

## RESEARCH ARTICLES

# Education, Postgraduate Training, Board Certification, and Experience Requirements in Advertisements for Clinical Faculty Positions

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**Objectives.** To compare requirements for pharmacy practice faculty positions in advertisements from 2002 through 2006 to those reported from 1990 through 1994.

**Methods.** Positions advertised from January 2002 through December 2006 in 3 newsletters and journals were evaluated for required or preferred degree, completion of residencies and/or fellowships, years of work experience, board certification, and other postgraduate training and education. Advertisements were separated by tenure-eligibility and rank.

**Results.** Of 426 advertisements for faculty members, 77% required additional training, including residencies and fellowships or their equivalent in experience. Board certification was required in only 0.9% but preferred in 11%. Advertisements for tenure-eligible positions did not have more extensive requirements than nontenured, nor did upper vs. lower rank.

**Conclusions.** Compared to 1996, the number of advertisements requiring postgraduate training to secure a faculty position almost doubled. Whether the qualifications of faculty members recruited match the requirements is unknown.

**Keywords:** pharmacy manpower, faculty shortage, faculty career

## INTRODUCTION

Since 1998, the demand for pharmacists has surpassed supply, resulting in a national shortage.<sup>1</sup> In March 2006 the National Pharmacist Workforce Survey reported intensification of the shortage, and according to the Aggregate Demand Index (ADI) Project, a moderate demand for pharmacists currently exists across the United States, with employers having difficulty filling open positions.<sup>2,3</sup> These reports do not provide data specific to clinical (pharmacy practice) faculty members, although academic pharmacy has been suffering a deficit of qualified pharmacist faculty members for some time.<sup>4,5</sup> This shortage has worsened with the establishment of new colleges and schools of pharmacy, and increases in class sizes in existing colleges and schools, to maximize the supply of new pharmacists.<sup>6</sup>

Availability of candidates to become clinical faculty members is impacted by the shortage of pharmacists. Further, additional training beyond the doctor of pharmacy (PharmD) degree (eg, residencies, fellowships, master of

science [MS]/doctor of philosophy [PhD]) generally is considered necessary for success as a member of the clinical faculty ranks.<sup>7,8</sup> The Final Report and Recommendations of the 2002 AACP (American Association of Colleges of Pharmacy) Task Force on the Role of Colleges and Schools in Residency Training recommended postgraduate pharmacy education comprised of 1 to 2 years of residency to develop appropriate clinical skills for pharmacy practice faculty members.<sup>7</sup> At least 1 postgraduate year (PGY1) residency should be required for preparation of clinical faculty members, and it would be of even greater benefit if candidates completed a PGY2 (specialty) residency, as many clinical faculty members practice in specialty areas.<sup>9</sup>

Residency training as a prerequisite to practice is increasingly promoted in the profession. An American College of Clinical Pharmacy (ACCP) position statement in 2006 addressing postgraduate pharmacy residency training for direct patient care positions stated the following: "Formal postgraduate residency training will become mandatory before one can enter practice."<sup>9</sup> The authors outlined positive outcomes of completing a residency, including the development of practice and problem-solving skills and experience in educating pharmacy students.

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The shortage of pharmacists to fill academic positions is particularly insidious due to the synergistic nature of the problem. Without adequately educated and trained teachers, expanding the number of pharmacy graduates could be limited, preventing alleviation of the shortages. Also, the quality of the education students receive could be reduced due to higher student-to-teacher ratios, and the accompanying potential for instructor burnout. One issue resulting from increased demand for pharmacists is that new pharmacy practice faculty positions are being filled by more recent graduates who have completed only a first-year general practice residency.<sup>10</sup>

Board certification is a qualification receiving attention as demonstrating a high level of knowledge in pharmacy practice.<sup>11</sup> In its 2006 white paper titled, "Future Clinical Pharmacy Practitioners Should Be Board-Certified Specialists," ACCP asserted that board certification should indicate a pharmacist's degree of mastery, because certification is an index of one's knowledge at a "predefined level that has been rigorously validated."<sup>12</sup> The authors also asserted that clinical faculty members should be Board of Pharmacy Specialties (BPS)-certified to demonstrate increased knowledge of pharmacotherapeutics, putting them in a better position to teach the principles of evidence-based medicine. Romanelli conducted a survey of colleges and schools of pharmacy in 2004 to ascertain the value of BPS certification to clinical faculty members.<sup>13</sup> No college reported that board certification was a condition for employment at that time, although 19 of 84 (23%) respondents anticipated that it would become an employment requirement in the subsequent 5 to 10 years.

