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REVIEW

The transformation of continuing medical education (CME) in the United States

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Abstract: This article describes five major themes that inform and highlight the transformation of continuing medical education in the USA. Over the past decade, the Institute of Medicine (IOM) and other national entities have voiced concern over the cost of health care, prevalence of medical errors, fragmentation of care, commercial influence, and competence of health professionals. The recommendations from these entities, as well as the work of other regulatory, professional, academic, and government organizations, have fostered discussion and development of strategies to address these challenges. The five themes in this paper reflect the changing expectations of multiple stakeholders engaged in health care. Each theme is grounded in educational, politico-economic priorities for health care in the USA. The themes include (1) a shift in expectation from simple attendance or a time-based metric (credit) to a measurement that infers competence in performance for successful continuing professional development (CPD); (2) an increased focus on interprofessional education to augment profession-specific continuing education; (3) the integration of CPD with quality improvement; (4) the expansion of CPD to address population and public health issues; and (5) identification and standardization of continuing education (CE) professional competencies. The CE profession plays an essential role in the transformation of the US CPD system for health professionals. Coordination of the five themes described in this paper will foster an improved, effective, and efficient health system that truly meets the needs of patients.

Keywords: continuing medical education, continued professional development, independence, competencies, CE professional

Introduction

Historically, continuing medical education (CME) has been geared towards strengthening the knowledge of physicians and other health care providers in their particular area of specialization or practice. In other words, the education was directed towards individual practitioners. In the past, that model was effective at helping to keep practitioners up to date with recent developments in their field and to strengthen knowledge in areas that practitioners considered appropriate.

However, over the past two decades, there have been many changes in the US health care system. Expectations and regulations have become increasingly complex. Public surveys and prestigious organizations alike have expressed increasing concern regarding real or perceived deficiencies in the health care delivery system. Efficiency of care delivery has become increasingly important to providers because of increased case load and the need to make the best use of the limited time that can be spent with an individual patient. There is increasing emphasis on team-centered care and efficient communication among all members of a team.

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Each of these changes presents new challenges for developers and providers of CME. This article discusses the areas in which CME is changing and the current status of those changes.

Background

Beginning in the 1990s, the Institute of Medicine (IOM) began documenting the significance of medical errors, lack of coordinated care, less-than-optimal patient outcomes, and the escalating cost of health care. Their publication, *To Err is Human: Building A Safer Health System*,[1] described the need for a comprehensive strategy for all stakeholders (government, health care providers, industry, and consumers) to reduce preventable medical errors. In 2001, an additional IOM publication, *Crossing the Quality Chasm: A New Health System for the 21st Century*,[2] discussed the need for a transformed health care system and policy environment that aligns expectations for quality care with the delivery of quality care to patients and families. These reports highlighted the alarming incidence of medical errors that negatively affect patient safety and quality patient care. The reports challenged stakeholders to create and implement a vision for health delivery designed to provide patient care that is safe, effective, patient-centered, timely, efficient, and equitable.[3]

Recommendations from *Crossing the Quality Chasm* included integrating core competencies into accreditation and credentialing processes across the health professions to create an outcome-based education system that prepares clinicians to meet their patients' needs as well as the requirements of a changing health system. That report identified five core competencies that are common across professions and that foster achievement of the stated vision for health professions education (Table 1). The IOM report's vision for programs and institutions to reach the expectations for a new and health system is as follows:

> All health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics.[4]

In addition to the leadership and work of the IOM, there are two other major competency-based initiatives that align with the IOM reports. In 1999, the Accreditation Council for Graduate Medical Education (ACGME) outlined six general competency areas for its physician trainees. These six general competency areas (Table 2) serve as the foundation for medical education and training during residency. The American Board of Medical Specialties (ABMS) and its 24 member boards have adopted these six core competencies for the maintenance of certification (MOC®) process that they initiated in 2000. The ABMS MOC® certification requires a four-part process that is designed to address the increasing complexity of medical science, health care approaches, and systems (Table 3).

Table 1 Institute of Medicine core competencies

Competency	Description
Provide patient-centered care	Identify, respect, and care about patients' differences, values, preferences, and expressed needs; relieve pain and suffering; coordinate continuous care; listen to, clearly inform, communicate with, and educate patients; share decision making and management; and continuously advocate disease prevention, wellness, and promotion of healthy lifestyles, including a focus on population health
Work in interdisciplinary teams	Cooperate, collaborate, communicate, and integrate care in teams to ensure that care is continuous and reliable
Employ evidence-based practice	Integrate best research with clinical expertise and patient values for optimum care, and participate in learning and research activities to the extent feasible
Apply quality improvement	Identify errors and hazards in care; understand and implement basic safety design principles, such as standardization and simplification; continually understand and measure quality of care in terms of structure, process, and outcomes in relation to patient and community needs; and design and test interventions to change processes and systems of care, with the objective of improving quality
Utilize informatics	Communicate, manage knowledge, mitigate error, and support decision making using information technology

Note: Adapted with permission from *Health Professions Education: A Bridge to Quality*, 2003, by the National Academy of Sciences, courtesy of the National Academies Press, Washington DC. Available from: http://nap.edu/catalog.php?record_id=10681.[4]

The most recent initiative focuses on interprofessional collaborative practice. In 2011, *Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel*, a consensus group of educational leaders from nursing, osteopathic medicine, pharmacy, dentistry, medicine, and public health, was convened.[5] This expert panel outlined a framework for interprofessional practice, with a common taxonomy and linkage between health professions education and practice needs/expectations. The four interprofessional collaborative practice competency domains are listed and described in Table 4. In order to address the concerns of the IOM reports with its recommendations for improved care, continuing education (CE)/continuing professional development (CPD) needs to address the challenge of

