Continuing education (CE) of health professionals is essential to the health of all Americans. With accelerating advances in health information and technology, physicians, nurses and other health professionals must maintain and improve their knowledge and skills throughout their careers in order to provide safe, effective and high quality health care for their patients.

Yet continuing education in the health professions is in disarray. Over the past decade, both professional and lay reports have identified multiple problems. CE, as currently practiced, does not focus adequately on improving clinician performance and patient health. There is too much emphasis on lectures and too little emphasis on helping health professionals enhance their competence and performance in their daily practice. With Internet technology, health professionals can find answers to clinical questions even as they care for patients, but CE does not encourage its use or emphasize its importance. And, while studies show that inter-professional collaboration, teamwork and improved systems are key to high quality care, accrediting organizations have not found ways to promote teamwork or align CE with efforts to improve the quality of health systems.

Another significant problem is the growing link between continuing education and commercial interests. In 2006, the total income for accredited CE activities in medicine was $2.4 billion. Commercial support from pharmaceutical and medical device manufacturers accounted for more than 60 percent, about $1.45 billion, of the total. Over the past two years, the Senate Finance Committee has investigated pharmaceutical company support for continuing education in medicine. Despite efforts to control improper influences, the committee concluded that the organizations providing continuing education could still accommodate commercial interests of sponsors and sponsors could still target their funding for educational programs likely to support sales of their products.

To address concerns about CE, the Josiah Macy, Jr. Foundation convened a conference on “Continuing Education in the Health Professions.” Suzanne W. Fletcher, M.D., M.Sc., Professor of Ambulatory Care and Prevention, Emeritus, at Harvard Medical School, served as chair. The two-and-one-half-day conference, which was held in Bermuda in November of 2007, included 36 leaders in medicine, nursing and education. Commissioned background papers covered a range of CE-related topics, including a review...
of how physicians and other health professionals learn, the role of information technology, financing and certification.

Although much of the conference discussion was relevant to the continuing education of all health professionals, participants focused on accredited CE for medicine and nursing. They acknowledged that much professional learning takes place informally and outside accredited formats.

Conference themes were inter-related, for the methods used for continuing education are influenced both by the means of financial support and by mechanisms for accreditation. Unfortunately, participants found, current systems of CE do not meet the needs of health professionals as well as they should:

— Too much CE relies on a lecture format and counts hours of learning rather than improved knowledge, competence and performance.

— Too little attention is given to helping individual clinicians examine and improve their own practices.

— Insufficient emphasis is placed on individual learning driven by the need to answer the questions that arise during patient care.

— CE does not promote inter-professional collaboration, feedback from colleagues and patients, teamwork, or efforts to improve systems of care, activities that are key to improved performance by health professionals.

— CE does not make adequate or creative use of Internet technology, which can help clinicians examine their own practice patterns, bring medical information to them during patient care, and aid them in learning new skills.

— There is too little high-quality scientific study of CE.

Participants warned that the health professions, especially medicine, threaten the ethical underpinnings of professionalism by participating in a multi-billion dollar CE enterprise so heavily financed by commercial interests. This arrangement, which evolved over the years, distorts continuing education. It places physicians and nurses who teach CE activities in the untenable position of being paid, directly or indirectly, by the manufacturers of health care products about which they teach. At the same time, commercial support of CE places learners in an obligatory position because they are often given free meals and small gifts. Independent judgment of how best to care for patients is compromised. Bias, either by appearance or reality, has become woven into the very fabric of continuing education. The professions, themselves, must right this wrong.

In a free-market system, commercial entities, such as drug and device manufacturers, have a clear responsibility to shareholders to gain market advantage and generate a profit, while health professionals have a moral responsibility to provide safe, high quality care for their patients, based on valid scientific findings. The two responsibilities are fundamentally incompatible. Even if bias could be avoided, the potential, and the perception, are ever-present. Companies with billions of dollars at stake cannot be expected to be neutral or objective when assessing the benefits, harms and cost-effectiveness of their products, for they are in the legitimate business of gaining market advantage and want clinicians to use and prescribe their products.

Yet, an objective and neutral assessment of clinical management options is precisely what is needed in continuing education. Participants emphasized that, regardless of the financial impact on for-profit companies, patient care must be based on scientific evidence and commercial interests should not determine the topics or content of CE. Because of these underlying ethical issues, participants concluded that the commercial entities that manufacture and sell health care products should not provide financial support for the continuing education of health professionals.

Participants acknowledged that many major advances in health care, especially in the development of new drugs and devices, have come from careful collaboration between medical and
commercial investigators. Too, corporations have made valuable donations to academic health centers to support professorships, scholarships, programs and buildings, all of which contribute to the public good.