The literature contains few reports on the academic and training requirements for pharmacist positions, and even fewer relating to clinical faculty positions. Wieland and Murphy evaluated advertisements from 5 national pharmacy publications printed from 1990 through 1994 for requirement or preferences for degree, postgraduate training, work experience, and board certification for clinical and managerial jobs in pharmacy practice and academia.<sup>14</sup> Faculty positions were included under the clinical heading and were primarily for clinical specialists, but were not separated into tenure-eligible and non-tenure-eligible. Residency training was referred to as required or preferred in 213 of 263 advertisements (81%), with 89 (34%) either requiring or preferring specialty residency training. Fellowship training was referred to in 192 (73%). Overall, postgraduate training was either required (39.9%) or preferred (60.1%) by 234 (89%), and in 153 (58%), equivalent work experience was noted as acceptable in lieu of postgraduate training. The results demonstrated the demand for postgraduate training for

clinical faculty members. No advertisement cited board certification as an employment requirement.

The purposes of this study were to determine the percentage of advertisements from 2002 through 2006 requiring or preferring advanced postgraduate training, specific degrees, experience, or board certification for clinical (pharmacy practice) faculty members; and to compare these results to those from advertisements from 1990 through 1994 reported in the study by Wieland and Murphy.<sup>14</sup> In addition, an evaluation was performed to determine whether tenure status or rank of advertised positions altered the level of requirements.

## METHODS

The study was a descriptive, retrospective evaluation of the requirements described in personnel advertisements for clinical faculty. Reviewed advertisements appeared in the *ACCP Report*, the *AACP News*, and the *American Journal of Health-System Pharmacy (AJHP)* for the 5-year period from January 2002 through December 2006. Multiple positions listed in the same advertisement were counted individually, and advertisements for the same position appearing in any of the sources within a year before or after were excluded. For efficiency, advertisements referring readers to an online source for a full description were not evaluated. Advertisements were doubled-checked to avoid repetition in counting and to ensure accuracy.

Required and preferred qualifications expected of those seeking employment in clinical faculty positions were counted. Types of qualifications included degree, completion of residencies and/or fellowships, years of work experience, board certification, and other postgraduate training and education. Academic positions advertised were also categorized as tenure-eligible or not, and rank offered or requested. Position qualifications were classified as required or preferred. In addition to the word "required," wording such as "must have" or "will have" defined the qualification as required. In addition to the word "preferred," if "should have" was used, the qualification was counted as preferred. When combinations of required and preferred qualifications were noted, both were counted (eg, residency required, fellowship preferred).

The 2 investigators initially reviewed and compared results for a sample of advertisements to enhance reliability of evaluation. During final data collection, the secondary reviewer evaluated advertisement language that was questioned by the primary reviewer to reach consensus about classification of a qualification as required or preferred.

Descriptive statistics were used to report the percentage of positions with specified qualifications in advertisements to determine if advanced training, specific

degrees, experience, and board certification were required or preferred qualifications for clinical faculty positions. Results were compared to those reported previously.

## RESULTS

Four hundred seventy-seven advertisements were reviewed for qualifications deemed required or preferred by the authors of the advertisements. The *AACP News* provided 291 (61%), 138 (28.9%) were in the *ACCP Report* and 48 (10.1%) were in *AJHP*. Listings for non-administrative clinical faculty members (hereafter faculty) comprised 426 (89.3%) of the advertisements. Academic administrative listings (ie, department head or chair) comprised 51 (11.7%) of the advertisements. The latter were not included in this paper. The qualifications requested for faculty members are shown in Table 1. The advertisements were for assistant; assistant or associate; associate or full; or assistant, associate, or full professor positions. Positions for lecturer and instructor were not seen in any advertisements.

Postgraduate advanced training, including residencies, fellowships, or their equivalent in experience was required in 328 of 426 (77.0%) advertisements for faculty members. Of the 328 requiring advanced training, 238 (72.6%) specified that equivalent experience was an option, while 90 (27.4%) were silent on this issue. Postdoctorate training or equivalent experience without further delineation was required in 18 (4.1%) of these.

Of the 426 faculty advertisements, 297 (69.7%) specifically required a residency or residency and/or other experience. Of this 297, 87 (29.3%) did not specify that

equivalent experience was an option for candidates. Two advertisements specifically required an ASHP-accredited residency or equivalent experience.

Postdoctorate or advanced training or equivalent experience, was preferred in 115 (27.0%) of the advertisements. Of these, 31 (7% of total) allowed equivalent experience as an option, while 84 (19.7% of total) did not specify that experience was an acceptable alternative.

