

APM Perspectives

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AAIM Report on Master Teachers and Clinician Educators Part 2: Faculty Development and Training

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The Alliance for Academic Internal Medicine (AAIM) is composed of key internal medicine-based professional bodies committed to the preservation, growth, and refinement of the specialty. Member organizations include the Association of Professors of Medicine, the Association of Specialty Professors, the Association of Program Directors in Internal Medicine, Clerkship Directors in Internal Medicine, and Administrators of Internal Medicine.¹ A primary mission of AAIM is to foster change in medical education to best meet the needs of future practitioners, academicians, and leaders in internal medicine. To this end, AAIM in 2006 chartered the Education Redesign Task Force, composed of representatives of the member organizations and of the American College of Physicians and American Board of Internal Medicine, to address several topics critical to the mission of internal medicine education.² A sec-

ond task force was similarly chartered in 2008 and charged to examine and make recommendations on 3 additional issues: defining the essence of internal medicine; formulating a pathway toward competency-based medical education; and describing and examining issues related to clinical medical educators, specifically the master teacher (MT).

The history, evidence sources, and specific goals of this report have been elucidated in a previous APM Perspectives,³ which described in detail the perceived needs for these specialized teacher-educators and the skill sets anticipated to meet these needs. Part 2 will examine the types of training and faculty development programs clinician educators need to obtain and grow these skills. Future APM Perspectives will address financial resourcing, scholarship and faculty role (as well as tools available for achievement documentation), and academic promotion and tenure.

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FACULTY DEVELOPMENT FOR MASTER TEACHERS

Master Teachers will be expected to achieve the same high competency level as other faculty.⁴ Because newly recruited clinician educators (CE) rarely have expertise in this broad and deep skill set when initially appointed, future MTs will require additional training and dedicated formal mentorship.^{5,6}

Training Programs for Master Teachers/Clinician Educators

Formal faculty development programs include a range of activities that impart or renew faculty skills in teaching, research, administration, career planning, and decision-making.^{7,8} Focused programs are often necessary for institutions to affect curricular change and the improvements in instructional and evaluative methods essential to maintaining educational quality.^{9,10} Because of the heavy time demands on CEs and MTs, they will need access to a broad range of development activities. Fortunately, available options are many and varied.¹¹ Topics of faculty development activities typically include:⁴

- Orientation to the profession, institution, and their cultures
- Teaching skills: clinical teaching, large and small group teaching, lectures, and Socratic methods
- Networking and mentoring
- Educational leadership and administration
- Adult learning theory
- Curriculum design
- Program evaluation
- Educational research and scholarship
- Learner assessment
- Career advancement

Most programs are designed to enhance teaching skills throughout the educational continuum (undergraduate, graduate, and continuing medical education) and broadly foster academic success (techniques and opportunities to conduct educational research and network with other medical educators). Some programs may target specific faculty subpopulations; be offered at local, regional, or national levels; and/or employ a broad array of teaching methods.

Workshops and seminars are generally 1-3 hours in duration, address a narrow topic, and often involve audience-facilitator interaction. When conducted locally, they may be presented by that institution's faculty or invited extramural experts. Similar faculty development workshops are often included in regional or national meetings of professional organizations.

Certificate programs are primarily for individuals who cannot commit to the time and expense of a master's degree program but have learning needs broader than can be satisfied with workshops and seminars. Typical target audiences are chief residents, fellows,

course directors, and others who might desire formal educational credentials.

Educational fellowships are longitudinal programs that provide training to a cohort of individuals without requiring them to be off-site for extended periods of time. They are typically 1-2 years long and usually require participants to have protected time to complete an educational project. Most fellowships are sponsored by medical schools, intended to develop educational leaders within the institution. Some fellowships offer enrollment to CEs or MTs from outside institutions.¹²

Master's degree programs offer formal, credit-accruing course work; provide a broad foundation in educational theory and practice; and confer an academic degree upon successful completion. Master's degrees in health professions fields are increasingly viewed as necessary to attain the depth and breadth of knowledge and

skills needed for medical education leadership, particularly for deans of education or curriculum. Programs offering national enrollment use primarily web-based formats to limit in-residence requirements.

In addition to these educator-specific programs, several national courses focus on general leadership development, strategic planning, conflict resolution, budget analysis, and other topics relevant to the MT role.¹³ The **Table** (available online) presents examples of the described programs.

