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Characteristics of Postgraduate Year 1 Pharmacy Residency Programs at Veterans Affairs Medical Centers

Jennifer G. Naples, PharmD, BCPS^{1,2}, Tracie Rothrock-Christian, PharmD, BCPS¹, and Jamie N. Brown, PharmD, BCPS, BCACP¹

¹ Pharmacy Service, Durham Veterans Affairs Medical Center, Durham, NC, USA

² Department of Geriatrics, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

Abstract

Purpose—Although the characteristics of pharmacy postgraduate year 1 (PGY1) residency programs have been examined among large academic medical centers, there are no identified studies comparing the attributes of individual programs in the Veterans Affairs (VA) Health Administration System. The primary objective of this study was to describe and contrast characteristics of VA PGY1 residency programs.

Methods—This was a cross-sectional survey of VA pharmacy residency programs. An online survey was distributed electronically to residency program directors of VA PGY1 residencies.

Results—Responses from 33 (33%) PGY1 programs were available for the analysis. Programs reported growth over the previous 2 years and expected continued expansion. There was a wide variety of learning opportunities, although experiences were customizable based on residents' interests. Notably, many programs allowed residents to seek rotations at other locations if specific experiences were not available on-site. Additionally, most programs had a mandatory staffing component and required residents to present the results of residency research projects.

Conclusion—There is a high degree of variability among individual VA facilities with regard to the requirements and opportunities available to PGY1 pharmacy residents. This assessment is able to characterize the currently established residency programs and allows for an active comparison of programs in a nationally integrated health care system.

Keywords

residency; pharmacy practice; leadership; postgraduate training; Veterans Affairs

Introduction

In response to expanding clinical practices and the imperative for pharmacists to provide higher levels of care, the American College of Clinical Pharmacy and the American Society

Corresponding Author: Jamie N. Brown, Pharmacy Service, Durham Veterans Affairs Medical Center, 508 Fulton Street (119), Durham, NC 27705, USA. jamie.brown2@va.gov.

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of Health System Pharmacists (ASHP) have both published statements advocating that by 2020, all pharmacy graduates directly involved in patient care should complete at least 1 year of postgraduate year 1 (PGY1) residency training.^{1,2} According to a recent study, to meet this goal the number of PGY1 programs must grow at an annual rate of 17%.³ Consequently, more residency opportunities will be required for pharmacy graduates pursuing advanced training.

Aside from the requirements necessary to receive ASHP accreditation, individual institutions can structure their programs to develop specific goals for each resident and residency class. Only 1 study was identified that has compared and contrasted PGY1 programs. Residency Program Directors (RPDs) at facilities within the University Health System Consortium (UHC) were polled to determine how recruitment, rotations, staffing, certifications, projects and presentations, teaching opportunities, and preceptor requirements differed. The results from this survey suggest wide variance, although dissimilarity was not necessarily problematic. Instead, it enables residency programs to attract prospective candidates whose career goals align with the program's strengths.⁴

Despite the prevalence of pharmacy residency programs within the Veterans Affairs (VA) Health Administration System, there are no available data comparing their attributes. Historically, the VA has actively expanded the role of clinical pharmacists through autonomous pharmacist-led clinics, pharmacoeconomic and formulary decision-making processes, investigational medications, and collaborative practice agreements.⁵ The VA also provides the advanced training required to fulfill these expectations by sponsoring many PGY1 and postgraduate year 2 (PGY2) residency opportunities.^{5,6}

In 2012, for example, VA residency programs comprised 15% to 20% of all available PGY1 and PGY2 pharmacy residency programs.⁷ Twenty years ago, the most important factors guiding prospective residents' selection of programs were the reputation of the program, accreditation status, types of services provided, professional environment, and required staffing.⁸ More recently in the face of increasing competition for residency positions, the characteristics of ideal candidates have been evaluated but a reciprocal compilation of ideal program characteristics is lacking.⁹ Without comparative information, it may be more difficult for RPDs of existing programs to recognize opportunities for growth or for RPDs of new programs to identify other institutions with similar features after which to model their programs. Therefore, the primary objective of this study was to describe and contrast characteristics of VA PGY1 residency programs.

Methods

The present study was a cross-sectional, comprehensive questionnaire of PGY1 pharmacy residency programs offered by VAs across the United States. Surveys used in previously published articles were adapted to describe characteristics specific to VAs.^{4,10} The survey was constructed using SelectSurvey.Net (v4.114.000, ClassApps, Kansas City, Missouri) such that all RPDs answered identical questions regarding director, program, preceptor, and facility characteristics. Before distribution, members of the local and national VA Residency

Advisory Committees reviewed the survey and revisions were made based on feedback received.

A hyperlink to the secure online survey, along with instructions and implied consent, was e-mailed to RPDs registered with the VA RPD Listserv on January 1, 2014. The survey was available online from January 1 through January 31, 2014. Responses from PGY2 programs, fellowships, nontraditional residencies, and combination programs were excluded. Respondents were asked to identify the institution they represented. If multiple responses from the same institution were received, the most complete response was included for the final analysis. The results of the survey were exported to Microsoft Excel 2010 (Microsoft Corp, Redmond, WA) spreadsheet where descriptive statistics were calculated. This study was conducted in accord with ethical standards of the local institutional review board.

