

ACCP COMMENTARY

Strategies for Developing Pharmacy Residents as Educators

American College of Clinical Pharmacy

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In 2009, the American College of Clinical Pharmacy appointed its first National Resident Advisory Committee and charged it with making recommendations on how residency programs should foster the development of their trainees as effective educators. Currently, many residency programs offer training in educational methods in the form of teaching certificate programs or additional rotations focused on teaching. However, these programs may or may not be formalized, and they vary in structure and quality. Moreover, many residency programs lack the resources to provide any additional training in educational methods. Given the demand for pharmacists as educators, there is a need to train residents to teach. Therefore, the committee evaluated the literature and generated several strategies to aid in the development of pharmacy residents as educators. The committee suggests programs consider adopting principles and methods currently employed by successful teaching certificate programs, using distance-learning technology, increasing training for faculty and preceptors in educational principles and methods, standardizing programs, and developing self-learning and/or self-assessment tools to train residents. As the need for pharmacists to serve as effective educators continues to grow, it will be important for institutions, programs, and professional organizations to invest time and resources in training pharmacy residents and defining a minimal set of criteria to ensure the quality of training.

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Developing pharmacy residents into effective educators is vital to support the increased enrollment in present pharmacy schools, the development of new colleges of pharmacy, and the advancement of pharmacy as a profession. The number of pharmacy schools in the United States jumped from 75 in 1996 to 109 in 2008, a 45% increase.¹ As of January 2010, there were 112 accredited colleges and schools of pharmacy and 8 with pre-candidate status.² In addition, since 2005, the number of applications to

pharmacy schools has grown by 2% to 7% annually.^{3, 4} However, the increased interest in pharmacy as a profession has not been met with an adequate supply of pharmacy faculty, as illustrated by a report of 427 vacant faculty positions in 2006. This represents an approximate 10% vacancy rate across our nation's pharmacy schools, with more than half (53.6%) of these positions available in divisions of pharmacy practice.⁵ These data suggest that by placing a greater emphasis on training residents

as educators, residency programs will be in a prime position to improve student education, optimize patient care, and ultimately broaden the residency experience.

The development of residents as educators is not a new concept. According to the American Society of Health-System Pharmacists (ASHP) residency accreditation standards, delivering effective education is a skill that should be acquired by residents and incorporated into all teaching activities during postgraduate training. Current ASHP postgraduate year one (PGY1) residency standards include objectives to progress residents in the four roles of a preceptor (direct instruction, modeling, coaching, and facilitation) and to improve communication with effective audiovisual and public speaking skills.⁶ Of the 647 PGY1 residency programs listed in the 2010 ASHP Online Directory, 441 (68%) list some form of teaching opportunity.⁷ However, across residency programs, the training and assessment of resident teaching abilities is inconsistent and often informal. Placing a stronger emphasis on teaching may inspire some residents to pursue a career in academic pharmacy. The benefits of formalized educational training will also extend to those who go on to pursue careers in other settings.⁸

On completion of residency training, most pharmacy practitioners are expected to teach in some capacity, ranging from formal didactic lectures for student pharmacists to daily inquiries from pharmacist colleagues and other health care professionals. This article reviews different models on how residency programs prepare residents to be effective educators, the challenges of implementing formal teaching programs, and suggestions on additional strategies that can be incorporated to improve the ability of residents as educators.

What Is Currently Being Done

In response to the limited formal training of

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pharmacy residents as educators, a variety of programs have been developed and implemented. Formal pharmacy teaching certificates are one such program, which were described in the literature as early as 1999.⁹ However, not all programs have been documented in the literature, nor do all residency programs afford such opportunities. To identify the residency programs that do offer their residents the opportunity to participate in teaching certificate programs, all programs listed on the ASHP Online Residency Directory were contacted by e-mail during March–April 2010, unless their status was known with certainty (e.g., teaching certificate status stated online). Of the 1,169 residency programs listed on the Web site, 47% responded, of which 27% (312 programs) stated they do offer the opportunity to participate in a formal teaching certificate program.

Although most residencies do not offer a formal teaching certificate, many provide valuable teaching opportunities. As shown by the literature, the current teaching certificate and other training programs vary greatly in the design and requirements needed for completion.^{9–15} Many programs are the product of collaborative efforts among multiple institutions, or they are offered by one institution to several other institutions. Other formal training opportunities include pharmacy practice residency programs with an emphasis in academia¹⁴ and 2-year pharmaceutical care leadership residency programs that focus on developing the leadership skill associated with teaching.¹³ Despite the content variation, residencies that have evaluated the success of their formalized teaching programs report positive outcomes.^{8, 10, 12–14} A survey of residents who completed a teaching certificate program found that these individuals believed the program would make them better teachers and would positively influence their success as future educators.¹⁰ In addition, the literature suggests that residents involved in some type of formal training as educators are more likely to pursue a career in academia.^{16, 17}

Challenges to Implementing Formal Residency Teaching Programs

Some potential challenges may prevent residency programs from adding formal training in teaching to the residency experience. Also of concern is that adding a teaching requirement to the highly demanding residency curriculum might distract from clinical training.

