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MEDICAL EDUCATION

# Building a Training Pathway that Prepares Residents for Future Careers in Medical Education

Antonio M. Pessegueiro, MD

*Dr. Pessegueiro (apessegueiro@mednet.ucla.edu) is an assistant clinical professor in the department of medicine at the David Geffen School of Medicine at UCLA and director of the Medical Education Pathway for the UCLA Internal Medicine Residency Training Program.*

Beginning July 2016, the UCLA Internal Medicine Residency Training Program launched the Medical Education Pathway—a two-year longitudinal experience for residents that promotes the development of knowledge, attitudes, and skills necessary for future careers as clinician-educators. The pathway is designed to help fill the gap in training and practice opportunities for residents interested in future careers in medical education. The curriculum for the pathway is inspired by the published works of others and modeled after established medical education and clinician-educator training pathways at UCLA and other institutions. The curriculum is also guided by conceptual frameworks in education. In this article, I discuss the rationale for developing an advanced medical education training pathway for residents, describe the foundation for building a curriculum, and describe details for our pathway at UCLA.

## Identifying the Value and Need for a Medical Education Training Pathway for Residents

There is value in training residents to become effective teachers. Resident teaching can impact a variety of learners. Residents spend a significant amount of time teaching medical students, interns, and junior residents in the clinical environment and also teaching and educating patients and their families. They may choose careers that involve medical student, resident, and other trainee education (*i.e.*, clinician-educators). In addition, they may be responsible for educating their colleagues or the public (e.g., in the clinical setting, at research conferences, hospital committees, community workshops, and health fairs). The act of teaching can also impact residents themselves. Studies have shown that teaching leads to better knowledge acquisition and improved job satisfaction for residents.[1-4] Furthermore, learning practical pedagogical skills and having gratifying interactions with students and mentors during residency can further inspire residents to adopt a greater role in medical education in their future careers.[5]

Indeed, a growing number of residents are interested in becoming more involved in medical education and the role of the clinician-educator has created a unique and diversified career pathway for them to consider. Clinician-educators have established an important function in both the clinical operation and the educational mission of many academic medical centers.[6,7] They can have a variety of responsibilities within the medical education system, including roles in clinical teaching, curriculum development, educational scholarship, and administration.[8]

The Liaison Committee on Medical Education and the Accreditation Council for Graduate Medical Education require residents to be trained as teachers. Residents-as-teachers curricula have found a home in training programs across the country with many positive effects on resident teaching skills and behaviors, as well as attitudes and perceptions towards teaching.[9-11] Most existing residents-as-teachers curricula, however, are limited in scope and focus predominantly on basic teaching skills in the clinical setting. There is a deficiency in training and practice opportunities for residents in most curricula in the domains of advanced clinical teaching, curriculum development, educational scholarship, and administration—key domains of responsibility within medical education for many clinician-educators. Residents interested in future careers as clinician-educators may benefit from additional training and practice opportunities in these domains.

## Building a Curriculum Based on the Works of Others and Guided by Conceptual Frameworks in Education

In 2006, participants at the fall meeting of the Association of Program Directors in Internal Medicine (APDIM) sought to define the clinician-educator role and describe the basic elements for developing a clinician-educator training pathway for internal medicine residents.[8] In addition to patient care, workshop participants identified clinician-educator roles in the domains of clinical teaching, curriculum development, educational scholarship, and administration. Furthermore, they outlined specific residency-level training goals, educational opportunities for knowledge and skill development, assessment methods, anticipated resource needs, and potential implementation barriers within each of these domains. The results of this workshop provided a valuable foundation to build our training program.

We also drew inspiration for our curricular activities from existing medical education and clinician-educator training pathways at UCLA and other institutions. For nearly 25 years, selected faculty members at the David Geffen School of Medicine

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(DGSOM) at UCLA have had the opportunity to participate in the Fellowship in Medical Education, a two-year faculty development program in medical education and educational research.[12] The program includes a seminar series and formal mentorship in curriculum development, educational research, and program evaluation. Many faculty members who participated in this program have gone on to become leaders in medical education at our institution. In addition, several residency models, both within and outside the specialty of internal medicine, have been published in the literature.[6,13] Many of these residency models demonstrate a curriculum that includes some variation of the following:

- didactics, workshops, or other structured instructional activities;
- opportunities to teach;
- opportunities to conduct educational scholarship/research; and
- mentorship.

