

Director's Forum

Role of Pharmacy Residency Training in Career Planning: A Student's Perspective

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Pharmacy students typically become more focused on career planning and assessment in the final year of their PharmD training. Weighing career options in the advanced pharmacy practice experience year can be both exciting and stressful. The goal of this article is to provide a primer on how pharmacy students can assess how a residency can fit into career planning. This article will describe the various career paths available to graduating students, highlight ways in which a residency can complement career choices, review the current state of the job market for pharmacists, discuss the current and future plans for residency programs, and present thoughts from some current and former residents on why they chose to complete a residency. Most career paths require some additional training, and a residency provides appropriate experience very quickly compared to on-the-job training. Alternative plans to residency training must also be considered, as there are not enough residency positions for candidates. Directors of pharmacy must consider several factors when giving career advice on pharmacy residency training to pharmacy students; they should provide the students with an honest assessment of their work skills and their abilities to successfully complete a residency. This assessment will help the students to set a plan for improvement and give them a better chance at being matched to a pharmacy residency.

Students typically become more focused on career planning and assessment in the final year of their PharmD training. That year is reserved for advanced pharmacy practice experiences (APPEs), in which students rotate for a minimum of 1,500 hours at 9 often unique practice sites under the guidance of a preceptor and additional staff. Throughout this year, the students are exposed to many different aspects of pharmacy including community, ambulatory care, hospital/health system, inpatient/acute care, and elective rotations. The exposure to the different pharmacy practice settings often causes the students to reevaluate or reconsider their chosen career path. In addition, family members, preceptors, friends, and colleagues often inquire about the students' job plans, further education, or training. This time of exploring career options can be exciting, as well as stressful, for students on the verge of graduation. Often the decisions students make during the final year of the PharmD program are binding

for many years following graduation, possibly even limiting their future career goals. Some students may make decisions based on the necessity to pay off a heavy school loan debt or the desire to work in a particular geographic area due to family concerns.

Students often request career advice from pharmacy directors, who are acting as either their APPE preceptor or in connection with their employment. The pharmacy profession and job market have changed drastically in the last 10 to 15 years, making a student's viewpoint on career planning and assessment very different from that of a pharmacy director who has been in the profession for many years. Acting as a mentor, the pharmacy director can help the students explore the following questions: How much school debt do I have? What personal concerns will influence my career plan? What aspects of pharmacy do I enjoy? Where do I see myself in 20 years? How is the profession of pharmacy changing? Should I pursue a residency?

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To the last question, and as part of the career planning and assessment process, students need to decide whether to pursue a residency or an entry-level pharmacist position upon graduation. Postgraduate residencies are becoming an increasingly popular option as the competition in the job market increases; the additional years of training may provide better preparation for a specific position.

Despite the increase in students pursuing residency training, most PharmD students have chosen to work in community practice upon graduation. These practice areas do not require the completion of postgraduate training. According to the 2014 Pharmacy Student Graduating Survey conducted by the American Association of Colleges of Pharmacy (AACCP), 5,827 of 9,527 (61%) responding students indicated that they planned to work in a chain community pharmacy upon graduation.¹ For those students entering hospital pharmacy, 3,147 of 9,527 (33%) responding students planned to pursue a staff position. There were 2,461 (25%) responding students who had plans to pursue a pharmacy residency program upon graduation.¹

Residency training provides knowledge and experience at a faster pace and in a more systematic manner than can be obtained in an entry-level pharmacist position. Residency training also provides the opportunity for interprofessional collaboration, instills personal and professional confidence, provides avenues in which to advocate for the profession of pharmacy, and broadens clinical decision-making abilities. With the profession of pharmacy becoming an increasingly clinically focused profession, residency training enables a pharmacist to practice at the "top of their license" and provide exceptional patient care. It can also enable a pharmacist to become a sought after candidate by employers.