Table 2 Accreditation Council for Graduate Medical Education/ American Board of Medical Specialties core competencies

Competency	Criteria
Professionalism	Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to diverse patient populations
Patient care and procedural skills	Provide care that is compassionate, appropriate and effective treatment for health problems and to improve health
Medical knowledge	Demonstrate knowledge about established and evolving biomedical, clinical and cognate sciences and their application in patient care
Practice-based learning and improvement	Able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence and improve their practice of medicine
Interpersonal and communication skills	Demonstrate skills that result in effective information exchange and teaming with patients, their families and professional associates (eg, fostering a therapeutic relationship that is ethically sound, uses effective listening skills with nonverbal and verbal communication; working as both a team member and at times a leader)
Systems-based practice	Demonstrate awareness of and responsibility to larger context and systems of health care. Be able to call on system resources to provide optimal care (eg, coordinating care across sites or serving as the primary case manager when care involves multiple specialties, professions or sites)

Note: Adapted with permission from American Board of Medical Specialties.[38]

providing profession-specific CPD in a workplace setting that requires interprofessional competencies, align CE/CPD initiatives to promote optimum care, and thereby facilitate patient-centric care.

The federal government, through Medicare, is the largest insurance provider in the USA and is no longer willing to subsidize or condone the escalation of costs or the incidence of medical errors and preventable deaths. In June 2013, Senator Max Baucus, Senate Finance Committee Chair, voiced his ongoing frustration about the costs charged to patients, who often have a limited ability to pay.[6] This frustration reflects an environment where CME and ultimately CPD can actively engage in projects designed to link physician (and health care team) competence with health care delivery. The US health care system is now expected to provide evidence that it can provide seamless, evidence-based, and patient-centric care that is of high quality and efficient, with minimal medical errors.

Table 3 American Board of Medical Specialties: four-part process for continuous learning

Part	Requirement
Part I – licensure and professional standing	Medical specialists must hold a valid, unrestricted medical license in at least one state or jurisdiction in the United States, its territories or Canada
Part II – lifelong learning and self-assessment	Physicians participate in educational and self-assessment programs that meet specialty-specific standards that are set by their member board
Part III – cognitive expertise	They demonstrate, through formalized examination, that they have the fundamental, practice-related and practice environment-related knowledge to provide quality care in their specialty
Part IV – practice performance assessment	They are evaluated in their clinical practice according to specialty-specific standards for patient care. They are asked to demonstrate that they can assess the quality of care they provide compared to peers and national benchmarks and then apply the best evidence of consensus recommendations to improve that care using follow-up assessments

Note: Adapted with permission from American Board of Medical Specialties.[38]

Since the escalating cost of health care is a core driver in health care discussions, the role and perceived influence of industry in CME/CPD and health care are hot topics.[7–15] Animated discussions by passionate individuals and stakeholders regarding support of CME by the pharmaceutical and medical device industries are further complicated by confusion about the current federal and accreditation regulations as well as the impact on CME providers and industry. The complexity and regulatory controls are not well understood by the health care community at large nor by the lay community. The decreasing availability of funds from industry over the past several years contributes to the emergence of a new environment where CE for physicians, nurses, pharmacists, and health care teams is now paid for by individuals and health care institutions without outside funding.

Performance gaps, new advances, and interventions are linked to the delivery of care and create a framework for the development of a redesigned CE/CPD strategy. The interaction of evidence-based education with defined performance expectations can create a new value proposition of CME – or more accurately, CPD – that is built on a consistent structure of professional competencies. The alignment of education for physicians, nurses, and other health care professions in the USA is moving toward a coordinated matrix of expected competencies that ideally address the challenges addressed in the IOM reports and other national consensus efforts. This creates a unique opportunity for the CME/CPD profession to

Table 4 Interprofessional collaborative practice competency domains

Domain	Specific competencies
Values/ethics for interprofessional practice	VE1. Place the interests of patient and populations at the center of interprofessional health care delivery
	VE2. Respect the dignity and privacy of patient while maintaining confidentiality in the delivery of team-based care
	VE3. Embrace the cultural diversity and individual differences that characterize patients, populations and the health care team
	VE4. Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions
	VE5. Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services
	VE6. Develop a trusting relationship with patients, families and other team members
	VE7. Demonstrate high standards of ethical conduct and quality of care in one's contributions to team-based care
	VE8. Manage ethical dilemmas specific to interprofessional patient/population centered care situations
	VE9. Act with honest and integrity in relationships with patients, families and other team members
	VE10. Maintain competence in one's own profession appropriate to scope of practice
Roles/responsibilities	RR1. Communicate one's roles and responsibilities clearly to patients, families and other professionals
	RR2. Recognize one's limitations in skills, knowledge, and abilities
	RR3. Engage diverse health care professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific patient care needs
	RR4. Explain the roles and responsibilities of other care providers and how the team works together to provide care
	RR5. Use the full scope of knowledge, skills, and abilities of available health professionals and health care workers to provide care that is safe, timely, efficient, effective, and equitable
	RR6. Communicate with team members to clarify each member's responsibility in executing components of a treatment plan or public health intervention
	RR7. Forge interdependent relationships with other professions to improve care and advance learning
	RR8. Engage in continuous professional and interprofessional development to enhance team performance
	RR9. Use unique and complementary abilities of all members of the team to optimize care
Interprofessional communication	CC1. Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function
	CC2. Organize and communicate information with patients, families, and health care team members in a form that is understandable, avoiding discipline-specific terminology when possible
	CC3. Express one's knowledge and opinions to team members involved in patient care with confidence, clarity, and respect, working to ensure common understanding of information and treatment and care decisions
	CC4. Listen actively, and encourage ideas and options of other team members
	CC5. Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others
	CC6. Use respectful language appropriate for a given difficult situation, crucial conversation, or interprofessional conflict
	CC7. Recognize how one's uniqueness, including experience level, expertise, culture, power, and hierarchy within the health care team, contributes to effective communication, conflict resolution, and positive interprofessional working relationships
	CC8. Communicate consistently the importance of teamwork in patient-centered and community-focused care
Teams and teamwork	TT1. Describe the process of team development and the roles and practices of effective teams
	TT2. Develop consensus on the ethical principles to guide all aspects of patient care and team work
	TT3. Engage other health professionals – appropriate to the specific care situation – in shared patient-centered problem-solving
	TT4. Integrate the knowledge and experience of other professions – appropriate to the specific care situation – to inform care decisions, while respecting patient and community values and priorities/preferences for care
	TT5. Apply leadership practices that support collaborative practice and team effectiveness
	TT6. Engage self and others to constructively manage disagreements about values, roles, goals, and actions that arise among health care professionals and with patients and families
	TT7. Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care
	TT8. Reflect on individual and team performance for individual, as well as team, performance improvement
	TT9. Use process improvement strategies to increase the effectiveness of interprofessional teamwork and team-based care
	TT10. Use available evidence to inform effective teamwork and team-based practices
	TT11. Perform effectively on team and in different team roles in a variety of settings

