



Career Development Strategies for the Clinical Educator

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ABSTRACT

Over the past several decades, fewer faculty members at American medical schools have engaged in an equally balanced portfolio of clinical, research, and education efforts, and increasing numbers of faculty members have become more differentiated into physician-scientists or clinician-educators. Career paths among clinician-educators are quite variable, and aspiring clinician-educators are frequently unsure of how to maximize their chances for success in a clinician-educator academic pathway. In the author's opinion, the aspiring clinician-educator should seek to develop their skill set in four main areas. First, they must develop, become respected for, and maintain their clinical expertise, ideally becoming their institution's go-to person when those issues either arise clinically or require teaching to a group of learners. Second, they must actively work to develop outstanding teaching skills so that they can excel in teaching in a variety of formats, including lectures, small-group facilitation, and bedside instruction delivered in the context of clinical care. This generally requires engagement with faculty development programs both inside and outside one's institution. Third, the aspiring clinician-educator needs to develop the skills necessary to support ongoing scholarly activities, either in the educational realm or in their clinical focus. Finally, because most successful clinician-educators are thrust into leadership positions of some type, either in medical school courses or clerkships, residency or fellowship training programs, or for clinical programs of the division, department, or health system, the aspiring clinician-educator needs to develop as a competent administrator, seeking additional leadership training if possible.

Keywords:

medical education; medical faculty; professional education; education; teaching

Over the past several decades, a major shift has occurred in medical school faculties across the United States. Whereas the traditional spheres of faculty effort were thought to necessarily include each of research, education, and clinical service, in many medical schools, the majority of new faculty hired are now categorized as

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“clinician-educators” who are expected to excel in their clinical and educational endeavors but not necessarily to attract independent research funding and produce original scholarship to the same degree as in the “triple threat” model (1). As an example, in the Department of Medicine at the University of California San Diego, 56% of the department’s 522 faculty members in 2019 are in a clinician-educator academic series (M. Fraser, personal communication, Jan 4, 2020). With this paradigm shift in faculty duties come both opportunities and challenges for the career development of clinician-educators.

CHANGING MODELS OF FACULTY EFFORT AND ACHIEVEMENT

For approximately a century after its release in 1910, much of the structure of medical education in the United States was based on the Carnegie Foundation’s Flexner Report, which was, in turn, heavily influenced by the structure and staffing of the medical school at Johns Hopkins University (2). From roughly the dawn of the post-Flexner era through the 1970s, faculty were recruited with the expectation that they would serve as “triple threats,” with efforts and accomplishments in the areas of clinical care, research, and teaching. In general, an outstanding clinical reputation was considered a *sine qua non* of departmental chairs and the limited number of other faculty at the level of full professor. In the clinical departments, the power of chairmen derived not just from the administrative powers of the office but also from the fact that they were considered the consummate clinical authorities in their fields (3).

During this same period and in part because research techniques were less technologically complicated and specialized than is presently the case,

participation in biomedical research was near universal among faculty members. In many cases, their research insights and research endeavors were “bedside to bench,” meaning that an individual’s busy clinical practice generally gave birth to mechanistic hypotheses and an impetus to subject them to scientific study. Thus, maintenance of an active clinical profile and development of extensive clinical experience were also viewed as essential ingredients for research success and productivity.

Achievement in the clinical and research spheres was generally considered necessary and sufficient elements to be successful medical educators during this era. Medical school course directors and residency training program directors of the period were frequently chosen based on their distinction in these areas. Overall publication of scholarship related to medical education was limited, and there were limited faculty development opportunities related to developing and improving teaching skills.

Of note, the institution of Medicare in 1965 ushered in an area of unprecedented growth in medical school faculties in part because of the increased revenue that could be generated by clinical activities. Whereas previously medical schools frequently only desired a clinical footprint large enough to provide sufficient training for students and residents, improvements in clinical reimbursement made clinical growth an attractive means to improve the financial positions of academic health centers (4).

THE CURRENT ERA

From around the 1970s and 1980s, this universal “triple threat” model started to become less sustainable for a number of reasons. First, the expanding pace of new

research discoveries, new clinical trials, and new medical knowledge accelerated. The response to this increasing depth and complexity of the corpus of biomedical knowledge was increased compartmentalization of individual expertise and effort, whether as a clinician or as a scientist.

