VIEWPOINT

Continuing Medical Education in the Developing World: Timely Need for Better Structure and Regulation as a Quality Issue

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Abstract
Continuing medical education (CME) generally aims 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. CME covers the 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. CME credit hours are generally earned through events approved by the recognized CME Committees. Physicians earn credit based upon the number of learning contact hours. Most licensing bodies require a set number of these credit hours for renewal of license (maintenance of certification). In the developing world, medical registration may not be subject to an updating (revalidation) process and may simply mean having obtained a medical qualification and paid renewal fees for the "Doctor's Syndicate". We propose that, for the sake of patients' safety and other benefits, doctors should earn a minimum number of CME hours as a prerequisite of their maintenance of medical certification. In the development phase, voluntary scheme may be adopted. To encourage provision of such programs, the accreditation process, should initially be simple and may get progressively stricter at later stages. To avoid pharmaceutical bias the accrediting body could come up with a list of clinical topics that are of high relevance and importance to the practice, and recent translational research findings. This could be done in collaboration with scientific societies and postgraduate academic institutions. We think maintaining a list of "credible providers" is more relevant than imposing a complicated application process with each event. Using "paperless" online application and accreditation processes should save time and effort.

Key words: Continuous professional development (CPD), Continuous medical education (CME), Postgraduate Education, Pharmaceutical promotion, Conflict of interest.

Introduction

Continuing medical education (CME) is not a new concept. It is indeed quoted in the Hippocratic Oath "*I will respect the hard-won scientific gains of those physicians in whose steps I walk, and gladly share such knowledge as is mine with those who are to follow"* figure 1 (1). Many statuary and profession bodies affirmed this over the years. The European Union's Dublin Declaration stated in a clear modern language *"Continuing medical education is an ethical duty and individual responsibility of every practicing doctor throughout his professional life"* (2). From essentially the beginning of institutionalized medical instruction (medical instruction affiliated with medical colleges and teaching hospitals), health practitioners continued their learning by meeting with their peers (3). Grand rounds, case discussions, and meetings to discuss published medical papers constituted the continuing learning experience. CME may be referred to as CPD (continuous professional development), a more generic term encompassing other professional groups than doctors.

Today, CME generally describes 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 (4-6). The content of CME is the 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 (4-6). CME credit hours may be earned through events approved by the recognized CME committees and also by performance improvement projects that follow an approved design. Physicians earn credit based upon the number of learning contact hours (4-6).