The goal of this article is to provide a primer on how pharmacy students can evaluate the role of a pharmacy residency in their career planning. The article will describe the various career paths available to graduating students, highlight ways in which a residency can compliment career choices, review the current state of the job market for pharmacists, discuss the current and future plans for residency programs, and present thoughts from some current and former residents on why they chose to complete a residency. The information in this article will help students in deciding whether or not to pursue postgraduate education. In addition, this article may provide a helpful student perspective for pharmacy directors as they serve as mentors for students and young pharmacists.

CHOOSING A CAREER PATH

The first step in planning a career in the pharmacy profession is to decide upon a path that will compliment your strengths and interests. One of the significant advantages of the pharmacy profession is its diversity of career options.² These include the well-known options of community and hospital pharmacy, as well as consultant pharmacy, managed care, industry, academia, and federal pharmacy. The key to choosing the right path is to take the time to research the available opportunities and assess your abilities to determine whether they align with the requirements of the job.

According to the American College of Clinical Pharmacy (ACCP), there are certain qualities that a clinical pharmacist should possess regardless of the subspecialty³: desire to advocate for the patient and for the pharmacy profession, desire to stay up to date with literature, ability to critically evaluate the literature, ability to collaborate with other health care professionals, excellent communication skills, and strong leadership skills.

The skills more suited to the role of a community retail pharmacist are the ability to multitask, sustain community relationships, efficiently manage inventory, uphold company policies and procedures, adjudicate insurance claims, and successfully manage personnel.

If additional training is desired to further the education received in the PharmD program, then a residency program should be considered. A postgraduate year 1 (PGY-1) residency is a generalized program that teaches skills that residents can use in any of the previously mentioned practice settings. A PGY-1 residency helps pharmacists to develop leadership skills, improve patient-centered care, refine problem-solving strategies, and advance the growth of their clinical judgement.⁴ These are all necessary skills as the profession of pharmacy moves toward a more patient-centered, clinical focus. The different types of PGY-1 residency programs are listed in **Table 1**.

Pharmacists who complete a PGY-1 residency program will be qualified to obtain a clinical generalist position. To be qualified for a clinical specialist position, pharmacists can complete a more specialty-focused postgraduate year 2 (PGY-2) residency. There are a number of accredited PGY-2 specialties to choose from, including infectious disease, ambulatory care, emergency medicine, oncology, and solid organ transplant.

A residency program can provide necessary training for a clinical career as well as refine essential

Table 1. Types of American Society of Health-System Pharmacists accredited postgraduate year 1 (PGY-1) residency programs

PGY1 program	Training
Community pharmacy	<p>Learn to develop, sustain, or enhance pharmacist-provided patient care services such as MTM and disease state management</p> <p>Learn how to bill and obtain payment for such services</p> <p>Practice using collaborative and integrated care models</p> <p>Acquire the ability to establish advanced community practice sites</p> <p>Learn how to provide drug information responses</p>
Managed care	<p>Learn how to utilize 3 practice models¹⁵:</p> <ol style="list-style-type: none"> 1. Individual patient care in which the pharmacist communicates findings and recommendations to patients and those health care providers who provide care directly to the patient 2. Care provided to targeted groups of patients in which the pharmacist designs, conducts, monitors, and evaluates the outcomes of organized and structured programs 3. Population care management in which the pharmacist develops and implements medication-use policy <p>Learn the skills to practice in a variety of health care organizations</p> <p>Learn formulary development/maintenance and contracting</p>
Pharmacy practice	<p>Develop clinical and communications skills in a variety of practice environments and sample various areas of pharmacy specialization¹⁶</p> <p>Learn how to provide consultative and drug information services¹⁶</p> <p>Obtain necessary skills development, professional experience, and maturity to progress to advanced specialty practice residencies¹⁶</p>

Note: MTM = medication therapy management.

skills for any of the other available pharmacy career pathways. Even if the path that interests you after graduation does not require postgraduate training, a residency can provide a foundation to enable you to redesign and expand upon your role in your chosen setting. This early training will also give you the option of switching career paths more easily in the future.