Results

Program Demographics

RPDs from 33 (33%) VA PGY1 programs responded to the survey. All but 1 program were fully accredited by ASHP; the remaining program was assigned candidate status. For the 2012 to 2013 residency cycle, the responding VA programs sponsored 148 PGY1 positions, averaging 4.5 (+2.5) positions per program. Over the previous 2 years, no program lost any residency positions (Table 1). Instead, many experienced sustained expansion, with continued growth anticipated in the near future. Of note, the program that expected to remove a position planned to consolidate its first- and second-year positions into a combination program.

Interviewing and Recruiting

During the 2012 to 2013 recruitment cycle, PGY1 programs received an average of 16.3 (+7.5) applications and interviewed 5.9 (+1.9) candidates per available position. Fifteen (45.5%) programs noted an increase in the number of applications from the previous year, whereas 9 (27.3%) programs noted no change. Programs subsequently ranked, on average, 77.4% of interviewed applicants. Only 1 position remained open after the 2013 Match process but was filled in the post-Match Scramble.

Learning Experiences

Required and elective rotations available for PGY1 programs are represented in Table 2. Primary care and internal medicine were core rotations required by most programs. Elective rotations varied among institutions and enabled residents to provide a breadth of specialized care to vulnerable populations. Residents also had the unique opportunity to practice Home-Based Primary Care and participate in an array of specialty clinics. Longitudinal rotations are illustrated in Figure 1. The length of required rotations varied, with more than half (60.6%) of the programs designing 4- or 6-week rotations. Rotation selection was driven by residents' preferred practice areas. If a desired rotation was unavailable at the home facility, 75.8% of programs allowed residents to seek the experience at another hospital (n = 22), another VA (n = 6), or a School or College of Pharmacy (n = 12). Residents at 29 (87.9%) programs were required to be certified in Basic Life Support, although only 1 required its

residents to cover the associated expense. Likewise, 18 (54.5%) programs mandated residents obtain Advanced Cardiac Life Support certification, with 2 programs requiring residents to pay for this certification.

With regard to longitudinal leadership experiences, 16 (48.5%) programs allowed residents to participate on committees in a capacity beyond what was required within a given rotation, most commonly Pharmacy and Therapeutics (n = 14).

Other committees included Institutional Review Board, Research & Development, Pharmacy Quality Assurance, Intensive Care Units Committee, Medical Staff Council, Pharmacy Benefit Manager, Chief Call, Community Living Center, Customer Service, Pharmacy Utilization Management, Residency Advisory Committee, or Medication Use Committee. Additionally, 7 (21.2%) programs provided opportunities for residents to chair a committee meeting. Eighteen (54.5%) programs had a Chief Resident designation for leadership development, and 20 (60.6%) programs included a formal mentor program to foster residents' professional development.

Staffing

Thirty (90.9%) programs had a mandatory staffing requirement. Of these, 11 (33.3%) required staffing only on weekends, 3 (9.1%) required staffing only on weekdays, and 9 (27.3%) required both weekend and weekday staffing. The median weekend staffing requirement was 8 to 16 hours, while the weekday commitment ranged from 1 to 6 hours per shift. Seven programs that reported a mandatory staffing component answered "not applicable" to both the weekend and weekday component questions. One-third of the programs required residents to staff during holidays. Overall, staffing focused primarily on traditional dispensing responsibilities and outpatient counseling.

Program Director Involvement and Preceptor Requirements

RPDs reported frequent contact with residents, both individually and as a group. Most programs scheduled required meetings at least quarterly and extended the invitation for residents to meet with RPDs more frequently if needed. Median time spent weekly on RPD duties was 10 to 19 hours, although only 20 (60.6%) RPDs reported having a formal job description that detailed Program Director Responsibilities. Most (78.8%) RPDs had earned advanced certifications in their respective fields and 30 (90.9%) RPDs maintained a specialty practice.

Twenty-six (78.8%) programs required formal preceptor development and 24 (72.7%) did not have a set preceptor to resident ratio. Of the remaining programs, 7 had a one to one ratio, 1 had a one to two ratio, and 1 did not answer.

Research and Teaching Opportunities

For the comprehensive residency project, residents usually chose a topic from a predetermined list (87.9%) or formulated their research question (69.7%). The majority (69.7%) of the programs required residents to seek approval from their local institutional review board (IRB), although necessity depended on the type of project pursued. All

residents were required to formally present their research findings. Twenty-one (63.6%) programs had an academic affiliation, with two-thirds (66.7%) of institutions hosting medicine residents in addition to pharmacy trainees. To develop precepting abilities, 84.8% of programs allowed residents to serve as a preceptor or copreceptor for pharmacy students. Twenty-four (72.7%) programs offered the option to pursue a teaching certificate, although fewer (30.3%) required participation. Twenty (60.6%) programs expected residents to prepare continuing education presentations. If not mandatory, the option was available for 5 (15.2%) programs.

