

AACP REPORTS

Final Report Deans' Council Task Force on Post Graduate Pharmacy (Residency) Education, July 2007

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A Council of Deans Taskforce was charged to conduct an environmental scan to determine the funding mechanisms that are currently used for post graduate pharmacy education (residency).

The report summarizes the history of post graduate education and the critical elements in the changing accreditation requirements. The benefits of post graduate pharmacy education to schools and colleges and faculty are analyzed.

Various funding mechanisms to support academic programs were explored including federal reimbursements to hospitals and the status of residency education in 2006/2007 was presented. The Report made three recommendations. A detailed presentation of the federal funding strategies for Graduate Medical Education supporting pharmacy residencies is presented in the Appendix at <http://www.ttuhs.c.edu/sop/AJPE2007.pdf>.

INTRODUCTION

Healthcare in the United States continues to become more intricate, splintered, and challenging. Factors stressing the system include rising costs and lack of access, increasing prescription volume and complexity, and the widening fissure between the goals of optimal drug therapy and the current reality within healthcare. Pharmacy leaders have led efforts through published vision statements and strategic planning endeavors to position the third largest health profession firmly on "the path" toward direct, patient-centered care.

To achieve progress toward an improved medication use system, the profession will require novel tactics to deploy pharmacists strategically within the "core set" of clinical pharmacy services.¹ The knowledge, skills, and attitudes necessary to deliver these types of services and direct patient care emphasize the need for advanced

credentials and a differentiated workforce. In fact, sweeping changes in pharmacy accreditation standards have been released to provide curricular transformation across the country.²

While pharmacists find themselves uniquely positioned to be involved in opportunities such as collaborative practices and the Medicare prescription drug benefit program, the workforce shortage and a relatively small number of residency programs will influence success. Some have projected as many as 165,000 primary care pharmacists and 130,000 secondary and tertiary pharmacists will be needed by 2020 to adequately provide pharmacy services.³ As a result, new schools and colleges of pharmacy have opened and existing programs have increased admission. Also, it has been recommended that residency education and board certification should serve to prepare entry practitioners in the future as prerequisites for providing more advanced forms of pharmaceutical care.^{2,3,4,5,6}

In 2004, the American Association of Colleges of Pharmacy (AACP) Task Force on the Role of Schools and Colleges of Pharmacy in Residency Training published a report providing recommendations for the advancement of residency education. The authors called for schools and colleges to take a proactive leadership role in developing and enhancing accredited post graduate pharmacy education programs. The task force suggested efforts to "document value" of residency training and to "facilitate federal and state funding" to allow growth of such education programs.⁷ Similarly, the American College of Clinical Pharmacy provided a position statement indicating a "quantum leap" is needed in the expansion of existing residency programs in order to support approximately 10,000 pharmacy graduates per year by 2020.⁵

In August 2006, Dr. Patricia Chase, Chair of the AACP Council of Deans, appointed a Task Force whose charge was to conduct an environmental scan to determine the funding mechanisms that are currently used for residency education. This is a follow-up from the 2004 recommendation that “AACP should recognize that the structure of pharmacy residency programs will continue to evolve. Therefore, AACP should continue to promote an understanding of the model of graduate medical education and use that model to facilitate the evolution of pharmacy residency program structures.” It is proposed that the information in this report be used to help facilitate the support within schools and colleges of pharmacy for residency education and funding of such programs.

BRIEF HISTORY OF POST GRADUATE PHARMACY EDUCATION

Residency programs have provided the bridge between formal pharmacy undergraduate professional education and pharmacy practice in a focused pharmacy practice setting. Far-sighted hospital pharmacy leaders as far back as the 1930s recognized the need for a more structured pharmacy practice education in order to develop future practitioners and leaders for the profession. These programs began as hospital pharmacy internships and were intended to train pharmacists in hospital pharmacy management. In 1948 the American Society of Hospital Pharmacists (ASHP) developed standards for pharmacy internships in hospitals. In 1962, ASHP established accreditation standards and an accreditation process for residencies in hospital pharmacy. At that time, the term “internship” was replaced by “residency.”⁸ These were formal one-year training programs in various hospitals; usually academic medical centers like the universities of Michigan, Wisconsin, Iowa, Kentucky, Pennsylvania, and Ohio State. Once these standards were developed it was determined that a peer review site assessment process should be employed to ensure compliance with the standards and recommendations for improvement. Programs that met the accreditation standards were typically re-examined by a site survey every six years. From a value perspective, it has been said that such residency education positions the pharmacist for quicker career development and increased job opportunities primarily because of the additional knowledge, skills, and experience gained from a focused and structured residency training programs and the significant preceptor (mentor) involvement.

In the early 1970s, residencies in clinical practice were developed. These residencies flourished at a rapid rate and led to the creation of accreditation standards for clinical pharmacy and specialized residency training. At

this time most clinical pharmacy programs were generally conducted by schools and colleges. General practice and clinical residencies were recognized separately. After several years the residency movement accelerated and led to the creation of the ASHP Commission on Credentialing (COC), which is the formal board that administers the residency accreditation program. From that time, accreditation status was to be determined through document analysis and on-site survey, review, and evaluation. In 1993, the two types of programs (General and Clinical) were discontinued and replaced by pharmacy practice residencies with an emphasis on pharmaceutical care. Soon, thereafter, the ASHP developed accreditation standards recognizing a dozen or so specialized areas of practice. In addition, the ASHP formed a partnership with other pharmacy associations for accreditation of residency programs in their respective areas of practice: the Academy of Managed Care Pharmacy (AMCP) and the American Pharmacists Association (APhA).

A major change in the structure of residency programs occurred in 2005. The ASHP Commission on Credentialing established new residency accreditation standards which resulted in the replacement of pharmacy practice residencies with postgraduate year one (PGY1) pharmacy residencies and specialized residencies with postgraduate year two (PGY2) pharmacy residencies. The new accreditation standards and structure heighten the awareness that pharmacists must complete a PGY1 residency prior to developing a focused specialty practice (a PGY2 residency).