Despite recent changes in CE accreditation to reduce commercial influence, the problem persists and organizations with little professional expertise in health care, and supported almost entirely by commercial interests, provide accredited continuing education. At the same time, accrediting groups require all organizations providing CE to go through laborious, bureaucratic procedures to document that no inappropriate influence has occurred.

Participants pinpointed another serious failure with current accreditation mechanisms. At a time when inter-professional collaboration, teamwork, and improvement of systems are key to high quality health care, accrediting organizations for the various health professions still work in silos. Rather than promoting inter-professional collaboration and education, regulations and procedures for accreditation make inter-professional collaboration difficult. And, while systems of care have a major impact on the quality of health care delivered by clinicians, accrediting organizations have been slow to align their CE activities with quality improvement efforts by systems of care.

Participants identified a set of principles they believe should underlie and guide continuing education of the health professions:

— Integrate continuing education into daily clinical practice.

— Base continuing education on the strongest available evidence for practice.

— Minimize, to the greatest extent possible, both the reality and the appearance of bias.

— Emphasize flexibility and easy accessibility for clinicians.

— Stress innovation and evaluation of new educational methods.

— Address needs of clinicians across a wide spectrum, from specialists in academic health centers to rural solo practitioners.

— Support inter-professional collaboration.

— Align continuing education efforts with quality improvement initiatives at the level of health systems.

After two and a half days of discussion, participants agreed to the following conclusions and recommendations:

CONCLUSIONS

Continuing Education and the Public

The quality of patient care is profoundly affected by the performance of individual health professionals.

The fundamental purposes of continuing health professional education (CE) are:

— To improve the quality of patient care by promoting improved clinical knowledge, skills and attitudes, and by enhancing practitioner performance.

— To assure the continued competency of clinicians and the effectiveness and safety of patient care.

— To provide accountability to the public.

CE fulfills a critically important, indeed essential, public purpose. Given the accelerating pace of change in clinical information and technology, CE has never been more important.

Responsibilities of individual professionals, professional teams and health systems

Maintaining professional competence is a core responsibility of each health professional, regardless of discipline, specialty or type of practice.

The individual clinician has been the principal
unit of accountability for performance in the healthcare delivery system. Given that the performance of health systems also profoundly affects patient care, CE fails to take into account systems of care.

Effective patient care increasingly depends on well-functioning teams of healthcare professionals. Therefore, CE must address the special learning needs of collaborating teams.

Quality improvement efforts and CE activities overlap and ideally are mutually reinforcing.

**CE Methods**

Traditional lecture-based CE has proven to be largely ineffective in changing health professional performance and in improving patient care. Lecture formats are employed excessively relative to their demonstrated value.

Professional conferences play an important role in CE by promoting socialization and collegiality among health professionals. Health professionals have the responsibility to help one another practice the best possible care. Meeting together provides opportunities for cross-disciplinary and cross-generational learning and teaching.

Practice-based learning and improvement is a promising CE approach for improving the quality of patient care. Maintenance of certification programs (in which clinicians review the care they actually deliver in their own practices, compare the results with standards of excellence and create a plan for improvement) and maintenance of licensure programs are moving CE in this direction. Currently, most CE faculty are insufficiently prepared to teach practice-based learning.

Information technology is essential for practice-based learning by:

— Providing access to information and answers to questions at the time and place of clinical decision-making (point-of-care learning).

— Providing a database of clinician performance at the individual and/or group practice level, which can be compared to best practices and used to make plans for improvement.

— Providing automated reminder systems.

Interactive scenarios and simulations are promising approaches to CE, particularly for skills development, whether the skill is a highly technical procedure, history taking, or a physical examination technique.

Insufficient research is currently directed at improving and evaluating CE. There is no national entity dedicated to advancing the science of CE as there is for biomedical and clinical research.

**Financing CE**

The majority of financial support for accredited CME, and increasingly for CNE, derives directly or indirectly from commercial entities.

Pharmaceutical and medical device companies and health care professionals have inherently conflicting interests in CE. Commercial entities have a legitimate obligation to enhance shareholder value by promoting sales of their products, whereas healthcare professionals have a moral obligation to improve patient/public health without concern for the sale of products.

Commercial support for CE:

— Risks distorting the educational content and invites bias.

— Raises concerns about the vows of health professionals to place patient interest uppermost.

— Endangers professional commitment to evidence-based decision making.

— Validates and reinforces an entitlement mindset among health professionals that CE should be paid for by others.

— Impedes the adoption of more effective modes of learning.

No amount of strengthening of the “firewall"
between commercial entities and the content and processes of CE can eliminate the potential for bias.

Academic health centers and other healthcare delivery systems are not sufficiently attentive, either to their roles in planning, providing, and assessing CE or to their responsibilities in managing their own conflicts of interest and those of individual faculty and administrators when paid by commercial interests for CE teaching.

