A New Look at Continuing Education in Family Practice

John P. Geyman, MD
Davis, California

The rapid increase of medical knowledge in recent years, together with continuously changing methods and patterns of practice, have made continuing medical education today a critical and challenging problem. It is now recognized that the large majority of a physician's medical knowledge over a practice career is derived from postgraduate learning after his initial formal undergraduate and graduate medical education. Despite the present importance of continuing medical education, we still have a relatively ineffective system which is not easily accessible to the practicing physician and which often fails to meet his individual learning needs. This paper critiques our past efforts in this area, describes some principles of learning, and suggests some new approaches to make continuing education in family practice more accessible and effective.

Continuing medical education today is a complex problem. In recent years we have witnessed an information explosion, and we have all been deluged with an informational overload. For example, there are approximately 20,000 journal articles published each month. The half-life of biomedical knowledge is now on the order of five years.[1] It is further estimated that some 75 percent of a physician's medical knowledge in the course of his practice career falls into the area of continuing medical education.[2] We can, therefore, no longer depend on our initial formal education to sustain our professional competence over time. This applies to all fields, but the breadth of family practice poses a particular challenge especially as the role of the family physician expands to include preventive medicine, counseling, rehabilitation, and related areas.

The purpose of this paper is to give an overview of continuing medical education as it applies to family practice, to briefly critique our past efforts in this area, and to describe some principles of learning and new approaches to continuing medical education. Some useful directions for departments of family practice will be proposed and specific recommendations will be offered to the family physician concerned with his own continuing medical education.

From the Department of Family Practice, School of Medicine, University of California, Davis, California. Adapted from an address presented at the Panel on Education, Sixth World Congress on General Practice/ Family Medicine, Mexico City, November 4, 1974. Requests for reprints should be addressed to Dr. John Geyman, Professor and Vice Chairman, Department of Family Practice, School of Medicine, University of California, Davis, Calif 95616.

Traditional Approaches to Continuing Medical Education

Dr. Clement Brown, who has done a great deal in recent years to advance the art of audit in community hospitals, recently pointed out the inadequacies of our standard approaches to continuing medical education:

> The concept of continuing medical education conjures up a roomful of preoccupied but hopeful attending physicians at a community hospital, anticipating a learned presentation by the medical school faculty either in person or by way of educational television, two-way radio or other media. The members of the audience are caught between the demands of their practices and the hope that such an educational program will somehow be useful in the care of the patients. But such a teacher or planner-oriented approach is both limited and limiting since it may only incidentally or accidentally meet the needs of the learner and possibly less often the patient. Diagnosis of patient care needs seldom precedes educational therapy. Also, most current learning experiences in continuing medical education are designed to achieve only information transfer, implying that most patient care deficits derive from lack of physician-learner knowledge. This implication is seldom tested, just as many other assumptions concerning continuing medical education are not tested, and so there is no real measure of knowledge deficits, skill deficits, whether intellectual or psychomotor, or the need for attitudinal change. Furthermore, the current standard approach is not based on sound principles of adult learning.[3]

The few studies which have looked into the effectiveness of continuing medical education in improving the quality of patient care have failed to show a positive correlation. Dr. George Miller has asked two major questions: "What is continuing medical education for?" and "What care needs improvement?"[4] Dr. Miller replies to the first question by saying that continuing medical education aims at improving the quality of patient care. The second

question, however, is not an easy one to answer. We have seen an incomplete though enthusiastic response among medical educators to develop many approaches to the transmission of information. Unfortunately, this has been a shotgun approach and has contributed to the ineffectiveness of continuing medical education. Miller points out that our past emphasis has been on small areas of knowledge benefiting relatively few patients. He has suggested that continuing medical education should stress more areas which relate to larger numbers of patients.