Note: Excerpt from Interprofessional Education Collaborative Expert Panel. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel.* Washington, DC: Interprofessional Education Collaborative.[5]

redefine its value proposition to the health care community and to impact the quality of care to patients.

Major themes critical to the future of continuing professional development (CPD)

In response to the challenges in CE, patient safety, and patient-centric quality care, there are five major themes for CPD for physicians and health care professionals. These themes are as follows:

1. Shift beyond an attendance- or a time-based credit system to a measurement that infers competence in performance as the desired metric for ongoing and successful CPD.
2. Focus on interprofessional CE, as a core element in comprehensive CPD; interprofessional education (IPE) supports existing profession-specific CPD with cross-professional competencies that foster coordinated care delivery.
3. Build and strengthen the integration of CPD and quality improvement, linking evidence-based science, needs assessment of performance gaps, and effective educational approaches to reflect the linkage of education and performance improvement.
4. Expand the focus of CPD to address potentially complex population and public health issues from the primary focus of disease-specific CPD.
5. Identify and standardize the competencies required by CE professionals in the health professions to foster educational programming that meets the CPD needs of physicians, health care professionals, and teams while measuring outcomes of participation in those education and performance improvement initiatives.

Shifting the focus of CPD beyond continuing medical education (CME) attendance/credit to measurement of competence

The Physician's Recognition Award (PRA) and American Medical Association (AMA) credit system for US physicians was created by the AMA in 1968.[16] The AMA PRA was designed to recognize physicians who participated in certified CME activities as part of their ongoing commitment to staying current with the field of medicine. This national system for tracking physician participation in CME was recognized by a number of state licensing boards, medical specialty boards, and hospital/health system credentialing bodies.

The CME providers who design and implement the certified CME activities are accredited through the Accreditation Council for Continuing Medical Education (ACCME). Each provider organization voluntarily submits evidence in practice of their organization's compliance with the ACCME accreditation requirements. The ACCME requirements include the Accreditation Criteria, ACCME Standards of Commercial Support™, and the ACCME Policies.[17] These accreditation requirements are updated and modified in response to changes in the health care environment under the direction of the ACCME Board of Directors, who represent many of the leading organizations with a vested interest in the quality of CME for their members, employees, or constituents.

The IOM Reports from 1999 through 2010 highlight the challenges in the US health system and the need for a new paradigm for health care. In the preface to *Health Professions Education: A Bridge to Quality*, Edward M. Hundert, MD and Mary Wakefield, PHD, RN state that:

> reform of health professions education is critical to enhancing the quality of health care in the United States.

Health Professions Education: A Bridge to Quality highlights that IOM competencies (Table 1) are not profession specific and that each discipline has approaches to address the skills and abilities for its professionals. Another important consideration in the transformation to a competency framework for educational programming is that the level of competence for each professional changes over time from the completion of the initial academic degree as a novice to the level of an expert later in their career when intuitive implementation of skills is evident.[4]

While the AMA and ACCME systems provide a standardized framework to address challenges in the CME environment, there is a fundamental shift in the expectations for a CME/CPD system where 'credit' or time as the metric for CPD is not considered adequate. The IOM-recommended changes to the education and accreditation of programs for physicians, nurses, and health care professionals are reframing how CME/CPD can leverage these competencies for lifelong learning and proficiency. Most of the health professions have created a broad competency framework for their profession. In addition to the CME framework described below, nursing and pharmacy describe the core competencies for their respective professions.

In medicine, the identification of competencies by the ACGME and the ABMS has redefined the training and performance expectations for physicians educated and working in the USA. The ABMS is the largest self-regulatory group of physicians in the USA and represents 24 member boards that cover 145 specialties and sub-specialties in medicine.[18,19]

Since over 750,000 physicians in the USA are board certified and over 300,000 were engaged in MOC in 2012, the impact of the MOC process has changed the fabric of CME in the USA. The creation of the six competency areas as seen in Table 2 reflects a substantial shift in the expectations for physician education, performance, and CPD.

