

# Continuing Medical Education in Wisconsin: Current Status and Future Directions

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## ABSTRACT

Continuing medical education (CME) of physicians, a life-long commitment, is one of the foundations of medical professionalism. This article outlines CME objectives and the regulatory framework through which it is delivered, addressing the safeguards against commercial intrusion and the preservation of scientific objectivity. The article also includes a brief review of the principles of adult learning in general, and of physicians in particular. The overall effectiveness of CME in terms of proximal learning and distal improvement of patient care outcomes is critically analyzed, and the future of CME is outlined briefly.

## INTRODUCTION

Professionalism has deep roots in knowledge, skills, and behavioral attributes and relies heavily on continuous reinforcement, renewal, and innovation.<sup>1,2</sup> The initial education of a physician becomes a continuous learning process, as evidenced in a 1966 study of 426 physicians and surgeons in Utah who spent 15% of their working hours on continuous learning, mainly reading (50%), structured lectures and discussion (30%), and educational interaction with colleagues (20%).<sup>3</sup> Continuing medical education (CME) has since become mandated by many states and professional organizations as a basis of licensing, membership, or practice privileges. Since the early 1970s, 45 hospitals and their networks, 9 specialty societies, 2 county medical societies, 2 medical schools and 4 other organizations (including the Wisconsin Medical Society) have provided CME throughout Wisconsin. One of the most significant changes since a 1980 survey report in the *Wisconsin Medical Journal* is the conglomeration of hospitals and physician groups into networks.<sup>4</sup> This has also changed the planning, content, and delivery of CME with due recognition of the transformation of medical practice

from the solitary practitioner model to the assimilation of the individual's practice into a medical care system of clinics, hospitals, protocols, and electronic information systems. This article, established in collaboration with the Wisconsin Medical Society's Council on Medical Education, will provide an overview of the status of CME in Wisconsin, in part by looking at innovative approaches to CME developed by Wisconsin health care professionals, recorded in, and collected from, their accreditation site surveys.

## CME BASICS

Health care is unquestionably the most knowledge intensive of all the service industries. The amount our society spends on education and training in general, estimated at \$1 trillion in 2000, equals or even surpasses our health care spending.<sup>5</sup> According to a 2002 study, there are 2500 accredited CME institutions throughout the United States; of these 697 are accredited nationally by the Accreditation Council for Continuing Medical Education (ACCME). The original CME model had been derived from, and had been implemented in continuity with, the academic model, particularly when residency programs came under the umbrella of medical schools in the late 1960s. This second major reform of American medical education extended the role of academia in the control of physicians' knowledge and skills through post-graduate training. However, while undergraduate and postgraduate medical education and training are extensively standardized nationwide and virtually worldwide, there are no national curricula for CME. Planning and execution are left to the needs and the judgment of each individual provider, based on evidence of CME needs assessments.<sup>3,6</sup>

The "Essential Areas and Elements" established by the ACCME and the Wisconsin Medical Society for the accreditation of CME providers have come a long way not only to provide uniformity, but also to ascertain high academic standards for the educational processes while assuring freedom from commercial bias.<sup>6,7</sup>

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## GOALS AND OBJECTIVES OF CONTINUING MEDICAL EDUCATION

The Wisconsin Medical Society defines CME as consisting of:

Educational activities that serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession. The content of CME is that body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of clinical medicine, and the provision of health care to the public.

This is a purposely broad definition that can be applied to professional situations physicians may carry out:

All continuing educational activities that assist physicians in carrying out their professional responsibilities more effectively and efficiently are CME. A course in management would be appropriate CME for physicians responsible for managing a health care facility; a course in educational methodology would be appropriate CME for physicians teaching in a medical school; a course in practice management would be appropriate CME for practitioners interested in providing better service to patients.

