

## “Teaching as a Competency”: Competencies for Medical Educators

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### Abstract

Most medical faculty receive little or no training about how to be effective teachers, even when they assume major educational leadership roles. To identify the competencies required of an effective teacher in medical education, the authors developed a comprehensive conceptual model.

After conducting a literature search, the authors met at a two-day conference (2006) with 16 medical and nonmedical educators from 10 different U.S. and Canadian organizations and developed an initial draft of the “Teaching as a Competency” conceptual model. Conference participants used the physician competencies (from the Accreditation Council for Graduate Medical Education [ACGME]) and the

roles (from the Royal College’s Canadian Medical Education Directives for Specialists [CanMEDS]) to define critical skills for medical educators. The authors then refined this initial framework through national/regional conference presentations (2007, 2008), an additional literature review, and expert input. Four core values grounded this framework: *learner engagement, learner-centeredness, adaptability, and self-reflection*.

The authors identified six core competencies, based on the ACGME competencies framework: medical (or content) knowledge; learner-centeredness; interpersonal and communication skills; professionalism and role modeling; practice-based

reflection; and systems-based practice. They also included four specialized competencies for educators with additional programmatic roles: program design/implementation, evaluation/scholarship, leadership, and mentorship. The authors then cross-referenced the competencies with educator roles, drawing from CanMEDS, to recognize role-specific skills.

The authors have explored their framework’s strengths, limitations, and applications, which include targeted faculty development, evaluation, and resource allocation. The Teaching as a Competency framework promotes a culture of effective teaching and learning.

**F**aculty in medicine are expected to teach, yet most faculty enter their academic positions underprepared for their roles as medical educators—even when they assume education leadership positions.<sup>1</sup> This lack of formal training in teaching may be due, in part, to a lack of recognition of the complex skills (from techniques in microteaching to meta-skills in program evaluation) necessary to succeed as a medical educator.<sup>2</sup> Without formal educational training, most faculty members undergo ad hoc training, selecting from a local/national menu of programs, that they hope will enhance their skills—*after* they assume their

teaching roles. Developing a better understanding of the skills necessary for success as a medical educator would be an important advance for medical education, resulting in the improved quality of teaching and enhanced learner outcomes.

### The Relationship Between Physician and Medical Educator Competencies

A decade ago, U.S. medical educators grappled with what skills and knowledge a competent physician must be able to demonstrate in order to practice independently.<sup>3–6</sup> This debate was driven by concerns over patient safety, a push to improve patient outcomes, and the desire to allow the profession of medicine to continue to self-regulate. The debate resulted in the recognition of nontraditional physician competencies, such as practice-based learning and systems-based practice, as integral to a physician’s development. Initially controversial, these competencies have been incorporated into physician training

programs and have increased attention to the quality of medical training and physician evaluation.<sup>7</sup>

Similarly, in medical education, several groups have begun to identify competencies for various medical educators<sup>8–10</sup> in an effort to ensure that faculty in charge of physician education receive adequate training for their roles. For instance, Capobianco and Schultz<sup>11</sup> outlined competencies for residency program directors, and Harris and colleagues<sup>12</sup> identified global competencies for teachers, administrators, and researchers. More recently, Sutkin and colleagues<sup>13</sup> identified cognitive and noncognitive characteristics of influential clinical educators. Although these educational paradigms have been extremely useful, they have not been linked to the larger physician competency movement, and they have not been broad enough to be applied to all those involved in medical education (from nonclinical faculty to educational policy makers).

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Despite both this rich backdrop of educator skills paradigms and a growing number of faculty development programs,<sup>14</sup> a common conceptual framework of the skills necessary to be an effective medical educator is not currently available. Developing such a framework could both help to foster common expectations for educator performance and outcomes and introduce a uniform language to aid in dialogue and standard-setting across sites and institutions. In this article, we propose a common conceptual framework that identifies and outlines a continuum of medical educator skills. This framework may allow faculty members to advocate specific training and/or resources to enhance their personal success and the quality of their teaching. In addition, we hope that it will promote dialogue about improving medical educator training, development, and outcomes.

### Framework Development

We built this framework on an extensive review of the literature on teaching and learning as well as on expert opinion, which we solicited in three ways (described below): first, through a medical educator conference focused on teaching competencies; second, through discussion during several regional and national presentations; and third, through individual discussions with educational experts.