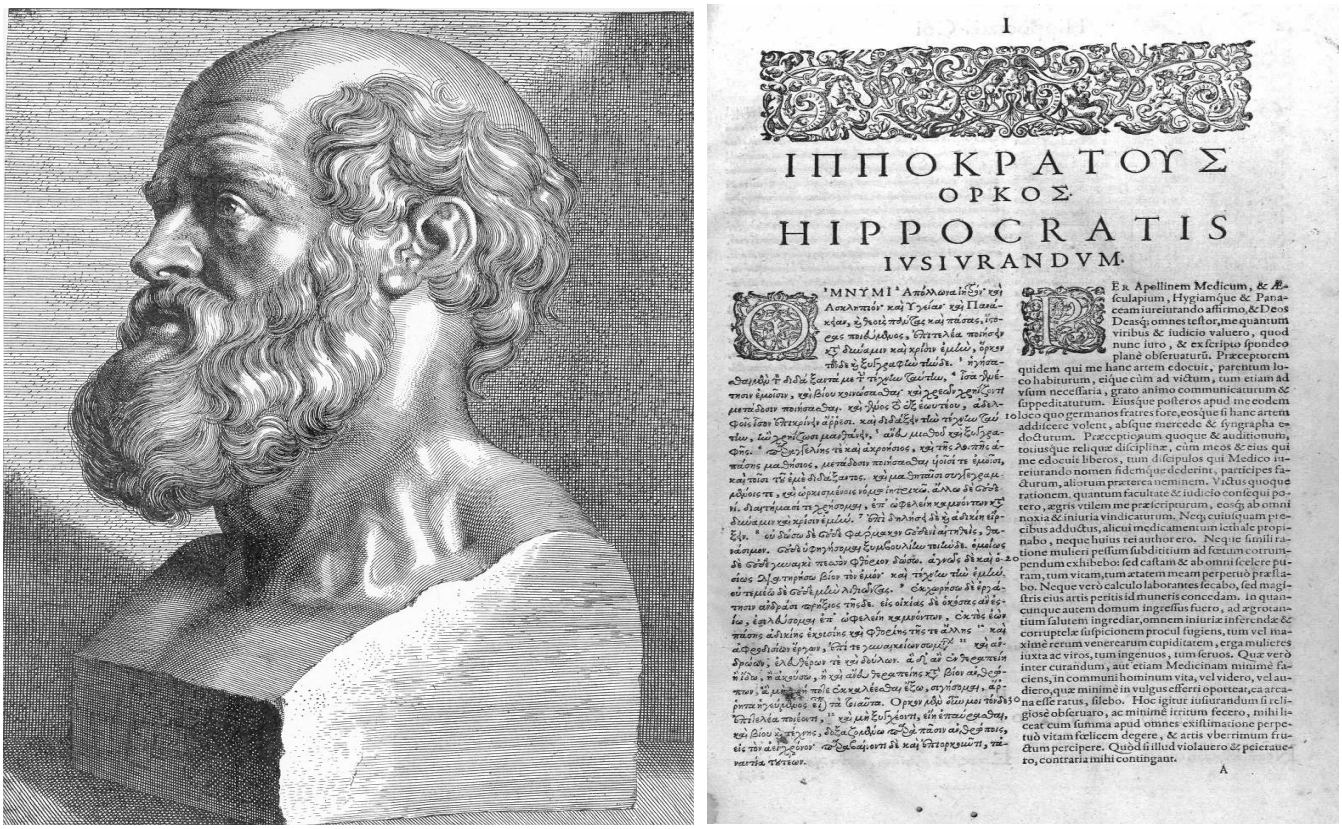

Figure: "The Hippocratic Oath" is probably the first ever mention of the concept of continuous medical education on record.

Despite minor differences in the processes, the universal acceptance of essentially the same principles governing such processes are very clear from the great resemblance of the documents available on line in the web sites of a wide unrelated bodies (4-6).

In the 1950s through to the 1980s, CME was increasingly funded by the pharmaceutical industry. Concerns regarding informational bias (both intentional and unintentional) led to increasing scrutiny of the CME funding sources. This led to the establishment of certifying agencies acting as an umbrella organization representing medical associations and bodies of academic medicine from the United States, Canada, Great Britain, and Europe (7). The pharmaceutical industry has also developed guidelines regarding drug detailing and industry sponsorship of CME (8-9).

Sadly, in many parts of the developing world, no formal schemes exist for renewing of licenses and consequently, CME is not taken seriously. In this viewpoint we wished to consider the general principles and different models of maintaining accredited CME schemes and to call for better structuring and formal regulation thereof. It is by no means a detailed technical review but rather a thought provoking exercise and a call for action. Although, more established CME schemes do indeed exist in some countries such as Saudi Arabia (10-12); a special reference to the CME scheme in a newly developed country such as the United Arab Emirates (Appendix 1) was made to just to illustrate the feasibility of putting these plans to action when a professional desire and political will exist (6,13-14).

Continuing Medical Education

Common Principles and Practice

CME activities may take place as live events (which is the main focus of this view point), written publications, online programs, audio, video, or other electronic media (3). Content for these programs would be developed, reviewed, and delivered by faculty who are experts in their individual clinical areas. Similar to the process used in academic journals, any potentially conflicting financial relationships for faculty members must be both disclosed and resolved in a meaningful way (3). However, some critics complain that drug and device manufacturers often use their financial sponsorship to bias CMEs towards marketing their own products (15). This will make it imperative for employers to help their employees obtain their required CME needs through credible providers as matter of contractual obligation rather than a luxury. This obviously excludes two scenarios, firstly sponsoring individuals attending independent academic/professional conferences and secondly sponsoring events by "unrestricted educational grants".

CME Requirements: Obligatory vs. Voluntary

In the USA, CME is required for medical professionals to maintain their licenses. An average of 50 hours of

Table 1. Barriers to CME/CPD in Resource-poor Regions of the Developing World and Some Proposed Solutions (18).

	Barriers	Solutions
1	Motivation	Change of culture, recognition and incentive for participants and/or sanction for non- participation.
2	Time	Monitored allocation of time within weekly schedule and personal development plan.
3	Finance	Creation of budget lines for CME. Prudent spending during CME events and avoidance of extravagant corporate-style entertainment (aim is learning rather than partying).
4	Access	Wider publicity of events, use of CD ROM and internet based learning.
5	Know-how	Effective self-directed learning and a reflective medical practice. In group sessions, workshops are more important than plenary lectures.
6	Acceptability	Change of culture, needs-targeted educational content with balance between clinical practice and academic subjects.