A recent report by an expert committee of the World Health Organization on continuing medical education made this comment:

> Although some countries have made significant progress in organizing a system of continuing education for physicians and all countries have acknowledged the importance of doing so, the present efforts in this field are often unsystematic, poorly supported, little influenced by contemporary educational science, episodic, focused more on transmitting new information than on improving competence, and are only incidentally related to health needs and national health priorities.[5]

We have, therefore, in contrast to undergraduate and graduate education, a nonsystem for continuing education with these problems: content is not based on individual learner need; learning is episodic, passive and often not related to patient care; educational aids are frequently inaccessible to the physician; and the process is often measured by the wrong standards (eg, hours of attendance at courses).

Some Principles of Learning

Dr. Miller suggests that,

> it would seem that the time has come to try a different educational model – one built on solid evidence about the way adults learn rather than on the time honored method of teaching them. There is ample evidence to support the view that adult learning is not most efficiently achieved through systematic subject instruction. It is accomplished by involving learners in identifying problems and seeking ways to solve them. It does not come in categorical bundles but in a growing need to know. It may initially seem wanting in content that pleases experts, but it ultimately incorporates knowledge in a context that has meaning. It is in short a process model of education.[6]

He goes on to say that,

> men learn what they want to learn. The first step in this long process is not to tell them what they need to know, it is to help them to want what they require. It means involving participants in identifying their own educational needs, in selecting the learning experiences most likely to help them to meet these needs, and assessing whether they have learned what was intended, not merely determining whether they took part in the learning experience, or even whether they liked it.[7]

Beyond these points, we now know that there is a forgetting curve – information which is not related to one's continuing practice is easily forgotten. In addition, each of us has our own individual style of learning. Some will learn best by reading, others by small group patient-oriented discussions, and still others by self-instructional media. We now know that effective continuing medical education requires: (1) a need to know (preferably related to patient care itself), (2) an active process, (3) a continuous relevance to everyday practice, and (4) a format which fits our individual learning style.

Newer Approaches to Continuing Medical Education

There are a number of new directions in continuing medical education which it would be useful to summarize briefly here.

1. *Increased emphasis on small group interactive teaching and self-instruction rather than the lecture method.* Many of our postgraduate courses now involve small group discussions on specific subjects. These are both popular and effective, and they facilitate learning based on clinical problems from the practices of participating physicians. We are also seeing an increased use of multimedia learning methods, including video tape, tape-slide programs and programmed learning units.

2. *Profiling of one's practice.* There is an increasing awareness that it is important and useful to gain insight into the content of the physician's practice. The May, 1971, issue of *Patient Care* magazine was devoted entirely to continuing education. It is an excellent reference describing several methods of gaining a profile of one's practice.[8] More recently, the Illinois Council on Continuing Medical Education has developed a handbook for physicians which suggests another method for profiling and also for developing a personal learning plan based on individual needs.[9]

3. *Increasing use of the problem-oriented record.* We continue to see gaining emphasis on the problem-oriented medical record which was developed by Dr. Lawrence Weed. This approach to recordkeeping not only allows for better organization of medical care and communication among peers and consultants, but it also facilitates examination of the quality of care through audit.

4. *Increasing use of medical audit.* Audit of medical records both in the office and in the hospital is increasingly emphasized. It is becoming clear that this should be a valuable way of identifying our own specific needs for continuing medical education. We are all aware of the basic approach of the audit process which includes identifying a major problem area for audit, setting of criteria (by our peers on a local basis), conduct of the audit (principally by paramedical personnel), development of an educational response to deficits noted, and finally, reaudit of the problem at a later date to see if improvements in medical care have actually occurred.

5. *Self-assessment.* The audit, both in the hospital and in the office, is certainly an important method of self-assessment. A second major approach is through self-assessment examinations which allow an individual physician to discover his own areas of weakness and help him plan more specifically for his continuing education.

6. *Learning through teaching.* With the development of more training programs in family medicine in medical schools and community hospitals, there is a greater opportunity for practicing family physicians to become involved with teaching in various ways. Some serve as preceptors for medical students in their own practices, some are active in resident teaching in model family practice units, others participate in collaborative research projects involving their practices and nearby teaching programs, and still others associate themselves in other ways with undergraduate or graduate education in family medicine. The teaching process exposes us to younger, more recently trained students and physicians, and the interchange is inevitably a

learning process for all involved.