ACCREDITATION OF POST GRADUATE PHARMACY EDUCATION

The ASHP has served as the accrediting body for pharmacy residency programs since 1963. It is the only federally recognized accrediting organization by the Centers for Medicaid and Medicare Services (CMS), making ASHP accredited residency programs in hospitals eligible for Medicare reimbursement of qualified residency training costs through the Graduate Medical Education (GME) program.

For purposes of accreditation, a pharmacy residency is considered to be a postgraduate program of organized education and training that meets the requirements of applicable standards set forth and approved by ASHP. The accreditation of postgraduate residency programs is established by the authority of the ASHP Board of Directors and is implemented by the Commission on Credentialing, which is comprised of ten pharmacist members, two public members, a pharmacy technician program representative appointed by the President of ASHP, and one member each appointed by ACCP, the APhA, and the AMCP. The COC

reviews and evaluates applications and site survey reports. The minutes of the COC are submitted to the Board of Directors for review and action, as appropriate.

Accreditation provides a measure of quality for current residents and prospective candidates seeking a residency program. Employers who hire residents from accredited programs are assured that the residents have received training in providing direct patient care. The accreditation process ensures that the resident has received an experience consistent with the standards of practice. The residency site must have at least one resident in training to apply for accreditation.

Standards have been developed for both PGY 1 and PGY 2 residencies and have been reviewed and approved by the COC. The current PGY 1 standards were approved in September 2005. A major principle outlined in each of the standards is the requirement that a program design, develop, conduct, and evaluate the resident's training using a systematic approach. For that purpose, ASHP has provided The Residency Learning System (RLS) model.

There are six required educational outcomes in which the resident must receive instruction and develop competence. Specifically, residents will be held responsible and accountable for acquiring these outcome competencies: managing and improving the medication-use process; providing evidence-based, patient-centered medication therapy management with interdisciplinary teams; exercising leadership and practice management; demonstrating project management skills; providing medication and practice-related education/training; and utilizing medical informatics. Each area must be covered during the resident's program through a combination of experiences.

Applying for accreditation involves completing a two-page application and submitting it to ASHP, Director, Accreditation Services Division, 7272 Wisconsin Avenue, Bethesda, MD 20814 with a copy of the residency program director's curriculum vita. All residency programs will be visited on-site. However, the program is required to complete a pre-survey questionnaire provided by ASHP prior to the site survey.

The site survey team consists of at least two people. One is a member of the Accreditation Services Division (ASD) staff and the other is a member of the COC or other competent pharmacist/leader in the field. If the site has multiple programs (e.g., PGY1 and PGY2 programs) additional surveyors who have expertise in the practice area being surveyed will be included. The process is intended to be thorough, consultative, and educational. The team looks for common threads to demonstrate that the resident is being taught an integrated approach to patient care. The team recommendations are then forwarded to the COC for approval.

New programs that have submitted applications may be either in pre-candidate or candidate status. Pre-candidate status may be granted to a program that has submitted a completed application indicating intent to seek "candidate" status. Programs may be in a pre-candidate status for no more than fifteen months. One of the purposes of this status is to assist the program in recruiting a resident through participation in the Resident Matching Program. If a program in pre-candidate status is not successful in recruiting a resident within fifteen months, the status may be extended for one additional twelve-month period. By the conclusion of this status, the program must have submitted an application for accreditation or this designation will be removed and not granted to the same program again. Programs in this status must submit an application for accreditation when training of the first resident begins. Candidate status is granted to a program that has a resident(s) in training, has applied to ASHP for accreditation, and is awaiting the official site survey, review, and evaluation by the COC.

Accreditation status is granted in one of three categories: preliminary accreditation, accreditation (1-6 years) and conditional accreditation. Preliminary accreditation status may be granted to a program by COC upon the recommendation of a site survey team. This will occur after the document review and site survey has been completed and will be based on the finding that the program appears to meet the requirements for accreditation. Preliminary accreditation status is granted until ASHP awards another status to the program. COC will recommend a length of accreditation for programs that meet standards. The terms may range from 1 to 6 years. Accreditation status does not occur until after a COC meeting and the ASHP Board of Directors reviews the Commission's recommendations. Conditional accreditation is the status awarded by ASHP to a program that is not in substantial compliance with the applicable accreditation standard, as typically evidenced by the degree and number of non-compliance and/or partial compliance findings. Programs must remedy identified problem areas and may undergo a subsequent on-site survey.

In January 2007, there were 573 accredited PGY1 residency programs with 1,159 residents enrolled and 299 accredited PGY2 programs enrolling 209 residents. The results of the National Matching Service in March 2007 indicate that 1,343 PGY1 residents matched to a PGY1 program (71% of total applicants) and 154 PGY2 residents matched to an accredited PGY2 program. Approximately 19.3% of all US college/school of pharmacy graduates in Spring 2007 (estimate 9,865) attempted to match to a PGY1 program with 13.6% of all college/school graduates (1,343) matching.

BENEFITS OF POST GRADUATE PHARMACY EDUCATION TO SCHOOLS AND COLLEGES OF PHARMACY

In recent position papers, both the AACP and the ACCP have stated that schools and colleges of pharmacy should increase their commitment to post-Pharm. D. residency training programs. Such programs are essential in assisting colleges to achieve both short- and long-term goals, not only for their educational programs but also for the other elements of their mission: service and scholarly activity.

