

Continuing Professional Development in Emergency Medicine

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Abstract

Emergency Physicians (EP) are faced with increased pressure to be involved in Continuing Professional Development (CPD) activities as a result of the rapidly increasing amount of information in the medical literature, as well as due to pressure for specialty societies and regulatory authorities. There are many choices for CPD activities available to EP. This article reviews the rationale for involvement in CPD activities and the types of activities available to EP. The educational literature is briefly reviewed in order to give physicians an understanding of which types of CPD activities are likely to be effective in not only changing physician behaviour, but hopefully to improve patient outcome as well. Common learning activities such as lecture-based conferences and personal readings have been found to be relatively ineffective in changing doctors' practices. Small group sessions, interactions with colleagues and point of care learning have been shown to be more effective practice modifiers.

Mesh words: Continuing Professional Development, Continuing Medical Education, Emergency Medicine

Introduction

Traditionally there has been an expectation that physicians remain current in their medical practice. This expectation has been both from the public, as well as from physician's own sense of professional responsibility. In recent years, professional organizations as well as regulatory authorities have required doctors to participate in some sort of organized activities for CPD^{1,2,3}. This article will review current expectations of physicians from various external organizations in terms of their CPD requirements, with a focus on Emergency Medicine (EM). In addition, the article will review what is currently known about the best available CPD activities that maximize the chances of changing practice behaviour, with a hope that improved patient outcome will follow.

Expectations of External Organizations

Professional organizations and regulatory authorities have become increasingly demanding of physicians' requirement to engage in CPD activity. Organizations such as the American Board of Medical Specialties (ABMS), of which the American Board of Emergency Medicine (ABEM) is a member, the Royal College of Physicians and Surgeons of Canada (RCPSC) and the College of Family Physicians of Canada have specific requirements of their membership in order to maintain status within the organization.^{1,2,4,5} All of these organizations now require physicians to engage in a certain number of CPD hours to maintain their certification. Additionally, many other regulatory authorities such as the General Medical Council in Great Britain and the various Canadian provincial licensing colleges have implemented or plan to implement "revalidation" plans which contain CPD requirements of its

membership in order to maintain registration in that jurisdiction.^{6,7}

Professional Organizations

The RCPSC, the organization that certifies specialist EPs in Canada has had the requirement that members of their organization be involved in CPD activity since 1999.² In order to stay “in good standing”, the physician must have completed 400 hours of CPD activity over a 5-year cycle. The CPD activity must be diverse in that some types of CPD have a maximum amount that can be utilized in each cycle. For example, personal reading of journals can count as CPD activity, but for no more than 100 hours over 5 years. The RCPSC has divided the learning activities in its program into 6 different types. (Table 1) The purpose of this is to encourage its members to be involved in a diverse portfolio of learning. CPD hours are entered into a Web site that is specific to each physician. Additionally, the RCPSC offers its members the ability to construct “Personal Learning Projects” that are specific to issues of interest to each doctor.

The ABMS consists of 24 member boards, overseeing the certification of many specialists in the United States. The ABMS adopted its Maintenance of Certification (MOC) program in 1998.¹ Each board must have submitted its implementation plan to the ABMS by the end of 2004. While each member board is free to develop their own program, it must adhere to four basic principles. These principles are that physicians need to have unquestionable professional standing within their State Medical Licensing Boards, be involved in lifelong learning and self assessment, have an assessment of their cognitive expertise and have some sort of assessment of their practice performance in order to stay a member of any given board.

The ABEM has rolled out its MOC program called the EM Continuous Certification program (EMCC).⁴ The most important parts of the program, from a learning perspective, are the Lifelong Learning and Self Assessment (LLSA) and the Assessment of Practice Performance requirements. The LLSA program has been designed as a series of annual readings that are based on topics that rotate annually over a nine-year cycle. Each year, there is a 40-item test that must be completed in order to maintain

certification. The development of the Assessment of Practice Performance requirement of the ABEM is still in early stages. The ABEM has stated that it plans to delay the beginning of this part of the program until simple and effective methods have been developed.

Regulatory Authorities

In many jurisdictions, maintaining a medical license requires little more than paying annual dues once the initial conditions for securing a certificate of registration have been met. However, many jurisdictions where medicine is self-regulated have plans to implement revalidation schemes to ensure that physicians are not only maintaining their certification, but are maintaining their competence.^{3,6,7} While the approach to revalidation is evolving and differs between jurisdictions, there will no doubt be expectations placed on their membership to be involved in CPD activities in order to maintain their licensure and continue practice.

Developing an Effective CPD Plan

The addition of external organizations' expectations that physicians be involved in CPD activity to physicians' own professional sense of responsibility adds another dimension of accountability to the development of CPD plans. This is compounded by not only the burgeoning level of medical advancement, but also the large variety of offerings for CPD activities. It is often difficult to know what CPD activities are going to be the most effective in meeting personal needs. Physicians are often encouraged to engage in evidenced-based medicine when involved in clinical encounters. So too can physicians use evidence in the medical education literature to develop sound and maximally effective CPD plans.