The ABMS MOC process is designed to document that physician specialists, certified by one of the ABMS member boards, engage in lifelong learning and demonstrate the necessary competencies essential to providing quality and safe patient care. The ABMS MOC framework (2009) describes a four-part program (Table 3) required for meeting the ABMS MOC requirements. In reviewing the ABMS MOC process, external stakeholders (consumers, purchasers, insurers, government officials, credentialing and licensing authorizers) desired more frequent evidence of quality improvement; inclusion of cost and appropriateness as factors in clinical decision making; an appreciation that patient care is not routine; and increased transparency when feasible.[20] The conceptual framework for the 2015 MOC Standards builds upon this feedback to create the following:

- Enhancement of performance measurement
- Integration of patient safety
- Evidence-based CME and CPD – 'MOC CME'
- Research and development initiatives
- Alignment and collaboration with other stakeholders such as the American Hospital Association, The Joint Commission, and the Federation of State Medical Boards.

A core concern in the 2015 ABMS MOC Standards is the need for ensuring the public trust by limiting the role of commercial support in influencing a national curriculum and by limiting bias in educational content of certified activities. The 'MOC CME' concept focuses on the quality of CME built on evidence-based content and appropriate educational formats, measurement of learning, and improvement and inclusion of content for all six of the ACGME/ABMS competencies. The ABMS is also working to develop rubrics that help determine how much CME is appropriate for MOC and the appropriate metric (credit or points) for participant tracking and learning/improvement measurement.

The Federation of State Medical Boards (FSMB) is a national non-profit organization representing the 70 medical and osteopathic boards of the USA and its territories. The FSMB has created a maintenance of licensure (MOL) process that mirrors the ABMS MOC process. This MOL process is designed to link professional license renewal with evidence of participation in lifelong learning and CPD that is relevant to the individual's practice, based on objective data sources and focused on improving performance in practice over time. The State Medical Boards (SMBs) assume the responsibility for establishing MOL requirements but must follow the MOL Guiding Principles created in 2008 and updated in 2010. These guiding principles are as follows:

- Support commitment to lifelong learning, and facilitate improvement in physician practice.
- SMBs should establish MOL requirements; requirements should be administratively feasible and developed in collaboration with other stakeholders.
- Do not compromise patient care or create barriers to physician practice.
- Provide flexible infrastructure with a variety of options for meeting these requirements.
- Balance transparency with privacy protections.
- Provide evidence of participation in a program of professional development and lifelong learning based on the six competencies (ABMS).
- Include three main components: reflective self-assessment, assessment of knowledge and skills, and performance in practice.[21]

The FSMB also references the value of CME in the MOL process. CME serves as an essential component of CPD, since the three components of MOL inform the physician of appropriate areas for professional development and suggest the use of an established CME system to ease the transition into MOL. Eleven state boards are engaged in 12 pilot projects that can advance successful approaches to MOL implementation. One final note is that the FSMB recommends that MOC or other ongoing physician certifications should be considered in any state's MOL requirements.

The broad-reaching support of a competency-based system for CME/CPD in the USA is an outgrowth of at least three major issues in US health care: the continued rising cost of care, the prevalence of medical errors, and the wavering public trust in the US health care system. Stakeholders, from patients to the federal government, are demanding evidence that reflects the competence of physicians and the health care system to address the issues presented by the IOM over the past decade. The impact of the shift to the competency-based system may ultimately require changes in state licensure requirements as well as credentialing requirements by health care organizations. The credibility of MOC and MOL will be dependent on data-driven trends that reflect reduced

medical errors, and care delivery patterns that demonstrate appropriate and efficient care.

Focus on interprofessional continuing education (CE) as a core element in comprehensive CPD

CE in medicine and the health professions has been approached as profession-specific activities with separate accreditation systems, processes, and requirements designed to meet the specific needs of their learners who provide health care. Shortly after the first IOM report in 1999, the ACCME, the American Nurses Credentialing Center (ANCC), and the Accreditation Council for Pharmacy Education (ACPE) initiated discussions to coordinate and consolidate processes that would meet the needs of each of their constituent learners while facilitating a more streamlined approach to CE providers who were often creating courses for multiple learner audiences. These discussions have acknowledged a core set of educational planning elements as well as identification of conflict of interest, commercial support, and support for evidence-based and independent CE. Through the past decade, this group has fostered the development of a more consistent taxonomy and an appreciation of the similarities and differences in the needs of their professional learners. The demand for validation of competence, certification of health professionals, and documentation of improved performance are driving new discussions and approaches that will ultimately impact the accreditation of CE in the health professions.

In the 2009 IOM Report entitled *Redesigning Continuing Education in the Health Professions*, five broad messages were identified to address the needs of the health profession workforce in the provision of high-quality care that assured patient safety. The five broad messages evident in the current CE system in the USA are as follows:

- There are major flaws in the way CE is conducted, financed, regulated, and evaluated.
- The science underpinning CE for health professionals is fragmented and underdeveloped.
- CE efforts should bring health professionals from various disciplines together in carefully tailored learning environments.
- A new comprehensive vision of professional development is needed to replace a culture that now envelops CE.
- Establishing a national interprofessional CE Institute is a promising way to foster improvement in how health professionals carry out their responsibilities.[22]

The recommendation from this IOM report was for a highly coordinated and comprehensive system for CE in the health professions.[22]

In 2010, the American Association of Medical Colleges (AAMC) and the American Association of Colleges of Nursing (AACN) convened a consensus conference to highlight the core values of CPD, contextual/applied and workplace learning, and IPE to augment existing CPD efforts in each of the health professions.[23] A follow-up report entitled *Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel* outlined four broad competency domains (Table 4) for interprofessional collaborative practice with specific competencies for each area. The four domains are (1) values/ethics for interprofessional practice; (2) roles/responsibilities; (3) interprofessional communication; and (4) teams and teamwork. The response to the IOM and other national reports is a growing awareness of the need to view CPD from a matrix perspective where both profession-specific CE and interprofessional CE are addressed. Several academic centers are actively engaged in designing programs at the undergraduate, graduate, and CE levels to address the team and workplace challenges of interprofessional performance. They are building a new body of evidence that supports approaches and interventions to incorporate IPE and performance within the health care environment. The impact of IPE as an integral aspect of education in the health professions intuitively has a strong logical foundation. The abilities of academic and training institutions to adapt their curricula and culture to accommodate an interprofessional educational track is still unclear.