Pharmacy residents are leaders-in-training. In the short term, they actualize pharmaceutical care by assuming responsibility for direct patient care in a supervised setting. In so doing, residents can serve as co-preceptors and independent preceptors of pharmacy students in both the introductory and advanced practice rotations, particularly during the final portion of their residency programs. In addition, those with good public speaking skills and teaching interest can deliver lectures in core or elective didactic courses and facilitate workshops or pharmacotherapeutic case discussions. They can also help prepare and grade homework assignments and tests. In the long term, some pharmacy residents can be groomed for part-time or full-time faculty positions. With additional specialized residency or fellowship training, pharmacy residents can assume tenure-track positions and eventually mature into department chairs and deans at colleges.⁷

Pharmacy residents are leaders engaged in developing service models of exemplary pharmacy practice in which positive and measurable patient care outcomes are the goal. In the short term, the patients at the facilities where the residents are practicing derive direct benefit through decreased adverse drug reactions, decreased drug interactions, and improved responses to prescribed drug treatment. In the long term, the models of practice can be propagated and the profession of pharmacy can be advanced. As colleges develop affiliations with these facilities, pharmacy students will benefit from a rich array of high quality rotation sites, which are developed by these residency-trained pharmacists. Moreover, as pharmacy services expand, the scope of pharmacy practice will need to change in states so that laws will enable pharmacists to do more, including prescribing, receiving recognition and compensation for services provided, etc. Pharmacist leaders can promote these types of legislative changes.^{5,9}

Those individuals with residency training often assume full-time clinical pharmacist positions and eventually climb the administrative ladder of their organizations, moving into positions such as clinical coordinator, assistant or associate director, and director of pharmacy.

In these administrative positions, pharmacists work directly with colleges in decision-making roles to determine whether their department will be involved in the education of pharmacy students, and if so, how much time and how many personnel will be allocated to this task. Thus, it behooves colleges to provide quality educational experiences for pharmacy residents, so that in the long term, those individuals can recognize and appreciate the importance of the college/school in their professional success and then “give back” to the college/school by participating in the education of the next generation of students and by serving as professional leaders on political advocacy issues that can enhance resources to support the education of pharmacists.¹⁰

Pharmacy residencies are now being offered in a wide variety of settings: community pharmacy, managed care, drug industry, research and development, and drug information services. Assuming that pharmacy residents trained in any of these settings will eventually practice in these settings, the colleges can derive all the same short- and long-term benefits described above for the more typical institutional practice.⁷

PGY-1 residents may only acquire an appreciation of the importance of conducting a research project, but not complete one from start to finish. PGY-2 residents are more likely to design, complete, present, and publish the results of a research project. Thus, residency programs help prepare candidates for future faculty positions, which directly benefits schools and colleges. As schools and colleges employ many of these individuals as junior faculty, they can continue the academic socialization process through informal and formal faculty development programs, identify internal and external mentors, and expedite potential research collaborations in the area of research and scholarly activity.^{7,11}

BENEFITS OF RESIDENTS TO FACULTY AND PRACTICE SITES

Faculty members are individually and independently motivated to develop and use residents and fellows as each serve as faculty-extenders. The model used in the basic and clinical sciences for graduate students pursuing Master of Science and Doctor of Philosophy degrees is relevant in the case of residency and fellowship educational pathways and can help maximize the productivity of the faculty mentor. Practice-based faculty typically have time consuming teaching loads and practice responsibilities at the institutions where they serve, in addition to a requirement to engage in scholarly activity.

Residents and fellows can serve as teaching assistants to faculty members in the experiential and didactic settings. In the experiential arena, residents and fellows may

serve to enhance, extend, and provide continuity to the patient care and service expectations at the practice institutions where these faculty members are located. Residents and fellows can also take on leadership rolls in the didactic areas by conducting small group sessions, lecturing, grading assignments, and tutoring students with additional needs.

The most efficient use of a practice-based faculty members' time is to have his/her scholarly activity flow from the patient care and service endeavors. Fellows are typically a direct investment of the college or school without funding from patient care institutions. Therefore, fellowship programs are designed to directly maximize and extend the scholarly activity of practice-based faculty in tenure track and non-tenure track lines.

Practice sites receive an excellent return on their investment in many of the same ways the college or school is benefited through the provision of patient care activities, system/programmatic improvement, and educational based activities. The delivery of patient care services is directly beneficial to the patient care institutions or pharmacies. The administrative and service activities in which the residents participate allows for implementation of programs and systems to improve quality of care at the institutional level. The involvement of the resident in these activities will lead to enhanced productivity and pharmacy visibility in these areas. Finally, residents and fellows can serve a valuable role in staff development for the pharmacy through the provision of continuing education and by mentoring/developing pharmacy staff to take on additional direct patient care activities.

FUNDING MECHANISMS FOR POST GRADUATE PHARMACY EDUCATION

Funding post graduate pharmacy educational programs is important to the long-term future of residency programs in general, schools and colleges of pharmacy specifically, and the practice community. The focus of this section is to provide information regarding potential funding sources for these programs and to stimulate the thought process by members of the Academy and those in practice for developing innovative funding opportunities for residency positions.

Funding From the Host Institution

The host institution, whether it is a community pharmacy, a health system pharmacy, a medical group practice, a specialty group pharmacy, etc., provides funding for residency training programs. It is therefore the responsibility of the academic institution and its leadership to encourage the host institution to fund residencies. Obviously, finding sources of funding, other than the host, is

advantageous to the host and to the college of pharmacy; however, in many instances this is not possible. Funding from the host institution can be justified based on the services rendered by the resident, the intellectual stimulation of its pharmacy staff, and most importantly, in the development of new service lines and/or opportunities for practice within a given institution. If one goes back to the early 1960s and 1970s, the clinical movement in the institutional setting was spearheaded within programs where residencies existed. These developed new programs within the institutional practice sector and made a tremendous difference as we moved forward with the practice of institutional pharmacy. Again, making the case to the host institution regarding the need for residency programs, and funding of such, is an area where the school or college can provide leadership and guidance for practitioners within those institutions that want to establish residencies.

Co-Funded Residencies

The second approach is for the school or college of pharmacy to co-fund residency positions in those practice areas where funding is not available through Centers for Medicare and Medicaid Services (CMS) Graduate Medical Education (GME) reimbursement dollars. Models can range from a very small amount to approximately full funding; however, it may be most advantageous for the school or college to provide no more than 50% of the funding, especially for a PGY1 residency. The institution must determine the value in the residency and invest in the program, as well as the academic institution. From the academic institution standpoint, such funding is an excellent opportunity to stimulate the growth of experiential learning sites for its Pharm.D. students and to develop new practice models. Providing co-funded positions by the school or college also must be justified to show that it does support the academic programs and mission of the school or college, especially if it is a state institution where state funds are used.

