

Final Report and Recommendations of the 2002 AACP Task Force on the Role of Colleges and Schools in Residency Training

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In September 2002, the American Association of Colleges of Pharmacy (AACP) Council of Deans and Pharmacy Practice Section appointed this Task Force and charged it to develop a white paper addressing the role of colleges and schools in developing and administering residency programs. Specifically, the issues to be addressed included:

1. What role should colleges and schools of pharmacy play in developing new residencies? Is there a national need at this time for new ones? If so, what should collegiate responsibility be? What are potential models of investment to help develop new residencies?

Corollary: What role does residency training play in preparing future faculty? Are there educational experiences that should be incorporated into residency programs that prepare future faculty?

2. Explore the postgraduate medical training model that involves schools holding the accreditation for a program and schools then approving the specific training sites. Such a model is already possible for community pharmacy residencies. Should it be applied to other types of pharmacy residency training? What are the advantages and disadvantages of such a model?
3. What needs to be done to make available maximum resources for residency training?
4. How can colleges partner with residency sites in residency research projects and encourage some residents to seek additional training in order to assume faculty positions?

BACKGROUND

Pharmacy residency programs are desirable for advanced patient care practice and future pharmacy leaders. Such programs are estimated to be equivalent to three to five years of work experience to prepare pharmacists for a variety of practice settings. Individuals with residency training can assist colleges and schools of pharmacy in several ways: (a) as full time faculty; (b) as preceptors for the experiential portion of the program; (c) as administrators at hospitals and clinics who can partner with colleges of pharmacy on a common educational mission; (d) as professional leaders on political advocacy issues that can enhance resources to support entry level and advanced pharmacy education; and (e) as pharmacist role models of patient care practice. For this reason, it is essential that colleges of pharmacy assume a significant role in residency training.

Colleges and schools of pharmacy are also facing faculty shortages in departments/divisions of pharmacy practice.² AACP contacted 84 member institutions to complete a survey in December 2002. Responses were received from 67 (79%) colleges/schools, which reported a total of 417 vacant teaching positions, or an average of 6 vacancies per college/school. Of the vacancies, 53.4% were in pharmacy practice and 45.6% were in pharmaceutical sciences. Of the vacancies, 94% were full time faculty positions.³ The shortages are thought to be due to an inadequate supply of potential faculty, problems with faculty retention, and increased demand for faculty. Multiple etiologies have been proposed including lower salaries of faculty positions compared to industry, hospital, or community pharmacy positions; increased work schedule flexibility of some positions in industry; the challenges of completing research and scholarly activity; and the increased number of colleges of pharmacy.

Minimum requirements for faculty positions in departments/divisions of pharmacy practice include a Pharm. D. degree and completion of a pharmacy practice residency, and sometimes a specialty residency. A review of pharmacy practice faculty positions available over a six-month period in 2002/2003 of AACP newsletters demonstrated that almost every college, public or private, new or old, required a residency or equivalent experience. Some preferred specialty residencies over pharmacy practice residencies, although the assumption that most people with specialty residency training would also have completed a prior pharmacy practice residency is a possibility. The requirement for completion of a residency was irrespective of tenure track or nontenure track positions. In a few cases, a fellowship could replace the need for a specialized residency and in one tenure track position advertisement, a residency was not required, but a two-year fellowship or equivalent research experience was. In one advertisement not requiring a residency or fellowship, community practitioners were sought who had at least several years experience in developing progressive practice settings. In some advertisements, an added fellowship or research experience was listed as preferred. Similar findings were reported in a recent survey.⁴

Although residencies prepare the candidate to be an excellent clinician, they do not always prepare the candidate for a full time faculty position associated with extensive didactic teaching responsibility and research/scholarly activity.⁸ Thus, the criteria used to hire individuals for practice faculty positions do not ensure that the candidates are adequately prepared for their job-related responsibilities. As a result, faculty may not be successful in their work, leading to disappointment and frustration. For the college, the end result is increased practice faculty turnover and the accompanying waste of resources that are consumed in recruitment, start-up, and early development of the faculty member.

To address this dilemma, some colleges and schools of pharmacy have created faculty development programs to improve the teaching skills of new faculty hires, supported their faculty's attendance at skill building programs, instituted formal and informal mentoring programs, encouraged research collaboration among their faculty, etc. Despite these measures, faculty retention remains a problem and the faculty shortage continues to expand.