Donabedian, examining the quality of health care, concluded that outcome is the result of structure and process. In this context, structure refers not only to buildings, institutions, and machines but also the knowledge/skills/attitudes of medical professionals. Process refers to the varied pathways and systems, the participation of other professionals, the health care labor force, and the organization of their tasks, through which care is delivered.<sup>8,9</sup>

In support of these important components, the 4 main goals and objectives of CME are summarized:

1. Providing a structured learning process integrated with clinical experience and self directed studies to improve knowledge and skills and prevent their decay.
2. The systematic presentation of changes and advances in medical science, technology, and practice. The science of managing health care delivery has recently been included.
3. Analysis and review of the processes and outcomes of care, including mortality/morbidity, adverse events, patient safety, process standardization by guidelines, pathways, and algorithms. Including nurses, pharmacists, and other medical professionals in these presentations affirms their role in systems-wide practice, in process-engineering, and the implementation of

changes in every-day-practice.<sup>10</sup>

4. The cultivation of interpersonal and intra-organizational skills, attitudes, and behavior. Examples are courses on physician leadership and management skills,<sup>11,12</sup> patient/physician interaction, interviewing and counseling skills, and dealing with terminal illness with insight and compassion.

## THE WISCONSIN MEDICAL SOCIETY'S ESSENTIALS FOR CME ACCREDITATION

Standards for CME accreditation have been formulated and are administered by the Accrediting Council for Continuing Medical Education (ACCME).<sup>6,7</sup> The Wisconsin Medical Society has the accreditation authority for intrastate CME programs and their provision. The major purposes of accreditation are to ensure quality and integrity of accredited providers by:

- Establishing criteria for evaluation of educational programs and their activities
- Assessing whether accredited organizations meet and maintain standards
- Promoting organizational self-assessment and improvement
- Recognizing excellence

The Wisconsin Medical Society Council on Medical Education has developed the following goals for its accreditation program:

1. Assure that those institutions and organizations that offer CME programs can realistically provide quality educational activities.
2. Assure that those accredited institutions and organizations are accomplishing their stated CME goals.
3. Assure that directors of medical education, and members of the Council on Medical Education, understand the essential areas, elements, and policies, the accreditation process, and the principles behind both.

In order for the Wisconsin Medical Society to assess and accredit CME providers, it carries out periodic surveys that examine compliance with the 3 Essential Areas of performance: (1) Purpose and Mission, (2) Educational Planning and Evaluation, and (3) Administration. Each of these Essentials Areas, listed below, has from 2 to 5 elements to measure performance. Each is followed by innovative approaches by Wisconsin CME providers.<sup>13</sup>

Accreditation standards focus on the following areas:

### 1. Purpose and Mission

The CME mission must be well defined including its purpose, content, audience, activities, and outcomes. This mission must be congruent with, and supported by a parent organization if such exists.

## *Example*

In large health care networks, one can find an Education Council, or its equivalent, coordinating all organization-wide professional education, including physicians' CME. It has lateral support from a Physician Team and a Hospital Team and other professional groups, particularly nurses and pharmacists.

Community Education, directed at patients and the public-at-large, is integrated with CME planning and attempts to provide concurrent programs on related topics.

All planning and directing activities are vertically and laterally integrated within the clinical and administrative matrix of the organization to assure congruence with the health care system's overall mission.

## **2. Educational Planning and Evaluation**

The CME provider must use a planning process that links educational needs with desired results, uses needs-assessment data to plan educational activities, communicates the objectives before the activity, evaluates the effectiveness of the individual CME program, and evaluates the overall effectiveness of the CME program and process.

## *Examples*

Learning needs are solicited at least annually from the physician staff, its leadership, and other professional groups in accordance with the composition of the CME committee.

In addition to the learning needs of professionals, information and education needs coming from the executive level of the organization are recognized, including issues related to the quality, safety, and economy of patient care, and legal and regulatory topics.

Much of the time, presentations and requests for specific topics are based on what is already known. This latter component amounts to as much as 50%-75% of individual lectures. However, comprehensive planning of CME must also provide for entirely new knowledge and skill areas.