Roles for Departments of Family Practice

Departments of family practice in medical schools have new responsibilities and opportunities to improve continuing medical education for large numbers of practicing family physicians. The following approaches are suggested as being of particular value in this regard.

1. *Develop educational programs in family practice as a continuum involving undergraduate, graduate, and postgraduate phases.* Medical schools for years have placed most emphasis on undergraduate medical education. Although they are now assuming increased responsibility for graduate education, the area of continuing medical education continues to receive too low a priority. As competency-based curricula and more effective teaching methods for family practice residency training are developed and refined, there should be more overlap between graduate and postgraduate education in family practice. Departments of family practice should respond to the need for continuing education of family physicians within their region. Family practice refresher courses should be more than didactic sessions; they should provide opportunities for self-assessment, self-instruction and learning of self-audit technique.

2. *Decentralize educational programs on a regional basis.* Of particular value here is the development of a regional network of affiliated family practice residency programs. Such a network allows new relationships to be established with practicing physicians over a wide area. It affords closer communication with the medical school and visiting faculty, opportunities to teach in community hospital settings, and access to the newer techniques of patient care utilized in model family practice units.

3. *Establish improved linkages between primary, secondary, and tertiary care.* Departments of family practice are in an ideal position to facilitate improved linkages between primary, secondary, and tertiary care within their regions. They can interface actively with other faculty and resources of the medical school, with community hospitals of various sizes in outlying communities, and with practicing family physicians over a wide area. Efforts should be directed toward improving consultation services on a regional basis. Telemetry for electrocardiographic and electroencephalographic interpretation are examples of two methods of demonstrated value. Interactive radio or television linkages with outlying affiliated hospitals could make consultation more readily available and better utilize specialty resources of the medical school.

4. *Involve practicing family physicians in part-time teaching.* Practicing family physicians have much to offer in both undergraduate and graduate teaching. Students and residents require "real world" role models and the teaching input from those engaged in active practice in varied settings. Departments of family practice have a particular responsibility to help family physicians learn problem-oriented record and audit techniques, and improve their teaching skills.

5. *Develop specific educational support methods.* There are several approaches to serving family physicians on a regional basis. A teaching bank can be established for multimedia self-instructional materials. These can be made available to affiliated hospitals and physicians in outlying communities. Self-assessment examinations can be developed which allow for individual profiles of test results and specific identification of educational needs. Methods for profiling one's practice can likewise be made available to practicing family physicians. Locum tenens exchanges can be established between third-year family practice residents and individual family physicians. Such exchanges allow residents to gain a better perspective of anticipated practice settings while providing family physicians with someone to cover their practices while they pursue further training at the university.

6. *Engage in collaborative research with practicing family physicians.* Research in family practice is a wide-open field with many areas requiring study. Such efforts are now being facilitated by the establishment of departments of family practice in medical schools, the development of improved audit and record retrieval systems, and by refinements in disease coding for common clinical problems. Participation in collaborative research projects should be of real educational value to all physicians involved.

Recommendations for the Family Physician

Although this paper has pointed out some of the difficulties involved with continuing medical education, I would propose the following specific recommendations to the individual family physician:

1. *Assess your own attitudes.* It is useful to look at ourselves in terms of our need and desire to learn, our priorities for continuing medical education, our sense of guilt in committing time to this and taking it from our practice, our willingness to expose ourselves to our peers or others concerning our areas of educational need, and how each of us feels we learn best.

2. *Identify your needs.* Several approaches have been suggested for this process, including profiling of one's practice, taking self-assessment examinations, the use of the problem-oriented medical record and audit technique.

3. *Explore available educational resources.* This involves looking in one's community for potential help from colleagues and consultants, and looking at resources within the region and nearby teaching programs including medical libraries, journals, courses offered, and self-instructional media.

4. *Individualize your approach to specific needs.* Each physician's approach should be adapted to his own needs and learning style. A number of options are available. Selected courses and locum tenens exchanges have been mentioned. To this could be added study through self-instructional media, reading and teaching.

