

Graduate Programs in Health Professions Education: Preparing Academic Leaders for Future Challenges

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Consider the following scenario: *You are a physician with the goal of becoming a program director. You have been a clinical leader in your field, publishing dozens of articles in your subspecialty. Despite having attended only a few workshops on how to teach, you have consistently scored in the top 10% of your program's attending physicians, as rated by the residents. You have been on your program's clinical competency committee for a few years, and you are familiar with the processes required to run the program.*

Imagine now that you achieved your goal—you have been selected to be a program director at your institution—but the program is struggling. The board pass rate is 20% below the review committee's requirement. Postrotation evaluations are completed only intermittently, and rarely do the residents report receiving feedback. Furthermore, it is not clear how the annual program assessment is used to improve the program. The most recent Accreditation Council for Graduate Medical Education (ACGME) accreditation letter warns that the program's accreditation status is in jeopardy unless these areas have been satisfactorily addressed. How will you, as the program director, approach this challenge?

Program directors, deans for graduate medical education (GME), and core faculty have diverse responsibilities for residency or fellowship program oversight and assurance. One fundamental responsibility is to prepare graduates for unsupervised practice. Program directors, in particular, play a key role in this preparation and, ultimately, in the delivery of high-quality GME and first-class health care. This pivotal role is even more salient when one considers the current health care challenges, including rising

costs, low-value care, and the persistent problem of diagnostic and technical errors leading to patient harm.^{1–3}

Despite this pivotal role, program directors and other physician leaders often receive little formal education to help prepare them for the complexity of these roles, which include knowledge and skills not covered in the current standard physician education paradigm (eg, curriculum development, assessment methods, and personnel management). To meet these challenges, physician educators, particularly program directors, need to cultivate additional competencies. We believe that graduate programs in health professions education (HPE) may be a feasible way to meet this need. Such programs share the common goal of preparing academic leaders who are well versed in teaching, leadership, curriculum, assessment, and research through coursework, mentored experiences, and educational scholarship.

A Growing Educational Need

Graduate programs in HPE—including certificate and degree programs—are viewed by many as a key strategy to contribute to a health professional's conversion from competent clinician to transformational academic leader.^{4,5} The so-called “professionalization” of the HPE workforce has been driven by a number of institutional and regulatory dynamics. The first is that many clinicians have made education the focus of their professional roles, and institutions have responded by creating career tracks, such as clinician educator/scholar. Second, accreditation bodies increasingly require that residency leaders have the “requisite specialty expertise and documented educational and administrative experience.”⁶ With this explicit requirement, and with the need to “maintain an educational environment conducive to educating the residents in each of the ACGME competencies,”⁶ US institutions, as well as those abroad, have

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Editor's Note: The online version of this article contains a listing of master's degree in health professions education programs offered in the United States.

TABLE

Mapping Program Director Competencies With Core Content Areas for Programs in Health Professions Education

Entrustable Professional Activities for Residency Program Directors ^a	Core Content Areas for Programs in Health Professions Education ^b				
	Teaching and Learning	Curriculum Development	Evaluation and Assessment	Educational Research Methods	Leadership and Management
Conduct a resident evaluation program	x		x		x
Support and mentor residents	x		x		x
Develop and strengthen faculty	x	x	x		x
Promote a positive clinical learning environment	x	x	x		x
Work as an administrative team member in the department and institution					x
Direct a recruitment and selection process			x		x
Oversee the remediation of underperforming residents	x	x	x		x
Manage program evaluation and improvement	x	x	x		x
Conduct continuous self-assessment and professional development	x	x	x		x
Prepare and review program reports			x		x
Monitor and verify resident education	x	x	x	x	x
Maintain program accreditation	x	x	x	x	x

^a Entrustable professional activities for program directors were taken from Bing-You et al.⁷

^b Core content areas for programs in health professions education were taken from Tekian and Artino.⁸

recognized the value of employing leaders who possess advanced training in education to maintain and improve their residency programs.⁴ In addition, with the advent of the Next Accreditation System and the Clinical Learning Environment Review program, program directors are expected to thoroughly understand how to review curriculum, grow and develop educational expertise among their own faculty, and create and maintain a robust evaluation system for milestones reporting.^{7,9,10}