Build and strengthen the integration of CPD and quality improvement

The CME community in the USA has been discussing the linkage between CME and quality improvement since the mid-1990s. In 1995, Robert D Fox, as the editor for the *Journal for Continuing Education in the Health Professions,* described the critical importance of connecting how and why health professionals learn with current theories regarding motivation, information processing, organizational interactions, and how change is affected. This theoretical foundation needs to be linked to the practice of CE so that knowledge can be translated into action.[24] Moore et al[25] found that CME subject matter was increasingly focused on seeking solutions to patient care problems. Jennett et al[26] sought to obtain an accurate assessment of clinical competence and performance in office practice through a multi-tool approach. Results from that

study confirmed that, in addition to physician competence, there are other factors that are significant to consider when analyzing management approaches, identifying areas for learning and designing CME interventions. These factors include practice/workplace context, capabilities of the health system, and patient and time constraints. These factors can have a major impact and require a broader perspective for assessment and learning.

Several recent studies reflect on the challenges and benefits of utilizing quality improvement and electronic health record data to inform the design and development of CE activities. Sampath et al[27] explored the effects of CME in improving competence for primary care physicians managing patients with acute coronary syndrome. Risk assessment and stratification for these patients was a critical step in effectively managing secondary coronary heart disease. One of the barriers was the perceived time necessary for risk assessment. Patient adherence to the guideline-recommended duration of antiplatelet therapy did demonstrate increased competence by the primary care physician.

Price et al[28] assessed barriers to changing practice as part of CME outcomes. They indicate that assessing, characterizing, and summarizing barriers to implementation of evidence-based standards of care following CME can inform subsequent educational interventions and provide feedback to organizational leaders to inform performance improvement efforts.

The IOM reports, and recommendations from other health care stakeholders dedicated to improving patient safety have sought individual to system-wide strategies to effectively transform the US health system to meet the challenges outlined in the *Quality Chasm* report. The vision for a more structured system for tracking and monitoring performance and adherence to standards of care drives efforts by the Health Quality Forum, Agency for Health care Quality and Research (AHRQ), the Joint Commission, and leading professional organizations and accrediting bodies. These organizations continue to create standards, processes, and mechanisms to create a competent, collaborative, and quality health system for US patients. As all of these entities continue their efforts, evidence-based CPD gains credibility and value in both profession-specific and interprofessional domains.

CME/CPD organizations need to be actively engaged in discussions where CE can inform and guide improvements in performance. The awareness of workplace environment, barriers to risk assessment, and organizational resources and limitations need to be incorporated into CME/CPD, along with profession-specific and interprofessional competencies for the health care professions. The MOC movement toward evidence-based competencies as the criteria for professional development provides a reasonable vehicle for the integration of CE and quality improvement as essential parts of continued professional competence.

Expand the focus of CPD to address population and public health issues

The Affordable Care Act of 2010 passed by the US Congress creates comprehensive health insurance reform in phases through 2015. This health care law includes provisions for a new Patient's Bill of Rights, preventive care services and discounts on brand name drugs for Medicare participants, the creation of a Health Insurance Marketplace, and most importantly, the creation of Accountable Care Organizations (ACOs). These ACOs are organizations with a care and payment structure that links provider reimbursement to quality metrics and decreased cost to a specific population of patients. A group of health care providers can create an ACO to address the needs of the patients served under their collective auspices. The ACO is accountable to the patients and the third-party payer for the quality, appropriateness, and efficiency of the health care provided.[29,30] According to the Centers for Medicare and Medicaid Services (CMS), an ACO is "an organization of health care providers that agrees to be accountable for the quality, cost, and overall care of Medicare beneficiaries who are enrolled in the traditional fee-for-service program who are assigned to it."[31]

This new framework for care, reimbursements, patient-centric care expectations, and outcomes responds to the needs and expectations of the public and the federal government, which oversees the Medicare program for older citizens in the USA. These changes are consistent with the national reports and recommendations from the IOM, ACGME, ABMS, and other leading organizations involved in education and accreditation for physicians, nurses, pharmacists, and health professionals. Profession-specific knowledge and skills must be assessed and monitored for individual practitioners, but there is now a mandate to translate those profession-specific skills into the workplace setting. Interprofessional education is now an essential element in mobilizing health professionals into effective teams who provide quality patient-centric care. Health care organizations, CE professionals, and health professionals need to expand their perception of competence from only an individual measure to one of team- and systems-based performance.[32]

Moore et al[33] explore a conceptual framework for CPD that fosters meaningful approaches to address the issues of

Table 5 Outcomes framework developed by Moore et al[33]

CME framework	Description	Data source
Level 1 – participation	Number of physicians and health care professionals who participated in the CME/CPD activity	Attendance records
Level 2 – satisfaction	The degree to which the setting, and delivery of the CME/CPD activity met the participants' expectations	Questionnaires completed by attendees following the CME/CPD activity
Level 3A – learning: declarative knowledge	The degree to which participants can articulate what the CME/CPD activity intended to convey	Objective: pre and post-test of knowledge Subjective: self-report of knowledge gain
Level 3B – learning: procedural knowledge	The degree to which participants state how to do what the CME/CPD activity intended for them to do	Objective: pre and post-test of knowledge Subjective: self-report of knowledge gain
Level 4 – competence	The degree to which participants demonstrate/show in an educational setting how to do what the CME/CPD activity intended them to be able to do	Objective: observation in an education setting Subjective: self-report of competence: intention to change
Level 5 – performance	The degree to which participants do what the CME/CPD activity intended them to be able to do in practice	Objective: observation of performance in patient care setting: patient charts, administrative databases Subjective: self-reports of performance
Level 6 – patient health	The degree to which the health status of patients improves in response to changes in practice behavior of CME/CPD participants	Objective: health status measures recorded in patient charts or administrative databases Subjective: patient self-report of health status
Level 7 – community health	The degree to which the health status of a community of patients changes in response to changes in the practice behavior of CME/CPD participants	Objective: epidemiological data and reports Subjective: community self-report