Accrediting CE

Current accreditation mechanisms for CE are unnecessarily complex yet insufficiently rigorous. Compared to earlier, formal stages of health professions education, the CE enterprise is fragmented, poorly regulated, and uncoordinated; as a result, CE is highly variable in quality and poorly aligned with efforts to improve quality and enhance health outcomes.

With the increasing need for inter-professional collaboration, accrediting bodies of the various health professionals need closer working relationships.

RECOMMENDATIONS

CE Methods

The CE enterprise should shift as rapidly as possible from excessive reliance on presentation/lecture-based formats to an emphasis on practice-based learning.

New metrics are needed:

— To assess the quality of CE. These metrics should be based on assessment of process improvement and enhanced patient outcomes.

— To identify high-performing healthcare organizations. The possibility of awarding CE credit to individual health professionals who practice in such organizations should be explored.

— To automate credit procedures for point-of-care learning.

Federal and state policymakers should provide financial support for the further development of information technology tools that facilitate practice-based learning and should strongly encourage all clinicians to use these tools.

The responsibility for lifelong learning should be emphasized throughout the early, formal stages of education in all health professions. Students should be taught the attitudes and skills to accomplish CE throughout their professional lifetimes.

A national inter-professional CE Institute should be created to advance the science of CE. The Institute should:

— Promote the discovery and dissemination of more effective methods of educating health professionals over their professional lifetimes and foster the most effective and efficient ways to improve knowledge, skills, attitudes, practice and teamwork.

— Be independent and composed of individuals from the various health professions.

— Develop and run a research enterprise that encourages increased and improved scientific study of CE.

— Promote and fund evaluation of policies and standards for CE.

— Identify gaps in the content and processes of CE activities.

— Develop mechanisms needed to assess and fund research applications from health professional groups and individuals.

— Stimulate development and evaluation of new approaches to both intra- and inter-professional CE, and determine how best to disseminate those found to be effective and efficient.

— Direct attention to the wide diversity and scope of practices with special CE needs, ranging from highly technical specialties on the one hand to solo and small group practices in remote locations, on the other.
— Acquire financial resources to support its work and provide funding for research. Possible funding sources include the Federal government, foundations, professional groups, and corporations.

A concerted effort is needed to make the concept of a Continuing Education Institute a reality. To achieve this, The Institute of Medicine should convene a group to bring together interested parties to propose detailed steps for developing a Continuing Education Institute.

**CE Financing**

Accredited organizations that provide CE should not accept any commercial support from pharmaceutical or medical device companies, whether such support is provided directly or indirectly through subsidiary agencies. Because many professional organizations and institutions have become heavily dependent on commercial support for current operations, an abrupt cessation of all such support would impose unacceptable hardship. A five-year “phase out” period should be allowed to meet this recommendation.

The financial resources to support CE should derive entirely from individual health professionals, their employers (including academic health centers, health care organizations, and group practices), and/or non-commercial sources.

Faculty of academic health centers should not serve on speakers’ bureaus or as paid spokespersons for pharmaceutical or device manufacturers. They should be prohibited from publishing articles, reviews and editorials that have been ghostwritten by industry employees.

**CE Accreditation and Providers**

Organizations authorized to provide CE should be limited to professional schools with programs accredited by national bodies, not-for-profit professional societies, health care organizations accredited by the Joint Commission, multi-disciplinary practice groups, point-of-care resources, and print and electronic professional journals.

Existing accrediting organizations for continuing education for medicine (the Accreditation Council for Continuing Medical Education) and nursing (the American Nurses Credentialing Center) should meet and within two years develop a vision and plan for a single accreditation organization for both nursing and medicine. The new organization should incorporate the guiding principles for CE and the recommendations laid out in this report where relevant. The American Academy of Nursing and the Association of American Medical Colleges should convene the two accrediting bodies for this purpose.