Types of CPD Available

Physicians have a wide variety of choices for their CPD activities. Common offerings include conferences with a variety of choices within the conference. These activities are generally lecture-based and with the exception of the opportunity to ask questions at the end of a session, the communications paths are one-way: from lecturer to listener (or sleeper, as the case may be!). There are also many offerings by

Table 1. The Royal College of Physicians and Surgeons of Canada Maintenance of Certification Program. Types of Learning Activities.²

Section	Description of Learning Activities	Credits and Maximums
I – Accredited Group Learning Activities	Rounds, Journal clubs Workshops, Courses, Conferences Distance education programs	1 credit per hour – no maximum
II – Other learning Activities	Non-accredited rounds and meetings Reading journals and texts Information (MEDLINE) searches Audiotapes / Videotapes Computer /Internet CME	1 credit per hour – maximum 100 hours per cycle
III – Accredited Self-Assessment Program	Self-assessment programs developed or sponsored by NSS, faculties and colleges Training or virtual reality simulators used for the purpose of self-assessment	2 credits per hour – no maximum
IV – Structured Learning Projects	Personal learning projects generated from participating in a CPD activity in another section Keep a learning portfolio Traineeships, preceptored courses, Masters & PhD studies	1 credits per hour – no maximum
V – Practice Review and Appraisal	Practice audits and patient surveys Institution audits, incident reports, utilization studies Other care appraisal studies (based on the practice of peers)	2 credits per hour – no maximum
VI – Educational Development, Teaching and Research	Publications (e.g., manuscript reviews) Preparation of presentations, Teaching, Examinations (Question writing) Research (e.g., grant proposals, & trials) Setting standards (CPG development)	1 credit per hour – maximum 100 hours per cycle

industry where physicians are invited to attend a CPD dinner lecture. The presenter is paid by a pharmaceutical firm to present a topic that is of interest to that firm. Although typically smaller and perhaps more intimate than the larger conference, these activities also involve a one-way communication.

Many hospitals and academic organizations offer “rounds”, where learners are invited to hear about a given topic in their area of interest. While these are also usually lecture based, there is generally opportunity for the learner to discuss cases or management among colleagues.

Learners may also choose to learn through reading journals. The journals may be those to which they subscribe and are specialty-specific. Alternatively, many journals are distributed free of charge to physicians who find themselves on a mailing list of some sort. These journals are

generally not peer-reviewed and are of general interest, rather than specialty specific.

Audiotapes and videocassettes or DVD’s are alternatives to reading. These opportunities are often offered in a series to allow the listener or viewer to proceed at his/her own pace.

The internet and electronic devices have developed into potentially powerful learning tools. The internet is loaded with learning prospects that can be accomplished from a distance. These opportunities come in many forms such as on-line discussion groups, case presentations, literature searches and internet teleconferencing. Hand held devices such as Personal Digital Assistants (PDA) allow physicians to access information at the point of care to not only assist in patient care, but to provide learning opportunities. Using a device

such as a PalmPilot® that has been loaded with a software program such as E-Pocrates® (<http://www.epocrates.com>) is one such example of a bedside care and learning activity. This program is a database of hundreds of drugs and contains information on their pharmacology, indications, contraindications, adverse effects, dosing and drug interactions. This process allows the physician to learn based on a patient-specific need.

Some organizations offer small group learning activities. These often occur in concert with large conferences, although can occur in isolation. Workshops, debates, hands-on activities and small group discussions are all examples of these types of learning activities.

The process of self-reflection is a common buzz term recently. This essentially is a process of looking at one's own practice in some capacity and trying to determine what is working and what needs improvement. Practice audits are an example of a structured self-reflection exercise. In EM, a classic example of this would be the study of the door-to-needle time to assess the speed of delivery of thrombolytics to patients suffering acute myocardial infarction. This can be done either institutionally or individually. The results of a study of door-to-needle time can be compared to accepted benchmarks and then efforts can be made to improve the times, where necessary.

Finally, one can learn through academic activity. If one is involved in research or education, the processes involved are often educational and can affect the way we practice. Preparing for teaching sessions, reviewing articles for a peer-reviewed journal, preparing research ethics proposals and the preparation of manuscripts all involve activities that can result in learning.

Evidence for CPD Effectiveness

There has been an extensive amount of research on the effectiveness of CPD and Continuing Medical Education (CME) in the past 15 years.⁸⁻

¹² Not surprisingly, there have been systematic reviews of this literature that allow us to summarize the major findings in this literature. Effective CPD implies that a learning activity has been entered into and as a result of the learning activity there has been either a positive change in the physician's clinical practice

behaviour, or a positive change in that physicians' patients outcome. These studies provide insight into those specific types of learning activities that are likely to have a positive impact on changing physician behaviour and those that are less likely to do so.