Note: Used with permission: Moore DE Jr, Green JS, Gallis HA. Achieving desired results and improved outcomes: integrating planning and assessment throughout learning activities. *J Contin Educ Health Prof.* Copyright © 2009. The Alliance for Continuing Education in the Health Professions, The Society for Academic Continuing Medical Education, and The Association for Hospital Medical Education.[33]
Abbreviations: CME, continuing medical education; CPD, continuing professional development.

physician competence and performance. They have created a seven-level outcomes framework (modified from the original six levels), with Level 1 identified as participation and Level 7 as evaluation of the impact of changes in practice behavior on the community (Table 5). While the focus of this article highlights the approaches and considerations for CE professionals, the linkage to patient and community health reflects the current expectations for connecting CPD with improved performance within the US health environment.

The ACCME revised its accreditation standards to align with the IOM reports. These requirements, found online at www.accme.org, outline expectations that link CME/CPD with physician competence, performance, and patient health.[17] According to the ACCME website, the Accreditation Criteria state that CME programs should be designed to change either physicians' competence (by teaching them strategies for translating new knowledge into action), or physicians' performance (what they actually do in practice), or patient outcomes. The ACPE and the ANCC are also actively engaged in measuring competence as a core value in CPD for health professionals.

The changing US health care system now seeks care solutions that embrace preventive strategies as an integral part of a healthy nation. Public health issues affecting all sectors of the US population affect approaches to patient care that are consistent with the identified priorities for health. Cost and accountability serve as core elements in the rationale for CME/CPD to address public health issues. CME/CPD strategies need to embrace the new vision for health care and create opportunities for learning and adaptation that can be linked to the evaluation and performance levels identified by Moore and colleagues. Health care institutions are working to adapt to the new insurance reimbursement structures and can benefit from timely educational and performance improvement programming that fosters these themes.

Identify and standardize the competencies required by CE professionals

The changing expectations for health professionals, increased scrutiny on patient safety, and emphasis on efficiencies in patient care create an environment where CPD is central to all of the stakeholders engaged in the health care system. One of the core requirements for physicians and health professionals is the access and opportunity to learn about current standards of care, advances in science and technology that can foster improved care and patient outcomes, communication and team-based strategies for seamless patient care, and organizational and systems-based processes that support the health care team. Historically, CE professionals planned and executed CME activities that were profession and specialty

specific. These live conferences and symposia focused on disease-oriented topics that addressed recent advances and challenges within that particular patient population.[34] Through the leadership and work of multiple national entities, CPD now focuses on performance improvement, patient outcomes, and community and public health issues. The shift in these goals for CE and CPD requires that CE professionals also develop new knowledge and skills to effectively create the education and performance improvement opportunities that are central to maintaining competence. While discussions about competencies in health care are primarily focused on the health professional (ABMS, ACGME, ANCC, ACPE, ACCME), there are new competencies for the CE professional that go beyond meeting planning and administrative management of educational activities.[35] These health profession competencies serve as a framework for the core skills and abilities in CE/CPD. The Alliance for Continuing Education in the Health Professions (formerly the Alliance for Continuing Medical Education) created the Alliance Competencies for CME Professionals.[36] Eight competency areas define the expectations for CME/CE professionals in this new environment (Table 6):

1. Adult organizational learning principles
2. Educational interventions
3. Performance measurement
4. Systems thinking
5. Partnering
6. Leadership
7. Administration/management
8. Self-assessment and lifelong learning.

The Alliance Competency Areas, and the 48 competencies within these areas, serve as the foundation for professional development of CE professionals who are working to provide high-value education and performance improvement activities relevant to the changing health system in the USA. CE professionals serve as educational and accreditation consultants and are actively engaged in developing approaches that integrate education and performance improvement into learning for health professionals. The benefit of a competency framework for CE professionals is that it provides consistent parameters for defining and measuring the work of CE professionals. Since the workplace environments for CE professionals vary significantly, the Alliance Competencies can integrate multiple competencies into positions that meet the needs of their specific learners and organizations.

Cease Smoking 2 Day (CS2 day) is a nine-partner collaborative created to implement a nationwide educational program for health professionals to promote smoking cessation. Through a wide variety of educational and performance improvement opportunities, clinicians were able to engage in a variety of learning opportunities at individual, team, and system levels. A collaborative, such as CS2 day, is a unique setting for a national CME initiative and provided multiple opportunities for the partners to apply the Alliance Competencies. The CS2 day collaborative increased quit rates for patients who smoked, thereby demonstrating that CE professionals whose work is built on the Alliance Competencies can create and execute CME/CPD activities that foster improvement in clinician practice, improve patient outcomes, and positively affect community health. The competence and expertise of CE professionals is

Table 6 Alliance for Continuing Medical Education competency areas and descriptions

