Commentary: **CME and Its Role in the Academic Medical Center: Increasing Integration, Adding Value**

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Abstract

Continuing medical education (CME), as it is currently structured, funded, and institutionalized, plays a marginal role in the academic medical center (AMC). In contrast, several models of more effective, integrated CME exist, and these enable the AMC to better achieve its potential in education, research, and health care delivery. Examples of such models are presented, emphasizing quality and performance improvement; regional, national, and public outreach; faculty and staff development; and research and scholarly activity.

Although there are many reasons to maintain the status quo of CME programs, there are offsetting forces for change to be found in accreditation processes, movements toward maintenance of certification and licensure, and the need for the AMC to achieve higher quality standards. These models may offer a view of the potential of academic CME to be a major vehicle for the effective integration in quality, regional, and faculty development arenas, and as a scholarly and outcomes-oriented pursuit. Sitting at the right table and sufficiently integrated, CME holds real potential to help the AMC meet its multiple goals and missions.

Acad Med. 2010; 85:12–15.

In a perfect world, basic science and clinical trials provide the evidence that efficiently and effectively drives health care practices. However, examples of misuse, underuse, and overuse of health care services abound, creating a large gap between what is known and what is done in clinical practice. At least superficially, the academic medical center (AMC)—with its mix of researchers, educators, and clinicians—should serve as an effective discovery and translational vehicle, testing biomedical research in the clinical environment and broadly implementing these findings in practice.

We may also logically assume that this process of discovery-to-practice in AMCs would be best facilitated by continuing medical education (CME), generally represented as units in the AMC's medical school. Certainly, in the robust American CME enterprise, the largest providers of CME activities represent academic medicine. In 2007, U.S. medical schools sponsored nearly 35,000 activities, one third of all accredited CME in the country. This is not an inexpensive activity; some estimate that over $2.4 billion is spent annually, U.S.-wide, on accredited CME and related costs per year.

In the midst of this extensive activity, several issues are apparent. First, AMC CME providers focus primarily on conferences, rounds, and other group activities as their major delivery mode, using educational methods geared to (and effective for) knowledge dissemination, skill acquisition, and competence building, but not necessarily leading to the improvement of provider performance or health care outcomes.[1] Second, AMCs rarely devote a meaningful proportion of their budget to CME, not perceiving practicing physician or faculty education (in distinction to student, resident, or fellow education) as a core mission. Third, in large part the result of the second issue, AMC-based CME has become heavily dependent on commercial support. Such support may direct the educational agenda of academic CME toward therapeutics and treatment, at the expense of issues such as screening, prevention, pathophysiology and mechanisms of disease, quality improvement, and other important topics less likely to be funded by industry. Fourth, CME offices and programs are marked by a lack of integration into their larger research, education, or health care delivery divisions.

In contrast to this relatively ineffective and unintegrated picture of CME delivery—one in which academic CME units frequently fail to live up to their full potential—many alternative models exist. These are derived from several fields, including health services research and educational research, and from quality improvement endeavors. These models suggest that academic CME programs may be uniquely organized and affiliated to meet the challenges of funding, bias, and integration into the health care system currently faced across CME.

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A Framework for Integrating CME into the AMC

In describing such models, we use a holistic definition of CME, focusing on any and all ways physicians learn, without concentrating on a single format (such as short courses) or on credit systems but, rather, on physician learning and behavior change and the means by which to achieve them. Bennett et al[2] describe CME as based in education, cognitive sciences, adult and organizational development, health services research, and related fields. This vision encompasses concepts of educational and clinical integration, the professional development of CME providers, and scholarship. Using this inclusive characterization, we attempt to cluster and describe four possible, more integrated and potentially effective models of CME generated by AMCs. Table 1 outlines these models in some detail, including the potential for improved educational outcomes and examples of possible funding sources.

Quality and performance improvement

This model is marked by coupling the quality improvement and performance improvement (PI) programs of the AMC to the educational and interventionist potential of the CME provider. Here, best practices range from the relatively simple—using quality or performance data to define the educational and practice gaps in clinician–learners and developing programs to enhance performance and patient outcomes—to the more complex, for example, integrating educational principles and methods into the development and implementation of clinical practice guidelines. Many CME providers now offer PI programs, providing credits based on the AMA's PI-CME model.