We reviewed over 800 articles and abstracts about faculty development, learner needs, and teaching strategies in January 2006. We identified these articles through a Medline and ERIC search, using the key terms *competency*, *teaching*, *faculty development*, *medical education*, and *medical educator*. We also hand searched the abstracts and indices of the articles we culled.

Subsequently, in April 2006 we convened a two-day conference comprising 16 medical educators from the United States and Canada to discuss educational competency development (Teaching as a Competency conference). The participants of this 2006 conference included educational leaders (e.g., course/program directors, chairs, deans, a national society executive director), educational researchers, journal editors, and authors of educational textbooks.

Conference participants had content expertise in medicine, psychiatry, pediatrics, sociology, education, and ethics, and they represented viewpoints enriched by their leadership roles within their professional societies. For two days, the participants of the Teaching as a Competency conference discussed barriers/facilitators to effective teaching, explored tensions in creating a skills-development framework for medical educators, and described critical educator skill sets. Participants considered such questions as *What characteristics can help identify a great teacher or learner? How do these characteristics relate to essential competencies in medical education? How can educators increase the probability of teaching competently? How do individual faculty members know if they are teaching competently? How can educators identify and remediate problem teachers? How can the medical education community develop faculty to teach competently?*

Using a modified Delphi process, the conference participants developed an initial framework based on qualitative analysis of identified themes that incorporated both Accreditation Council for Graduate Medical Education (ACGME) competencies<sup>5</sup> and the Royal College's Canadian Medical Education Directives for Specialists (CanMEDS) roles.<sup>6</sup>

Next, nonconference participants further refined the framework at three regional and national meetings (psychiatry and medicine) in 2007 and 2008. At these conferences, two of us (M.S., D.H.) spoke with a myriad of interested educators, who helped think through which competencies should be included, how they should be modified, and how competency/roles should be defined. These educators included individuals from ABIM and other national boards, deans, program directors, and clinical educators. Many educators who attended these meetings (2007 and 2008) had previously written on this topic. These attendees helped us think through strengths and weaknesses of our model. Most felt that the themes resonated with them.

We conducted a second literature search using the same terms in February 2010 in an effort to find updated key concepts from 2009 and early 2010. Finally, we honed the framework further through

additional informal discussions in 2010 with experts, including colleagues from the cognitive and procedural medical sciences.

### Key Questions Informing the Framework

We use the term “discussants” to capture all the medical education experts and practitioners with whom we had conversations during the 2006 Teaching as a Competency conference, the 2007/2008 regional and national meetings, and the 2010 discussions. Five major questions emerged that discussants felt our framework should address. Here, we explore these five questions and other key considerations that informed our framework's development.

**1. Does every person who teaches need educational training?** Traditionally, medical education has been an apprenticeship through which individuals train directly under an established physician. Physicians were assumed to be competent practitioners after completing their apprenticeship. Similarly, any physician was assumed to be able to teach learners. Now, medical practitioners must demonstrate their competency using a different, more formal (possibly higher) educational standard. Likewise, medical educators should also be held to a different standard; they must be able to demonstrate their ability to appropriately and systematically teach,<sup>15,16</sup> role model,<sup>17,18</sup> evaluate,<sup>19</sup> and provide feedback<sup>20</sup> to learners.

Meanwhile, clinical teachers who, in addition to teaching, are called to increase their revenue streams (through providing patient care and conducting research<sup>21</sup>), have less time to teach and evaluate effectively.<sup>22</sup> The burden of program development has shifted to a concentrated few—ironically, at a time when program development has taken center stage. In addition, many medical educators are nonphysicians with expertise in skills that are critical for physician competency development—ethics, communication, practice management, and advocacy. This increase in medical educator heterogeneity, concurrent to a decrease in educator-learner contact time, means that educators must be able to teach, provide feedback, and evaluate in a more concentrated and accurate manner.

Given these changes in educational standards, our discussants felt that educators who have more than casual interaction with learners should develop the core knowledge, skills, and attitudes to teach, evaluate, guide, and refer/remediate individuals or small/large groups; educators with more significant responsibilities should obtain additional training.