Competency area	Description
Adult/organizational learning principles	Comprehend evidence-based adult and organizational learning principles that improve the performance and outcomes of the physician learner and the organizations in which they work
Educational interventions	Apply and improve educational interventions using evidence-based adult and organizational learning principles in appropriate contexts (learners, content, and settings) that produce expected results for the physician learners and organizations in which they work
Performance measurement	Use appropriate data to assess two components: (1) educational – the success of learning interventions, especially physician performance (CME activities); and (2) administrative – the performance of the CME program
Systems thinking	Recognize that physicians and CME professionals are part of a complex health care system with processes, other health providers, and patients that must be considered in providing learning interventions
Partnering	Identify and collaborate with key partners and stakeholders in accomplishing their CME mission
Leadership	Provide leadership for the CME program, which emphasizes continuous improvement, professionalism, and appropriate ethical practice
Administration/ management	Manage office operations to meet personnel, finance, legal, logistical, and accreditation standards
Self-assessment and lifelong learning	Continually assess individual and organizational performance and make improvements through relevant learning experiences

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rarely included in discussions about the needs of the health care system, education and quality improvement of its physicians, nurses, pharmacists, and other allied health professionals. Evidence-based educational strategies need to be incorporated into performance-linked CE at all levels. The value proposition for CE as an integral part of continued professional development needs to be based on theories, data, and outcomes that mirror the expectations for their learners. Competencies for CE professionals provide a standardized structure for assessing competence and performance that results in timely, efficient, relevant learning and professional growth.

Final thoughts

As the US health system continues to transform to address the challenges and advances in health care delivery, the need for competent CE professionals also rises. While there are profession-specific differences in accreditation, those accrediting bodies are working to standardize terminology and expectations and are striving to document outcomes that reflect the value of quality independent CPD for health professionals. The competency movement applies to the CE professional who drives the CPD activities for the health professional learners in their organizations, regions, and countries. The Alliance for Continuing Education in the Health Professions is currently revising and broadening these competencies to be inclusive of all CE professions. This work can serve as a broad-based foundation that helps to bridge the profession-specific CPD with IPE initiatives to truly impact the quality of care to patients.

The discussions regarding the role of CME/CPD in health care in the USA over the past decade have been quite intense and multifaceted. The value of CME is now linked to performance improvement and patient safety. Many stakeholders at the individual, family, community, and national levels are actively engaged in redesigning care with a focus on wellness and preventive services. New accountability requirements with related financial incentives and penalties have increased pressure to minimize unexpected and deleterious outcomes. Examples include emphasis on reducing falls and hospital-acquired infections. The CME/CPD community offers a unique perspective and role in seeking solutions to these challenges. Cervero and Moore[37] highlight the struggle between the learning agendas and the political and economic agenda of CPD. These struggles articulate the competing educational, political, and financial agendas faced by multiple stakeholders in health care. CE professionals and the CPD profession need to actively engage in these discussions to demonstrate the impact of competency-based education and performance measurement on the other politico-economic agendas that ultimately affect patients.

The five main themes discussed in this article provide a perspective on the future of CME – or more appropriately, CPD – that is not only profession-specific but also interprofessional in nature. As CE professionals, we should hold our profession to the same competency framework as our learners and develop both profession-specific and interprofessional competencies that provide standardization in performance for CPD.

While this article highlights the current trends and challenges in the USA, many other countries and continents are holding similar discussions about how to best maintain competence for the health professionals who tirelessly care for patients. The benefits of collaboration and coordination among all stakeholders in the health system can result in new and innovative approaches that ensure competence of its health professionals and optimize care for the patients that they serve. CME/CPD/CE professionals have a unique role in mobilizing strategies to guide health care professionals and organizations that link education and performance into optimum care.

Disclosure

The author reports no conflicts of interest in this work.

References

1. Institute of Medicine. *To Err is Human: Building a Safer Health System*. Washington DC; National Academies Press; 1999.
2. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington DC; National Academies Press; 2001.
3. Institute of Medicine. *Crossing the Quality Chasm: The IOM Health Care Quality Initiative* [announcement]. Washington DC: Institute of Medicine; 2001. Available from: http://www.iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.aspx. Accessed April 26, 2013.
4. Institute of Medicine. *Health Professions Education: A Bridge to Quality*. Washington DC; National Academies Press; 2003. Available from: http://nap.edu/catalog.php?record_id=10681. Accessed August 22, 2013.
5. Interprofessional Education Collaborative Expert Panel. *Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel*. Washington DC; Interprofessional Education Collaborative; 2011. Available from: http://www.aacn.nche.edu/education-resources/ipecreport.pdf. Accessed April 30, 2013.
6. Dick Tocknell M. Healthcare costs 'an abomination' says Senate finance committee chair. *HealthLeaders Media*. June 19, 2013. Available from: http://www.healthleadersmedia.com/print/LED-293439/Healthcare-Costs-An-Abomination. Accessed June 19, 2013.
7. Tabas JA, Boscardin C, Jacobsen DM, Steinman MA, Volberding PA, Baron RB. Clinician attitudes about commercial support of continuing medical education: results of a detailed survey. *Arch Intern Med*. 2011;171(9):840–846.
8. Steinman MA, Boscardin CK, Aguayo L, Baron RB. Commercial influence and learner-perceived bias in continuing medical education. *Acad Med*. 2010;85(1):74–79.
9. Kawczak S, Carey W, Lopez R, Jackman D. The effect of industry support on participants' perceptions of bias in continuing medical education. *Acad Med*. 2010;85(1):80–84.