Regional and national public outreach and education

In contrast to the more internally focused, hospital-based quality improvement and PI model, there are many examples of externally focused activities geared to the needs of regional and national physicians, health professionals, and even health systems. Although many such activities use conferences and lectures, academic CME providers increasingly use more active and interactive outreach interventions such as academic detailing, opinion leader training, telemedicine, practice-based research networks, multimedia online activities, PI programs, and other methods to achieve their goals. Further extending the notion of outreach, some schools' CME divisions have responsibility for Mini-Med Schools[3] and other public education activities intended to raise awareness about the prevention,

Table 1

Possible Models of More Integrated Continuing Medical Education (CME) Generated by Academic Medical Centers

Model	Integration with. . .	Brief description	Possible better outcomes	Possible funding sources
Quality and performance improvement	. . . hospital/health care system	Use of performance and quality data to determine educational needs, develop programs, evaluate outcomes	Improved performance; better quality, health care outcomes; closer integration of health system and education	Hospital/health care system; payers
Regional and national public outreach and education	. . . public education needs, regional and national clinical care gaps and advances	The use of public educational formats; regional and national outreach activities, on-site or aided by interactive outreach, online, and telecommunication methods	Improved knowledge and competence; performance and health care outcomes possible	Hospital/health care systems; payers; state and federal programs
Faculty and staff development	. . . schools of medicine, organizational units supporting the need for better teaching, team care, other objectives	Faculty or staff members as the target audience; usual educational formats used to train teachers, team members, and others	Improved teaching; enhanced culture of teaching commitment; enhanced team communication and function	Medical and other health professional schools; hospital/health care system
CME research and scholarship	. . . educational efforts, health services, informatics and related research, emphasizing the educational continuum	Applications of research methodology (qualitative and quantitative) to research questions in the planning, development, and evaluation of educational interventions; studies of the learner, including motivation, learning styles, learning and knowledge management strategies; the effect of external variables on learning and performance; understanding of self-directed or lifelong learning, self-assessment and critical appraisal, knowledge management applied across the educational continuum	Research outcomes, contributions to the literature and field; freedom from commercial support (grants); better lifelong learners	External and internal research funding sources (e.g., Veterans Affairs, Agency for Healthcare Research and Quality, foundations) medical schools; GME programs

assessment, and management (including referral practices) of diseases.

Faculty and staff development

Given their conference planning and organizational capacity, it is not surprising that many CME units also provide instruction in the form of faculty and staff development, including training in such topics as teaching, teamwork and communication, research ethics, practice improvement, administration, and others. Such activities expand the usual understanding of CME to incorporate concepts of continuing professional development, focusing on the learner and his or her career development, and on nonclinical topics, such as sensitivity training or communication. One model for faculty development links clinically focused CME with several forms of faculty development, which can be especially important for new and expanded medical schools working to assimilate and train new faculty members.

CME research and scholarship: The academic CME department

Although the study of broadly defined and integrated CME is a young science using mostly phenomenological methods, many examples of research and scholarship exist under the rubric of CME. Such scholarship can be found in the peer-reviewed literature and the proceedings of its professional societies whose mission is the advancement of an outcomes-oriented CME. The content of these studies touches on a wide variety of topics: learner characteristics such as age, motivation to change, and gender; assessment methods used both as planning tools and outcome measures; the effect of educational interventions; the interplay between health system parameters and educational effectiveness; and many others. Many of these studies have demonstrated innovations which do change provider performance, subsequently integrated into educational and health care systems.[4] Some have called for the creation of academic programs of CME,[5] intended to be full players in achieving the tripartite mission of the AMC. Such programs or units, like their clinical counterparts, produce new research findings, provide service, and educate others. In particular, they may play a role across the educational continuum—providing, for example, a built-in mechanism for the assessment of the effect of undergraduate and graduate medical education practices.