UNDERSTANDING THE CURRENT EMPLOYMENT LANDSCAPE

In the past decade, there has been a significant increase in the number of pharmacy graduates qualified to fill the demand for pharmacists. As of 2014, there are 133 schools and colleges that offer PharmD programs, with enrollments that have continued to rise for the past 13 consecutive years.⁵

The Aggregate Demand Index (ADI) is released by the Pharmacy Workforce Center and provides an indication of the supply versus demand for pharmacist positions. The ADI is measured on a scale from 1 to 5, with 1 indicating a high surplus and 5 indicating high demand. The ADI was 3.48 in August 2014, up from 3.42 in July 2014 and from 3.20 in August of 2013.⁶ The ADI has been on a downward overall trend since fall of 2006 and has not increased above 3.8 since the spring of 2009.⁶ As for individual practice settings, the demand was higher in the community setting at 3.38 than in the institutional setting at 2.76.⁶

Data from the Bureau of Labor Statistics released in 2013 show that 126,350 of 287,420 (44%) employed pharmacists work in health and personal care stores and 63,870 (22%) work in general medical and surgical hospitals.⁷ This statistic is consistent

with the majority of pharmacy graduates seeking to obtain entry-level community pharmacist positions.

The shift in the services provided at community retail pharmacies can also increase the interest in residency training. Clinical services such as immunizations, medication therapy management, smoking cessation, diabetes management, and point-of-care testing are being offered at community pharmacies throughout the country. More students are looking to complete community and ambulatory care residencies to learn how to implement and sustain clinical services in these settings. Very little instruction on these clinical skills is provided in the PharmD curriculum; residency training can increase the pharmacists' confidence and willingness to provide such services. This shift has important implications for students who are considering community retail pharmacy as an option to postpone or avoid postgraduate training. The number of residency-trained pharmacists in these areas is increasing, which creates more competition for the available positions. It is important to look at the future of your chosen path to ensure that you will continue to be a competitive candidate throughout your career.

From looking at the ADI and employment statistics data, one can see that the number of applicants is becoming balanced with the number of available employment positions. PharmD graduates who are looking for entry-level employment are in a pool of thousands of other candidates with the same professional degree. Residency training can offer a competitive edge in the job market of the pharmacy profession and provide credentials that will enable a candidate to stand out among the other applicants. It can also provide the patient care experience and knowledge that would take an entry-level PharmD candidate years to acquire, thus making a residency-trained pharmacist a more efficient, preferred applicant.

IS A RESIDENCY FOR EVERYONE?

The ACCP presented a vision in 2006 for the future of the pharmacy profession; it projected that by the year 2020, postgraduate residency training would be required before one could enter practice. One of the assumptions made in this vision was that pharmacists involved in clinical practice would assume accountability and responsibility for managing drug therapy in direct patient care, as this will be the standard of pharmacy practice in all patient care settings by 2020.⁸ Another assumption was that a PGY1 residency should be the minimum prerequisite for practice in direct patient care settings.⁸

Despite this strong recommendation for postgraduate training, there are not enough residency spots to accommodate all of the graduating PharmD students. Statistics reported from the American Society of Health-System Pharmacists (ASHP) Matching Program, the process used by applicants to obtain residency positions, can further complicate the decision to pursue a residency. Previous results show that the number of PGY-1 positions offered in the match has increased from 1,951 in 2010 to 2,862 in 2014.⁹ This increase in the number of positions still cannot accommodate the 4,142 PGY-1 applicants who participated in the Match in 2014; this was an increase from the 2,915 PGY1 applicants in 2010.⁹

Match results from 2014 show that around 35% of applicants did not match with a PGY-1 program.⁹ Match results are not released until March and pharmacy students typically graduate in May; this leaves only a few short months before graduation to obtain employment elsewhere if a match does not occur. In addition, the majority of retail companies interview and offer positions to students during the fall of the final professional year, thus decreasing the number of jobs available during the postmatch period. This added pressure could have a detrimental effect on a student's decision about whether to pursue a residency. They may instead choose to sign for a position in the fall instead of pursuing a residency for fear of being unable to find a job if they do not match.