Degree and Certificate Programs in Health Professions Education

One educational approach to address the professionalization of HPE is the master of health professions education (MHPE) degree.⁴ Over the last 50 years, the MHPE has become an increasingly popular graduate program for preparing educators and educational leaders across the professions (eg, physicians, nurses, pharmacists, physical therapists). Thirty years ago there were few MHPE programs; in 2013 there were 121 programs, and today there are 150 MHPE programs worldwide.^{5,8} While the core content of the typical MHPE program varies, most master's degree programs are competency-based

educational experiences that focus on the theory, research, and practice of education as it applies to health professions environments.

In many MHPE programs, the core content can be categorized into 5 domains: (1) teaching and learning; (2) curriculum development; (3) program evaluation and learner assessment; (4) educational research methods; and (5) leadership and management (TABLE).⁸ A review of these 5 areas reveals that MHPE programs address many of the competencies needed to lead in the GME setting. Some have proposed that it may be time for a set of entrustable professional activities (EPAs) for residency program directors.⁷ As the TABLE illustrates, most of these EPAs map well to the core competency areas addressed in the typical MHPE program. Moreover, many MHPE programs can be tailored to the learner's needs and interests, and specific tracks can be crafted to further enhance the relevance of the MHPE degree to GME leadership activities.

Several MHPE programs have been around for decades, while others are quite new. For example, the MHPE program offered by the University of Illinois College of Medicine in Chicago was founded in 1967, making it the oldest HPE program in the world. This

program is often held as an exemplar of high-quality HPE. It is offered in 2 nontraditional formats: the on-campus intensive format and the online format. Each format allows students to complete the degree, typically in 3 years, while keeping their full-time employment positions. More recently, in 2013, the University of Michigan Medical School established an MHPE that is explicitly designed from a competency-based framework. This program has no courses: all learning is done in the context of 22 education EPAs, utilizing any viable instructional resource or format (eg, texts, articles, online modules). The Michigan program can be completed within a variable time interval that depends primarily on learner initiative, prior competence, and rate of EPA completion. These are just 2 examples of MHPE programs in the United States (a listing of all 37 MHPE programs currently offered at US institutions is provided as online supplemental material).

Although the MHPE is arguably the most popular graduate program in HPE, recently offerings have emerged spanning from certificate programs to full-blown graduate degree options, including, for those interested in leading research efforts, a doctoral degree in HPE (ie, PhD and EdD degree programs). The primary difference between a certificate program and a master's degree is the common MHPE requirement to conduct original research and, for some, to publish in a peer-reviewed journal. Certificate programs, on the other hand, typically involve only coursework and, in some cases, a practicum experience. In addition, the instructional modalities used to deliver HPE content vary greatly, ranging from face-to-face in-residence programs to fully distance/online degree programs. Some programs offer a hybrid or blended approach that incorporates face-to-face learning with online instruction.

In a series of articles, Tekian and colleagues^{4,5,8,11,12} have written extensively about the role of HPE programs and the various options. Furthermore, as new HPE programs emerge, the Foundation for Advancement of International Medical Education and Research (FAIMER) has created a centralized list of all the MHPE programs worldwide. Readers interested in finding programs are encouraged to access the FAIMER website.¹³

When it comes to cost, there is wide variation in MHPE programs. That said, the cost of most traditional, credit-based programs is generally calculated “based on the number of credit hours, units, or modules, and may vary depending on the format, distance/online versus onsite, and national versus international students.”⁵ In the United States, the most affordable MHPE programs total approximately \$10,000 in tuition, while the most expensive

programs cost upward of \$35,000.⁵ Recently, several graduate programs in HPE have been developed at the Uniformed Services University of the Health Sciences, the nation's only federal medical school. These programs are free for military and other federal government employees.