The Association convened this Task Force to examine the overall issue of the role of colleges and schools of pharmacy in residency training, to explore creative ways to expand residency and fellowship programs, and to propose ways that schools and colleges can work within the existing residency training program structure to enhance the number of individuals who are prepared to assume faculty positions.

Related AACP Recommendations and Policy Statements

1. 2001 Research and Graduate Affairs Committee (*Am J Pharm Educ* 2001;65:29S.)

“Pharm. D. graduates who pursue an academic career with only one year of practice residency are at significant disadvantage if appointed directly into a tenure-track position at many of our member institutions, because they are unprepared to fulfill the research/scholarship requirements in the time period available. An option available to these individuals is either a non-tenure track appointment primarily focused on teaching and practice, a delay in the start of the tenure-track clock (e.g., initial appointment at the instructor level), or an elongation of the period before the tenure/promotion decision. Not every college or school of pharmacy has a research focus, so it is possible to successfully achieve tenure or academic promotion at those institutions without a significant research or publication expectation. Residents exploring an academic career should be made aware of institutional expectations during the recruitment process, including the impact of different institutional research requirements on their ability to move within the academy with tenure and appointment status intact.”

“The Research and Graduate Affairs Committee encourages member institutions to develop multi-year residencies/fellowships specifically designed to prepare recent Pharm. D. graduates for academic careers. Consideration should be given to coupling the residency/fellowship experience with a program of study that leads to a graduate degree, ie, M.S, Ph.D.”

2. Commission to Implement Change in Pharmaceutical Education Background Paper IV. “The responsibility of pharmaceutical education for scholarship, graduate education, fellowships, and postgraduate professional education and training,” (*Am J Pharm Educ* 1993;57:386-399.)

“The pharmacy profession is becoming more differentiated and specialized. Residencies provide one means of preparing practitioners to enter differentiated or specialized practices efficiently. Consequently, the Commission believes that the enterprise of pharmaceutical education must actively support residency training within the profession.”

“The objectives of many residency programs include developing teaching skills in residents. Consequently, they assist in precepting pharmacy students in clinical settings, thus, enhancing the effectiveness of clinical faculty. As such, residents serve as educators and role models for students in externship and clerkship rotations.”

“The Commission believes that the balance of shared responsibility between the practice and educational components of the profession is appropriate and essential for the continued vitality of pharmacy practice residencies. Because residency training prepares the resident for practice roles, it is proper that the practice part of the profession assume prime responsibility for the quality, direction, and funding of residency training. However, the Commission believes that pharmaceutical education has critical leadership responsibilities as well. Pharmaceutical education must assure that well-qualified pharmacy faculty are involved in the planning, development and/or conduct of residency training. Administrators and faculty must

support existing residency programs by collaborating with program directors and program preceptors and stimulating and catalyzing the development of new residencies.”

“While residency training has made significant strides over the years, the Commission believes that the profession is poised for enormous expansion in the responsibilities that it will assume, and residency training must support that expansion. Pharmaceutical education has a leadership role in facilitating this expansion by:

- increasing the number of residency programs;
- strengthening existing residency programs;
- identifying new areas of practice that may benefit from residency training;
- developing pilot residency programs in new practice areas to demonstrate their feasibility;
- promoting residency training to students and practitioners as career options; and
- promoting the concept that experienced practitioners may acquire additional practice competencies through residency training.”

3. 2001-2003 Argus Commission Report (*Am J Pharm Educ* 2002; 66:7S-11S)

“Argus recommends that AACP invite graduate and professional students to AACP Meetings and appropriate Teachers Seminars and present sessions designed to inform them of the values of academic careers.”

“Argus recommends that AACP initiate discussions with the American Society of Health System Pharmacists (ASHP) and the American College of Clinical Pharmacy (ACCP) with the goal of improving teaching skills of residency and fellowship preceptors, and partnering with them to actively encourage those residents and fellows with aptitude and interest to pursue an academic career.”

4. AACP Policy Statements

“AACP supports activities by colleges that enhance the quality and quantity of residency training programs in all pharmacy practice settings and recognizes that residency training is an essential element in developing differentiated (specialized) practice roles.” (Source: Academic Affairs Committee, 1990)

“Specialization in pharmacy should be developed through postgraduate education or training programs, such as residencies and fellowships.” (Source: Academic Affairs Committee, 1990)

“AACP supports residencies and certificate programs that develop advanced clinical and administrative knowledge and skills in the delivery of comprehensive pharmacy services in the ambulatory care setting.” (Source: Professional Affairs Committee, 1989)

Results of the Task Force's Work Relative to the Charges

Charge 1. What role should colleges and schools of pharmacy play in developing new residencies? Is there a national need at this time for new ones? Is so, what should collegiate responsibility be? What are potential models of investment to help develop new residencies?

