to choose some faculty members on the basis of their particular areas of interest and skill, and it is possible to utilize the skills of people in nonmedical but related fields such as psychology, sociology, and anthropology. The present curriculum reflects this. The new emphasis on faculty development should help to improve skills and find new teaching methods which, in turn, will affect the choice of curriculum.

Governmental initiatives, usually in the form of dollar incentives, also affect curriculum, as is well demonstrated by a review of the present curriculum, which includes such examples as the new initiatives in nutrition, environmental health, and geriatrics. Certainly these have long been recognized as valid components of the educational goals, but available resources have determined when the goals may be reached and the extent of the emphasis on these components.

Other resources such as space and equipment, although considerably less significant, affect curricular development as well. It is usually possible to find ways to conduct the programs that are decided upon. For example, videotape with critique has proven to be an excellent way of teaching interviewing skills. Those who do not have videotape resources may use one-way windows. Those who have neither videotape machines nor one-way windows may sit in the examining room and observe. All three methods work.

An additional resource which influences curriculum is the patient population. As the curriculum has become more complex, and more focused, there is a greater need to be able to identify patients with certain characteristics or certain problems. New data systems have enabled the pinpointing of individuals and groups, greatly increasing educational effectiveness.

Academic Milieu

When family physicians first entered academia a decade ago, they were strangers in a strange land. The customs, territorial claims, rituals, and taboos of academia were all new to most of them. Conflicting interests within an institutional hierarchy create great tensions. Coping successfully with these conflicting tensions and using them creatively constitutes academic politics. This academic milieu has a profound effect on the total curriculum of the institution, on the many aspects of the curriculum of a particular discipline, and especially on the amount of time available.

Many of the initial curricular efforts were designed to gain footholds, to fill in gaps, or to seize opportunities. Now family medicine has learned both to react and to influence, to consider the total educational goals of the institution and the contributions it might make. Many aspects of the behavioral sciences, humanities, preventive medicine, and community medicine represent "gap-pluggers" that are now essential parts of the overall educational goals in family practice. But the curricula reflect local situations; for example, in a school in which there is an extensive behavioral science curriculum which is well taught, there is a need only to integrate that teaching into the family medicine program. In some schools each of these disciplines represents separate departments; in others, they are absent and there is a need to include these topics in family medicine teaching programs.

Outcome Measurements

While philosophy, resources, and academic milieu have had a pronounced influence on the

curriculum, they really do not address the central issue, which is whether or not the professional purposes are being achieved. This is measured in outcomes: Are the graduates demonstrating the skills, knowledge, and attitudes which are envisioned for them? Are they entering the field in sufficient numbers? Are they practicing where they are needed?

The last two questions, concerning the numbers and distribution of family physician graduates, are ones which have been evaluated. The numbers have been gratifying and the teaching modalities which tend to affect this outcome have been identified. Preceptorships have been shown to have a distinct influence on choice of practice style and location.[6]

Other outcomes are less easily measured but perhaps even more important. There is a need to know whether the graduates represent the epitome of family practice, as is hoped. Although accurate assessment may not yet be possible, still it is not too difficult, with a brief clinical contact, to know generally who is a good physician and who is a poor one. With refinement of the process of discrimination, educational programs might be honed to meet agreed upon goals.

The new curriculum reflects this concern for measurement of outcomes. It is designed to meet more explicit clinical objectives, to demand a higher level of performance, and to require an integration of clinical and personal skills. The greater specificity of the curriculum will allow more accurate measurement of the outcomes for adjustment in future planning.

The present curriculum has undergone a number of changes in content, emphasis, time commitment, and teaching methods.

Curriculum content has expanded in both breadth and depth, and is often divided into four areas: clinical skills, behavioral sciences, community medicine, and health care systems. In actuality, however, it is rarely possible to separate these topic areas. There is often a deliberate effort, in fact, to integrate the teaching in these various aspects of family medicine.