Second, the mechanics of biomedical research began to change. Whereas earlier in the 20th century research could frequently be cross-subsidized from clinical revenues, the cost and complexity of biomedical research advanced to the point that extramural funding became the lifeblood of scientific investigation. Extramural funders demanded demonstrated return on investment for funding to continue to flow to specific individuals and institutions. In addition, the necessity to master more complex and esoteric laboratory techniques and the time and sophistication increasingly required in the writing of grants (necessary for generating publications) and publications (necessary for generating grants) made biomedical research much harder to pursue as anything substantially less than a near full-time commitment.

At the same time that the cost and complexity of biomedical research were vastly increasing, changes in third-party payment practices resulted in clinical revenues becoming less bountiful. Concurrently, practices around documentation, compliance, credentialing, and board certification all became more demanding while clinical care also became much more complex and specialized. Health systems became more attuned to metrics related to efficiency and quality and concerned about whether benchmarks in these areas could be met by faculty members with minimal assigned clinical commitments

during each year. The result was that some academic health systems began to develop a cadre of faculty who were more fully committed to the clinical mission and who presumably could be developed to become more efficient and more attentive to quality metrics than was sometimes the case with faculty clinicians who attended on clinical services for only 1–2 months per year.

By the end of the 1980s and 1990s, many medical schools had grown a faculty that was more bifurcated into a group of physician-scientists (as well as scientists who were nonphysicians) on the one hand and clinician-educators on the other. Because the promotion and tenure requirements at many medical schools were developed around a physician-scientist model, these criteria have required revision to accommodate the growing number of clinician-educators on the faculty (5, 6).

To add further complexity to the current situation, the population of clinician-educators can be subdivided further. Just as there is great variability in the science performed by physician-scientists, there are a number of different ways in which clinician-educators can be involved with education, with not every clinician-educator taking part in all these activities (7). Broadly speaking, these activities include:

- Clinical “bedside” teaching
- Large-group lecturing and facilitation
- Small-group facilitation
- Curricular innovation and design
- Administrative leadership of courses or training programs
- Production of educational scholarship

It has been suggested that a further dichotomization is currently underway within the clinician-educator community, with differentiation into individuals who are primarily clinicians and who teach in clinical settings but have minimal funding

or time for other teaching activities or traditional scholarship, and those who have nonclinical funding (usually as educational administrators) and who can use these resources to more easily generate educational scholarship and engage in nonclinical teaching. Furthermore, the pedagogy and teaching formats of nonclinical teaching have become progressively more sophisticated, specialized, and rooted in cognitive theory since the introduction of problem-based learning in the 1980s, making participation more difficult for the busy clinician who only rarely engages in them.

These factors and the increasing demands of clinical practice as well as the very limited opportunities to attract substantial funding for educational research may lead to progressively less robust educational involvement from high-volume clinicians in the future. At the same time, the number of funded educational leadership roles is quite limited and may impose limits on the number of faculty who can become heavily involved in education in the future.

HOW TO BEST EQUIP THE CLINICIAN-EDUCATOR FOR SUCCESS

Partly because of the diversity of possible components within a clinician-educator career, the pathways that successful clinician-educators have pursued to their current positions are likewise quite diverse. The absence of a single clear “road map” to success as a clinician-educator is frequently both confusing and disheartening to those wishing to pursue a clinician-educator career. Though there is no preparation that can guarantee academic success in any pathway, I believe that the aspiring clinician-educator should focus on developing their skills in four main areas: clinical expertise, ability to teach didactically and interactively,

administrative competence, and ability to produce meaningful scholarship.

CLINICAL EXPERTISE

Although 20th-century academic medicine perhaps overvalued clinical expertise by sometimes considering it the sole requirement for success as a medical teacher and did not emphasize the development of pedagogical skills, it is at times surprising how infrequently the necessity of possessing clinical expertise currently is discussed within the literature of medical education. However, without true mastery of the subject that is being taught, possession of excellent pedagogical skills will likely prove insufficient to meet the needs of advanced learners. Generally, the most successful clinician-educators are acknowledged by their peers for their meaningful educational contributions at national and international conferences rather than acknowledged solely by medical students, residents, and fellows, who may not require as high a degree of clinical expertise among their teachers.