Faculty development programs have increased in scope and number in recent years. As of 2008, 48% of North American medical schools had active medical education fellowships (personal communication, N. Searle, July 17, 2009), while 36 had established academies of educators.¹⁴ Reviews of these initiatives found that participants self-reported high satisfaction, felt them useful and relevant to their objectives, and experienced greater motivation and enthusiasm for teaching with enhanced awareness of personal strengths and weaknesses.^{8,15} In addition, they perceived increased knowledge of educational principles, reported improved teaching and assessment skills, described positive changes in their teaching behaviors, and noted an enhanced sense of efficacy as educators. Faculty development initiatives also may lead to more peer-reviewed publications by participants¹⁶ and positively affect faculty recruitment and retention.¹⁷ In general, programs that include experiential learning, emphasize feedback

PERSPECTIVES VIEWPOINTS

- Master teachers will be career-dedicated clinician educators with enhanced skills in all areas of clinical medical education.
- Focused faculty development will be required throughout their careers, as well as innovative resourcing models to support them.
- Master teachers will be measured in part by redefined scholarship and tenure criteria to become full contributing members of medical school and academic medical center faculty.

and self-reflection, foster collegial peer relationships, use multiple instructional methods, and meet the needs of a particular defined faculty group are more likely to be successful.^{8,15,18} Medical schools reap returns on their investments because graduates frequently assume educational leadership positions at the institutions and earn notoriety and extramural recognition by serving on national education committees.^{16,19}

Mentorship of Master Teachers

A crucial factor for the success of MTs will be effective mentoring. Some development programs offer CEs the opportunity to learn about desirable attributes in a mentor and mentee, master practical skills needed for advancement (eg, curriculum vitae preparation, understanding promotion and tenure procedures, and developing efficient time-management strategies), and network with potential mentors. Even so, CEs are less likely to consider themselves “mentored” than are clinician-scientists.²⁰ Historical mentoring relationships centered on research, emphasizing how mentors can assist in developing an investigator (rather than an educator) career. For developing scientists, mentoring is fully integrated into their career paths through programs such as postdoctoral fellowships.

A parallel culture does not yet exist for future MTs. Instead, junior CEs often find themselves at institutions with limited support infrastructure, seeking and exploring potential mentors with little structured guidance. Although the numbers are small, medical school-based mentoring programs have increased in recent years. A table listing established mentoring programs at 22 schools has been published by the Association of American Medical Colleges and describes several formal mentoring approaches.²¹ These programs match junior faculty with preselected mentors, deliver customized mentoring workshops to departments and divisions, facilitate professional development and mentoring contracts, provide online mentoring resources, and encourage peer and group mentoring sessions. Several programs emphasize mentoring of junior women faculty.

Predictably, mentorship is highly regarded by faculty who receive this support. Mentored faculty report positive influences in career and specialty choices, scholarly productivity, personal growth, and professional advancement.^{22,23} Medical educators identify mentor relationships as essential contributors to their career satisfaction²⁴ and cite having a mentor as one of the most positive influences in their professional development.²⁵

Information about the benefits of CE mentorship is largely self-reported. Objective data are lacking, in part because efficacy metrics are imprecise, nonspecific, and confounded by uncontrolled variables. A recent review of mentoring at medical schools concluded that data

supporting its effectiveness were insufficient to make a substantive statement of the value of mentorship.²²

Although formal development programs may address the topic of mentorship, most programs focus on how CEs should choose a mentor who will promote their success. The few published works that offer guidance to potential mentors advocate fostering a non-threatening environment and providing accurate, timely, and constructive feedback; creating and identifying career opportunities; honoring promises; being explicit about assignment of credit for work; and explaining how the mentor/mentee relationship will evolve over time.^{26,27}

Even well-trained CEs are often ill equipped to fulfill the essential responsibility of being a competent mentor.²⁸ Such skills require development and must continue to be honed, even at late career stages.²⁹ Yet, most individuals who mentor their junior colleagues do so with neither formal training nor ongoing feedback, relying on their own experiences and observations to guide their support. Among the novel skills that MTs must both practice and convey will be mentoring future MT mentors—expected to be critically important but not yet sufficiently described.