PROPOSED POLICY STATEMENT 1. AACP supports the inclusion of graduate pharmacy education (specifically, one (PGY1) and two year (PGY2) residencies (or entry level and advanced practice residencies) and fellowships) in the mission of all member institutions.

BACKGROUND

Current accreditation standards of the Accreditation Council on Pharmacy Education require that colleges and schools of pharmacy offer Doctor of Pharmacy degree programs, which educate students for entry-level professional practice. Thus, colleges and schools of pharmacy have relied on post-Pharm. D. educational programs, e.g., graduate degree programs, pharmacy practice residencies, specialized residencies, or fellowships, to prepare pharmacists for advanced level positions in research or clinical practice. In the workplace, pharmacists have also pursued recognition for advanced practice in various specialties by pursuing certification through the Board of Pharmaceutical Specialties (in Pharmacotherapy, Psychiatric Pharmacy, Nutritional Support, Oncology, and Nuclear Pharmacy), National Certification Board for Diabetes Educators (certified diabetic educator), American Society of Consultant Pharmacists (certified geriatric pharmacist), or through disease-state management programs. Advanced practice training is essential for pharmacists who have extensive patient care responsibility. Although many of these pharmacist positions are found in university teaching hospitals today, with time a larger number of these positions will become more prevalent in other patient care settings. The major influences driving the patient care role for pharmacists are mechanized drug dispensing systems that are becoming widely implemented and an aging society's need for pharmacists who can take an active role in managing drug therapy.

Pharmacists who are educated and practice at advanced levels are needed not only to provide enhanced patient care, but also to educate pharmacy students. Many of these pharmacists are the full time and adjunct faculty who provide didactic instruction and experiential education at colleges of pharmacy.

In recruiting pharmacy practice faculty, colleges and schools of pharmacy seek pharmacists who have completed pharmacy practice residencies, specialized residencies, or fellowships.

Colleges and schools of pharmacy benefit from, and therefore have a vested interest in residency and fellowship programs, which are pipelines for future full time and part time pharmacy practice faculty and experiential education preceptors. In addition, the training of pharmacy residents demands a higher level of practice expertise among the faculty. Therefore, it is inevitable that the advanced practice level of the faculty will be similarly reflected in the intensity of the clinical component of the Pharm. D. curriculum.

RECOMMENDATION 1. AACP should work with ASHP to lead the effort to develop a common terminology for graduate pharmacy education.

BACKGROUND

Standardized definitions exist for a pharmacy practice residency, specialized residency, and fellowship training. (See glossary at end of this manuscript). However, disagreement exists on categorization of various residency programs as pharmacy practice versus specialized, e.g., Should a community pharmacy residency be considered a specialized residency or a pharmacy practice residency with specific emphasis? This Task Force pondered whether new terminology should replace the current terminology? Should residency training in pharmacy be referred to as postgraduate year 1 or year 2 (ie, PG1 or PG2)? Furthermore, in Background Paper IV of the Commission to Implement Change, AACP adopted the term, postgraduate professional education, to refer collectively to residency and fellowship training.¹⁰ Yet, the term post graduate professional education is not recognized by ASHP or governmental agencies, nor is this term widely used or recognized within the pharmacy profession. Moreover, there is not agreement on the minimum requirements for residency training for various advanced practice positions in patient care settings or at colleges and schools of pharmacy. This is compounded by the variety of advanced training programs in existence that are not accredited and therefore may be variable in content and length. Finally, external governmental agencies are unclear on the role of residency training in preparing pharmacists for advanced practice.

To facilitate clear and effective communications between the profession of pharmacy and external governmental entities, health care payers, other professional credentialing bodies, and health professionals, the Task Force recommends that AACP work with ASHP leadership in developing and creating consensus in the profession around common terminology for such programs. First, the Task Force recommends that AACP adopt terminology for pharmacy residency and fellowship programs that is consistent with medical residency education, which is known as graduate medical education. Thus, the Task Force recommends that pharmacy residencies and fellowship programs be collectively referred to as “graduate pharmacy education”. (In this White Paper, graduate pharmacy education does not include M.S. or Ph. D. programs.) By using common terminology the profession will enhance the understanding of individuals external to the pharmacy profession about the role and value of pharmacy residency programs. Secondly, the Task Force recommends that a profession-wide consensus be developed in the labeling of the different levels of residency training and in deciding how various kinds of residencies fit those labels (ie, entry-level versus advanced, specialty versus generalist). Finally, the Task Force recommends that AACP work with other pharmacy organizations to establish the minimum number of years of practical education needed for pharmacists in various practice settings.