On a practical level, the aspiring clinician-educator needs to develop and demonstrate specific areas of clinical expertise and ideally become their institution’s go-to person when those issues either arise clinically or require teaching to a group of learners (6, 8). In addition, faculty members may establish recognized expertise in their broader clinical skills, such as physician–patient communication or physical examination skills. In addition, they must develop a plan for staying clinically current in their field and in touch with evolving developments and controversies (8). At a minimum, this should involve devoting considerable time to consistently reviewing the leading journals in their field, attending institutional teaching conferences and grand rounds, and attending specialty

society meetings or other continuing medical education conferences that offer exposure to thought leaders within their clinical foci. Delivering educational content at continuing medical education conferences in their area of clinical expertise, particularly if delivered with more advanced pedagogy, can also help establish a faculty member's regional and national reputation as a clinician-educator and be helpful for promotion purposes.

TEACHING EXPERTISE

As noted above, the recognition that teaching skills can be successfully taught and successfully learned is a somewhat recent development within academic medicine. Many individuals pursuing a clinician-educator pathway are motivated to do so because of inspirational teachers with whom they have interacted, and their initial forays into teaching are in content areas and venues that are comfortable to them, such as teaching medical students about the treatment of septic shock while leading a team of trainees within an intensive care unit. However, career success as a clinician-educator requires establishing oneself not merely as an adequate and respected teacher but as a truly outstanding and inspiring teacher, winning teaching awards, and otherwise demonstrating that they are successful teachers above and beyond the level of proficiency that is expected from all academic faculty.

To develop teaching skills of this high standard and to be able to teach in an outstanding manner in multiple formats, engagement in professional development is a necessity. Among other characteristics, leading medical educators must acquire the skills not just to deliver high-quality lectures but also to utilize principles of adult learning to engage learners in active formats to both convey and to apply

knowledge toward solving relevant problems; they must develop innovative educational approaches, utilize new types of educational technology, develop and implement appropriate assessments of learners, teach clinical reasoning, and effectively provide both formative and summative feedback to them (6, 9, 10). To develop all the requisite knowledge and skill base, it is advisable to first utilize local expertise through an individual's institution's faculty development programs, which also may provide opportunities to identify mentors and exemplars in specific areas. It is helpful to gain additional perspectives on developing teaching skills by utilizing established faculty development courses at other institutions, such as the Harvard Macy Institute or the Stanford School of Medicine Clinical Teaching Program, or offerings through the American Thoracic Society or Association of American Medical Colleges. In some cases, consideration to obtaining a master's degree in teaching or in medical education may be given, although the investment of time and financial resources is substantial (11).

To help trainees accelerate the process of the developing outstanding teaching skills, over the past decade or so, several medical schools, residencies, and fellowship programs have developed specific curricular tracks for aspiring clinician-educators. In general, such programs aspire to help participants advance their knowledge and skills related to effective teaching, learn to design new curricula, better evaluate learners and programs, and learn basic skills regarding the dissemination of educational scholarship. The downstream impact that these programs will have in relation to existing intramural and extramural resources for clinician-educator faculty development is unclear, but they appear

valuable for individuals who are able to identify their interest in a clinician-educator career earlier in their education and training (12–14).

Intertwined with teaching skills but somewhat distinct from them are the skills of becoming an effective mentor. When paired with effective teaching, effective mentorship helps others realize their emerging roles in medicine and provides additional value to the clinician-educator's institution by improving the pool of local talent as well as by improving the career satisfaction of both mentor and mentee. Structured training in effective mentorship is becoming more widely available and more rigorous; as an example, one schema defines the five basic competencies for mentors as knowledge, credibility, communication, altruism, and commitment (15, 16).

SCHOLARSHIP

Although the promotion requirements of scholarship for clinician-educators tend to be less extensive than the promotion requirements for scholarship among physician-scientists, consistent scholarly productivity is an important component for success as a clinician-educator. Authorship of disseminated, enduring, scholarly materials ideally should occur in both the individual's areas of clinical expertise and in areas related to their educational contributions. Clinical reviews, case reports, and participation in teams that perform clinical trials and translational research both improve the individual's clinical knowledge and perspectives as well as their clinical visibility and prestige.

Although individual institutions have different standards for what constitutes educational scholarship, it has been suggested that educational scholarship is demonstrated through "3 P's": creation of

products that are peer reviewed and made public, thereby creating a platform on which others can learn and build (17, 18). In general, one's educational contributions to the literature, such as dissemination of their educational innovations and studies to determine their impact, both enhance a clinician-educator's stature at their home institution and permit them to interact and network with a broader community of educational scholars. This, in turn, may lead to further educational innovations and opportunities for scholarly activities in collaboration with other individuals at other institutions.