10. Dorman T, Silver IL. Continuing medical education: comment on "clinician attitudes about commercial support of continuing medical education". *Arch Intern Med*. 2011;171(9):847–848.
11. Rodwin MA. Drug advertising, continuing medical education, and physician prescribing: a historical review and reform proposal. *J Law Med Ethics*. 2010;38(4):807–815.
12. Ellison JA, Hennekens CH, Wang J, Lundberg GD, Sulkes D. Low rates of reporting commercial bias by physicians following online continuing medical education activities. *Am J Med*. 2009;122(9):875–878.
13. Mazmanian PE. Commercial support of continuing medical education in the United States: the politics of doubt, the value of studies. *J Contin Educ Health Prof*. 2009;29(2):81–83.
14. Saxton M. A view from industry: the foundations of future commercial support and a call for action. *J Contin Educ Health Prof*. 2009;29(1):71–75.
15. Barnes BE, Cole JC, King CT, et al. A risk stratification tool to assess commercial influences on continuing medical education. *J Contin Educ Health Prof*. 2007;27(4):234–240.
16. Physician's recognition award and credit system [webpage on the internet]. Chicago, IL: American Medical Association. Available from: http://www.ama-assn.org/ama/pub/education-careers/continuing-medical-education/physicians-recognition-award-credit-system.page? Accessed April 30, 2013.
17. Accreditation requirements for CME providers [webpage on the internet]. Chicago, IL: Accreditation Council for Continuing Medical Education. Available from: http://www.accme.org/requirements/accreditation-requirements-cme-providers. Accessed May 2, 2013.
18. Batalden P, Leach D, Swing S, Dreyfus H, Dreyfus S. General competencies and accreditation in graduate medical education. *Health Aff (Millwood)*. 2002;21(5):103–111.
19. About ABMS member boards [webpage on the internet]. Chicago, IL: American Board of Medical Specialties. Available from: http://www.abms.org/about_abms/member_boards.aspx. Accessed April 30, 2013.
20. Hawkins RE. Update on MOC and related ABMS activities. Presented at the Alliance for Continuing Medical Education Annual Meeting, January 24, 2012.
21. Thomas, Jon. Update on maintenance of licensure (MOL). Presented at the Alliance for Continuing Medical Education Annual Meeting, January 24, 2012.
22. Committee on Planning a Continuing Health Professional Education Institute; Institute of Medicine. *Redesigning Continuing Education in the Health Professions: Report Brief*. Washington DC; Institute of Medicine; 2009. Available from: http://www.iom.edu/Reports/2009/Redesigning-Continuing-Education-in-the-Health-Professions.aspx. Accessed July 30, 2013.
23. American Association of Medical Colleges and the American Association of Colleges of Nursing. *Lifelong Learning in Medicine and Nursing: Final Conference Report*. Washington DC; American Association of Colleges of Nursing; 2010.
24. Fox RD. Narrowing the gap between research and practice. *J Contin Educ Health Prof*. 1995;15(1):5–7.
25. Moore DE Jr, Green JS, Jay SJ, Leist JC, Maitland FM. Creating a new paradigm for CME: seizing opportunities within the health care revolution. *J Contin Educ Health Prof*. 1994;14(1):1–31.
26. Jennett PA, Scott SM, Atkinson MA, et al. Patient charts and physician office management decisions: chart audit and chart stimulated recall. *J Contin Educ Health Prof*. 1995;15(1):31–39.
27. Sampath J, Dietze DT, Toth PP, Cannon CP, Breslan SA. Are continuing medical education activities effective in improving the competence and performance of clinicians? Evidence from activities for primary care clinicians who manage patients with acute coronary syndromes. *Crit Pathw Cardiol*. 2012;11(1):1–9.
28. Price DW, Miller EK, Rahm AK, Brace NE, Larson RS. Assessment of barriers to changing practice as CME outcomes. *J Contin Educ Health Prof*. 2010;30(4):237–245.
29. Wikipedia.org. Patient Protection and Affordable Care Act. Available from: http://en.wikipedia.org/wiki/Patient_Protection_and_Affordable_Care_ Act. Accessed July 15, 2013.
30. US Department of Health and Human Services. HHS.gov/HealthCare. About the Law [webpage on the internet]. Available from: http://www.hhs.gov/healthcare/rights/index.html. Accessed July 15, 2013.
31. Centers for Medicare & Medicaid Services. *Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations*. Baltimore,MD: Centers for Medicare & Medicaid Services; 2011. Available from: http://www.ftc.gov/bc/healthcare/aco/cms-propose-drule.pdf. Accessed August 13, 2013.
32. Balmer JT. Transforming continuing education across the health professions. *J Cont Educ Nurs*. 2012;43(8):340–341.
33. Moore DE Jr, Green JS, Gallis HA. Achieving desired results and improved outcomes: integrating planning and assessment throughout learning activities. *J Contin Educ Health Prof*. 2009;29(1):1–15.
34. Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance. A systematic review of the effect of continuing medical education strategies. *JAMA*. 1995;274(9):700–705.
35. Balmer JT, Bellande BJ, Addleton RL, Havens CS. The relevance of the alliance for CME competencies for planning, organizing, and sustaining an interorganizational educational collaborative. *J Contin Educ Health Prof*. 2011;31 Suppl 1:S67–S75.
36. Alliance for Continuing Medical Education. *Alliance for Continuing Medical Education's Competency Areas for CME Professionals*. Bethesda, MD; Alliance for Continuing Education in the Health Professions; 2008. Available from: http://www.acehp.org/iMIS15/aCME/PDFs/Competencies_Analysis_Report_REV_090909.pdf?hkey=1fdf55f7-1d5c-4298-84af-b9b77c849025. Accessed May 3, 2013.
37. Cervero RM, Moore DE Jr. The Cease Smoking Today (CS2day) initiative: a guide to pursue the 2010 IOM report vision for CPD. *J Contin Educ Health Prof*. 2011;31 Suppl 1:S76–S82.
38. MOC competencies and criteria [webpage on the internet]. American Board of Medical Specialties. Available from: http://www.abms.org/maintenance_of_certification/MOC_competencies.aspx. Accessed April 25, 2013.