All applicants should have a backup plan for employment in the event they are not matched to a residency program. They can apply for a staff position to gain experience in their area of interest. They can take time to build their resume and decide whether they want to reapply for the match the following year. They also can continue networking with various employers throughout the residency application process. Applicants can establish connections with these employers to have a better chance of being considered for job opportunities if a match does not occur.

RESIDENCY TRAINING IN THE FUTURE

Efforts are underway to increase the number of residency training programs and to enhance the already established programs to accommodate more residency positions. In 2011, ASHP convened a Pharmacy Residency Capacity Stakeholder's Conference where stakeholders agreed to take assertive action on a variety of strategies to help increase the number of residency positions and programs over time.¹⁰ A residency program can provide benefits to the sponsoring

institution just as it benefits the training pharmacist. Residency programs can infuse innovation, enthusiasm, and heightened standards within the individual practice site and serve as a valuable pipeline for well-trained professionals in a specific field.¹¹

In Clark's article "A Vision for the Future of Pharmacy Residency Training," he predicted that major residency training sites will create an infrastructure that will allow for the provision of training for 25 to 50 residents a year.¹² He foresees that these sites will be structured to accomplish this training through additional personnel and administrative assistants.¹² The lack of this support is currently one of the largest factors limiting the growth of existing programs. These additional positions will help to close the gap between supply and demand for residency training.¹²

As residency programs change to provide more training opportunities, organizations will need to have residency-trained preceptors to manage this expansion. To be competitive for jobs in the future, students will need to be able to train future residents – training which is obtained in a residency. If highly specialized positions require more than 2 years of residency (eg, PGY-3 or PGY-4 experiences), this will need to be factored into a student's career planning as well.

WHY PURSUE A RESIDENCY?

In a survey to determine the factors motivating pharmacy students to pursue residency and fellowship training, the responses from residents and fellows in 2011 were compared with responses from a similar survey issued to pharmacy students in 1993. Both studies found that the most frequently reported factor involved in the decision to pursue residency training was "to gain knowledge and experience."¹³

There was a significant increase in pharmacy students listing "prerequisite for certain jobs" as a reason to pursue residency or fellowship training.¹³ There is an increase in the availability and interest in clinical pharmacist positions since 1993. The authors believe that the reasons for this change include the decrease in demand for pharmacists due to pharmacy school growth and expansion, statements from major pharmacy organizations supporting residency program completion, and the increased role of pharmacists in direct patient care activities.¹³

The top 3 reported barriers to pursuing a residency or fellowship were the same in both surveys: "financial barriers," "a job was available upon graduation," and "family obligations."¹³ In the 2014 Pharmacy Student Graduating Survey conducted by

AACP, the average total amount borrowed per student was \$144,718.¹ This debt places a financial burden on graduating students and could influence their decision to obtain employment as a practicing pharmacist upon graduation rather than pursue a residency position. Residents earn a stipend and are provided with health care benefits from their employing institution. However, the average annual stipend for a pharmacy resident is around \$40,000, which is about one-third of the mean annual wage of pharmacists in 2013 (\$116,500).⁷

NONTRADITIONAL RESIDENCIES

Some pharmacists decide to delay traditional residency training until they have worked as a staff pharmacist for some time. They want to be trained to take on the more clinical roles required of changing pharmacy practice and to remain competitive in the job market as the number of new PharmD graduates, with progressively more clinical skills, increases every year. It is difficult to decide to enter a residency program after employment, because of the reduction in income and the time commitment that a residency requires. To overcome these obstacles, some hospitals throughout the country have created nontraditional residency programs for staff pharmacists.

These hospitals offer the same PGY-1 training that is given to traditional residents, but extend the program over a longer time period. Participants alternate between resident rotations and their regular job. Henry Ford Hospital in Detroit, Michigan, offers a nontraditional PGY-1 program to staff pharmacists who are current employees. The program is completed over a 3-year period, and participants are paid the full pharmacist wage throughout the program. The program is offered with little net increase in cost to the institution and minimal additional annual time commitment from preceptors, because a traditional track PGY-1 program is already in place at the institution.¹⁴ The nontraditional programs differ based on the hosting institution; they may vary in the duration, employment requirement before and after completion, and model for justifying pharmacist salary.