**2. Are there foundational principles in medical education?** Foundational principles encompass core values or behaviors crucial to the viability of a field. Although individual educators might differ in their interactions with learners and their content expertise, discussants identified four principles that all educators should value, endorse, and practice: *learner engagement*,<sup>23</sup> *learner-centeredness*,<sup>24,25</sup> *adaptability*, and *self-reflection*.<sup>15</sup> For the Teaching as a Competency framework, *learner engagement* is the ability to connect with and intellectually engage an individual learner or groups of learners. *Learner-centeredness* (which is akin to patient-centeredness) is the philosophy of putting the learner first, assessing his or her needs, understanding her or his barriers to learning or practice, and tailoring the education program to meet the learner “where the learner is.” *Adaptability* refers to the need to change programs, teaching modalities, priorities, and content over time to respond to learners, the practice/teaching environment, or even the teaching encounter. *Self-reflection* signifies the ability of educators to think critically about their educational encounters and their efficacy, to gather relevant feedback, and to devise ways to improve their skills.

**3. Which skills are “core” versus “specialized” for different types of educator responsibilities?** Given the myriad of different roles that educators might adopt, discussants felt that core competencies should include skills important for any individual who teaches medical learners regularly. Typically, these skills would involve directly teaching an individual or group of learners. Discussants felt that specialized competencies are necessary for educators who have additional responsibilities. For instance, core knowledge for all educators might involve content knowledge (expertise in the educator’s topic area), process knowledge (how to be an

effective communicator/teacher within that content area), and assessment knowledge (how to ensure that the learners have learned the material). Specialized skills for a program developer might include understanding educational theory; knowledge of techniques for assessing the program, educator, and/or learner; and proficiency in conducting research and using advanced technology. In addition, those with significant programmatic responsibilities may need skills in training and remediating other educators.

**4. Which terms best express the continuum of educator skills development?** The choice of specific language to articulate an idea can promote shared understanding, but it may also carry biases based on current or prior usage. During development, discussants debated the best term around which to build the framework; they considered “competency,” “expertise,” “best practice,” and “role.” Each of these terms has been used successfully in different settings. For instance, U.S. educators have used the Dreyfus skills continuum (from novice to expert) to develop a “competency” framework for practicing physicians, signifying important milestones necessary for independent clinical practice. “Expertise” denotes a level of skill higher than that which a starting medical educator may need for independent practice. “Best practices” can be used to benchmark performance and set appropriate developmental milestones. The term “role,” used extensively in Canada as part of CanMEDS, denotes areas of physician practice skills. Each of these terms lends clarity to different aspects of skills development. Because educators might need competencies applicable across many roles (e.g., mentor, educational researcher, clinical instructor), discussants developed a model blending two sets of terms: roles and competencies. Specific educator roles were informed by CanMEDS physician roles but adapted for medical educators who directly teach and who are involved in larger programmatic efforts.

**5. Should we assess teaching or learning?** The discussants felt that the goal of medical education was to promote learning by engaging learners. The output of this engaged learning could be better patient care, scholarship,

community/public service, or health systems. Ideally, our framework should point the way to a careful assessment of educators and of their learners’ outcomes; however, the process of a teacher’s teaching and a learner’s learning may not have a linear relationship. The need to link teaching and learning has been well recognized, and Cassel<sup>26</sup> even calls for skilled educators to link the quality of medical education to the quality of clinical practice.

As with patient outcomes, *learner* outcomes are influenced by multiple learner, educator, and environmental factors. For instance, educators are responsible for creating an effective learning environment and for applying appropriate learning tools and methods. The learner’s responsibility includes appropriate preparation, attention, and work habits which will in turn allow him or her to incorporate these new skills into practice. Some additional, learner-dependent factors that influence learning include Web participation, peer-to-peer learning, or self-directed learning. Environmental factors include those related to time, facilities, resources, and opportunities for learning. Further, leaders’ focus on an institution’s educational mission shapes its hidden culture, deeply influencing the ability of educators to be effective. Just as aggregate patient outcomes may be used to assess the quality of care provided by a physician, our discussants posited that, within limits, key or aggregate learner outcomes may be used to assess the teaching skills of the educator.

### “Teaching as a Competency” Framework

On the basis of the responses to these conceptual questions, we collapsed over 100 desirable educator skills and attributes (as identified by our discussants) into larger categories. We used the ACGME framework as a starting point, identifying 10 medical educator competencies.