Centers for Medicare and Medicaid Services Graduate Medical Education Funds

GME funding is available through Medicare Part A to reimburse hospitals for a portion of the costs to train pharmacy residents. Depending on the percentage of the hospital's patient days paid by Medicare Part A, the funding can range as high as 75 to 78%. (See the Appendix for a more detailed explanation and model.) Unfortunately, only PGY 1 residency programs can presently receive these funds. Therefore, it is incumbent upon the greater pharmacy community to convince CMS that PGY 2 residents are necessary and critical for the future

development of the pharmacy practice models, and most importantly for patient safety, as well. While CMS's graduate medical education reimbursement will not provide total funding for residents, the small amount that is not funded by these dollars could be supplemented, in part, by schools and colleges, or they could utilize funds to serve as seed money to begin residencies. The institution may then see the value of residencies and provide full funding.

Collaborative Practice Models

A number of outstanding residencies have been developed in collaborative practice models between pharmacy and medicine, especially in the ambulatory and primary care area, as well as in some specialty practice areas. This is advantageous from the standpoint of the development of ambulatory and primary care funded positions and for educational programs for schools and colleges. The development of strong programs is essential to meeting accreditation standards as they relate to primary care, as well. Co-funding these positions with group practices leads to educational and research opportunities for faculty within the college of pharmacy and also stimulates new models for healthcare delivery.

Community Pharmacy Residencies

The most difficult residency program to fund has been community pharmacy residencies. While it is economically advantageous to fund residents from the community pharmacy site standpoint, the related responsibilities of developing a residency program take time and require resources that the practice may not have. This is an area where the school or college of pharmacy can provide significant leadership for our colleagues in community practice by providing mentors for residents, guidance for research and research projects, and develop objectives and evaluation processes for residency positions in the community sector. Also, most community residencies place only one community resident at each site; therefore, having the school or college working with a group of community pharmacies can bring these residents together in a collegial base. This can enhance the resident's experience and provide them with colleagues and sounding boards with whom they can discuss issues and common problems that they face in practice, with their research, and in their service models.

Funding for these positions can come from the community pharmacy itself, or from a co-funding model that includes the school or college of pharmacy. The development of community pharmacy programs must be enhanced if the profession is to advance the practice of community pharmacy further into the patient care arena.

Having residents and practitioners who develop models which can serve as advanced community practice rotation sites or residency sites is essential to the long term development of the profession and to the success of our academic programs. Therefore, investing funds into these positions can be justified from an educational standpoint by the school or college of pharmacy and from the service standpoint by the community pharmacy.

Other possible funding sources include potential rebate dollars from industry, drug wholesaler grants to community pharmacies, and/or (in the case of corporate community pharmacy) funding of educational training sites, which allows them the opportunity to develop leadership for the future within their corporation. The recruitment of these residents, as well as the development of the educational models in the community, is a challenge that the Academy must take on by working in concert with its colleagues in practice.

Extending College-Funded Residencies

School and colleges have for years funded graduate teaching assistants for graduate programs in pharmaceutical sciences. Funding residencies is no different than funding graduate teaching assistantships for our faculty in the pharmaceutical sciences; however, in making commitments to fund those positions, there clearly must be an educational payback to the program for placing funds in these positions. With this in mind, it is essential that we develop these programs and provide potential reasons and justification for their funding to the institutions that have a difficult time in providing funds and have no CMS GME reimbursement dollars available to them. Funding these resident programs can provide the school or college the opportunity to develop residents that can play a more significant role in the school's professional educational programs and potentially provide the school with additional research faculty.

Other Sources of Funding

Foundations and corporate organizations are potential funding sources for many residency and fellowship training programs. In addition, many large health systems have foundations that are willing to fund residency programs that in turn enhance the service programs provided by their institutions. Residency programs also provide these health systems with access to potential star practitioners they may want to recruit in the future. Finally, training grants provide another potential funding source that has been successful in the past in specific therapeutic areas. Training grants also have the potential to enhance programs and advance an organization's research capabilities in a given area or areas.

POTENTIAL NEW OPPORTUNITIES FOR POST GRADUATE PHARMACY EDUCATION WITH MEDICARE PART D

A potential new source of funding for community pharmacy residency programs may be developed through the Medicare Part D Prescription Drug Benefit program. CMS contracts with the private sector to establish and manage the outpatient prescription drug program through their own pharmacies and through contracts with community pharmacies within their designated service regions. These Prescription Drug Plan (PDP) Administrators also have requirements to develop Medication Therapy Management Services (MTMS) for their Medicare clients. Since both Medicare and dual Medicare/Medicaid eligible clients are included in Medicare Part D programs, conceptually, PDP Administrators may be key stakeholders in developing innovative community pharmacy residency programs to train pharmacists to provide higher level MTMS.

Funding for a community pharmacy residency program would be included in the administrative portion of the PDP Administrator's contract with CMS; it would not be dependent on the benefit reimbursement and profit portion of their contract. Allowable administrative costs with Part D are similar in concept to hospitals' GME reimbursements in that a residency program could be funded by the PDP in designated community pharmacies and receive CMS reimbursement separate from beneficiary services payments. This potential new area of funding community pharmacies to develop residency programs is worth further exploration by AACP, APhA, and ASHP, with CMS and PDP Administrators. A list of PDP Administrators for each state may be found at the CMS Website (medicare.gov/medicareform/local-plans-2007.asp).

CURRENT STATUS OF POST GRADUATE PHARMACY EDUCATION IN AACP MEMBER SCHOOLS AND COLLEGES

Background

To better identify and understand the current level of engagement that exists in schools and colleges with post graduate pharmacy education during the 2006-2007 academic year, the Task Force designed an on-line questionnaire for the dean of each active AACP member school and college. The questionnaire focused on number of residency positions; accredited PGY1, advanced specialty practice PGY2, and non-accredited residencies; funding; sources of funding; use of residents in instruction and other assignments; employment of residency graduates in the institution or affiliated practice sites; and how the

school or college managed the program internally. The questionnaire also sought information regarding the number of paid pharmacy practice post doctoral fellowship positions that exist at each school or college.