Table 2 provides the degree requirements and preferences in the advertisements. A PharmD degree was required or preferred in 342 (80.3%). Alternative degrees included PhD and MS, PharmD or PhD, or PharmD or MS in pharmacy as a requirement in 70 (16.4%) of the advertisements. In 6 (1.4%) instances, a BS in pharmacy was an acceptable alternative to a PharmD.

Advertisements for tenure-eligible positions (n = 99) required advanced training (ie, PGY1, PGY2, or fellowship), in 66 (66.7%) advertisements. In terms of rank, ascending from assistant; to assistant or associate; to assistant or associate or full professor the percentage of advertisements mentioning advanced training decreased. Advertisements for non tenure-eligible positions (n = 155) required advanced training in 134 (86.5%). The trend exhibited in the tenure-eligible positions where requirements decreased as rank increased was also noted in the nontenured advertisements. For positions listed as tenure-eligible or nontenured (n = 52), advanced training was required in 42 (80.8%). When tenure-eligibility status was not mentioned (n = 120), advanced training was required in 86 (71.7%).

Table 1. Qualifications Stated in Advertisements for Clinical Pharmacy (Pharmacy Practice) Faculty Members (N = 426)

Qualification	Required, No. (%)	Preferred, No. (%)
Residency (PGY1)	29 (6.8)	16 (3.8)
Residency or equivalent experience	73 (17.1)	5 (1.2)
ASHP-accredited residency or equivalent experience	2 (0.5)	0
Residency or specialty residency	2 (0.5)	1 (0.2)
Specialty residency (PGY2)	20 (4.7)	22 (5.2)
Specialty residency or equivalent experience	3 (0.7)	4 (0.9)
Residency, specialty residency, or equivalent experience	0	2 (0.5)
Fellowship	3 (0.7)	16 (3.8)
Fellowship or equivalent experience	10 (2.3)	6 (1.4)
Residency and/or fellowship	22 (5.2)	17 (4.0)
Residency, and/or fellowship, and/or PhD	1 (0.2)	0
Residency, and/or fellowship, or equivalent experience	106 (24.9)	8 (1.9)
Specialty residency and/or fellowship	13 (3.1)	12 (2.8)
Specialty residency, and/or fellowship, or equivalent experience	17 (4)	4 (0.9)
Residency, specialty residency, or equivalent experience	2 (0.5)	2 (0.5)
Residency, specialty residency, fellowship or equivalent experience	7 (1.6)	0
Postdoctoral training or equivalent experience	18 (4.2)	0
Total <sup>a</sup>	328	115

<sup>a</sup> Total exceeds 426 since some advertisements have both required and preferred components

Table 2. Degrees Mentioned in Advertisements for Clinical (Pharmacy Practice) Faculty Members (N = 426)

Degree	Required, No. (%)	Preferred, No. (%)
PharmD	282 (66.2)	56 (13.1)
PharmD or PhD	45 (10.6)	9 (2.3)
PharmD, or PhD, if MS or BS in pharmacy	2 (0.5)	0
PharmD or MS in pharmacy	24 (5.6)	3 (0.7)
PharmD, or BS, or MS in pharmacy	3 (0.7)	0
PharmD, or PhD, or MS or BS in pharmacy	1 (0.2)	1 (0.2)
Total	357 (83.8)	69 (16.2)

Abbreviations: PharmD = doctor of pharmacy; PhD = doctor of philosophy; MS = master of science; BS = bachelor of science.

Board certification was a requirement in only 4 (0.9%) advertisements, and was preferred in 47 (11%), and board eligibility was required in an additional 4 (0.9%), for a total of 55 (12.9%) advertisements discussing certification. In addition to educational and training qualifications, some advertisements specified experience in teaching (49; 11.5%), research productivity (17; 4%), evidence of scholarship (17; 4%), and an ability to obtain extramural funding (10; 2.3%), as credentials that also would be required or preferred.

A specific specialty for the position was mentioned in 240 (56.3%) advertisements. Of those, 48 (20.0%) specified ambulatory care, 43 (17.9%) internal medicine, 37 (15.4%) community practice, 21 (8.8%) psychiatry, 19 (7.9%) oncology, 18 (7.5%) infectious disease, 16 (6.7%) geriatrics, 12 (5%) pediatrics, 11 (4.6%) critical care, 8 (3.3%) cardiology, 4 (1.7%) pharmacotherapy, 2 (0.8%) nutritional support, and 1 (0.4%) nuclear medicine.