RECOMMENDATION 2. Colleges and schools of pharmacy should take a proactive leadership role in developing and enhancing accredited graduate pharmacy education programs.

BACKGROUND

It is estimated that at least 12% of all residencies are administered by colleges and schools of pharmacy. Thus, there is considerable opportunity for colleges and schools of pharmacy to participate to a much greater extent in these programs.

Table 1 provides data on the number of accredited residency programs in the U.S. Considering that there were roughly 7,500 graduates of colleges and schools of pharmacy in the U.S. in 2003, the number of available residency positions appears to be woefully inadequate, especially when one considers that 175 clinical/practice faculty positions were vacant at the time of the

2002 survey.³ Moreover, one cannot expect that even the majority of specialty residents will become faculty members.

Table 1. Summary of number of pharmacy practice and specialized residency programs that are accredited or have accreditation pending^{5,6}

Year	1990	1994	1998	2002	2003
Number of pharmacy practice residency programs	234	203	247	380	387
Number of pharmacy practice residents	435	508	544	844	860
Number of specialized residency programs	0	123	188	243	248
Number of specialized residents	0	148	199	237	268

RECOMMENDATION 3. AACP should recommend to the Accreditation Council on Pharmacy Education (ACPE) that it modify its accreditation standards such that all colleges and schools of pharmacy must engage in accredited graduate pharmacy education.

BACKGROUND

Current ACPE accreditation standards do not include a requirement that colleges and schools of pharmacy 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 now and that in time, all colleges must be engaged in educating pharmacists for all levels of practice. This will enhance the number of pharmacists with advanced training, which should improve patient care in a variety of settings, improve education of health care professionals, and help address manpower needs at colleges of pharmacy.

ACPE should collaborate closely with ASHP and the other key stakeholders such as AACP, the American Pharmacists Association (APhA), and ACCP on the residency accreditation process to ensure accreditation review processes that are complimentary and efficient.

PROPOSED POLICY STATEMENT 2. AACP supports accreditation by a federally recognized accrediting agency for all member institution-affiliated residency programs.

RECOMMENDATION 4. AACP must engage in dialogue with ASHP’s Commission on Credentialing to assist in continuous improvement of the standards and the process for accreditation of graduate pharmacy education programs based at colleges and schools of pharmacy.

BACKGROUND

The Task Force strongly supports the accreditation process as a means to ensure and maintain quality of programs. Additionally, the Task Force recognizes that accreditation of residency programs is essential for federal funding.

Therefore, the Task Force proposes that AACP adopt a policy that all college-affiliated residency programs be accredited by a federally recognized accrediting agency.

Up to this point, ASHP is the only federally recognized accrediting agency for pharmacy practice and specialized pharmacy residency programs.

However, a number of residency programs are currently unaccredited, which was of sufficient concern to the ASHP Commission on Credentialing that they performed a survey to identify impediments to accreditation. They found that it is the perception of some respondents that the existing standards and criteria for evaluation of graduate pharmacy educational programs are focused on the training site and pharmacy operations. Thus, much of the accreditation application paperwork appears irrelevant and cumbersome. The Task Force understands the value in having residents trained in exemplary pharmacy practice settings, but believes that since colleges are interested in providing training at multiple residency sites, and want the option to move residents around to assure the best possible mix of experiences, that ASHP should adopt this approach for the future. This also could be attractive for many hospitals' pharmacies or clinics that are interested in developing a residency program, but which lack the administrative and clinical faculty expertise or time to develop a residency program able to satisfy accreditation requirements. This could also be attractive to colleges/schools of pharmacy, as the college/school could better supervise the education of the resident(s) in a program and more efficiently use teaching and fiscal resources for residents from multiple programs, e.g., joint grant rounds, joint research projects, joint programs on pedagogy, etc.

Finally, ASHP should attempt to address the most common reasons why non-accredited programs do not seek accreditation, ie, the process is too time consuming and the cost of accreditation review is too great.⁷ Streamlining the review process and the administrative overhead related to accreditation should be a key focus area for future changes to the assessment process.