STUDENT PERSPECTIVES

To discover the thought process that current and recently trained residents went through in their career planning process, we conducted an informal survey (the results are listed in **Table 2**). Participants were asked about the level and setting of residency training completed, what factors played into their decision to pursue a residency, whether they believed that a

Table 2. Responses from current and recently trained residents about residency training

Level of residency training	How a residency compliments chosen career path	Deciding factors to pursue a residency	Should a residency be required of all pharmacists for patient care?	Back-up plan if match did not take place
PGY-2, Oncology	PGY-1/PGY-2 training was required for current position	Long held desire to obtain clinical oncology position; knew residency training was required	No. Pharmacy schools should be held responsible for providing adequate training. Residencies should be reserved for more specialized care.	Not at the time; probably would have pursued hospital position at previous internship site and reapplied the following year
PGY-2, Oncology	Residency training is required due to the specialty of the disease state and the patients treated	Of all the different areas in pharmacy, an inpatient career would allow for the ability to use clinical knowledge on a daily basis.	Yes for clinical practice; may be beneficial training for other areas	To relocate if needed and try again in the next match
PGY-1, Pharmacy practice (ambulatory care)	A residency will provide training to implement clinical services in the outpatient setting.	The extent to which a residency trained pharmacist could practice in the outpatient setting	Yes. It extends training beyond that provided in pharmacy school and allows for the discovery of new information.	To work in the retail setting of previous internship
PGY-2, Infectious disease	Residency training offers additional learning experiences that augment clinical experiences provided during school.	Knowledge that postgraduate training was required to pursue the path of a clinical pharmacist	No. Residency training improves disease state knowledge but nothing outweighs experience.	None. Scrambling was necessary to obtain residency position.
PGY-2, Emergency medicine	Residency training provided a foundation of knowledge and the ability to work closely with other health professionals.	Desire to work in a clinical hospital setting; knew that the experience a residency would offer would improve ability to obtain job in desired area	Yes, at least 1 year	Apply for staff positions in hospital setting to work up to a more clinical role; possibly reapply in the future

residency should be a requirement for patient care, and whether they had a back-up plan had they not matched for residency. A common theme among the responses was the acknowledgment that residency training is necessary to obtain the clinical knowledge required in patient care.

ROLE OF THE DIRECTOR IN PROVIDING CAREER ADVICE

Pharmacy directors are often consulted by students for career advice, either through the classroom or in APPE rotations. As they provide advice to students, directors should ask themselves whether they would they hire these students as pharmacists in their department. Initially the directors should provide networking opportunities for students so that the

students can meet various practitioners and leaders who can provide advice and serve as residency references. Examples of network opportunities include attending local professional meetings, introducing the students at hospital meeting with executives, and asking them to present professional information to various pharmacy groups.

The students often will have a very different view of pharmacy practice, and the directors should take this into account as they provide career advice. For example, directors should determine the students' willingness to do certain functions in pharmacy – such as dispensing, medication compounding, and patient counseling. The directors should also be honest with the students about their strengths and weaknesses.

Suggesting a plan for addressing some of these weaknesses will help the students to be stronger residency candidates.

Finally, the directors can write letters of recommendation for the students that can help them match to a residency. The directors can make personal contacts on behalf of the students to residency program directors – advocating for the students.

CONCLUSION

A residency can provide the clinical knowledge and experience necessary for pharmacists to be successful. Residency training experience will be essential to be competitive in the job market now and in the future. A residency will provide credentials and experience that will help candidates to stand out among the other candidates. Although the number of applicants to the match process has exceeded the number of available positions each year, there are efforts underway to increase the number of residency positions and programs. For practicing pharmacists who wish to complete a residency program while still working a full-time job, nontraditional residencies are available at select institutions across the country. Directors of pharmacy must consider several factors when giving career advice to pharmacy students; most importantly they must provide the students with an honest assessment of their work skills and their abilities to successfully complete a residency. This assessment will help the students to set a plan for improvement and to be better at providing patient-centered pharmacy services during their career.

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