We identified six core competencies, appropriate for all medical educators: (1) medical (or content) knowledge, (2) learner-centeredness, (3) interpersonal and communication skills, (4) professionalism and role modeling, (5) practice-based reflection, and (6) systems-based practice. We identified

**Table 1**  
**Six Core Teaching Competencies for Medical Educators**

Content area	Area description: Competent medical educators . . .	Core teaching competencies (adapted from Accreditation Council for Graduate Medical Education clinical competencies): Competent medical educators . . .
Medical (or content) knowledge	Teach content and assess each learner's abilities within their field of expertise.	<ul style="list-style-type: none"> <li>• Challenge and facilitate learners in practicing high quality, compassionate patient care within their field of expertise.</li> <li>—Teach learners to apply the established and evolving knowledge needed for the effective care of patients.</li> <li>—Teach learners to prioritize and multi-task patient care issues, including recognition of critical patient care issues.</li> <li>—Provide resources for additional skills development for learners.</li> <li>• Assess learner progress in acquiring knowledge, skills, and attitudes.</li> <li>• Provide learners with graduated responsibility based on their abilities.</li> </ul>
Learner centeredness	Demonstrate a commitment both to learners' success and well-being and to helping learners grow into their professional roles.	<ul style="list-style-type: none"> <li>• Demonstrate respect for each learner.</li> <li>—Explicitly value each learner's contributions to the teaching/learning environment.</li> <li>—Demonstrate sensitivity and responsiveness to each learner as an individual, including respecting privacy, autonomy, and professional boundaries.</li> <li>—Demonstrate sensitivity and responsiveness to learner diversity, including ability, disability, gender, age, culture, ethnicity, and sexual orientation.</li> <li>• Invest in each learner's growth and skill development.</li> <li>—Are aware of competing demands on learners and learners' personal/professional issues, which might affect their growth.</li> <li>—Elicit each learner's barriers to learning and work to overcome them.</li> <li>—Recognize learners in distress and provide appropriate resources within the educational structure to assist.</li> <li>• Create a learning climate in which learning is facilitated.</li> <li>—Stimulate the best in each learner, while minimizing unwanted behaviors.</li> <li>—Create an open atmosphere that facilitates dialogue about different approaches to clinical issues.</li> <li>—Create an open atmosphere which facilitates dialogue about personal/professional issues that affect professional development.</li> </ul>
Interpersonal and communication skills	Flexibly tailor teaching and communication styles to facilitate learning.	<ul style="list-style-type: none"> <li>• Communicate expectations, goals, and information in ways that stimulate and engage learners.</li> <li>• Tailor communication and educational strategies to optimize learning, based on the learning context and learners' needs.</li> <li>• Determine each learner's prior knowledge and skills through direct observation or questions.</li> <li>• Provide specific feedback to each learner to help the learner improve.</li> <li>• Are open to alternative approaches to problems and issues.</li> <li>• Problem-solve in a social context.</li> <li>• Facilitate dialogue and understanding during times of professional conflict.</li> </ul>
Professionalism and role modeling	Demonstrate best educational and content-related practices, and role model those behaviors for learners.	<ul style="list-style-type: none"> <li>• Inspire learners to excellence in their field of expertise through modeling professional behaviors.</li> <li>• Adhere to ethical principles in teaching, demonstrating compassion and integrity.</li> <li>• Model professional practice standards in their field of expertise.</li> <li>• Keep up-to-date on educational practices and resources within their field of expertise.</li> <li>• Remain accountable for their actions and follow-through on agreed upon activities in a timely fashion.</li> </ul>
Practice-based reflection and improvement	Demonstrate continuous self-assessment and lifelong learning to improve their effectiveness and capacity as educators.	<ul style="list-style-type: none"> <li>• Reflect upon education practices routinely.</li> <li>—Are mindful during and after educational interactions.</li> <li>—Actively seek input and feedback about the quality and effectiveness of their own teaching from multiple sources, including learners.</li> <li>—Utilize feedback and self-assessment to identify teaching strengths and weaknesses.</li> <li>—Modify teaching techniques and approaches to improve current educational practice.</li> <li>• Develop personal educational goals based on self-assessment and implement a plan to achieve those goals.</li> <li>• Seek faculty development opportunities to improve educational practice.</li> </ul>

(Continues)