Consultants are queried for input regarding "hot topics," specialty groups for certification/recertification review sessions, and the physician leadership concerning "mandatory topics" such as disaster management, biohazards, epidemic illness, etc.

Training in clinical skills and personal attitudes is combined with related lectures through breakout sessions or workshops. Videotaping physician-patient interactions has been helpful in the improvement of interpersonal skills.

The purpose and objectives of a learning presentation, activity, or program are communicated in advance to all participants and target audience, staff composition (specialty, age of physicians, other professional participants) are communicated to the presenters.

Proximal learning objectives, the immediate acquisi-

tion or renovation of knowledge and skills are juxtaposed with the distal goals of improved practices and patient outcomes. A pre-lecture quiz with post-lecture answers help maintain learning suspense. Quality of care and clinical outcome data related to the topics are built into the presentations and become references for later outcome studies.

Immediate outcomes include effective learning, quality of audio-visual support, appeal and effectiveness of speakers, suitable learning environment, time and place, helpful handouts, interactive learning and discussion, practical guidelines, patient care exercises, best and worst features, percentage of new versus old knowledge, freedom from commercials and infomercials, future topics, and impact on practice. Where applicable, quantitative scales are used on the program evaluation forms (1-5, worst to best, strongly agree to disagree, etc.).

Follow-up quality of care and outcome studies are pursued institution-wide.

In annual reviews, the long range process of CME is measured in terms of summarized attendance and profiling of participants, summarization and trending of individual activities/programs evaluations, impact on patient care and system functioning.

Of interest, on a broader scope, a retrospective survey of 5 major Wisconsin health care organizations showed some disappointing needs assessment trends. The survey, covering 314 topics of their CME activities/programs during the years 2000-2003, revealed the following breakdown by specialty and general interest areas: General medicine (office practice, prevention, alternative medicine, pain management) 18%, cardiovascular diseases 14%, infectious diseases/use of antibiotics: 9%, administrative medicine, health care regulations: 8%, cancer medicine and hematology: 6%, gastrointestinal diseases: 5%, neurology: 5%, endocrine/metabolic diseases: 4%, behavioral medicine: 4%, obstetrics-gynecology: 4%, pulmonary diseases and critical care: 3%. Skin disorders, genitor-urinary disorders, and musculo-skeletal diseases were each below 3%. There was no clear correlation between medical staff needs assessments and the topics offered. Some of this probably relates to the availability of qualified speakers. Even though quality and safety of patient care issues circulated among the planning committees' deliberations, they did not seem to drive specific topics, activities, or programs.

In their individual responses to various CME presentations Wisconsin physicians remarked the following: CME helps standardize practice, when it is science based and evidence supported. Variability is reduced, complexity simplified and better control facilitated. It is a "wake-up call" to scrutinize longstanding practices and to critically

evaluate non-ideal outcomes. CME is a favorite environment for physician leadership to develop.

### 3. Administration

The CME provider must have an organizational framework that provides the necessary resources to support its mission, operate the business and management policies and processes so that its obligations are met, and present CME and activities in compliance with the policies for disclosure and commercial support.

To avoid commercial support conflicts, the key words to address are “independence” and “disclosure.” “Identification of CME needs, determination of educational objectives, selection, and presentation of content, selection of persons and organizations involved in the control and planning of the programs, selection of educational methods and the evaluation of the educational activity” must be free of commercial interest.

The intake and disbursement of commercial funding must also guarantee the independence of the CME program it is applied to.

#### *Examples*

A CME director, administrative staff, and the medical education committee plan and coordinate all CME. This committee includes all major professional divisions and departments of the medical staff, audio-visual resources, medical library/electronic educational resources, and other professional groups such as nursing and pharmacy. It receives periodic input from the quality assessment/continuous improvement, patient safety, infection control, and resource utilization activities. Among the latter, infection control, risk management, and general quality assurance are commonly represented on CME committees.