Integration and Effect

Impediments to change

There are, of course, potential problems with these models and with others we have not described here. These models are newly proposed and, as such, require vetting, further testing, and refinement, with their common characteristics, limitations, and benefits articulated. Such a process will ensure that significant domains are not left unattended and that the model or models chosen for any single AMC fit its own unique history, culture, and mission. Further, commercial support and the current, commonly held view of CME as a source for income in AMCs limits support for these and other new models; efforts must continue to explore and articulate each model's value to the AMC, patient populations, and society. Table 1 attempts to highlight possible sources for CME funding (absent, for the purposes of this paper, commercial support) based on such value-driven arguments. Finally, there also exists the issue of inertia: Given that most CME divisions are peopled by those skilled in conference organization and accreditation, and faculty members in the AMC who are accustomed to the traditional CME formats, what might prompt change in the system?

Forces for change

Many forces push traditional models and units of CME toward integrated, potentially more effective models. First, the Accreditation Council for Continuing Medical Education has included new standards, which, among other changes, call for CME providers to demonstrate their activities' impact on the competence and performance of health professionals or on patient outcomes. Second, despite vigorous efforts on the part of hospitals and health systems to improve quality, there remain demonstrable clinical care gaps, arguably no less in the AMC than elsewhere. There is a need for more integration into a comprehensive approach to quality-of-care education within a health care system, with academic CME units taking responsibility for staff and faculty education related to performance and quality improvement. Third, numerous reports[6,7] outline concerns about commercial support for CME. They raise important questions: Is there an association between commercial support and topic choices related to therapeutic interests and subsequent lack of focus on those which might improve the process and outcome of care, and is it possible that this association contributes to the significant overuse phenomenon at work in U.S. health care? Fourth, we believe that there is already sizable strength and capacity, often untapped, within current academic CME units. Many have developed strong regional footprints and recognition, possess sizable educational expertise, and frequently test or employ innovations such as telemedicine, simulation, online learning, and other IT-mediated educational methods. Finally, there is an increasingly robust body of work, called knowledge translation or implementation science, which supports and encourages further work in and for the AMC, helping it meet its social, educational, clinical, and regional obligations.

There are other forces at work here, external to the CME unit and its accreditation body. These include new competencies outlined by the Accreditation Council for Graduate Medical Education and others across the medical education continuum, a growing emphasis on maintenance of competence and certification, an increasing awareness on the part of researchers of health services and translational science, and progress in defining the effectiveness of educational efforts. Taken together, it seems to us that the forces for change in this field outweigh those against it.

The product: Integrated CME, better outcomes

It is clear that CME as currently structured—and, to a large extent, funded—plays only a peripheral role in the life, integration, and impact of the AMC. However, there is clear evidence that more effective models of CME could enable the AMC to better achieve its potential as a knowledge hub, close its own clinical care gap, and, in the process,

shorten the journey from the creation of evidence to its effect on patients, populations, and communities.

Although there seem to be many reasons for the continuation of the current status quo, there are many forces for change at play. Further, the literature highlights a broadened view of "implementation science," and models of AMCs with more holistic, effective, and integrated models of CME are increasingly frequent. These models may offer a view of the potential of academic CME to be a major vehicle for the effective integration of CME in quality, regional, and faculty development arenas, and as a scholarly and outcomes-oriented pursuit. Sitting at the right table and sufficiently integrated, CME holds real potential to help the AMC meet its multiple goals.

Funding/Support: None.

Other disclosures: None.

Ethical approval: Not applicable.

References

1 Marinopoulous S, Dorman T, Ratanawongsa N. Effectiveness of Continuing Medical Education. Rockville, Md: Agency for Healthcare Research and Quality; 2007.
2 Bennett NL, Davis DA, Easterling WE Jr, et al. Continuing medical education: A new vision of professional development of physicians. Acad Med. 2000;75:1167–1172.
3 CJ Scott. Applied adult learning theory: Broadening traditional CME programs with self-guided, computer-assisted learning.J Contin Educ Health Prof. 1994; 14:91–99.
4 Allen M, Bugden S, Nguyen A, et al. Funding for continuing medical education. CMAJ. 2008;178:1577.
5 Davis D, Parboosingh J. "Academic" CME and the social contract. Acad Med. 1993;68:329–332.
6 Fletcher SW. Continuing Education in the Health Professions: Improving Healthcare Through Lifelong Learning Proceedings of the Conference. New York, NY: The Josiah Macy, Jr. Foundation; 2008.
7 Harris S. Controversy, innovation shake up field of continuing medical education. AAMC Reporter. June 2008.