Although there are several programs with curricula designed to develop residents as teachers, one of the greatest challenges is that there are presently no national standards for teaching programs within pharmacy residency programs.⁸⁻¹⁵ The lack of national accreditation or standardization for these programs results in variations in program quality and presents a dilemma when trying to justify the allocation of support and resources within institutions.

In addition, to implement an effective teaching program, residency programs must first be able to supply qualified faculty preceptors and ample teaching opportunities for residents. Residency programs affiliated with a college or school of pharmacy have an advantage over nonacademic institutions, which may have fewer preceptors interested in academia. Nonacademic institutions may also have limited opportunities for residents to engage in teaching activities and interact with students, fellow residents, and other health care professionals.

The ASHP regulations and standards for accreditation of PGY1 residency programs encompass many objectives that must be met for certification of residency training. Nonetheless, the teaching components in these objectives are minimal compared with the pharmacy practice objectives.⁶ There is concern that adding a structured teaching program may dilute other pharmacy practice activities; however, in a survey of residents who graduated from the Indiana Pharmacy Teaching Certificate Program, each individual resident's time commitment was sufficiently limited to allow a majority of time to be devoted to patient care. The survey found that one-quarter of graduates devoted less than 10 hours per week to teaching-related activities, and one-half of the graduates devoted less than 5 hours per week to teaching responsibilities. Almost all graduates (80%) stated they would recommend this program to other residents or fellows, but only 7.5% of graduates obtained positions within a college or university. Despite a low proportion of participants pursuing positions in academia, the skill acquired in the program was still put to use by many participants, as 83% of graduates reported precepting students at their professional position within 1 year after program completion.⁸

Strategies to Develop Pharmacy Residents as Educators

Meeting the rising demand for residents to

serve as future educators implies they must receive adequate training. To meet these demands, programs may consider adopting principles and methods employed by teaching certificate programs, using distance-learning technology, increasing training for faculty and preceptors in educational principles and methods, standardizing programs, and developing self-learning and/or self-assessment tools to train residents.

Adopt Principles and Strategies from Successful Teaching Certificate Programs

Several well-established resident teaching certificate programs exist and may serve as models or even partners for new programs. Programs from the University of Kentucky, the University of Arizona, the University of Florida, and a collaboration of Midwest schools (Purdue University, Butler University, and the University of Illinois at Chicago) have published information regarding the impetus, structure, and benefits of their individual programs.^{8-12, 15} Learning by example from these programs' experiences may be an efficient means of advancing the development of resident education. Sharing program experiences, strategies, and design may help create more standardized and successful teaching programs.

Use Distance-Learning Technology

Many residency programs are unaffiliated with a college of pharmacy, or they have limited personnel to support the implementation of resident teaching programs. Use of distance learning allows residents in these institutions access to the benefits of other teaching programs. The University of Florida College of Pharmacy has described one such model, broadcasting its program to four separate campuses throughout Florida.¹¹ Even if this level of distance education is not possible, residency programs can still have access to an online module of a teaching program. To integrate an active learning component, residents can participate in role-playing with a student, preceptor, and moderator.

Of importance are hands-on teaching experiences. Options to expose residents to live student teaching may include national pharmacy organizations expanding their resident programming to incorporate hands-on training in educational methods with experienced preceptors. Other options include residency programs in relatively close proximity that share

training resources in a weekend retreat format and strong academic institutions that host other residents in a “visiting scholar” format to provide more residents with precepting and teaching experience.

Train Faculty and Preceptors

One of the most apparent hurdles to implementing a resident teaching program is a lack of experienced faculty and preceptors. Although a pharmacist may be a well-qualified clinician, the art of education is a distinct skill set. Preceptor training is often available through local schools of pharmacy and pharmacy organizations. Table 1 details the national pharmacy organizations that provide training in teaching and preceptorship.

Standardize Programs

Great diversity exists within present teaching program models. Common topics for teaching certificate programs include developing a teaching philosophy, learning didactic and experiential teaching techniques through seminars and practice, using distance education, and developing courses and objectives, as well as employing self- and mentor-assessment strategies.^{9–15} These areas may serve as a foundation for developing new educators outside teaching certificate programs. A minimal set of criteria should define a resident teaching program to ensure the program’s quality in its

ability to adequately train residents as educators. One potential means of standardization is developing a set of criteria that may be used to accredit teaching programs. The development of these criteria should be the consensus of many professional pharmacy organizations. A general template will identify the content needed to meet the criteria for accrediting teaching programs. This template will benefit new programs and allow improvement or expansion of presently existing programs. The template should derive from successful teaching program curricula, and it can incorporate innovative techniques from many residency programs. The American College of Clinical Pharmacy is well positioned to provide a forum for developing the template as well as to promote its use through the Academy of Teaching and Learning. Consensus among several professional pharmacy organizations will be necessary to determine whether teaching programs should become a requirement for all residents. If required, the teaching program criteria will have to be integrated into ASHP’s accreditation standards.