The planning group is aware of “supply” (commercially sponsored speakers of ready availability) versus “demand” driven CME, evident from the needs assessment. Balance of topic coverage and independence from commercial interests are important here.

A representative of the organization’s Chief Financial Office assists in the procurement of CME funding from mainstream budget sources, commercial contributions, and philanthropic resources such as a foundation.

#### *Conflict of Interest and Commercial Support*

At each lecture, introductory slides identify the speaker, important disclosures of conflict of interest, and commercial affiliations and the commercial/financial support for the program.

Periodically, lectures and discussions are held regarding a “medical-industrial complex,” the role of industry-based research and development, critical thought and judgment when confronting pharmaceutical sales and promotion

staff, and also in the study of drug and technology related research.

### **SOME PRINCIPLES OF ADULT LEARNING: ANDRAGOGY VERSUS PEDAGOGY**

Adult learning (andragogy) differs from that of children (pedagogy) in specific ways. Adult learning is a process of change or accretion to knowledge already in existence. It is also modulated by the professional experience of the learner who comes to the learning experience with a pre-established self concept and identity, elements that are not yet fully developed in children.<sup>1,14</sup> The organic components of the memory process of learning are similar in both groups. Memory is multicentric, residential in specific brain areas as well as associative from one center to another.<sup>15</sup> The permanency of a learning experience is dependent on repetition, reinforcement, and practical application, and this dependency increases as the professional ages.<sup>16</sup> The vertical process of a child’s learning, from parent, teacher, and culture on down, becomes more lateral in the adult professional, supplemented by social discourse and interaction, lateral inputs from peers, and personal experience.<sup>3</sup> Concurrently, the external dominance of a teacher is transformed into the internal drive to learn and its immediate relevance to one’s work and social standing. The congruence and the effectiveness of a working community also becoming a learning community began to be observed decades ago, when industries became schools and universities, and when “on-the-job-training” predated the vocational school.<sup>14</sup>

The endpoint of adult professional learning is critical thinking and decision making, both of which are not only dependent on a broad basis of knowledge, skills, and behavior but also on a well-established routine process by which they are brought to a specific task or challenge. The latter supports the emergence of problem-centered over topic-centered learning, reflected in the popularity of case discussions and clinical-pathological exercises.<sup>13</sup>

#### *What Enhances and Facilitates Continuing Learning?*

Physicians’ thinking and problem solving seems to be predominantly inductive, that is, derived from observation and study of a clinical situation, rather than deductive—pure exercises of abstract reasoning. Building a moment of discovery into a presentation will move a learning experience along these established intellectual tracks; so will the structured presentation of a disease along the customary templates of anatomy, physiology, pathology, and clinical manifestations, diagnostic and therapeutic strategies.

Connecting new knowledge to something old requires careful emphasis of bridging knowledge, insight, and understanding of what has changed. For instance, a primary

care physician studying and training in office psychotherapy will enter new zones of development. New knowledge can be acquired rapidly. However this endeavor is a relatively slow process, dependent on practice, reinforcement, and time.<sup>17,18</sup>

Much of a physician's ongoing learning is predicated on conditioned experiences, among which the effectiveness of teachers still ranks high. Good teachers are experienced in their realm of knowledge and work. They are clear, enthusiastic, and engaging in their transmission of knowledge. They know their learning group and its starting point of common knowledge and experience and pace themselves flexibly according to the group's variable speed of acquisition and understanding. They recognize the need for repetition and reinforcement of their presentation and therefore will provide handouts, summaries, or a syllabus of their lectures.<sup>19</sup>

Finally, the CME program of a health care system must submit itself to continuous quality improvement, just as all other component services do. Much of this is already entailed in the Self Study process, the annual evaluation of our own CME, but our minds should remain open for potential upgrades, as already implemented in some medical schools and certainly adaptable in CME.<sup>20</sup>