Clinical Skills

Clinical teaching most often begins with an Introduction to Medicine course during the first year.[28,29] This is frequently taught jointly with other departments and emphasizes the basic skills of interviewing and physical diagnosis. At first the approach is often on screening-type physical examinations, to be followed later by a branching or detailed examination. The interviewing skills focus on an understanding of the person, verbal and nonverbal communication, and the establishment of relationships between patient and student physician. This is taught in small group, one-to-one, or videotape-and-critique sessions. Both physical diagnosis and interviewing are frequently introduced early to prepare students for further clinical contact through assignment to families in the preclinical years, to preceptorships, or to clerkships.[11,30]

A second emphasis of clinical skill teaching is on common problems. Most often this is introduced in the second year, or in the third year as a part of or prelude to a clerkship. Common problems are addressed in terms of symptoms and diagnoses, with the choice of problem being related to its actual frequency as indicated in the Virginia study. Objectives here are to understand the usual aspects of the most common problems, at an appropriate learning level, and to introduce the concept of problem solving.[31] It also introduces the concept of the comprehensive nature of family medicine with an emphasis on early diagnosis and excellence in clinical care.

Along with these broad clinical topics there is usually an introduction to a number of specific skills in the diagnostic process, including interpretation of testing procedures, and the collection, recording, and handling of patient care data. Problem oriented medical records are used almost universally. Often there is an introduction to the process of coding and to its value in practice. These aspects are usually introduced through a clerkship offered as an elective in either the third or fourth year for one or more months.

The concept of continuity of care has been addressed in varying ways. Several programs have introduced medical students to families during the preclinical years, providing them opportunities to follow the families for extended periods. These programs have been of great value to some students, but are logistically awkward. Moreover, the experiences have been unpredictable. Other programs have developed continuity of care clerkships, allowing students to follow groups of families over extended periods of time. The objec-

tive, to appreciate the value of continuity of care through experience, appears to have been quite successfully met.

Preceptorships have been utilized by some schools for several decades. They have increased in popularity during the present decade and are now the most frequent educational tool of family practice departments. There has been considerable refinement of the objectives of preceptorships. Instead of purely observational experiences, the objectives now emphasize participation at an appropriate level. Preceptorships are offered throughout the four years. Usually those in the first two years are of short duration, one or two weeks, while those in the third or fourth years vary from two weeks to nine months. Educational objectives are usually quite explicit. Sometimes these objectives are jointly chosen by preceptor and preceptee prior to the start of the experience (and used as an evaluative yardstick on completion). The objectives include all of those mentioned under clerkships, and emphasize excellence in clinical skills, the understanding of common problems, and the integrative and application functions. However, they also usually include an understanding of community and local health care agencies, the physician's role in a community, the physician's life-style, and office record systems, both medical and financial. An underlying objective for preceptorships, both by preceptors and by full-time faculty, has always been the recruitment of family physicians into the discipline and then into underserved regions. This goal continues, but there is more emphasis now on the educational content of these experiences.

In various programs there are emphases on specific clinical areas. The choice of these areas appears to depend on a particular institution's needs and resources. A most frequent component in the last several years has been geriatrics-gerontology. In many programs geriatrics is introduced in the preclinical years through the family practice department, and additional experiences are available as electives and as components of the clerkships and preceptorships. These experiences highlight the special needs of the elderly in both the ambulatory and the institutional settings.

Other specific areas of attention, usually as electives in the third and fourth years, include nutrition, alcoholism, rehabilitative medicine, occupational medicine, and environmental health.

A final aspect of clinical practice which is often specifically addressed in statements of educational objectives is that of attitudes. These objectives are not easily defined but include an objective of helping the student in self-understanding and role identification, development of empathy and compassion for patients, and sensitivity to both the opportunities and tensions of a physician's life.