**Table 1**  
(Continued)

Content area	Area description: Competent medical educators . . .	Core teaching competencies (adapted from Accreditation Council for Graduate Medical Education clinical competencies): Competent medical educators . . .
Systems-based learning	Utilize resources within the larger system of medical education to advocate for learners and to provide optimal teaching and learning.	<ul style="list-style-type: none"> <li>• Utilize medical education resources to advocate for learners, to coordinate teaching endeavors, and to optimize learning environments.               <ul style="list-style-type: none"> <li>—Seek and utilize resources within the institution to improve medical education and the teaching environment for their area of expertise.</li> <li>—Seek and work with others to utilize resources outside of the institution.</li> <li>—Utilize broader medical education resources, including shared curricula and national organizational resources.</li> </ul> </li> <li>• Negotiate resources to succeed in teaching within their area of expertise.</li> <li>• Anticipate how trends within their field of expertise will affect clinical practice, and plan for curricular changes to meet those needs.</li> </ul>
		<p>four specialized competencies for faculty with additional programmatic roles: (7) program design and implementation, (8) evaluation and scholarship, (9) leadership,<sup>27</sup> and (10) mentorship. We assigned specific underlying knowledge, skills, and attitudes to each competency.</p> <p><b>The six core competencies</b></p> <p>Our proposed core educator competencies (Table 1) focus on significantly different skills than ACGME physician competencies. For instance, we presume that the educator is already proficient in her or his content area. Thus, the <i>medical (or content) knowledge</i> competency focuses on how educators would use their content expertise to tailor instruction for learners and to assess individual learner progress. Parallel to the ACGME “patient care” core competency, we identified an analogous <i>learner-centeredness</i> core competency, which focuses on a personal commitment to meet a learner’s individual, professional needs and to treat individuals with respect. <i>Professionalism</i>, for an educator, involves not just exhibiting best practices/ behaviors in an individual field of expertise but also inspiring and role modeling those behaviors in and for others. <i>Communication</i> emphasizes effective problem-solving and adaptability for one-on-one, one-on-group, or intragroup interactions. The <i>practice-based reflection</i> competency revolves heavily around accurate self-reflection<sup>28,29</sup> and using all available sources of information to improve one’s own educational practices. Finally, <i>systems-based practice</i> involves understanding the educational microsystem (i.e., the team or service) as well as the larger (macro) system in which education occurs. Important to this competency is the ability to use that understanding to advocate appropriate change.</p> <p><b>The four specialized competencies</b></p> <p>The specialized competencies (Table 2) are critical skills for individuals with more extensive programmatic roles. In our framework, <i>program design and implementation</i> are grouped together because development can rarely occur without consideration of the realities of local implementation. Learner and program <i>evaluation</i> may require special research,<sup>30</sup> methodological and statistical training (including training in testing</p>

theory and scale construction/validation), and various forms of cognitive and behavioral assessment (including simulation). Importantly, planning for evaluation should occur at the same time as program development. *Leadership* is important for prioritizing and creating flexible change within organizations, using available resources, and/or creating new resources. Within the Teaching as a Competency framework, a good leader should be able to build a shared vision for growth, to manage the process of change, to develop the next generation of leaders, and to create an open organizational culture which is responsive to feedback. Finally, *mentorship*, a cross-cutting skill vital to promoting learner growth and professional development, has two components: one-on-one mentorship of individuals (learners, faculty, and staff) and programmatic mentorship, through which an organization provides resources for group development.

#### Relationship between teaching competencies and educator roles

Recognizing that educator roles affect the need for acquisition of different competencies, we cross-referenced the ACGME competency framework with teaching roles (Chart 1), including the degree of competency needed for each role. Discussants divided educator roles into two groups: those involving direct teaching responsibilities, and those involving programmatic development and oversight. They also recognized less common but important roles, including those integral to technology development and to institutional leadership (such as a medical school dean, a hospital chief executive officer, or a medical organization’s educational leader). Discussants also acknowledged educational policy makers who are involved in the national oversight and financing of medical education. These educator roles differ from the CanMEDS physician roles (communicator, collaborator, etc.) but entail many of the same qualities. For instance, discussants felt that the CanMEDS “Scholar” role requires skills similar to those necessary for being an educational researcher, that the “Manager” role entails elements similar to those of program administrators or institutional leaders, and that the “Health Advocate” role has attributes similar to those of an educational policy maker.