Methodology

The questionnaire was initially developed using broad subject areas recommended by members of the Task Force. After several iterations of question format and content, the draft questionnaire was sent to Ms. Janet Teeters, Director of Residency Accreditation Services Division for the American Society of Health System Pharmacists. Ms. Teeters provided the Task Force with feedback regarding the clarity and accuracy of the various questions. After further development, the questionnaire in its on-line format was pre-tested by a group of 10 deans at newly forming schools and colleges who were knowledgeable about residency education from their past institutional affiliations. These institutions were not full members of AACP at the time of the pre-test and would not be included in the actual data collection when the final questionnaire was submitted to member schools and colleges. The deans were asked to answer the questionnaire "*as if they had a residency program at their new institution, using dummy data.*" They were also asked to provide specific feedback as to the clarity and understanding of the questions and the overall flow of the on-line questionnaire. These responses were not included in the analysis.

After a final round of questionnaire development, which took into account the recommendations of those who pre-tested the instrument, the Web site and cover letter was sent via email to all deans of AACP active member institutions by Dr. Ken Miller, Executive Vice President of AACP. Dr. Miller informed the deans that this questionnaire was a sanctioned activity of the Deans' Council and asked them to respond. Two weeks after receiving the initial questionnaire, Dr. Miller sent a reminder email to the deans asking those who had not responded to do so. Finally, the list of institutions who had not responded approximately four weeks into the response period was divided among the Task Force members, who then personally contacted each dean and urged them to respond.

Results

The questionnaire was returned by 62 schools and colleges from a sample size of 91 AACP full member programs. This represents a 68% response rate. The responding schools and colleges are listed in Table 1.

The data in Table 2 depicts the number of residency positions offered during the 2006/2007 year (July 2006 – June 2007). Schools and colleges offered 427 total

Table 1. Survey Schools and Colleges

Albany College of Pharmacy	University of Cincinnati
Butler University	University of Georgia
Creighton University	University of Illinois at Chicago
Drake University	University of Iowa
Duquesne University	University of Kansas
Idaho State University	University of Kentucky
Lake Erie College Of Medicine	University of Louisiana – Monroe
Long Island University	University of Maryland
Mercer University	University of Michigan
Midwestern University - Chicago	University of Minnesota
North Dakota State University	University of Missouri - Kansas City
Nova Southeastern University	University of Nebraska Medical Center
Ohio Northern University	University of New Mexico
Palm Beach Atlantic University	University of North Carolina at Chapel Hill
Purdue University	University of Oklahoma
Samford University	University of the Pacific
Shenandoah University	University of Pittsburgh
South Carolina COP - USC Campus	University of Puerto Rico
South Carolina COP - MUSC Campus	University of Southern Nevada
South Dakota State University	University of Tennessee
Southern Illinois University Edwardsville	University of Texas at Austin
Southwestern Oklahoma State University	University of the Sciences in Philadelphia
St Louis College of Pharmacy	University of Toledo
Texas Southern University	University of Washington
The Ohio State University	Virginia Commonwealth University
Touro University	Washington State University
Texas Tech University Health Sciences Center	Wayne State University
University of Buffalo - SUNY	West Virginia University
University of Arizona	Wilkes University
University of Arkansas for Medical Sciences	Wingate University
University of California – San Francisco	Xavier University of Louisiana

positions for the year, with many offering both accredited PGY1 and PGY2 and non-accredited residency program positions.⁴

A total of 39 (63%) of the responding schools and colleges offered 216 accredited PGY1 programs for an average of 5.5 positions per school or college that offered PGY1 programs. A total of 107 accredited PGY2 positions were offered by 25 (40%) of the responding schools and colleges for an average of 4.3 positions per school or college that offered PGY2 accredited programs. There were 36 (58%) of the responding schools or colleges that offered non-accredited residency programs with a total of 104 positions, for an average of 2.9 positions for each school or college that offered a non-accredited residency program.

Figure 1 reports the distribution of areas of emphasis for accredited PGY1 positions. Almost half (48%) of the positions were in pharmacy practice with an emphasis in health systems/hospital settings. The next largest number of positions (20%) was in pharmacy practice with an emphasis in community pharmacy practice.

Figure 2 depicts the distribution of specialty practice areas for the 107 PGY2 positions. The largest single grouping of positions was in Critical Care (14%). No single PGY2 specialty practice area had more than 15 positions nationally.

The data in Figure 3 depicts the focus areas for the non-accredited, or accreditation in-process positions. The largest single category was 22% of the positions were in Ambulatory/primary care. The second largest group was Drug Information with 11.5% of the available positions,

Table 2. Number of Positions by Type of Program for Schools and Colleges With at Least One Position Available in 2006/2007

Type of Program	Total # Positions	# (%) Schools & Colleges With at Least 1 Position	Average # of Positions
PGY1 Accredited	216	39 (63)	5.5
PGY2 Accredited	107	25 (40)	4.3
Non-accredited	104	36 (58)	2.9
Total	407		

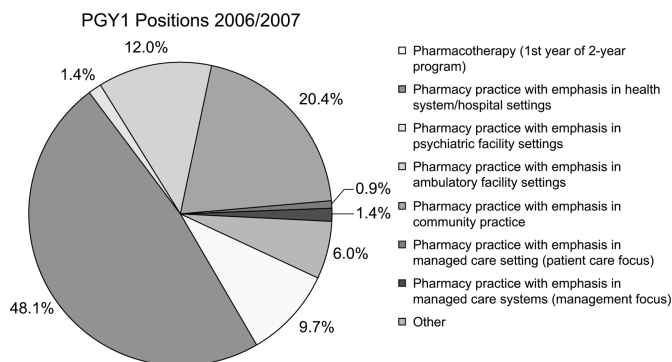


Figure 1. Distribution of areas of emphasis for accredited PGY1 positions in 2006/2007.

followed closely by Internal/Adult Medicine with 11% of the available positions. There were a large number of areas with only a few positions, but taken together as “other” comprised 24%.