CME every year is required. In Canada, certification is provided by the Medical Royal Colleges. They are responsible for the development and implementation of all certifying examinations. Specialist physicians maintain their knowledge, skills, competence and performance through participating in the Maintenance of Certification Program. For each five year cycle, fellows of the college are required to document 400 credits, with a minimum of 40 credits obtained in each year of the cycle. Credits are earned at one to two credits per hour, based on the type of learning activity received. 250 credit hours over a five-year cycle are required from the family practitioners with 50 credits obtained for each year of the cycle. To earn and maintain fellowship within the college, an additional 24 credit hours of a more advanced level learning are also required over each learning cycle. In the UK, registration at the CME schemes started as a voluntary practice and the Royal colleges of physicians created a data base that issues certificates of completion of required number hours for individuals to use for their "hospital-based appraisal". The hours required are 250 per 5-year cycle. The scheme is evolving and being linked to the revalidation plans of the General Medical Council, the statutory body responsible for maintaining a list of registered practitioners. In the UAE, medical practitioners require a total of 50 hours per year divided as category 1 (accredited) and 15 to 25 hours from category 2 (non accredited).

Production of CME Courses

CME courses are developed and delivered by a variety of organizations, including professional associations, medical education agencies, hospitals, and academic institutions including universities, medical, and nursing schools. Themes and programs are based on the published literature, good clinical practice guidelines and a local needs-assessment. The needs-assessment exercise can be a survey of the target audience, feedback on previous events, clinical audit that identify gaps in the knowledge and skills of the local professionals. The organizing party should represent the experts in the area and representatives of the target audience. Faculty must be drawn from experts who are capable of addressing the chosen subjects rather than modifying the program to suit available potential faculty. Speakers should stick to their assigned topics and should never take liberties based on their seniority or institutional might to change the subject to a more convenient one. These may sound strange thoughts to express but they seem to happen too often. Programs must be complete and finally agreed by the professionals before any commercial sponsorship is sought. Under no circumstances, commercial sponsors should be involved in the planning or blue-printing of the scientific aspects of an event.

Non-accredited (Promotional) Activities

Non-accredited CME activities also referred to as Promotional Medical Education, encompass a variety of industry sponsored educational programs for medical professionals. Several things serve to distinguish these programs, which are typically aimed at promotion of a given product or therapy, from accredited CME programs:

Events that are unlikely to receive CME (or continuous professional development) accreditation are exemplified by events where direct industry sponsorship or specific product or therapy focus occur, such as the new product launch events and "stand alone" events conducted by manufacturers to highlight a specific set of data related to their products. Usually, there is a strict regulation against off-label promotion whereby all speakers undertake that they will not include recommendations of drugs outside the licensed indications without clearly indicating so.

In many parts of the developing world, no clear distinction can be made between accredited and non-accredited events. Lack of structure and regulation may even be more dangerous than lack of educational activities.

Industry and Medical Education: Too Close for Comfort?

Critics, such as Morris and Taitsman have long argued that the medical profession should eliminate commercial support for CME programs (15). It has been suggested that despite the formal requirements that the program content should be free of commercial interests, "CME providers can easily pitch topics designed to attract commercial sponsorship," and sponsors can award grants to programs that support their marketing strategies (15). The Institute of Medicine (USA) indicates that CME has become too reliant on industry funding that it "tends to promote a narrow focus on the products and to neglect provisions of a broader education on alternative strategies," such as communication and prevention (16). Concerns regarding informational bias (both intentional and unintentional) led to increasing scrutiny of the CME funding sources. This led to the establishment of certifying agencies referred to above by both the professional bodies (7) and the pharmaceutical industry has also developed guidelines regarding drug detailing and industry sponsorship of CME

(8-9). Currently, the influence of industry is reduced by the declarations and affirmations made by organizers that they independently produced the program. All speakers must disclose their potential conflict of interest within their presentation and that no reference is made to off label use of drugs. Additionally, the organizing body must have control over all the finance of the event and that all sponsorship comes as an unrestricted educational grant. To further avoid pharmaceutical bias accrediting bodies could come up with a generic list of clinical topics that are of high relevance and importance to the practice, and that reflect recent translational research findings. This could be done in collaboration with scientific societies and postgraduate academic institutions. This was reiterated by the royal college of physicians of London calling for "decoupling the pharmaceutical industry from continuing professional development" (17). The industry presently pays for about half of all postgraduate medical education. In order to address widespread suspicions that drug promotion is carried out through continuing professional development, the working party recommends weaning postgraduate training off individual pharmaceutical company sponsorship over a time bound period while alternative sources of sustainable funding are organized through for example the royal colleges and the Department of Health.