**Table 2**  
**Four Specialized Teaching Competencies for Medical Educators**

Content area	Area description: Competent medical educators . . .	Advanced Teaching Competencies: Competent medical educators . . .
<p>Program design and implementation</p>	<p>Design and implement sound, sustainable educational programs.</p>	<p><i>Development</i></p> <ul style="list-style-type: none"> <li>• Understand and apply major theories of medical education in program design and implementation.</li> <li>— Seek additional training in conceptual models and best practices in education.</li> <li>— Seek collaborators to round out their approach to content or methods outside of their field of expertise.</li> <li>— Understand the current learning environment's strengths and weaknesses.</li> <li>• Use a deliberate, thoughtful approach to curricular development.</li> <li>— Conduct needs analyses to ensure that program goals and content are appropriate and relevant.</li> <li>— Craft prioritized learning goals and educational objectives, tailored to the needs of learners, patients, and the local health system.</li> <li>— Involve key development personnel (technology, content, delivery) and stakeholders early in the process.</li> <li>— Are aware of advances in instructional modalities, including simulation and emerging technologies.</li> <li>• Negotiate for resources appropriate to the scope of development.</li> </ul> <p><i>Implementation</i></p> <ul style="list-style-type: none"> <li>• Understand resource availability and constraints for program implementation.</li> <li>— Anticipate implementation barriers, including lack of institutional and faculty support, lack of funding and staff/technological support, inertia, and learner constraints.</li> <li>— Gather resources to overcome critical implementation barriers.</li> <li>— Nurture staff and key personnel development to facilitate specific program implementation.</li> <li>• Involve key stakeholders, including learners and administration, in implementation.</li> <li>• Develop stepwise process for program implementation.</li> </ul> <p><i>Program sustainability</i></p> <ul style="list-style-type: none"> <li>• Begin succession planning during implementation to ensure continuity if a key educator becomes unavailable.</li> <li>• Create robust program infrastructure, including recognizing, training, and involving other interested educators and staff.</li> <li>• Ensure relevancy by changing a program based on feedback (from learners/educators), self-reflection, and external practice/environment needs.</li> <li>• Provide timely feedback to key stakeholders to improve accountability.</li> </ul>
<p>Evaluation and scholarship</p>	<p>Utilize scholarly and practical approaches to prioritize program evaluation in a way that creates new knowledge about the program, the process, and the field being studied.</p>	<p><i>Evaluation</i></p> <ul style="list-style-type: none"> <li>• Plan for learner and program evaluation during content development.</li> <li>• Identify measurable learning outcomes, either alone or with evaluation experts with additional skills.</li> <li>— Choose a scope of evaluation, appropriate to goals and resources.</li> <li>— Consider evaluation of multiple outcomes: learners, patients, communities, self, staff, faculty, programs, and institutions.</li> <li>— Identify evaluation modalities most likely to capture key learning outcomes.</li> <li>• Understand strengths and weaknesses of different types of evaluation modalities, including test/survey and non-test/survey modalities.</li> <li>— Are able to access or develop (alone or with experts) appropriate evaluation techniques.</li> <li>— Consider multiple evaluation techniques of individuals or groups, including simulators, standardized patients, direct observation, learning portfolios, clinical performance reviews (video review, charts, and portfolios), validated written instruments, and surveys.</li> <li>— Consider multiple evaluation techniques of program success, including patient outcomes, national benchmarks/exams, comparisons with other institutions, and participant evaluation.</li> <li>— Consider appropriateness and limitations of existing evaluation tools.</li> <li>— Plan for utilization of new/emerging evaluation technologies.</li> <li>• Utilize qualitative and quantitative analytic techniques to study outcomes of interest.</li> <li>— Conduct appropriate rater training.</li> <li>— Recruit appropriate statistical support and resources.</li> </ul>