When taken together, 52 (84%) of the 62 responding schools and colleges offered at least one residency position in 2006/2007 – PGY1, PGY2, or non-accredited. As seen in the data in Table 3, 23 schools and colleges reported not offering any PGY1 positions; 37 schools and colleges reported not offering any PGY2 positions; and 26 schools and colleges reported not offering any non-accredited positions. The modal number of positions for all schools and colleges was 2 positions for all three programs. The maximum number of positions offered by any school or college was 16 PGY1 positions, 10 PGY2 positions, and 9 non-accredited positions. Though not reported in the table, one college had 33 total positions offered (all types), the largest single program among the respondents. Four schools or colleges of pharmacy offer between 20-29 positions (all types).

Table 4 depicts the financial contributions schools and colleges made to residency education and training in 2006/2007. The total funding reported was \$18M, with the average funding being \$345,213 per school or college

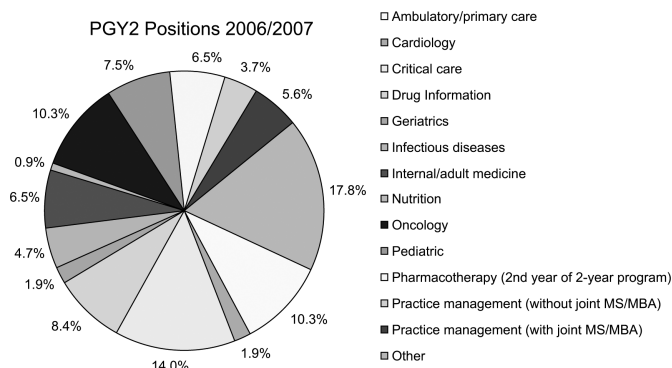


Figure 2. Distribution of specialty practice areas for the 107 PGY2 positions in 2006/2007.

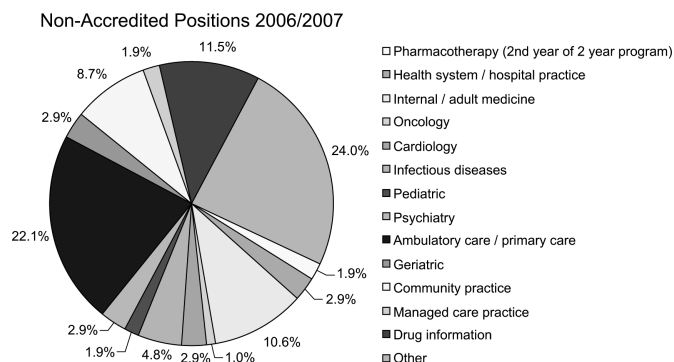


Figure 3. Focus areas for the non-accredited, or accreditation in-process positions in 2006/2007.

that had a residency program (1 or more positions). The average per resident position was \$42,040, including salary, benefits and program expenses. The sources of funding include: CMS direct and indirect reimbursements (12%); pharmacy patient care revenue (43%); tuition, appropriations and fees (29%); gifts/grants (9%); and other (7%). The category labeled as “other” was a general grouping of responses that didn’t detail the sources of their funding.

Residents are heavily involved in education for their schools and colleges. The data in Table 5 reports that 98% of the residents (PGY1, PGY2 and/or non-accredited) provide some type of educational services. The most frequently provided educational activities are clerkship instruction and small group tutoring (an average of 8.8 weeks during the 2006/2007 year for each category). Conducting laboratories averaged 5 weeks, and didactic lectures averaged 2.6 lectures during the year. Other activities, as listed in the table, averaged 9 hours during the year, and case based discussion session/PBL tutoring constituted approximately 8 hours per year. Assuming a clerkship is approximately 40 hours/week of instruction/supervision, the typical resident position provided an average of 387 hours of instruction for the school or college of pharmacy in 2006/2007. (Calculated as (8.8 weeks of clerkship instruction x 40 hours/week + 3 hours didactic instruction + 5 lab sections x 3 hours/section + 8 hours of case-based discussions + 9 hours other instruction) = 387 hours of instruction.) Some programs utilize residents at much higher levels of time commitments to instruction.

In addition to their training and instructional duties, residents are engaged in many different activities for the schools and colleges. Table 6 identifies all the non-instructional activities that residents provided during 2006/2007.

Residency programs are also direct links for full-time and adjunct faculty positions for the schools and colleges that offer the programs. The data in Table 7 depicts the

Table 3. Distribution of Number of Resident Positions by Responding Schools/Colleges

# of Positions/School-College →	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
# Schools & Colleges																	
PGY1 62 =	23	5	7	5	4	4	3	2	0	0	1	2	1	3	0	1	1
PGY2 62 =	37	5	6	2	2	0	4	0	3	2	1						
Non Accredited 62 =	26	10	12	3	5	2	0	2	1	1							

impact of the schools' and colleges' success in securing their recent graduates to faculty positions. Thirty-seven full-time faculty members were hired from school or college residency programs, and 9 adjunct faculty were hired by affiliated institutional sites over the last five years.

Figure 4 depicts the organizational structure schools and colleges use to administer their residency programs. The majority of programs (53%) are administered by a "Director;" 31% by a "Chair/Division Head;" 12% by an "Assistant/Associate Dean;" and 4% by "Vice Chair/Division Head."

Figure 5 depicts the entity that actually holds the American Society of Health System Pharmacists residency accreditation. Approximately half of the PGY1 and PGY2 programs have the ASHP accreditation based with the school or college. University health systems hold the accreditation for approximately 25% of the PGY1 and 33% of the PGY2 programs. Affiliated institutions that are not part of a university health system hold the accreditation for approximately 20% of the PGY1 programs and less than 10% of the PGY2 programs.

While the Task Force was primarily charged with documenting residency education, data were also solicited regarding pharmacy practice fellowship programs (see Table 8). There were 38 post doctoral fellowship positions identified with 15 percent of the schools and colleges reporting 1 or more positions. Most (32 positions) were first year fellowships. Schools and colleges reported contributing an average \$26,785 per fellowship position with the total cost per fellowship position (all sources) being \$49,162.