Status of CME in the Developing World

In many parts of the developing world periodic licensing, revalidation or even annual appraisal are unheard of. A doctor may continue to practice with the same knowledge he or she acquired in the medical school or remote early days of postgraduate training. This poses a very important challenge for regulatory bodies who have a dual job of "protecting patients and guiding doctors" as phrased by the UK General medical council. In underdeveloped countries, many see CME functions as either luxury or a series of social functions mainly sponsored by pharmaceutical companies. We have crudely assessed the legal requirements for a minimum of CME hours in a select region of the Middle East and North Africa by an e-mail survey and found that the majority of the surveyed countries have no compulsory maintaining any minimal CME activities or records (unpublished). This stresses the urgency of dealing with the need as a quality issue. Relying on outside agents is not cost effective and may indeed turn the whole exercise into an income-generating business venture. Additionally, it will not address the specific "needs-sensitive" nature of local and regional CME programs. Although lack of structure and regulation may be a common denominator, other challenges may vary widely between different regions. Whereas lack of funding may be the main barrier in resource-poor regions of sub-Saharan Africa (Table 1; 18), unregulated entertainment-style promotional activities being presented as CME may pose more threat to the credibility of CME in other regions with new access to oil and gas-based national wealth (19).

"Speakers' Tours" and " Stand Alone" meetings are two phenomena peculiar to the Middle East. Aacademics and local practicing physicians to be careful when participating these events so that they will not confuse true CME with promotional activities.

The Way Forward

In the developing world, medical registration may not be subject to an updating (revalidation) process and may simply mean having obtained a medical qualification, secured a registration number with "Ministry of Health" and regularly paid the annual membership fees to the "Doctors Syndicate". We propose that, for the sake of patients' safety and other benefits, doctors should earn a minimum number of CME hours as a prerequisite of their maintenance of medical certification. These credit hours must be "relevant" to the scientific basis and clinical practice in his specialty. In the development phase, a voluntary scheme may be adopted. At this stage, accreditation and mechanisms are piloted and physicians can be encouraged. There are plenty of models and schemes used by many licensing bodies that require a set number of credit hours for renewal of license (maintenance of certification). Any of these can be studied and adopted to the local needs. It took the health authorities in the United Arab Emirates, a very short time to launch and enforce a state of the art system CME accreditation *de novo*. It is currently strictly implemented and is linked to the professional appraisal in the state and independent institutions and the statutory registration and licensing processes (20). To encourage provision of such programs, the accreditation process, should initially be simple and may get progressively stricter at later stages. We think maintaining a list of "credible providers" is more relevant than imposing a complex application process with each event. These providers should maintain a record of all their activities subject to periodic inspection and audit. Using "paperless" online application and accreditation processes should save time and effort (see appendix for an example of such an application). The principles and practicalities of accrediting CME programs are universally similar but may differ based on local and regional needs and regulations. Generic guidelines with the needs of South East Asia

Region in mind are already available (21). Adapting any of the preexisting schemes may actually be much easier than it is feared but one fact remains true that any is better than none. Having said all of this *"A doctor's desire to be more competent in the delivery of health care is the most important motivating factor for continuous learning and change"* (22).

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Appendix: A model guidelines for application for accreditation of CME/CPD events based used by the Faculty of Medicine & Health Sciences, United Arab Emirates University, Health Authority –Abu Dhabi, United Arab Emirate and the Sheikh Khalifa Medical City, Abu Dhabi approved by the Royal college of Physicians and Surgeons of Canada (6,13,14). The paper or online application forms are usually prepared in a tabulated form in order to provide the required information listed below. Applicants are usually advised to read these guidelines carefully before submitting their application.

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1. Who is putting on this activity?

Who is involved in the planning? Where and when will the activity be held? It is our expectation that planning will be performed by a planning group (as opposed to an individual) who will assume responsibility for the overall curriculum offered. This should include individuals knowledgeable in principles of medical education as well as the general topic area. We also want to know where and when the activity will occur.