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**Table 2**  
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Area description: Competent medical educators . . .	Advanced Teaching Competencies: Competent medical educators . . .
<p><b>Content area</b></p>	<p><i>Scholarship and dissemination</i></p> <ul style="list-style-type: none"> <li>• Share results of evaluation with others at institution, nationally and internationally through publication, conferences, and workshops.</li> <li>• Plan for disseminating the program in appropriate venues.</li> <li>• Identify questions unanswered by program implementation and evaluation, and plan for next steps.</li> <li>• Generate and share new ideas for improving or creating programs.</li> </ul>
<p><b>Leadership</b></p> <p>Create a shared vision for medical education, while anticipating future needs. Create systems in which team members can grow and succeed.</p>	<p><i>Vision</i></p> <ul style="list-style-type: none"> <li>• Plan for change.               <ul style="list-style-type: none"> <li>—Anticipate future changes in medicine and society that will affect physician training.</li> <li>—Proactively (not reactively) change institutions and programs to meet anticipated future changes.</li> <li>—Manage the overall development process of planned changes and sustainable growth.</li> </ul> </li> <li>• Build consensus around major educational goals.               <ul style="list-style-type: none"> <li>—Prioritize competing needs of groups and new projects for appropriate resource allocation.</li> <li>—Listen and change.</li> </ul> </li> <li>• Implement vision in a sustainable fashion.</li> </ul> <p><i>Leadership development</i></p> <ul style="list-style-type: none"> <li>• Develop the next generation of educational leaders.               <ul style="list-style-type: none"> <li>—Recruit, nurture, and retain talented individuals (learners, faculty, staff).</li> <li>—Delegate both responsibility and authority for tasks in a logical fashion.</li> <li>—Progressively increase goals, responsibilities, and authority of capable individuals.</li> <li>—Begin succession planning at the point of assuming their leadership role.</li> </ul> </li> <li>• Promote faculty and staff achievement.               <ul style="list-style-type: none"> <li>—Create opportunities for leadership and skills development.</li> <li>—Create systems to recognize and reward those who meet/exceed goals.</li> <li>—Create systems to recognize and remediate those who do not meet appropriate benchmarks.</li> </ul> </li> </ul> <p><i>Organizational culture</i></p> <ul style="list-style-type: none"> <li>• Create organizational systems that are resilient, flexible, capable of change, accountable, and balanced between stability and growth.</li> <li>• Monitor and respond to program and institutional performance outcomes.</li> <li>• Appropriately resource projects to ensure success and promote accountability.               <ul style="list-style-type: none"> <li>—Manage budgets and resources to achieve programmatic goals.</li> <li>—Raise funds and resources from internal and external sources, concordant with values.</li> </ul> </li> <li>• Create a culture of safety and trust in which critical feedback is encouraged and used to evolve programs.</li> </ul>
<p><b>Mentorship</b></p> <p>Sustain a positive focus on the career growth of individuals (learners, faculty, staff).</p>	<p><i>One-on-one mentorship</i></p> <ul style="list-style-type: none"> <li>• Articulate expectations of the mentor-mentee relationship, including deliverables by both mentor and mentee.</li> <li>• Provide support, encouragement, inspiration and nurturing of mentees.</li> <li>• Help individuals develop needed skills through collaboration, feedback, apprenticeship and/or introduction to others.</li> <li>• Advocate for mentees, including by providing key networking opportunities.</li> <li>• Understand how to transition from a mentor-mentee role to a peer role as the mentee's skills develop.</li> </ul> <p><i>Programmatic mentorship (including learner or faculty development)</i></p> <ul style="list-style-type: none"> <li>• Create an environment in which prepared individuals can personally and professionally succeed.</li> <li>• Provide development opportunities to enhance individual/group goals.</li> <li>• Create or identify development opportunities, tailored to individual career goals.</li> <li>• Broaden the perspectives of individuals or groups.</li> <li>• Create advising and feedback programs.</li> <li>• Identify or develop programmatic resources for individuals to achieve their goals.</li> </ul>

Chart 1

**Ten Teaching Competencies for Medical Educators, in Relationship to Educator Roles**

Competencies	Core teacher roles			Specialized teacher roles				
	Clinical teacher	Individual or small group teacher	Large group teacher	Program administrator	Technology developer	Educational researcher	Institutional administrator	Education policy maker
<b>Six core teaching competencies</b>								
Medical knowledge	✓✓✓	✓✓✓	✓✓✓	✓✓	✓	✓✓	✓	✓
Learner centered	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓
Interpersonal/communication skills	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓
Professionalism	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓
Practice-based reflection	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓
System-based practice	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓
<b>Four specialized teaching competencies</b>								
Curriculum design and implementation	✓	✓	✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓
Evaluation and scholarship	–	–	–	✓✓	✓	✓✓✓	✓✓	✓
Leadership	–	–	–	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓
Mentorship	✓	✓	✓	✓✓✓	–	✓✓✓	✓✓✓	✓✓

✓✓✓ = definitely needed competency for role.  
 ✓✓ = likely needed competency for role.  
 ✓ = familiarity with competency needed for role.  
 – = probably not needed for role.

Discussants felt that those educators with direct teaching roles in clinical settings would need to be competent in core areas. They also believed that educators with direct teaching roles would not necessarily need *competency* in specialized skills but may need some *familiarity* with those competencies (such as curriculum development and evaluation). Conversely, although those with specialized educator roles may need less skill in some core competencies (such as medical content), they still need to demonstrate competency in learner-centeredness.