### **CONNECTING CONTINUING EDUCATION WITH IMPROVEMENT OF PATIENT CARE**

The evidence that CME has a direct impact on physicians' performance is weak.<sup>21-24</sup> However, distinctions need to be made, aligned with the goals of CME outlined earlier in this paper. In all of these areas, the effectiveness of learning increases as better modalities of teaching/learning are utilized: The undergraduate model of straight, didactic lecture, still the cheapest means of CME delivery, has become ineffective but can be strengthened by the involvement of respected peers and opinion leaders.<sup>25</sup> It can be improved by interactive learning, structured discussion groups, problem focused exercises, interspersed critical reading assignments, pre- and post-presentation tests, timely reviews, and reminders.<sup>22,26</sup>

As evidenced by the participants' replies on their evaluation forms, in a given presentation there is, on average, a 25%-50% learning effect of something new, which may either bolster previously acquired but nearly forgotten knowledge or introduce new information.<sup>13</sup> This proximal effect should influence physicians' performance, perhaps only to maintain it at a level of their previously established proficiency. A physician's desire to learn, usually under some pressure, still plays a pre-eminent role, such as changes in antibiotic prescribing habits for otitis media in children, which was significantly altered by a single,

conclusive article.<sup>27</sup> Individual and group learning is of particular importance in broadly based specialties such as family medicine, where changes in practice assignments require the resurrection or new acquisition of unfamiliar knowledge and skills. Usually, a physician's specific job description is driven by the content and structure of his/her formalized training. However, situations arise where this knowledge and skills reservoir needs to be amended to meet a different practice environment, particularly in large health care organizations such as the US military.<sup>28</sup>

When venturing beyond the knowledge and skills of individual physicians into the deeper realms of changing attitudes and behavior, as for instance in the effort to promote spiritual care of patients, a relationship environment among students and teachers (Balint groups) is essential. The individual processing of this new learning through written reflections has also proven helpful.<sup>25,29,30</sup>

Changing and improving medical practice requires multifaceted strategies that recognize and address all of the resources involved. These include: the avoidance of CME's "solitary silo" effect by the participation of all involved individuals or professional groups so that the learning team also represents the working team; knowledge acquisition via visual, auditory, and interactive pathways; and the presence of learning road maps, reading materials, related clinical pathways and best evidence documents.<sup>31</sup> If possible, the problem statement that initiates the program should be supported by plausible and convincing data that may have been collected in single institutions or specialty groups, and that may be based on regional experience such as an anti-drinking campaign in Australia, or society-wide problems such as the management of hypertension in Canada and the management of pediatric obesity.<sup>32-35</sup> Timely follow-up needs to be included through reminders, audits, and analysis of the implementation process and its outcomes. When CME is built into a practice improvement project it must be well focused rather than diffuse, as proven by effective programs that have dealt with tamoxifen therapy for high-risk breast cancer candidates and the management of asthma.<sup>31,36</sup>

Innovation in CME entails the expansion of its focus into "continuous professional development," the multidimensional development of knowledge, skills, and behavior. All have roots in undergraduate and postgraduate medical education but must now expand to include economic responsibilities, coordinated patient care, ethical and cultural sensitivities, and the ability to function within integrated health care networks.<sup>17,37</sup> CME has specific dimensions of time, space, and communication. Outside of administrative meetings, CME activities such as grand rounds or lectures are the only occasions for a larger physician group to meet,

learn, and discuss. Therefore why not append to a presentation, if appropriate, discussion and consensus building of new pathways of care that may relate to the learning topic? As recently emphasized by the Institute of Medicine, clinical education among the health professions should concentrate on the provision of patient centered care, work in interdisciplinary teams, employ evidence based practice, apply quality improvement, and utilize informatics.<sup>38</sup>

## COMMERCIAL SUPPORT AND CONTINUING MEDICAL EDUCATION

The total income of the ACCME-accredited CME providers (\$1.6 billion), and extrapolation of a much higher figure (probably around \$2 billion) across the other 1800 providers attest to the industrial dimensions of CME as approximately 50% of this revenue comes from commercial sponsorship.<sup>39,40</sup> The pharmaceutical industry and other commercial sponsors are the forefront of CME's financial support, accounting for approximately 60%-90% of all CME funding.<sup>40,41</sup> However, we must be vigilant in assuring the objectivity of our learning and the protection of our patients.