Academic health centers should examine their missions to determine how to strengthen their commitment to CE. They should help their faculty gain expertise in teaching practice-based learning and incorporate information technology, simulations and interactive scenarios into their CE activities.
### Conference Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Education</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suzanne W. Fletcher, M.D., M.Sc.*</td>
<td>Chair</td>
<td>Harvard Medical School</td>
</tr>
<tr>
<td>Barbara F. Atkinson, M.D.</td>
<td></td>
<td>University of Kansas Medical Center</td>
</tr>
<tr>
<td>Denise Basow, M.D.*</td>
<td></td>
<td>UpToDate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waltham, MA</td>
</tr>
<tr>
<td>Regina Benjamin, M.D., M.B.A.</td>
<td></td>
<td>Bayou Clinic, Inc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bayou La Batre, AL</td>
</tr>
<tr>
<td>David Blumenthal, M.D., M.P.P.</td>
<td></td>
<td>MGH/Partners Health Care System</td>
</tr>
<tr>
<td>James A. Clever, M.D.</td>
<td></td>
<td>Marin County, CA</td>
</tr>
<tr>
<td>Jordan J. Cohen, M.D.*</td>
<td></td>
<td>Association of American Medical Colleges</td>
</tr>
<tr>
<td>Ellen M. Cosgrove, M.D.*</td>
<td></td>
<td>University of New Mexico School of Medicine</td>
</tr>
<tr>
<td>Linda Cronenwett, Ph.D., R.N.</td>
<td></td>
<td>University of North Carolina at Chapel Hill</td>
</tr>
<tr>
<td>David A. Davis, M.D.</td>
<td></td>
<td>Association of American Medical Colleges</td>
</tr>
<tr>
<td>Catherine D. DeAngelis, M.D., M.P.H.</td>
<td></td>
<td>JAMA and Archives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>John Hopkins University</td>
</tr>
<tr>
<td>Lyn DeSilets, Ed.D., R.N.-B.C.</td>
<td></td>
<td>Villanova University</td>
</tr>
<tr>
<td>F. Daniel Duffy, M.D.*</td>
<td></td>
<td>American Board of Internal Medicine</td>
</tr>
<tr>
<td>Harvey Fineberg, M.D., Ph.D.</td>
<td></td>
<td>Institute of Medicine</td>
</tr>
<tr>
<td>Grant S. Fletcher, M.D., M.P.H.</td>
<td></td>
<td>University of Washington School of Medicine</td>
</tr>
<tr>
<td>Melvin I. Freeman, M.D.</td>
<td></td>
<td>Virginia Mason Medical Center</td>
</tr>
<tr>
<td>Michael Green, M.D., M.Sc.</td>
<td></td>
<td>Yale University School of Medicine</td>
</tr>
<tr>
<td>Carol Havens, M.D.</td>
<td></td>
<td>Kaiser Permanente Medical Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sacramento, CA</td>
</tr>
<tr>
<td>Paul C. Hébert, M.D., M.H.Sc.</td>
<td></td>
<td>Canadian Medical Association Journal</td>
</tr>
<tr>
<td>Maryjoan Ladden, Ph.D., R.N.*</td>
<td></td>
<td>Harvard Medical School</td>
</tr>
<tr>
<td>David Leach, M.D.*</td>
<td></td>
<td>Accreditation Council for Graduate Medical Education</td>
</tr>
<tr>
<td>Donald A. B. Lindberg, M.D.*</td>
<td></td>
<td>National Library of Medicine</td>
</tr>
<tr>
<td>Phil Manning, M.D.</td>
<td></td>
<td>Keck School of Medicine of the University of Southern California</td>
</tr>
<tr>
<td>Paul Mazmanian, Ph.D.</td>
<td></td>
<td>Virginia Commonwealth University</td>
</tr>
<tr>
<td>Pamela Mitchell, Ph.D., M.S., B.S.</td>
<td></td>
<td>University of Washington</td>
</tr>
<tr>
<td>Donald E. Moore Jr., Ph.D.</td>
<td></td>
<td>Vanderbilt School of Medicine</td>
</tr>
<tr>
<td>Ajit Sachdeva, M.D.</td>
<td></td>
<td>American College of Surgeons</td>
</tr>
<tr>
<td>Marla E. Salmon Sc.D., R.N.</td>
<td></td>
<td>Emory University</td>
</tr>
<tr>
<td>David Slawson, M.D.</td>
<td></td>
<td>University of Virginia</td>
</tr>
<tr>
<td>Robert Steinbrook, M.D.</td>
<td></td>
<td>New England Journal of Medicine</td>
</tr>
<tr>
<td>William Tierney, M.D.</td>
<td></td>
<td>Indiana University School of Medicine</td>
</tr>
<tr>
<td>Thomas R. Viggiano, M.D., M.Ed.</td>
<td></td>
<td>Mayo Clinic</td>
</tr>
<tr>
<td>Susan Wesmiller, M.S., R.N.</td>
<td></td>
<td>University of Pittsburgh Medical Center</td>
</tr>
<tr>
<td>Michael Wilkes, M.D.</td>
<td></td>
<td>University of California, Davis</td>
</tr>
<tr>
<td>Patricia S. Yoder-Wise, R.N., Ed.D.</td>
<td></td>
<td>Texas Tech University Health Sciences Center</td>
</tr>
</tbody>
</table>

**Macy Conference participants are invited for their individual perspectives and do not necessarily represent the views of any organization.**

---

**The Josiah Macy, Jr. Foundation is a private philanthropy dedicated to improving the health of individuals and the public by advancing the education and training of health professionals.**