5. *Utilize consultation as a teaching process.* Consultation affords an important and often neglected avenue for continuing medical education. If we choose our consultants not only for their competence in dealing with a difficult problem, but also for their willingness and interest in teaching, we can make each consultation a valuable learning experience.

6. *Set a habit for continuing medical education.* This involves organizing our practice so we can allocate time for continuing medical education. Our own personal priorities may have to be reorganized to make this happen.

7. *Further information in various areas can be obtained.* Several specific sources are recommended. Bjorn and Cross' book on the problem-oriented private practice of medicine is a good reference on the problem-oriented record and audit in a small group practice.[10] The recent work by Easton on the problem-oriented medical record is useful in the same area.[11] Several recent articles describe newer methods of audit as one type of continuing education.[12-14] The AHME Journal is recommended for other articles of this nature.* Beyond these references, it should be possible to identify physicians within your hospital and community who are interested and informed about newer techniques in continuing education.

Discussion

An expert committee on continuing education of the World Health Organization recently stated that "the primary purpose of continued medical education is to assist in the maintenance and improvement of competence of delivering preventive and curative health care, not merely to impart knowledge and to spread information."[15] Continuing medical education is continuing self-education. It is an active approach which should be based on specific needs. Help is increasingly available within our communities and from adjacent medical schools to aid us with this process. The American Board of Family Practice has pointed the way to a new emphasis on continuing medical education. Recertification (every six years) is now a reality and goes beyond the written examination to include audit of family physicians' office and hospital records. Our challenge now is to make continued learning more accessible, more specific, and more meaningful to each individual physician.

Many years ago Sir William Osler said, "In what may be called the natural method of teaching, the student begins with a patient, continues with a patient, and ends his studies with the patient, using books and lectures as tools, as means to an end."[16] Today we may add other methods to books and lectures, but the essence of this statement is unchanged and the responsibility for continued education remains ours.

*The AHME Journal is published by the Association for Hospital Medical Education, 1911 Jefferson Davis Highway, Suite 1003, Arlington, Virginia 22202.

References

1. Meeting the challenge of family practice. Report of the Ad Hoc Committee on Education for Family Practice of the Council on Medical Education. Chicago, AMA, 1966, p 28
2. Farber SM: In, Relevance today and tomorrow in medical education. Calif Med 112(5):69, 1970
3. Brown CR, Uhl HSM: Mandatory continuing education — Sense or nonsense? JAMA 213:1660-1668, 1970
4. Miller GE: Continuing education for what? J Med Educ 42:320-326, 1967
5. Continuing Education for Physicians. Report of a WHO Expert Committee. Geneva, World Health Organization, 1973, pp 28-29
6. Miller GE: op. cit. p 322
7. Miller GE: op. cit. pp 322-323
8. What about your continuing education? Patient Care 5(9):7-61, 1971
9. Stein LS: Your Personal Learning Plan, A Handbook for Physicians. Chicago, Illinois Council on Continuing Medical Education, 1973
10. Bjorn JC, Cross HD: The Problem-Oriented Private Practice of Medicine. Chicago, Modern Hospital Press, 1970
11. Easton RE: Problem-Oriented Medical Record Concepts. New York, Appleton-Century-Crofts, 1974
12. Phillips TJ, Bratrude AP, Wood FC: Peer review of a small group practice. J Fam Prac 1(1):28-33, 1974
13. Campbell HJ: Do physicians satisfy their own diagnostic and treatment criteria in the care of patients with urinary infections? J Fam Prac 1(2):19-23, 1974
14. Smith SR: Application of the tracer technique in studying quality of care. J Fam Prac 1(3/4):38-42, 1974
15. Continuing Education for Physicians. Report of a WHO Expert Committee. Geneva, World Health Organization, 1973, p 30
16. Osler W: Aequanimatis, with other Addresses to Medical Students, Nurses and Practitioners of Medicine, ed 2. Philadelphia, Blakiston's Son & Co, 1932, p 315