The unceasing growth of pharmaceutical, technological innovation, and drug spending has enhanced the forces of supply (research and manufacturing), and demand (patients and care givers), and is further complicated by the impact of direct consumer advertising by the pharmaceutical industry.<sup>42,43</sup> Among the needs assessment surveys by Wisconsin CME providers "Advances in Antibiotic Therapy," "The Use of Lipid Lowering Drugs," and "Anti-Hypertensive Drug Therapy" are recurrent and popular topics, according to national surveys of physicians.<sup>13,44</sup>

In response to these pressures, ACCME has reinforced and extended its accreditation requirements to assure the scientific objectivity and neutrality from commercial intrusion, summarized by Studdert et al in an excellent overview.<sup>45</sup> In order to protect CME, "firewalls" have been erected by both medical groups and the pharmaceutical industry, which address conference and faculty financing, presents, meals and lodging, the contents of individual presentations as well as larger conferences, the standards of disclosures and conflicts of interest, and the terms of scholarships.<sup>45</sup> The disbursement of pharmaceutical financial support for CME activities and for selective speakers cannot be direct but must be transferred to the institutions sponsoring the programs. While regulatory scrutiny of drugs, stents, diagnostic and therapeutic technologies increases the "firewalls" designed to protect CME from commercial distortion, the firewalls need to be flexible enough so that they do not compromise the delivery of new knowledge.<sup>46</sup>

Alternative means of financing CME invariably point back to our health care organizations' operating budgets, where education and process improvement could be consolidated. Otherwise, the cost of CME may have to be returned to the participant physicians through higher registration fees or tuition.<sup>47</sup>

## CONCLUSION

In summary, CME is undergoing an evolutionary change that parallels that of health care in general. Since an earlier CME survey in Wisconsin, American health care has evolved through various cost containment schemes, managed care systems, adjustments in public payer provisions, the corporatization of provider systems, and increased demands on out-of-pocket spending for health care.<sup>4,48</sup> In addition, as with all health care, CME is continuously challenged to improve itself, to analyze its weaknesses and strengths, and to arrive at new modes of efficiency and effectiveness. This article attempted to present innovation and changes in the provision of physicians' and health care systems' efforts to direct the flow of new knowledge and skills toward better outcomes for our patients. Commercial intrusion into these efforts must also be recognized and guarded against, an often ambiguous task, since in our competitive environment neither pharmaceutical companies nor some of us physicians are free of self-directed profiting. Mindfulness of these natural undercurrents and the continued cultivation of critical thinking and decision-making are the best defenses we must pursue.

Finally, a strategy for the future of CME in Wisconsin should include the following:

1. Follow the leads of innovative practices presented and discussed here. Expand the annual CME conference offered by the Council on Medical Education of the Wisconsin Medical Society by addressing continuous improvement in teaching, learning, and CME administration.
2. Boost independent learning with the availability of computerized teaching and learning via intra- and internet systems and other electronic resources. Similar to CME obtained through medical journal articles, grant CME credits by attaching appropriate test questions to each learning unit.
3. Decentralize CME where feasible. Use teleconferences, clinic meetings and other small and effective learning groups that lend themselves to more intensive interactive learning.
4. Present and discuss resource utilization along with academic topics, including guidelines, time tables for care delivery, and pathways for increased efficiency and effectiveness.<sup>48</sup>

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# Wisconsin Medical Journal

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