Charge 2. Explore the graduate medical training model that involves colleges/ schools holding the accreditation for a program and colleges/schools then approving the specific training sites. Such a model is already possible for community pharmacy residencies; should it be applied to other types of pharmacy residency training? What are the advantages and disadvantages of such a model?

RECOMMENDATION 5. AACP and ASHP should work together to identify and develop the information, processes, and standards that facilitate the development and accreditation of college or school-affiliated residency programs, including a mechanism for colleges and schools of pharmacy to serve as the sponsor for single or multi-site residencies.

BACKGROUND

Colleges and schools of pharmacy are stretched for resources to meet their multiple missions. Often, administrators must make choices among competing missions. If the schools and colleges are to assist the profession in training advanced practitioners that are critical for the entire profession, including academia, unique incentives need to be developed to help college and school administrators be more effective and efficient in meeting the mission of developing practitioners at all levels, and in engaging in graduate pharmacy education.

RECOMMENDATION 6. 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.

BACKGROUND

Residency training was first introduced to the profession of pharmacy in the 1930's. During the period 1950-1979, involvement of the academy was limited to a small number of combined Masters or Pharm. D. degree/residency programs while institutional pharmacy practitioners led the development of clinical pharmacy programs. This continued to be the case until the mid-1980s when the growth of specialty residency programs began to accelerate and more colleges sought to partner with practice sites for the purpose of training highly specialized individuals for both advanced practice and faculty positions. In the mid-1990s, consistent with pharmacists' enhanced roles in chronic care disease-state management, a number of colleges and schools began to work more closely with community pharmacies to establish residency programs. However, while college and school of pharmacy involvement in residency training has grown considerably over time, it continues to represent only a small portion of the total number of residency programs offered. Clearly, this is in stark contrast to colleges of medicine, which have long been intimately involved in managing graduate education programs in all practice venues in which they are offered.

Medical School Model

All physicians must complete a residency before they can have hospital privileges and qualify for Medicare reimbursements. Perhaps because of the required nature of medical residencies, medical schools are intimately involved in graduate medical education programs. Virtually all medical schools have an identified and well-defined administrative position that is responsible for overseeing graduate medical education. Typically appointed at the Assistant or Associate Dean level, the position includes responsibility for such things as maintaining contracts with institutions, clinics, and other practice sites, resident selection, ongoing communication with the various program preceptors, program evaluation, and accreditation of the residencies.

In most instances, medical schools provide the resident's stipend (salary) and benefits and recover these costs from affiliated institutions. Most states also fund primary care graduate medical education programs either through direct appropriations or through adjustments to their Medicaid fees for medical services. The institutions also recover a substantial portion of their graduate medical education costs through the federal Medicare "pass-through" process. The relationship that exists between colleges of medicine and the affiliated practice sites contributes greatly to both the care of patients and the educational process of medical students and residents. The accreditation process in medicine includes multi-site accreditation of programs. Also, medical school accreditation includes a requirement for affiliations for graduate medical education.

Pharmacy School Models

The degree to which colleges and schools of pharmacy currently take an active and responsible role in graduate pharmacy education varies considerably. Moreover, there is great variability in the relationships that exist between colleges/schools that are engaged in some dimension of residency training and the various practice sites in which residents are trained. The following is a representative sample of some of the models that exist:

1. College/school affiliation with institutional-based program

This is the most common model that exists currently between colleges/schools and practice sites. Responsibility for managing all aspects of the residency lies with the practice site. These duties include, but are not limited to, program promotion, resident selection, payment of resident stipends and coverage of benefits, rotation and preceptor scheduling, resident evaluation, program assessment and accreditation. The certificate of program completion bears the name of the institution in which the residency was conducted. In these instances, college/school faculty assigned to the site serve as preceptors for defined rotations of the residency. Like all other preceptors, these faculty take responsibility for overseeing the training of the resident. Their duties are traditionally defined in the affiliation agreement that exists between the college/school and the institution and usually reflects the expectations for resident and student training, patient care, and scholarship.

All financial aspects of the residency, including submission for Medicare “pass-through” reimbursement, are managed by the institution. The college/school, on the other hand, has no financial stake in the residency other than the portion of time that the faculty member serves as a preceptor for the resident. In these instances, the typical *quid pro quo* between the college/school and the institution (beyond the residency) is for the site to contribute to overall student training while the faculty contribute to patient care and staff development.