Conclusions of the Survey

While most AACP member schools and colleges that responded to the survey have a residency program with at least one position available in 2006/2007, there are only

a few institutions that have post graduate pharmacy education as a major mission of the school or college. With approximately 1,600 PGY1 accredited positions nationally,¹² the schools and colleges reported only 216 PGY1 positions. Even the largest school or college program reported only 33 positions in both levels of accredited and non-accredited programs. Among the relatively few positions offered, approximately one-fourth of the positions are in non-accredited programs.

Providing residency education and training is an expensive program for member schools and colleges. The average cost per resident position is approximately \$42,000. Given the various sources of funding available to the schools and colleges (e.g. CMS, Patient Care, etc.), the actual average costs from academic program areas (tuition and fees) are only about \$12,000 per position (30% of total program costs). For this rather modest expenditure, the schools and colleges who have residency positions received approximately 387 hours of instructional time in their Pharm.D. programs.

DOCTOR OF PHARMACY ACCREDITATION STANDARDS RELATIVE TO POST GRADUATE PHARMACY EDUCATION

Foundational issues relative to the engagement of schools and colleges in post graduate pharmacy education are: 1) whether residency education is required for schools and colleges, and/or 2) whether pharmacy practice faculty members are required to have completed a residency as a minimum credential for appointment to the faculty of an accredited school or college of pharmacy.

Standards 2000 of the Accreditation Council for Pharmacy Education¹³ had no requirements for pharmacy practice faculty members to have completed residency training or have equivalent experience. Standard 24 stated, "the faculty of the college or school of pharmacy *should possess* [emphasis added] professional and academic expertise in the components of the professional program in pharmacy for which they are responsible. . . ." Standards 2000 also simply *encouraged* schools and colleges to ". . . provide, or be affiliated with institutions that provide residency and fellowship programs."

Table 4. Financial Commitments to Residency Education

Total Budget (all responses)	\$17,951,050
Average (per response with positions >0)	345,213
Average Budget Per Position (includes PGY1, PGY2 and non-accredited)	42,040

Table 5. Instructional Engagement of Residents

Do residents provide instruction? (only includes schools/colleges with active programs)				
	98%	Yes	2%	No
Instruction delivered by residents:	Average (per resident) High (per resident)			
# Weeks Clerkship	8.8	52.0		
1-Hour Equivalent Didactic Lectures	2.6	18.0		
2-3-Hour Lab Sessions	5.0	30.0		
Case-Based Discussion Sessions, PBL Tutorial, Etc	8.2	78.0		
Other 1-Hour Equivalent (see examples below)	9.3	150.0		
Assisting faculty with clerkships	Therapeutics/Disease	Counseling session	Career mentoring	
Early APPE program	Grading	Shadowing	Classroom preparation	
Evaluating group presentations	Nursing education - didactic	Mentoring	Facilitation	
Immunization technique assessment	Medical student education - didactic	Research project	Health Fairs	

With the development of Standards 2007, the Council increased the expectations, but did not require post graduate professional credentials for pharmacy practice faculty members.² Standard 25 states, “Faculty *must possess* [emphasis added] the required professional and academic expertise. . . .” Guideline 25.1, in explanation of this standard, states, “Pharmacy practice faculty *should possess* [emphasis added] additional professional training (residency, fellowship, or equivalent expertise) and either have, or be working toward credentials (for example, specialty certification) relevant to their practice and teaching responsibilities.” As with Standards 2000, the new standards still simply encourage Colleges or Schools “to provide, or be affiliated with institutions that provide post graduate education and training, including accredited residency and fellowship programs.”

RECOMMENDATIONS TO AACP

As a result of the Task Force’s work, the members make the following recommendations to the AACP Council of Deans regarding Post Graduate Pharmacy Education:

1. AACP recommends to the Accrediting Council for Pharmacy Education that, by 2020, all full-time pharmacy practice faculty members who are engaged in teaching and the delivery of direct patient care services shall have earned a post graduate credential relevant to the areas that the faculty member teaches and practices: PGY 1 residency and either a PGY 2 residency or a fellowship. If the faculty member does not have post graduate pharmacy credentials, s/he should have significant relevant experience equal to a minimum of five years of direct patient care experience in the areas where s/he teaches and practices. It is further recommended that part time and adjunct faculty will possess at least a PGY 1 residency, and preferably a PGY 2 residency, fellowship or relevant direct patient care experience.

Background/Justification:

- Faculty members who are engaged in educating and training future practitioners must have documented advanced knowledge and skills beyond the minimum requirement to enter practice if they are to be optimally prepared as educators and practitioners. This is an innate characteristic of higher educational institutions in almost all disciplines and this must become the minimum accreditation standard for the future development of the profession of pharmacy.
- The major professional societies within pharmacy are studying the need for residencies as a mandate for direct patient care services. If one considers the changes in pharmacy practice related to direct patient care, it is obvious that payers, as well as colleague providers will require credentialing of pharmacists who provide direct patient care services. A PGY 1 residency, and potentially a PGY 2 residency are essential credentials for those individuals who provide direct patient care as a component of their experiential education assignments.
- Schools and colleges must enhance their capacity to provide pharmacy residencies for their graduates. This should be done in concert with health-care entities, whether they are institutional or ambulatory/community sites. This will enhance the ability of the faculty to provide quality education for pharmacists for the future.
- Practice research is essential if pharmacy is to continue to grow as a profession. Faculty members who have completed a PGY1 residency, and a PGY2 residency, a fellowship, or a graduate degree, will be the faculty who will lead

Table 6. Other Resident Activities

Support for research projects
Formulary reviews for DI contracts
Community service (outreach programs)
Practice site development
Service at their sites - patient care, diabetes monitoring
Support of programs of scholarship
Residency recruitment
Early practice experience precepting
Poster development
Disease monitoring and education
Community service - medication teaching in geriatrics
Supervision of community health screenings
In-services to other health care professionals
Community service - lectures to outside groups
Faculty development
Department & college committees
Preceptor training programs
Interviewing residency candidates
Bring perspectives from other training environments
Anticoagulation service with prescriptive authority
Attend faculty meetings
Support for demonstration projects
Job fairs
Underserved care - community service
CE Programs
Newsletter articles
Professional service
Student applicant interviews
Medication therapy management for assisted living patients
Refill authorization & immunization

practice research. Practice research is necessary in order to justify the reimbursement for services that pharmacists provide to enhance patient care.