Mazmanian and Davis analyzed the systematic reviews in continuing medical education since 1992.¹⁰ They drew the conclusion that a number of strategies for an approach to continuing medical education promoted positive change in the participants. The important features include the inclusion of a needs assessment done either by CPD planners or individual physicians. Two-way communication over a period of time has been shown to be effective. Those events that include interaction with other learners and faculty are also important. Multifaceted interventions, particularly when they occur over time, rather than single, one-time interventions are also effective. These are particularly effective when combined with the provision of learning enablers such as reading materials and reminder systems which positively reinforce changed behaviour.

Robertson, Umble and Cervero published a review of research syntheses on Continuing Education (CE) in 2003.¹² This article was an update of earlier work done by two of the authors. The methodology was to identify research syntheses published after 1993 in which the performance (behaviour) of health care professionals and/or patient health outcomes were examined. They categorized the studies into two "waves" of study. Wave 1 studies looked at whether CE was effective and for what outcomes. Wave 2 studies tried to identify causal relationships, such as what kinds of CE are effective.

In their review, Robertson et al found that CE unequivocally is effective in changing both health care professionals' practice behaviour and patient health outcomes. They found that the types of interventions that are most effective include educational activities that contain multiple strategies, were active rather than passive, which contained needs assessments of the learners and took place over time.

It should be noted that a common type of CPD activity, the educational conference, does not include many of the above features. They are

Table 2 - Effectiveness of various CPD activities

Effectiveness of activity based upon literature	Examples of Learning Activities
EFFECTIVE	Small group discussions and workshops Practice Audits Interaction with colleagues and opinion leaders that occurs over time. Point of Care learning such as with a Patient and a bedside learning device such as PalmPilot® Hospital or Academic Rounds where format is interactive Combinations of several less effective learning activities over time
LESS EFFECTIVE	Attending lecture based conferences Personal reading of journals Listening to/watching audiocassettes and videotapes Attending industry-sponsored dinner talks Internet CME that is “passive” (reading on-line)

generally a one-day, unidirectional feeding of information to participants. These activities are often non-interactive and provide no opportunity for longitudinal reinforcement of ideas. Consequently, these types of activities, so popular among medical professionals, have not been shown to be effective at either changing physician behaviour or improving patient outcome.

On an encouraging note, the programs discussed above for EPs do have many of the desired elements. These program developers have planned their programs based on the best available evidence in the CPD literature. The ABEM MOC program incorporates multiple interactions and longitudinal exposure through its LLSA program.⁴ The Assessment of Practice Performance, although yet to be developed, by requirement of the ABMS will include the need to self reflect and to develop an individual needs assessment based on the self-reflection.

The RCPSC MOC program similarly by design will mandate that at least some of the CPD activities during the five-year cycle will be a type of activity that includes features that have been shown to effect positive change.² Activities

that involve accredited self-assessment (Group 3) or practice review and appraisal (Group 5) include the incentive of rewarding participants with 2 credit hours per hour of activity and participants can log an unlimited number of

hours in these activities. The activities that are less likely to invoke change in learners such as reading journals and attending non accredited group learning activities (Group 2) are only rewarded with an hour per hour credit and have a maximum number of credit hours of 100 over five years.

Consumers of CPD need to consider the evidence when planning their own personal CPD agenda. Learners need to first understand their own learning styles or preference, and then combine this with a type of learning activity includes elements that will encourage positive change. The literature tells us that the ideal program would include activities that include some or all of the following:

1. A curriculum based on a needs assessment done either by CPD planners or the learners themselves.

2. A multifaceted intervention that has several different learning opportunities spread out over time.
3. Strategies that enable change through the provision of learning materials and a system of sequential reminders.
4. An opportunity to interact directly (either personally or electronically) with other learners or faculty.
5. The provision of direct feedback to learners ideally based upon the needs assessment.

Based on the above, we can revisit the types of learning activities that are available and suggest which are likely to be effective at both changing physician behaviour and perhaps changing patient outcome. (Table 2) Those activities that are less effective in doing so would include the following: lecture-based conferences, journal consumer will choose an activity that not only combines the above elements, but also maximally fulfills the requirements of his/her professional and regulatory authority.

Conclusions

The rapidly changing practice of emergency medicine requires clinicians to stay updated through a regular, sustained program of personal CPD. Professional organizations and regulatory authorities alike are increasingly demanding that

(both peer and non-peer reviewed), audiotapes, and internet CPD where reading an online article is the only activity. These activities are particularly ineffective if done in isolation and with no opportunity for follow up. Activities that maximize the chance of learners' changing their behaviour include: small group discussion formats such as workshops, point-of-care learning, hospital or academic rounds where there is opportunity for participation and discussion, personal interaction with colleagues, especially over the long term and self-directed audits of practice.

Providers of CPD activities must also be cognizant of these elements when planning their learning opportunities. Additionally, planners should be aware of the requirements of the professional organizations CPD programs in order to attract the consumers. A wise physician will participate in CPD activities. Additionally, these organizations expect physicians to choose those educational interventions that are likely to effect a positive change in physician behaviour and/or patient outcome. By being selective about CPD activities and including key enabling elements in their CPD choices, physicians can not only improve the quality of their practice and the outcome of their patients, but also have the ability to drive the process of the development of educationally sound CPD offerings.

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