Though mentorship is helpful in all aspects of the clinician-educator career, it is truly indispensable for taking the initial steps in developing a scholarly focus and developing the skills and habits that lead to sustained scholarly productivity. Because of the structure of residency and fellowship training programs, trainees are exposed to many different clinicians and teachers who positively influence their development in these areas. In contrast, many trainees have exposure to a single research mentor and, depending on the nature of the projects on which they have collaborated and the quality of the mentorship, may begin their clinician-educator careers with a very limited skill set for generating scholarship.

As noted above, some clinician-educator tracks in residency and fellowship training programs may offer exposure to educational research perspectives, but these rarely provide a robust enough repertoire of skills for independence. It is essential that the aspiring clinician-educator develop mentors and collaborators within their institution who can assist and advise with early scholarly projects. Such mentors and collaborators need not necessarily reside in the same academic division, department, or institution as the

clinician-educator, but these collaborations should help develop the knowledge and skills of the clinician-educator, which they can use in progressively more independent endeavors.

Although some institutions offer classes or other means of developing core skills in clinical and educational research, such as an introductory curriculum to study design and statistics, many individuals need to acquire them by other pathways, such as through the Association of American Medical College's Medical Education Research Certificate program or completion of a master's degree in medical education or a related area that will provide them with the knowledge necessary to understand the processes of medical education research and to be effective collaborators in it (18).

There is increasing interest among medical educators in establishing institutional centralized educational research support, similar to biomedical research cores, to increase faculty educational research productivity. Centralized resources can provide multiple investigators with expertise in qualitative and quantitative research methods as well as statistics and data analysis (19).

ADMINISTRATIVE COMPETENCE

Most successful clinician-educators hold leadership positions of some type, either in medical school courses or clerkships, residency or fellowship training programs, or clinical programs of the division, department, or health system. Unfortunately, most medical training does not provide specific preparation for these roles. However, successful execution of these roles is important for the local reputation of the clinician-educator and for them to earn positions of increasing

administrative responsibility in the future. Some of these administrative positions come with salary support that ensures that clinical responsibilities do not become so excessive as to limit opportunities for teaching and scholarship.

It is important for the clinician-educator in this position to try to join formal or informal networks of individuals who hold similar posts at other institutions. For example, the American Thoracic Society offers opportunities to network with other leaders in pulmonary/critical care fellowship programs, and the Alliance for Academic Internal Medicine maintains the Clerkship Directors in Internal Medicine group through which relevant best practices are shared. Participation in such networks makes it possible to obtain advice and perspective from peers regarding administrative or political challenges that may arise locally.

In addition, one should recognize that there is a huge corpus of material related to leadership and administrative skills that exists primarily in disciplines related to business administration and management. Whether the clinician-educator chooses to build their skills in these areas through independent reading and study or through participation in more formal courses in leadership and administration, these efforts can result in substantial improvement in the manner in which administrative responsibilities are discharged and therefore in substantial recognition and advancement in their home institution.

UNDERSTAND THE RULES AND PRACTICES FOR PROMOTION

Former House Speaker Tip O'Neill famously said that "all politics is local" (20). Similarly, all academic promotion is local. It is essential that each faculty member gain an understanding of the mechanisms, rules,

and informal culture around academic advancement at their individual institution. To do so, the faculty member should actually read and understand their institution's policies that govern academic advancement and should also initiate discussions with leaders such as their division chief, department chair, and/or relevant Dean's office personnel about their specific situation and possible upcoming promotion hurdles. In many institutions, the written policies around promotion are quite general, and interpretation of them in the case of a specific faculty member is left to designated committees or individuals. Understanding the unwritten culture of an institution around these issues is extremely important (21). Perhaps the best way to gain an in-depth understanding of local promotion practices is to serve on departmental committees involved in promotion assessments, and opportunities to do so should be pursued as early in one's career as feasible.

FINAL THOUGHTS

Although the multiple different paths pursued by successful clinician-educators prove that there is no single approach to guarantee academic advancement in this pathway, intentional effort to continuously improve one's performance as a clinician, teacher, scholar, and administrator form the core of measures to maximize the chances for academic success. Developing the skills for success in each of these areas requires conscious effort to identify appropriate mentors and collaborators as well as access educational and other resources both within and external to one's home institution. With the application of effort to build capital as a clinician, teacher, scholar, and administrator as well as developing a thorough knowledge of one's institutional requirements for academic advancement, building a successful academic career as a clinician-educator is within reach for faculty members who are so inclined.

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