2. Jointly-funded programs between practice sites and colleges/schools

Increasingly, more practice sites and colleges/schools are working together to foster the growth and development of residencies. Their desire to collaborate is mutually beneficial. With increasing demands placed on limited resources, the college/school benefits from an expanded number of rotation sites and the practice site benefits from a patient care standpoint. The duties and responsibilities for residency training are shared. The college/school or practice site appoints an individual to provide administrative oversight for the program(s). Both the college/school and the practice site contribute to the overall costs associated with running the residency including the appointment of practice faculty and pharmacy staff who serve as preceptors. While these arrangements most closely resemble the medical model, they do differ in several fundamental ways.

First, virtually all medical residencies qualify for federal Medicare “pass-through” funding; hence, the burden of programmatic costs and subsequent federal reimbursement are shared more equally between the colleges/schools and practice sites. Currently, first year pharmacy residency training conducted in institutional-based sites qualify for Medicare funding but the second year, typically found with some hospital-based specialized residencies, and all programs offered in non hospital pharmacy practice sites (e.g., community practice, managed care, long-term care, independent primary care clinics) do not qualify for Medicare cost reimbursements. In these cases, the college/school and partnering practice site(s) must bear the total cost of running the program.

Second, colleges of medicine and their partner sites typically have well-defined practice plans that clearly outline both patient care and educational responsibilities of all parties involved in the residency as well as anticipated revenues and expenses. Most jointly sponsored pharmacy residencies have established affiliation agreements, but lack a well-defined practice plan. Admittedly, existing reimbursement mechanisms for patient-focused pharmacy services complicate the financial aspects of such plans.

Lastly, the inter-relationship and interdependence between colleges of medicine and medical service departments/divisions for purposes of residency training and meeting corresponding accreditation requirements are well established. On the other hand, current accreditation requirements and procedures for pharmacy residencies favor the practice sites. While this is understandable from a historical perspective, the fact remains that very few colleges/schools of pharmacy are administratively linked to practice sites and, therefore, the former must use affiliation agreements and partnerships to influence accreditation shortcomings and residency funding priorities.

3. College/school-funded residencies

Much of the early growth in college/school-funded residency programs was centered around the movement toward specialization in pharmacy. Indeed, colleges/schools tend to fund specialty residencies and community pharmacy residencies more frequently than hospital-based pharmacy practice residencies. Spearheaded in large measure by individual practice faculty and funded principally through grants or service contracts, these college/school-funded programs provide faculty with help in educating students and conducting clinically focused research. In recent years, some colleges/schools of pharmacy have been successful in securing state or other sources of funds needed to sustain these programs without the need for monies from grants or service contracts. The venue in which these programs are based varies considerably: some are linked to departments/divisions of pharmacy, some are tied to specific medical services or departments/divisions in which the pharmacy faculty member is based, some are a hybrid of the aforementioned two types, and still others are housed in patient care service programs that are neither tied to a pharmacy or specific medical service.

While these programs offer colleges/schools and the faculty who oversee them maximum control and flexibility, there are a number of shortcomings that exist with this model. First, many of the affiliation agreements are not contractually structured to qualify for sustained federal funding. This is a critical issue. Second, in the majority of cases these programs are specialty-focused. Since most colleges/ schools of pharmacy do not have the luxury of having multiple faculty in any given specialty practice area, responsibility and long-term sustainability of the program falls squarely on the shoulder of a single faculty member or a small number of faculty. Third, as noted earlier, existing accreditation standards do not readily accommodate pharmacy residencies centered in non-pharmacy practice areas (with the exception of managed care and American Society of Consultant Pharmacists residencies that have their own set of standards). Moreover, with funding for these programs oftentimes quite strained, those having oversight for the program may not perceive any added advantage to seeking accreditation given the added financial and administrative burdens that accreditation brings.

It is important to recognize that while the three models noted above capture, for the most part, many of the current pharmacy residency programs, other models or variations of the aforementioned models do exist. In fact, it would be difficult to summarize all of the variations in residency program structure that have evolved to date. The differences in structure of a considerable number of pharmacy residencies oftentimes have mirrored the differences in regional or local philosophical, political, financial, and leadership issues in both the practice sites and the colleges of pharmacy.