We incorporated these four basic learning experiences in our curriculum.

Finally, two very important conceptual frameworks in education helped guide the design of our pathway experience. In 1984, David Kolb described learning as "a process whereby knowledge is created through the transformation of experience."[14] Central to Kolb's model of *experiential learning* are concrete experiences and the learner's transformation of those experiences into new knowledge or skill through reflection, conceptualization, and experimentation.[14] In applying this learning model to our curriculum, we complemented traditional didactics with more active experiences—unique opportunities for residents to teach, lead projects and groups of learners, and conduct scholarly educational work. Furthermore, we set aside time during group instructional activities and one-on-one meetings with mentors to give residents the opportunity to reflect and analyze those experiences, thereby better facilitating the experiential learning process. In addition, by bringing residents and faculty members with a common interest in medical education together to share and discuss these experiences, we created a *community of practice*. Barab, et al., defined community of practice as "a persistent, sustaining social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history and experiences focused on a common practice and/or mutual enterprise."[15] In allowing residents to be more involved in clinical teaching and actively participate in educational research, we usher residents away from being passive, peripheral participants in medical education to active, core contributors in a community of practice.

### Overview of the UCLA Medical Education Pathway

Curriculum activities for the UCLA Medical Education Pathway began July 2016 with 24 residents participating. The goal of our pathway is to develop physician leaders who will do the following:

- employ best practices in medical education in the areas of clinical teaching, curriculum development, educational scholarship, administration, and leadership;
- engage in educational opportunities within the medical education and healthcare systems;
- demonstrate scholarship and leadership in the design, implementation, administration, and evaluation of educational activities and educational research; and
- adopt strategies for successful careers in academic medicine.

Specific educational objectives and resident-level competencies addressed during the pathway experience are derived from the 2006 APDIM workshop.[8]

The pathway's curriculum activities include a seminar series, teaching activities, an educational scholarship project, mentorship, and career planning activities. The monthly seminar series consists of a mixture of didactics, small-group discussion, and other interactive activities. These seminars focus on best practices in medical education and the development of core clinician-educator competencies in the domains of clinical teaching, curriculum design, educational scholarship, administration, and leadership. Teaching activities include opportunities to participate in the instruction of medical students and residents at the DGSOM and its affiliated clinical training sites. Teaching activities include a mixture of single-session and longitudinal teaching opportunities, including problem-based learning courses, simulation sessions, and physical examination work-

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shops. Residents are also required to identify, design, implement, and evaluate an educational research project or educational activity over the course of their two-year period in the pathway. The resident must also make plans to share his/her work with educational and professional communities through abstract/poster presentations or publication. Finally, residents in the pathway will work closely with medical education mentors—both clinician-educators and medical education researchers—to develop a personal learning plan for the pathway, develop early career goals, construct an educational portfolio, and complete the educational scholarship project requirement.

Evaluation and feedback are integral to resident development in the pathway. Residents will receive evaluations from their learners following participation in teaching activities. In addition, each resident will have at least two of their teaching activities observed by an experienced faculty member each year in order to provide structured, one-on-one feedback to residents on their teaching performance. Program evaluation will include pre- and post-participation surveys assessing interest and confidence in the various clinician-educator roles. We will also compare teaching evaluations, teaching activities, scholarship productivity, and post-residency career activities with resident cohorts who do not participate in the pathway.

## Conclusion

A growing number of residents tell us that they are interested in pursuing a career in medical education as clinician-educators, but many receive minimal training and practice opportunities in important domains of the clinician-educator role. Certainly on-the-job training will eventually fill the gaps, but a formalized curriculum during residency may aid residents in their transition to junior faculty and give them a better foundation to become potential leaders in medical education in the future.

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