Behavioral Aspects of Health Care

Curriculum in the area of behavioral science is difficult to assess on a national level because of variations among schools and among interpretations of the definition of "behavioral science." In general terms, however, family medicine programs have included a major emphasis on the behavioral aspects of health care.[32] This appears to stem in part from a conviction that the understanding of behavior is an essential skill that has traditionally been neglected in many schools. The most frequently mentioned topical areas included under this heading are: (1) understanding of one's self and role in society[33]; (2) communication skills, both verbal and nonverbal; (3) behavioral aspects of illness; (4) social and cultural implications in health care[34]; and (5) family dynamics and an understanding of the family as a system.

Teaching in these areas is usually accomplished through a combination of didactic presentations, seminars, assigned readings, and videotaped interviews. Wherever possible, these aspects are introduced into the teaching of clinical care. Many family practice faculties include one or more behavioral scientists. These individuals provide some didactic teaching, but also heighten the awareness of the family medicine faculty to the opportunities for integration of behavioral teaching with aspects of clinical care.

In addition to these most frequent topics, there are a series of special areas addressed in some programs, most frequently on an elective basis. These include an introduction to various forms of counseling, sexual and marital health, and behavioral modification techniques.

Community Medicine

The third area of present curriculum content, also broadly and variously defined, is that of

community medicine. Specific topics such as epidemiology or an introduction to the health care system are often included in the preclinical courses through didactic presentations. Other aspects, including participation in community activities, are most commonly approached through preceptorships, as previously mentioned. These include an introduction to working with community agencies and citizen boards. School, occupational, and environmental health are sometimes included in these experiences. Clerkships may introduce screening procedures on a community basis and various mechanisms for patient education.

A frequent teaching mechanism is the student project, in which students are offered opportunities to study a particular aspect of community medicine in depth. This experience provides the student with an understanding of the research process in general and of one particular health problem or health care agency. In order to broaden the experience, the results of these projects are often shared with other students through seminars or symposia.

Health Care Systems

A final content area could be included under the title of health care systems. This area includes opportunities for students to understand the health care system as a whole, and to consider the role of family medicine in this overall system. This overview, along with role definition, is often included in the Introduction to Medicine courses of the first year. More in-depth study is offered in some programs, usually on an elective basis in later years.

There is also a specified objective in many preceptorships and some clerkships to provide opportunities for students to be introduced to principles of practice management, including choice of location, patient flow, data collection and analysis, and principles of organization and management. Frequently included under this general heading is the introduction to a team approach to health care delivery. The basic concepts are sometimes introduced into the preclinical curriculum for information, with experimental opportunities in both clerkships and preceptorships. The stated objective is usually for each to appreciate the other's role for promotion of optimal care for patients. Included in this general topic are some specific objectives that seek through preceptorship to define the role and life-style of the practicing physician and to explore means for continuing the process of his/her own education.

Change of Emphasis

A review of the total curriculum content suggests that there have been some major changes in emphasis during the past decade. While the recruitment of students into family medicine, and the placement of graduates in certain underserved areas were prime goals previously, now they appear to be secondary goals. It may still be an inferred goal, or it may be an assumption, that excellence in an educational program will attract the requisite number of excellent students.

There also appears to be somewhat less of what Barnett has called "gapology,"[15] or designing courses to fill gaps in an institution's curriculum. This is undoubtedly still necessary and accounts for some of the variety in our curricular content. In many areas, however, teaching is often conducted jointly with other departments to provide the necessary visibility and input of family medicine without a large commitment of resources.

The major emphasis now addresses clinical excellence. This applies to all the areas described under content, from interviewing and physical diagnosis to problem solving and management. The focus now falls less on a need to include everything, and more on a determination to do excellently what *is* done.

Another important change of emphasis is the increasing effort to integrate the content of teaching rather than separating it into fragments.[35] Much of the teaching remains patient centered, and patients and their problems are addressed from multiple viewpoints which strive for an understanding of the whole person, his family system, and the community milieu.