Successful mentees bring recognition to their mentor and institution, often representing a dependable source of future high-quality senior faculty. Despite this, successful mentors rarely receive professional acknowledgement, financial support, or academic credit for their accomplishments. The value of faculty mentors will need to be recognized through granting protected time, salary compensation, and academic recognition for this essential service. Mentorship support may have a high return on investment for institutions through enhanced retention and productivity.³⁰

Research is sorely needed on the entire realm of formal mentorship for medical educators—including how mentors should be trained and their skills refined for continuous improvement, how mentees should select a mentor, and what metrics best assess the effectiveness and value of mentorship. Master Teachers also will be key to this investigative process.

CONCLUSION

In Part 1 of this manuscript, information was presented supporting the need for a new breed of clinical educator, the Master Teacher and the skill set needed by the MT have been proposed, highlighting the breadth and depth of abilities these educators will need to fulfill their roles for their learners, patients, and colleagues in healthcare. Part 2 has summarized key issues and existing resources and models to provide the training to develop and maintain this skill set among CE who choose this challenging path. Subsequent sections of this report will address financing, faculty role and

scholarship, tracking tools and academic promotion and tenure.

This report was approved by the Chair of the Education Redesign Task Force 2 and the Executive Committee of the Alliance for Academic Internal Medicine.

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Table Examples of Local and National Educational Fellowships, Master's Programs, and Certificate Programs*

	Course	Length	Fee/Stipend	Target Audience	Comments
Educational Fellowships— Institution Specific	Medical College of Wisconsin Docere Fellowship Program ^{e1}	One half day per month per module Entire curriculum takes 2 years In residence	Stipend Travel and supplies also funded	MCW clinical and basic science faculty	Five learning modules: Teaching Curriculum development Learner assessment Educational evaluation Educational leadership and scholarship Peer-reviewed project pertinent to department
	David Geffen School of Medicine at the University of California, Los Angeles ^{e2} Fellowship in Medical Education	2 years In residence	20% Release time Rare stipend	UCLA clinical and basic science faculty; competitive	Goals: Prepare excellent teachers to serve as course and program directors Strengthen dossiers for promotion Topics: Learning theory Expertise Curriculum design Problem-based learning Clinical teaching Assessment Medical education research
	University of California, San Francisco ^{e3} Teaching Scholars Program	One half day per week for 10 months In residence	Release time No stipend	UCSF clinical and basic science faculty; competitive	Two seminars and two projects Topics: Learning theory Teaching methods Curriculum development and evaluation Assessment Educational research Leadership and career development
	University of Iowa ^{e4} Teaching Scholars Program	Monthly sessions for 1 year, then quarterly sessions for 2 years In residence	Stipend	University of Iowa clinical and basic science faculty; competitive	Scholarly product Error! Hyperlink reference not valid. Goal: Promote leadership in faculty development related to teaching skills in departments and throughout the college of medicine

Table Continued

Course	Length	Fee/Stipend	Target Audience	Comments
McGill University, Montreal, Canada ^{e5} Teaching Scholars Program	One day per week, 12-18 months In residence	Course work and travel funded by private donation Release time	McGill University clinical and basic science faculty; competitive	Topics: Teaching skills Curriculum design Professional skills
University of Rochester School of Medicine and Dentistry Dean's Teaching Fellowship	20 3-h sessions per year for 2 years	Stipend plus research and travel expenses provided 15% release time	UR clinical and basic science faculty; competitive	Topics: Educational theory Research methods Teaching methods Educational technology Curriculum design Assessment of students Faculty development Leadership Career planning Educational project Must identify mentor
The Rabkin, Mount Auburn, and Harvard Medical Schooles ^{e6} Academy Fellowships in Medical Education	Weekly or monthly sessions for 10 months In residence	Stipend 20% release time	Clinical and basic science faculty, competitive	Topics: Medical education funding Curriculum design and implementation Program evaluation Adult learning principles Small and large group teaching Humanities relevance to education Medical education research Leadership Self-reflection, professional development Mentor Scholarly product