**Framework Strengths, Applications, Limitations, and Future Research**

**Strengths**

We propose a conceptual framework that identifies and describes six core and four specialized skills for medical educators, which we hope will stimulate discussion about improving educator and learner outcomes. The Teaching as a Competency framework builds on

enormous groundwork regarding physician competencies and roles, faculty development, evaluation, and institutional change. In developing this framework, we sampled many stakeholders, including experienced educators from both the United States and Canada. We explicitly recognized the importance of different competencies necessary for different educator roles, and we drew on trusted U.S. and Canadian schemas for physician competency development.

**Applications**

In an era of increasing resource scarcity, when the need for generalized cost-containment in medical expenditures is intensifying, educational programs will come under more scrutiny to use their resources wisely. A sound conceptual framework can help stakeholders—from the national to the institutional level—more carefully prioritize their resources. Teaching and developing programs for large numbers of learners in many settings necessitates appropriate skills

development among faculty and administrators, customized learning for students, and efficiency at the institutional level. Using the Teaching as a Competency framework to discuss educator development can help pinpoint areas where resources may be best deployed for developing faculty skill sets by providing an approach for assessing organizational strengths and weaknesses. Underresourced programs—perhaps, for instance, those in community-based, rural or underserved areas—might be better able to articulate the needs of their educators and partner with organizations that provide complementary skill sets. Our framework acknowledges the continuum of skills necessary for a medical educator’s continued growth. In addition, it might help medical educators meet the needs of all stakeholders—learners, administrators, patients, and communities—by recognizing the real needs of each stakeholder through better engagement. Recognizing role-specific educator competencies may help institutions prioritize their educational



dollars and recruit/reward/retain faculty differently. And, perhaps most important, the Teaching as a Competency framework can help educators think carefully about the skill sets and resources they will need to succeed in their positions.

Once faculty have identified their needs, they may opt to participate in carefully designed faculty development programs,<sup>14</sup> generally tailored to specific roles. Many individual institutions have created local faculty development programs to train their medical educators according to local need.<sup>30–35</sup> Most national faculty development programs have focused on teaching specific skill sets or specialties.<sup>36,37</sup> For instance, Litzelman and colleagues<sup>38</sup> have created a useful framework and training paradigm for the clinical teacher. The Academic Pediatric Association<sup>39</sup> has developed an educational scholars program for pediatric faculty that focuses on educational research methods. National organizations (such as the Association of American Medical Colleges, Canadian Association for Medical Education, or American Medical Women's Association) have fostered leadership development programs to help educational faculty survive the rigors of academic medicine.<sup>40</sup> Programs offering masters in medical education (such as the one at the University of Southern California<sup>41</sup>) have two- to three-year programs to teach a broad variety of educational skills. These programs have formed an important basis for educator skills development. Yet, to ensure quality and optimize their resources, these programs often have limited enrollment, scope, and/or reach. The adoption of a common conceptual skills development framework may encourage the growth (expansion or creation) of these programs, as educators begin to realize that these programs supply professional training critical to the success of medical educators.

### Limitations and future research

In our development process, we tried to reach consensus about competencies and roles, but we made significant judgment calls about our organizational schema. As such, we consider this model a starting point for a larger conversation about educator skills development. The model will have to be tested and reviewed by educators in the basic sciences, as well as those in the cognitive and procedural

specialties, to ensure that the framework is useful, robust, and generalizable. Developing a model, of course, does not ensure improved learner or educator outcomes. This framework has also not addressed *how* those competencies might be acquired or assessed systematically, although the robust set of tools that educators have developed to measure physician competency could certainly be employed to measure educator competency. Future research will focus on applying the framework, on some of the microskills for the competencies/roles, on assessing the competencies, and on the framework's feasibility. Different educators and program leaders might find parts or all of it useful for assessment, quality control, or program development. Additionally, if the academic medicine community used the Teaching as a Competency framework to hold institutions responsible for the overall quality of their teaching (as they are now held responsible for the overall quality of their patient care and learner education), then additional resources might be made available for faculty development in order to promote competency.

Paradigm shifts take time for acceptance, adoption, evaluation, and refinement. These shifts occur more quickly when linked to a strong public need or concern (e.g., patient safety) or to regulatory pressure. Just as it has taken a decade for the ACGME competencies and CanMEDS roles to impact physician training, we anticipate that concerted efforts to use teaching competencies will have a progressive effect on improving the quality of educator training. We hope that the Teaching as a Competency framework will provide a guidepost for motivated educators and institutions to think differently about how they use their available educator time and resources.

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