Applying Health Professions Education to GME Practice

We now return to our opening scenario, which is clearly a challenging case that could be considered an outlier by today's standards. The problems of our notional residency program are presented to highlight the challenges often faced by GME leaders—challenges they may not be prepared to handle. In our scenario, the board pass rate is low. Reasons may include the program accepting residents at higher risk of failing or a curriculum that does not reflect the examination's expected knowledge base. Alternatively, is the learning environment not conducive to learning and effective clinical reasoning? Or perhaps the educational strategies are not appropriate for the learners or the content that is being taught? Even if a program's graduates perform well on the examination, there always is new knowledge that needs to be taught and mastered. A program director with a strong clinical *and* education knowledge base, and with formal and mentored experience in teaching methods, curriculum development, and learner assessment, may be in a better position to correctly identify which aspects in the above scenario require attention. In addition, a program director with formal HPE training may be in a better position to select and deploy the most effective ways to improve those aspects and possess the skills to implement these changes, compared with an individual without these hands-on experiences.^{4,7}

In Summary

As the complexity of GME continues to grow, it is essential that academic leaders have the requisite competencies needed to lead effectively. Examples of this added complexity include new frameworks for assessment of learners and competencies (eg, competency-based medical education and milestones), increasing sophistication in program evaluation models, patient safety programs, and attention to the instruction and remediation of professionalism. Additionally, accreditation standards will undoubtedly continue to evolve, furthering the argument that as physicians move into educational leadership positions, they require supplemental education to prepare them for these roles. It is no longer enough for GME leaders to be “good

teachers,” a skill that is often gained in vivo, or informally, over one’s career. Instead, GME leadership—the kind that is outlined in the ACGME’s Next Accreditation System⁹ and the Royal College of Physicians and Surgeons of Canada CanMEDS physician competency framework¹⁴—requires “new approaches to problems and ways of thinking”⁴ that we believe HPE programs can instill through an integrated, holistic approach to leader preparation.

References

1. Auerbach DI, Kellermann AL. A decade of health care cost growth has wiped out real income gains for an average US family. *Health Aff.* 2011;30(9):1630–1636.
2. Institute of Medicine. *Best Care at Lower Cost: The Path to Continuous Learning Health Care in America*. Washington, DC: The National Academies Press; 2013.
3. National Academies of Sciences, Engineering, and Medicine. *Improving Diagnosis in Health Care*. Washington, DC: National Academies Press; 2015.
4. Tekian A, Roberts T, Batty HP, et al. Preparing leaders in health professions education. *Med Teach.* 2014;36(3):269–271.
5. Tekian A, Harris I. Preparing health professions education leaders worldwide: a description of masters-level programs. *Med Teach.* 2012;34(1):52–58.
6. Accreditation Council for Graduate Medical Education. ACGME Common Program Requirements. https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRs_2017-07-01.pdf. Accessed January 23, 2018.
7. Bing-You RG, Holmboe E, Varaklis K, et al. Is it time for entrustable professional activities for residency program directors? *Acad Med.* 2017;92(6):739–742.
8. Tekian A, Artino AR. AM last page: master’s degree in health professions education programs. *Acad Med.* 2013;88(9):1399.
9. Nasca TJ, Philibert I, Brigham T, et al. The next GME accreditation system—rationale and benefits. *N Engl J Med.* 2012;366(11):1051–1056.
10. Weiss KB, Wagner R, Nasca TJ. Development, testing, and implementation of the ACGME Clinical Learning Environment Review (CLER) program. *J Grad Med Educ.* 2012;4(3):396–398.
11. Tekian A. Doctoral programs in health professions education. *Med Teach.* 2014;36(1):73–81.
12. Tekian A, Artino AR. AM last page. Overview of doctoral programs in health professions education. *Acad Med.* 2014;89(9):1309.
13. Foundation for Advancement of International Medical Education and Research. Master’s programs in health professions education. <https://www.faimer.org/resources/mastersmeded.html>. Accessed January 31, 2018.
14. Franks J, Snell L, Sherbino J. *CanMEDS 2015 Physician Competency Framework*. Ottawa, ON, Canada: Royal College of Physicians and Surgeons of Canada; 2015.



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