Proposed Structural Model

Regional dynamics will, in all likelihood, continue to play a role in the development of pharmacy residency programs. Certainly, that will be the case when assessing the needs of rural versus

urban communities. Nonetheless, given the considerable variability in program structure that exists among those colleges/schools that have chosen to make pharmacy graduate education and training part of the overall mission of the organization, it is essential that strong consideration be given to adopting a model of residency program structure (or modest variation thereof) that provides greater consistency in the way colleges/schools and practice sites work together.

Many existing residency programs have been functioning for years with little to no support from the colleges/schools of pharmacy. Hence, it would be a mistake to assume that those practice entities involved in running programs would readily embrace a new partner without some clear benefit for doing so. Therefore, as a first step it is essential that colleges/schools and their practice partners come together to determine a shared vision for what the needs in graduate pharmacy education might be. In some instances, this has been fairly well defined. However, in many other cases no shared vision exists. Moreover, it is equally important to recognize that many of the administrative functions and responsibilities for residency training are duplicated at each of the sites offering residency training. The operational efficiencies that could be gained by having many of these activities centralized in a college/school might provide sufficient impetus for forging and solidifying these partnerships. In forming the framework for a partnership between colleges/schools and practice sites, it might be beneficial to outline several of the key responsibilities that should be assumed by each party.

Colleges/Schools:

Establish a defined organizational component that provides administrative oversight for graduate pharmacy education. Among the responsibilities managed through this office are:

1. Resident recruitment, orientation, salaries, benefits, and issuance of graduation certificates.
2. Development of uniform partnership agreements that include well-defined practice plans.
3. Coordination of all matters pertaining to accreditation of the programs. It is essential to establish a clear link between the college/school and practice sites to address any shortcomings that may arise from an accreditation review.
4. Establishment of a uniform system for resident evaluation.
5. Establishment of a uniform system for ongoing program assessment and improvement.
6. Maintenance of a schedule for all faculty and staff involved in precepting residents. In coordination with the Chair of Pharmacy Practice and the practice site coordinator, maintain a schedule for all faculty and staff involved in precepting residents.
7. Regional resident and preceptor conference participation and coordination.
8. Resident project support and mentoring.

Practice Sites:

1. Assignment of an individual with responsibility for resident oversight. (Note: In compliance with accreditation standards it is necessary for the site and the college/school to determine the individual who will serve as Residency Program Director. In this proposed model, the Residency Program Director would be housed in the college/school and each of the sites would, in turn, identify a Residency Coordinator who would work closely with the Residency Program Director for site-specific issues.)
2. Resident recruitment, applicant evaluation, and selection. (Note: The college/school and practice sites would work together to provide a more cohesive recruitment process at local, regional, and national forums.)
3. Resident orientation to the site.
4. When applicable, coordination of administrative responsibilities relative to obtaining federal Medicare “pass-through” expenses.
5. Resident project determination.
6. Regional resident and preceptor conference participation.

Accreditation

For the most part, existing accreditation procedures are geared to assessment of individual practice sites rather than programmatic evaluation of a residency. One notable exception is the accreditation process that is used in assessing college/school-based community pharmacy residency programs. In this case, authority for assessment of site compliance with accreditation requirements is, for all intents and purposes, delegated to the college/school. In the proposed model, it is suggested that a similar process be adopted for all college/school-based programs.

Process of Accreditation

The Commission on Credentialing (COC) has conducted a survey to collect information on the most common reasons why non-accredited programs do not seek accreditation. Common reasons identified are that the process is too time consuming and costly.⁷ The Task Force understands that all accreditation processes are time consuming and costly, otherwise they would not likely ensure a realistic evaluation. The Task Force also believes that if the approaches suggested in Recommendation 4 are adopted, there will be both financial and time reduction efficiencies for the COC as the colleges and schools will assume greater responsibility for ensuring compliance to standards and thus take on a greater time and finance burden. This should be a key focus area for future changes to the accreditation process.

Charge 3. What needs to be done to make available maximum resources for residency training?

RECOMMENDATION 7. AACP should encourage the ASHP to sponsor a study to document the value of graduate pharmacy education programs in terms of career laddering, job promotions, and salary increases over time. Once collected, this data should be widely distributed to colleges and schools of pharmacy and their respective student bodies.

BACKGROUND

The number of applicants for accredited pharmacy residency programs represents the minority of graduates of colleges of pharmacy (Table 2). Also, the number of applicants for residencies closely matches the number of available positions, which suggests significant competition among residency programs for candidates. This indicates a need for colleges and schools of pharmacy to take initiative to enhance students' understanding of the importance and value of residency training.