## DISCUSSION

The results reveal a dramatic increase in percentages of advertisements requiring advanced training credentials (residency, fellowship, equivalent experience) for clinical faculty positions compared to that reported by Wieland and Murphy in 1996.<sup>14</sup> In the current study, postgraduate advanced training, including residencies and fellowships or their equivalent in experience, was required in 76.5% of advertisements, compared to 105 of 263 (39.9%) found by Wieland and Murphy.

ASHP, the body that accredits most pharmacy residency programs, changed their terminology regarding residencies from “pharmacy practice” and “specialized” to PGY1 and PGY2 in 2005. Also, it was possible previously, though discouraged by ASHP, to enter some specialty residencies without having completed a pharmacy practice residency. This is no longer the case for residencies accredited by ASHP. Now, to enter a PGY2 advanced or specialized residency, a candidate must have completed a general PGY1 residency. These changes affect direct comparisons of this study to that of Wieland and

Murphy as colleges may have been able to acquire clinical faculty members who had completed only 1 year of residency training yet were on their way to specialization. Since ASHP serves as the accrediting body for most residencies, this was not mentioned as a requirement in advertisements (only 2 did so). Most advertisement writers probably assumed that residency graduates would have been from an accredited program or one seeking accreditation.

Only 64 advertisements mentioned specialty residency as part of a requirement (and/or with other postgraduate training), which is potentially problematic because 240 advertisements asked the candidates to have skills in a specialty area. Fellowships or other alternatives were required in 179 advertisements (42.0%), but frequently these were mixed with items that would not result in equivalent skills (eg, residency).

Board certification was mentioned in 12.9% of the advertisements in this study, although fewer than 1% required certification. Wieland and Murphy found no clinical faculty advertisements requiring board certification, but a preference for candidates with board certification was noted in 2.3% (6 of 263).<sup>13</sup> Certification was suggested as becoming a requirement for faculty members in the subsequent 5 to 10 years by 23% of the respondents in the study by Romanelli.<sup>13</sup> Although board certification is becoming increasingly preferred as a pharmacy practice faculty qualification in advertisements, it is not yet a predominant criterion.

Considerable inconsistency in requirements was found in the advertisements for clinical faculty members. That 23% did not mention advanced postgraduate training or equivalent experience can be explained, in part, by advertisements for higher ranked faculty members who would, of necessity, already have this experience. However, this could be assured only for 8 of the advertisements that were for associate or full professors. The possibility that graduates just finishing PharmD programs may be hired as clinical faculty members, potentially resulting in students in some courses not receiving the necessary

level of education is troubling. This is the history of the development of the clinical component of pharmacy education, but the academy should have moved beyond conducting on-the-job training for a significant portion of its clinical faculty members. Some graduates without postgraduate training or equivalent experience will perform well, and some may be better than new faculty members with such background, but this will not always be the case, and the learning curve is much steeper than 20 to 30 years ago.

The actual qualifications of clinical faculty members hired in US colleges and schools of pharmacy during the study period are presently unknown. In today's climate, these faculty members should have advanced training or equivalent experience beyond just the degree they received, including specialty training, if they are expected to provide specialty-level practice and teaching. Perhaps the authors of the advertisements assume that listing the need to practice in a specialty area will be sufficient to ensure the candidate has these skills. The academy must do more to ensure that clinical faculty members are well prepared to teach, serve as clinical role models, and conduct useful scholarship. Inconsistencies in requests for research skills, and preparation with fellowships or other degrees exist, not boding well for adequate preparation in these skills that represent important opportunities for the profession to demonstrate its value through scholarship and research.<sup>15</sup>

Further research is warranted to determine the impact of the shortage of pharmacy practice faculty members and the impact of hiring practices on educational outcomes, particularly as new colleges and schools are contemplated, and current colleges and schools consider increasing class size. The Accreditation Council for Pharmacy Education (ACPE) and AACP should pay particular attention to helping ensure an adequate clinical faculty workforce.

## CONCLUSIONS

Compared to a previous study, colleges of pharmacy have nearly doubled their advertised requirements for postgraduate training qualifications needed to secure a clinical faculty position. Over three quarters required postgraduate training or equivalent experience during the study timeframe. The PharmD degree is also slightly more in demand. Board certification continues to be a minor requirement for employment, although an increasing

preference was noted. The actual hiring practices for clinical faculty are unknown, and this should be investigated to ensure that adequately prepared individuals are being recruited so that students are best served and clinical research is advanced. Ensuring an adequate and appropriately trained clinical faculty workforce should be high on the agendas of ACPE and AACP.

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