Table Continued

Course	Length	Fee/Stipend	Target Audience	Comments	
Other institutions with educational fellowships: University of North Carolina, Brody School of Medicine- East Carolina University, Johns Hopkins University, University of Michigan, Baylor University, University of Washington, University of California, Davis and more					
Educational Fellowships— National	Harvard Macy Program for Educators in Health Professions	11-day winter and 6- day spring sessions in residence at Harvard	\$5300	Faculty in all specialties	Topics: Learning and teaching Curriculum Evaluation Leadership Information technology Educational project
	Stanford Program on Clinical Teaching	One month	\$8000	Faculty and residents in all specialties	Focus is on training participants to teach educators at their home institutions Train the Teacher Curriculum: Learning climate Control of Session Communication of Goals Promotion of Understanding and Retention Evaluation Feedback Promotion of self-directed learning
Master's Degree Programs—Online	Master of Academic Medicine Keck School of Medicine University of Southern California	32 units of graduate level coursework required 2-3 years Mostly on line; 7 days in residence required	\$40,416 (\$1263/unit)	Faculty	Topics: Developing, leading and evaluating programs Leading of self and others Designing curricula and assessing learners Addressing policy and accreditation issues and challenges Designing, implementing and studying innovations
	Masters in Health Professions Education University of Illinois Chicago College of Medicine	32 semester h Mostly online; 2 weeks in residence	\$675/hr e-tuition \$21,600	Faculty	Topics: Leadership in health professions education Scholarship methods Curriculum Instruction

Table Continued

	Course	Length	Fee/Stipend	Target Audience	Comments
					Competence assessment Program evaluation Quality assessment Primary care education Clinical decision making Medical humanities and ethics Thesis required
	Master's in Education Southern Illinois University School of Medicine in collaboration with University of Illinois at Urbana-Champaign	36 credit h Online	\$16,344	Faculty and residents	Designed for health professionals who have, or are preparing for, educational leadership positions in health professions schools Topics: Applied research design Organization development Program evaluation Adult learning and development History of work and educational policy Instructional design Curriculum in medical education Clinical performance assessment Leadership in health professional education
	Master's in Education Cincinnati Children's hospital in collaboration with the University of Cincinnati	45 credit h On-line	\$31,005 in-state (OH) \$31,455 out-of-state	Physicians and other health care providers	Topics: Adult learning Curriculum and instruction Educational research and evaluation
Master's Degree Programs—In Residence	Masters in Medical Education University of Iowa Carver College of Medicine	30 credit h Mostly in residence	\$14,562 in-state (IA) \$40,326 out-of-state Certificate also offered for completion of four courses	University of Iowa students, competitive	Goal: Develop a community of academic medical faculty with formal training in education who will create and sustain a culture of educational excellence within the college of medicine, the university, and the medical education community at-large.

Table Continued					
	Course	Length	Fee/Stipend	Target Audience	Comments
Certificate Programs	Master's Concentration in Medical and Professional Education University of Michigan School of Education	30 credit h In residence	\$27,540 in state (MI) \$54,000 out of state	Faculty and professional students, including medical students	Physicians seeking advanced training in education to provide them with a conceptual and scholarly foundation for their educational responsibilities and to enhance their leadership potential.
	University of Illinois Chicago College of Medicine Certificate Program for Clinical Program Directors	One week and one follow-up weekend in residence	\$2000	Program and fellowship directors	Curriculum topics: Instructional design and technology Educational measurement Teaching methods Clinical teaching Assessment Educational research Faculty development Portfolio project
	University of Iowa Carver College of Medicine Certificate in Medical Education	12 credit h		Junior faculty, chief residents, fellows	
General Leadership Programs—National	University of Pittsburgh Certificate in Medical Education	15 credit h	\$10,775 in state \$18,500 out of state	Individuals with a career interest in teaching and leadership positions in medical education	
	AAIM Executive Leadership Program Collaboration with AAIM and The Crimson Group	5 days on-site in Cambridge, MA	\$4000 Includes accommodations and meals	Leaders and key decision makers within departments of internal medicine	Topics: Strategic analysis and marketing Cost analysis and operations management Organizational design and leadership Financial control systems and change implementation

Table Continued

Course	Length	Fee/Stipend	Target Audience	Comments
Association of American Medical Colleges Mid-Career Women Faculty Development Seminar	3 days on-site in New Mexico or Arizona	\$1200	Women associate or recently promoted full professors with clear potential for advancement to a major administrative position such as section or department head	Topics: Effective scientific writing Skills to enhance teamwork Negotiating for organizational change Paths to academic leadership Career mapping Financing the missions of academic medicine Maintaining vitality as a faculty member and as a woman Communicating effectively

*Excluded are degree programs not specifically related to education, such as master's programs in public health, epidemiology, business, and health policy, or those degree programs focused primarily on research.

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