Use Self-Learning and Self-Assessment Tools

Potential also exists to use self-learning and self-assessment tools when training residents to be effective educators. A quality written or online guide to becoming a better educator, coupled with live education, has the ability either to supplement a teaching program or to provide a minimal amount of training to the resident who

Table 1. National Pharmacy Organizations That Provide Training in Education

Organization	Brief Description	Prerequisites or Target Audience
American College of Clinical Pharmacy (ACCP) http://www.accp.com/academy/teachingAndLearning.aspx#ctl00_pnlOverview_title	Teaching and Learning Certificate Program Both live and online activities. 18 hours of required modules and 10 hours of elective modules	No specific prerequisite For residency-trained pharmacists
American Association of Colleges of Pharmacy (AACP) http://www.aacp.org/CAREER/EDUCATIONSCHOLAR/Pages/default.aspx	Program for busy professionals who want to improve teaching skill. Six-module online program	No specific prerequisite For current pharmacy faculty
American Society of Health Systems Pharmacists (ASHP) http://www.ashp.org/Import/CONTINUINGEDUCATIONCE/SelfStudyCEActivities/WebActivities.aspx#5	Several educational and teaching-based continuing educational programs	Licensed pharmacists
American Pharmacists Association (APhA) & National Association of Chain Drug Stores Foundation (NACDSF) http://www.pharmacist.com/AM/Template.cfm?Section=Preceptor_Resources http://nacds.rxschool.com/Course/info.cfm/course_id/375	Community Pharmacist Preceptor Education Program. Six-worksheet series designed to develop the experiential education site	Licensed pharmacists

does not have access to a formal training program.

Many programs presently use the teaching portfolio as one form of self-assessment. The American Association of Colleges of Pharmacy recommends a teaching portfolio to aid personal and professional growth. A teaching portfolio encapsulates the experiences and training of an educator and provides the format for a fluid document that grows and changes as a practitioner gains more teaching experience. The portfolio is designed to promote self-evaluation and learning through reflection.¹⁸ Teaching portfolios most commonly include a teaching philosophy, teaching experiences and responsibilities, curricular revisions and reflections, teaching goals, research and scholarship activities, and an appendix with examples of teaching activities and student and colleague feedback or evaluation. (See the Teaching Portfolio Checklist in Table 2.) In building a teaching portfolio, educators should reflect on what they value with respect to teaching outcomes and processes. A synthesis of these reflections can then be expressed in a teaching philosophy. Goals outlined in the teaching portfolio are ideally consistent with the teaching philosophy and are supported by examples of the educator's scholarly activities. This may include slide sets, examination

questions, and teaching evaluations with written reflection about such materials.^{19, 20} The idea of a teaching portfolio is not new, nor are its benefits limited to residents. Many universities require faculty to compile teaching portfolios, or items commonly found in a teaching portfolio, for tenure and promotion. Thus, developing a teaching portfolio during residency helps prepare residents not only as educators, but also as academicians.

Conclusion

With the growing need for pharmacists as educators, engaging in teaching activities has become an expectation of residency and fellowship graduates regardless of their career path. To meet this need, institutions should prioritize educational training within their residency programs. Moreover, residents and fellows need to embrace their role as educators and subsequently seek out training opportunities, including self-learning and self-assessment. The development of this component of residency programs continues to be an evolving process, making it unreasonable to assume that it will occur straightaway. Professional pharmacy organizations and residency programs should thoughtfully consider and evaluate the learning experiences that could form the criteria for

Table 2. Teaching Portfolio Checklist

Teaching philosophy	Develop a statement that provides the foundation of your teaching principles. This statement may address the following questions: Why do I teach? What is my role as a teacher or mentor? Do I believe in a teacher-centered paradigm or a student-centered paradigm of teaching? Do my teaching goals and experiences exercise these beliefs?
Teaching goals	Goals may include reflection on the following questions: What experiences are you looking to have during your teaching career? In what areas do you want to challenge yourself? Innovative lecture techniques, exam question writing skill, and/or small group discussions? What audiences do you hope to target during your teaching? In what ways do you want to grow as a preceptor?
Teaching experience	Include a list of lecture, precepting, and educational speaking experiences to date, including: Title of presentation, lecture, or rotation Course title/number, number of students in class, contact hours/credit hours Target audience: level of student/resident Number of attendees or students Course coordinating roles, where applicable
Teaching reflections	Include a "reflections" section with comments on your experiences to date. Both positive thoughts as well as constructive criticism may be included. Refer to materials in the appendix of teaching materials.
Appendix of teaching materials	This section may include slide decks, handouts, examination questions, teaching cases, teaching evaluations, and other relevant materials designed to support the contents of the teaching portfolio.

accreditation standards in their quest to successfully prepare residents as educators.

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