2. A statement regarding a needs assessment and how the appropriate content for the conference was determined:

a. CME must be based on a need. This is defined as a needs assessment. What this means is that the group at which the activity is directed must have a need for acquiring this knowledge. In even plainer English, "Why should the learners care and bother to participate?". There are many ways in which needs can be assessed. Some examples are: i) Surveys and prior activity evaluations ii) Discovery of a new treatment or therapy iii) Public health data, chart audits, and current events iv) Self assessment v) Government mandates and specialty society guidelines.
b. This is why we ask you to write out how you determined your needs assessment. Simply stating that there is a great need for CME is not a needs assessment. It is a generic platitude.

3. The objectives for the activity:

a. From the needs assessment a set of objectives should be compiled about what the learner is supposed to learn. To have this be a useful activity learning objectives must be: i) Clear. ii) Measurable. iii) Learner oriented. More specifically, for the section regarding learning objectives, bear in mind what the participants should be able to do by the end of the session. Since the objectives should be specific and measurable, behaviourable verbs are to be utilized. General verbs such as "understand, appreciate, know, become, learn" should not be used. For the purposes of the majority of our CME events, participants would be evaluated in 1 or 2 major domains: cognitive (thinking) and psychomotor (doing).
b. Appropriate verbs to use for cognitive goals: define, diagnose, discuss, evaluate, compare, demonstrate, describe, explain, interpret, differentiate, apply, summarize, formulate, contrast, assess, design.
c. Appropriate verbs to use for psychomotor goals: display, manipulate, arrange, perform, create, operate, adapt, write.

4. **Who is the target audience and how many individuals are anticipated will participate in the meeting:**

This is then defined as your "Target Audience". For example: What kind of doctors? Are they primary care physicians, Urologists, Dentists, nurses etc.? Are they health care providers who have been practicing a long time, or new practitioners?. We want to know how many individuals will participate in the meeting to see how likely you are to meet your learning objectives based on the type of teaching activities listed in your program. For example a hands-on workshop with 50 people won't be very successful.

5. A copy of the planned program, which includes times of workshops, lectures, etc:

You need to determine the best way to teach this material. Is it a lecture, workshop, hands-on teaching workshop or other method? This should be listed in your program. We look at your needs assessment and learning objectives to determine if the scheduled activities match. Sometimes we will ask additional clarification regarding the content of the sessions. We will also use your program to determine the number of CME credit hours. We need a detailed program for this to be accomplished.

6. Names and short summaries of the speakers including their credentials and place of employment:

We use this section to assess whether the individuals chosen to give the topics are able to provide this information. This is a fairly subjective assessment but we are particularly interested the speakers relationship to industry such as pharmaceutical companies who are often unable by employment to give an unbiased discussion of their topic

area.

7. A statement regarding sponsorship and the role of the sponsoring companies in developing the program:
We are very concerned that there is not a conflict of interest in the development of the program. Sponsorship by pharmaceutical companies or other members of the health care industry often come with "strings attached". We want to be sure there is an arms length relationship between the sponsoring companies and the material presented.

8. Prepare an evaluation form for use by the participants:
a. Design an evaluation form, which will be completed by the participants. It is important to include 2 references to learning objectives on the evaluation form, such as: "Program objectives were well defined" and "Program objectives were met." The participants must evaluate both of these points.

b. The "evaluation" can be in many forms, but it must be tied to the learning objectives such as questionnaires, tests, review of patient data and focus groups. Evaluations are performed to i) to find out if the objectives were met, ii) to point out the activity's strong points and weak areas so that future activities can be improved and iii) to get an idea of the type of programs that the audience would like in the future.

9. Documentation and certification: How will you document attendance? How will attendees be provided with a record of attendance? It is very important that only individuals who actually participate in the education sessions get "credit" for these activities. At a minimum, some mechanism for awarding partial credit for activities must be provided for day long activities. We are also interested in viewing a draft certificate. Certificates should carry the statement indicating the accrediting body such as "This program is accredited for X CME hours by the X Body".

10. Multiple accreditations: It is rarely necessary to apply for more than a single accreditation. Some agents discourage this whist others to save time and effort and others simply wish to know the motive.

11. Feed-back and Post hoc Information: Some accrediting bodies insist on getting failure to provide this information with in 3 months of the conference may result in a decision to not accredit subsequent CME events of your organization/group.

12. Any additional information may be provided.