Table 7. Employment Engagement of Resident Graduates Over the Last Five Years in School/College Programs After Graduation

College/school hired as faculty members for 2006/2007 (contribute \geq 50% salary):
PGY1 graduates hired: 28
PGY2 graduates hired: 9
Hired by other employers, but teaches in college/school program as a faculty member in 2006/2007 (college/school contribute < 50% salary):
PGY1 graduates hired: 8
PGY2 graduates hired: 1

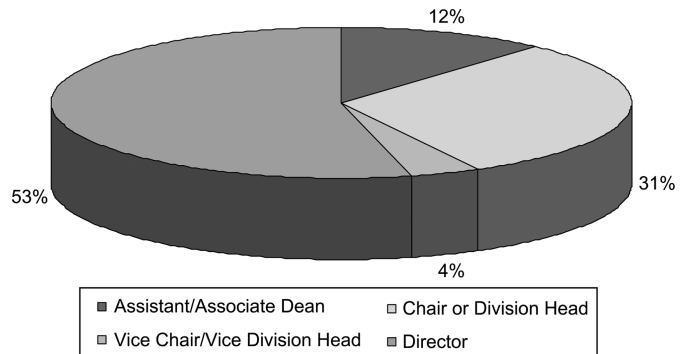


Figure 4. Organizational structure schools and colleges of pharmacy use to administer their residency programs.

- Currently, CMS limits reimbursement of costs for PGY1 programs in the institutional setting. It is critical that pharmacy gains approval for CMS funding for residents, whether they be in the ambulatory/community setting or institutional setting. Their impact on Medicare Part D can be very significant; therefore funding for these residencies is an absolute necessity. By requiring that all full-time faculty, and that part time and adjunct faculty have at least PGY1 training, with an encouragement for PGY2 and fellowship training, this provides further justification for funding from CMS for PGY2 programs.

2. AACP develop a standing committee of the Association with a mission to facilitate the growth and development of Graduate Pharmacy Education in member schools and colleges through academic sponsored and/or affiliated programs to meet the future practice faculty needs of schools and colleges and support the initiatives of the profession whereby post-graduate pharmacy residency training will be a prerequisite for direct patient care.

Background and Justification:

AACP has created policy statements directed at the advancement of post graduate training programs within

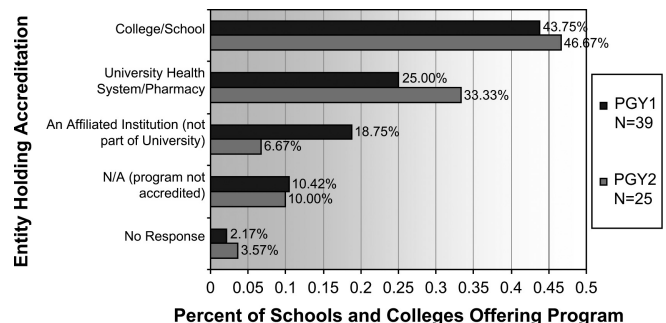


Figure 5. Entities holding the American Society of Health System Pharmacists residency accreditation.

Table 8. Schools/Colleges Engagement with Practice Post Doctoral Fellowships

Total dollars contributed annually by the school/college for pharmacy practice fellowship programs in 2006/2007 (ALL SCHOOLS):	\$1,017,990	or \$ 26,785/per fellow
Total 2006/2007 annual budget for pharmacy practice fellowship programs (ALL SOURCES/ALL SCHOOLS):	\$1,868,414	or \$ 49,162/per fellow

No. of fellowship positions: Year 1 = 32; Year 2 = 5; Year 3 = 1

schools and colleges. It is projected that an expansion of such programs are critically needed to meet the current demand for pharmacy practice faculty members and will be even more critical in the future to address the increased demand for practitioners engaged in direct patient care. Therefore, the Association should serve as a leader and facilitator to mobilize the academic community to address the unique needs of member schools and colleges as they strategically plan to address the need for residency and fellowship training.

Potential strategies that the AACP Standing Committee could address are:

- Creating mechanisms (e.g. annual programming at national meetings) to encourage networking and sharing of ideas specific to the needs of college-sponsored or affiliated programs.
- Develop consultative services to assist member schools and colleges to initiate and expand post graduate pharmacy programs. These services should include benchmarking, strategies to secure funding opportunities, networking, and strategic planning.
- Collaborate with ASHP's Commission on Credentialing in the accrediting process (e.g. prior Task Force report recommendation on special accreditation category for schools and colleges, enhancing programs at affiliated institutions, etc).
- Foster the development of a core residency curriculum that would prepare a resident and/or fellow to be a practitioner educator or practitioner researcher.
- Actively participate in lobbying efforts for existing Medicare Part A and new Medicare Part D reimbursements.
- Engage on a national and regional level other potential funding sources to enhance recognition and funding for member schools and colleges programs.

3. *AACP propose that the Accreditation Council on Pharmacy Education (ACPE) modify its accreditation standards such that all schools and colleges of pharmacy must engage in accredited graduate pharmacy education as a component of being an accredited professional program.*

Background and Justification

Accreditation standards do not presently require that schools and colleges engage in graduate pharmacy education, nor do the standards require that colleges or schools educate students for advanced level practice. The Task Force strongly believes that the standards should be modified to require that all accredited programs be engaged in educating and training pharmacists for entry and advanced levels of practice. Requiring a comprehensive professional educational program will:

- Enhance schools' and colleges' direct involvement with pharmacy practice;
- Increase the number of pharmacists with advanced training, which will create service models of exemplary pharmacy practice to improve patient care in a variety of settings;
- Develop the next generation of pharmacist leaders who can partner with the colleges on a shared vision of patient-focused care;
- Improve the preparation of the next generation of faculty; foster practice-based research and scholarly activity in graduate pharmacy education; and
- Help address manpower needs at schools and colleges of pharmacy.

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