Yet another major change during the past decade, and one that is quantifiable, concerns curriculum time. A few schools have obtained all the curriculum time they have requested throughout the four years. More frequently, schools do have some available time for core input during the first two years and adequate time available for clerkships, seminars, and preceptorships during the third and fourth years. In addition to identified

family medicine time, there is much shared time with other clinical departments. This represents a dramatic shift and indicates that, at least in some schools, the family medicine curriculum is viewed as an essential component of the process of medical education of all students.

Learning principles presented earlier are still quite in evidence. They include the integrating function, a focus on the family and the person, the team approach, student participation, and an understanding of the curriculum as a dynamic entity. Several additional principles have emerged. The first of these emphasizes the value of the relationship between student and teacher; as Dr. Ian McWhinney has pointed out, "the quality of the clerkship depends more than anything else on the relationship between student and teacher, on the environment of learning, and on the teacher's understanding of the learning process."[36]

A second principle articulated both by Dr. Richard Tiberius[37] and by Dr. Hilliard Jason[38] identifies the similarities of the practice of family medicine to the concepts of education. Three of the most widely used concepts in education—objectives, curriculum, and evaluation—have direct parallels in primary care. Family physician teaching can be viewed as an analogue to clinical skills with which family physicians are already familiar. This approach provides for an accommodation to individual differences among students' backgrounds and in learning styles, just as diagnosis and treatment plans are individualized to patient needs.

Both of these principles are evident in the choice of teaching methods, most of which provide opportunities for ongoing personal relationships with students, through seminars, clerkships, and preceptorships.

Future Directions

We have examined the growth and development of curriculum in family medicine during the past decade. In my view, three directions are desirable for predoctoral education in family medicine during the next decade.

Interpersonal Communications

While the present curricula do contain some efforts in this direction, I believe we need further emphasis on interpersonal communications. This begins with an understanding of self. First year medical students undergo enormous personal changes. After some 20 years of a different form of education, they are in a new milieu with enormous expectations from the system and from themselves. They are in rapid transition from student to healer, from one who is served to one who serves.[39,40] As a discipline which stresses understanding and concern for individuals, family practice has a great opportunity. The model of physician-student relationships can be used to teach the building of a physician-patient relationship. Based on this understanding of themselves, students can learn to be sensitive to their patients and colleagues. There is a need to broaden this personal and interpersonal understanding to encompass the family systems of which individuals are components.

In order to make this understanding possible and useful, students need increasing opportunities to improve their interpersonal communication skills. These are life-long skills which all health care professionals need, but which are of particular value in our style of long-term continuity practice. These are also skills which often distinguish the experienced physician from the novice. We need to find ways to translate this "experience" into a learning opportunity.

Clinical Synthesis

We have identified many of the components of a curriculum for family medicine and have recognized the need to teach students these components as part of an integrated approach to our patients rather than as isolated fragments. But there is still a need to provide students mechanisms to integrate their total learning experience into the process of health care. Students need to understand more than the various chunks of clinical knowledge, the basic science underpinning of these chunks, and the specific skills of how to use them in practice. It is not enough, for example, to understand the physics underlying electrocardiography, the mechanics for doing an ECG, and the skill of interpretation; students also need to understand when to use an ECG in diagnosis or treatment, how it fits into the process of care, when the cost is justified, and how patients are included in this process of decision making. This process of health care could be called clinical synthesis.

Clinical Assessment

A final direction, toward reaching optimal curricular development, is the ability to conduct critical assessment and make changes accordingly. Just as we evaluate the outcomes of our treatment plans for patients, we need to measure the outcomes of our educational efforts. We need to give far more attention to research in the process of patient care and the process of education. We need to heighten our awareness, improve our skills, develop new tools, and invite the critical appraisal of others.

All of these changes may be good for the clinical discipline, good for the health of family medicine. The real mission, though, is better patient care, and any change should ultimately be measured by this standard: Will it result in better patient care?

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