Discussion

Available opportunities and requirements of PGY1 residency programs were examined among VA Medical Centers. The results of this survey indicate that there is a wide variability in the design and implementation of residency programs across the VA system. Similar findings were seen in a study of PGY1 programs at large academic medical centers, although the proportions at non-VA institutions were lower with regard to set preceptor to resident ratios (11.1%), optional external rotations (54.0%), and opportunities to obtain a formal teaching certificate (53.5%).⁴

When reviewing the rate of growth among VA PGY1 residency programs over the previous 2 years, the results of this survey reflect the increasing demand of residency-trained pharmacists, with anticipated growth continued in the near future. In addition, VA residency programs allow residents' preferences to guide both research topic and rotation selection. Although the elective rotations in the VA system were varied, many VA programs were able to arrange options with outside facilities. This may be especially appealing to residency candidates looking for specific learning experiences not commonly available within a VA residency program.

A required staffing component was found in most of the responding VA PGY1 programs, which was similar to other previously reported first-year general pharmacy practice programs.^{4,11} Beyond staffing, service to VA institutions may manifest in other capacities (e.g., evaluating nonformulary consults or performing clinical tasks), which may not have been captured in this survey. Further evaluation of this aspect of the residency experience may provide insight as to the breadth of learning opportunities VA residencies may confer.

In our study, more VA programs offer the option to pursue a formal teaching certificate than previously described in the UHC survey.⁴ Both of these are markedly higher than represented in a survey from 2010 in which 54 (27%) respondents reported availability of a teaching certificate program.¹² Of note, that survey included both PGY1 and PGY2 programs, and the number of large medical centers versus VA programs responding was not reported. In our study, the majority of first-year programs had an academic affiliation, which may explain the numerous opportunities to earn a formal teaching certificate.

Another recent survey on residency best practices recommended that PGY1 programs include practice management specific preceptor development, incorporate longitudinal practice management experiences, and emphasize career mentorship and leadership

development.¹³ In our study, most PGY1 programs had required preceptor development in which practice management and leadership development could be addressed. Likewise, three-quarters have longitudinal practice management rotations in place. By increasing the availability of formal mentorship programs, however, there is an opportunity to further assist with residents' professional development.

There are some limitations to this study. The response rate was 33% which, although low, is consistent with other published surveys. Additionally, this survey reflects the first-year PhORCASTM was used for recruitment. Thus, it may make direct comparisons with previous studies of non-VA PGY1 programs more difficult in regard to recruitment, applications, and interviews.

Conclusion

There is a high degree of variability among individual VA facilities with regard to the requirements and opportunities available to PGY1 pharmacy residents. This assessment is able to characterize currently established residency programs and allows for an active comparison of programs in a nationally integrated health care system.

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Figure 1.
Required longitudinal rotations.

Table 1

Growth of Pharmacy Residencies.

		Number of Programs, N = 33, n (%)
Previous 2 years	Gained positions	12 (36.4)
	No change in positions	20 (60.6)
	Lost positions	0 (0.0)
	No answer	1 (3.0)
Next 5 years	Add positions	8 (24.2)
	No change in positions	24 (72.7)
	Remove positions	1 (3.0)
	No answer	0 (0.0)

Table 2**Required and Elective Rotations^a**

Rotation	Required, n = 33, n (%)	Elective, n = 33, n (%)
Administration/practice management	24 (72.7)	10 (30.3)
Ambulatory/primary care	33 (100.0)	8 (24.2)
Anticoagulation	22 (66.7)	10 (30.3)
Asthma	1 (3.0)	1 (3.0)
Bone marrow transplant	1 (3.0)	1 (3.0)
Cardiology	3 (9.1)	14 (42.4)
Critical care	9 (27.3)	12 (36.4)
Drug information	12 (36.4)	3 (9.1)
Emergency medicine	0 (0.0)	9 (27.3)
Endocrinology/diabetes	4 (12.1)	15 (45.5)
Faculty/academia	2 (6.1)	8 (24.2)
Family medicine	0 (0.0)	1 (3.0)
Geriatrics	16 (48.5)	14 (42.4)
HIV/AIDS	0 (0.0)	4 (12.1)
Home based primary care	5 (15.2)	6 (18.2)
Infectious disease	3 (9.1%)	20 (60.6)
Internal medicine	27 (81.8)	5 (15.2)
Medication safety	7 (21.2)	1 (3.0)
Oncology	1 (3.0)	18 (54.5)
Orientation	28 (84.8)	1 (3.0)
Pharmacy informatics	2 (6.1)	7 (21.2)
Psychiatry	14 (42.4)	19 (57.6)
Solid organ transplantation	0 (0.0)	2 (6.1)
Specialty clinics	2 (6.1)	8 (24.2)
Women's care	0 (0.0)	10 (30.3)

^aRotations may be selected as both required and as elective.