Table 2. Comparison of number of college and school of pharmacy graduates versus those graduates who participated in the ASHP matching program

	2002	2003
# of graduates of U.S. colleges of pharmacy	7573	7488
# of candidates signed up for match	1108 (14.6%)	1275 (17.0%)
# of residency positions available	887	953

Because of the competitiveness of starting salaries for pharmacists in the recent past and the plethora of job choices for new graduates, some residency programs have reported greater difficulty in filling positions. To potentially enhance the numbers of graduates who eventually pursue such graduate pharmacy education, colleges/schools should continually reinforce the value of such programs to students.

RECOMMENDATION 8. AACP should assist colleges and schools of pharmacy in marketing graduate pharmacy education programs to experienced practitioners who may want to expand their scope of practice and acquire additional clinical and teaching skills and/or re-enter the job market after a time away.

BACKGROUND

Although the majority of new graduates pursue community pharmacy practice upon graduation, alumni surveys generally show that a percentage of them switch to institutional practice or other settings after several years of practice. In addition, alumni who are interested in shifting their practice setting or are seeking new challenges in the profession often contact colleges for counseling. The Task Force suggests that these individuals may represent an untapped market of candidates for graduate pharmacy education programs.

RECOMMENDATION 9. Along with practitioner organizations, AACP should gather information that will facilitate federal and state funding for all graduate pharmacy education programs.

BACKGROUND

AACP, ACCP, APhA, and ASHP should identify those pharmacist positions for which the "industry norm" is a second year or specialized residency, and develop a process to review and accredit such residency programs. The goal of this effort is to have second or third years of graduate pharmacy education approved by the Centers for Medicare and Medicaid Services for

reasonable cost pass-through payments under Section 413.85. Although such funding will not be a complete offset of the expenses needed to support advanced training programs, the financial burden to colleges and schools of pharmacy for advanced practice residencies can be reduced.⁹

AACP should encourage the federal government to offer educational loan forgiveness programs for pharmacists who undertake graduate pharmacy education programs in medically underserved areas of the United States.

In addition, college/school leadership needs to identify new educational partners to create graduate pharmacy education programs that support the preparation of future practice faculty, as the traditional health system sponsors may not find such programs of mutual interest. These partners include the drug industry (which hires experienced faculty into medical liaison positions), community pharmacies, federal or state agencies, and professional pharmacy organizations. Financial support for new graduate pharmacy education programs is essential for programmatic expansion.

Charge 4. How can colleges partner with residency sites in residency research projects and encourage some residents to seek additional training in order to assume faculty positions? (The members of the Task Force believed it was important to expand Charge 4 so that it addresses more fully the needs of the academy with regard to creating more pharmacy practice faculty. The next four recommendations were specifically designed to accomplish this additional charge.)

RECOMMENDATION 10. AACP should recommend to ACPE that it modify its standards to require that all full-time pharmacy practice faculty have a Pharm. D. or equivalent degree plus a minimum of one year of graduate pharmacy education or equivalent practice experience. It is anticipated that as the opportunities in graduate pharmacy education increase, this requirement will increase as well.

BACKGROUND

Faculty at colleges and schools of pharmacy often engage in educational activities with many health professional students in a variety of disciplines: medicine, pharmacy, nursing, and allied health. In addition, pharmacy practice faculty educate patients about proper drugs use. Colleges and schools of pharmacy require persons with advanced pharmacotherapy knowledge and practice abilities to best prepare future generations of pharmacy practitioners at both the entry and advanced levels. In this regard AACP should encourage ACPE to add to the accreditation standards a requirement that all pharmacy practice faculty hires have a Pharm. D. or equivalent degree and a minimum of one year of graduate pharmacy education or equivalent experience (e.g., three years in a progressive practice or board certification).

The Task Force recommends that colleges and schools of pharmacy adopt the following requirements for advanced training when hiring practice faculty (Table 3).

Table 3. Proposed Minimum Advanced Education Requirements for Pharmacy Practice Faculty

Type of faculty position	Advanced training requirement
Faculty (in non-tenure track) where scholarship is a small part of job responsibilities	One year of residency education
Faculty expected to practice in a specialty area, tenure track or non-tenure track	Two years of residency education or three years of practice in a progressive specialty practice or specialty board certification.
Faculty (in tenure track) where research is a significant part of job responsibilities	One year of residency education plus fellowship or graduate program, preferred.

While it is preferable that colleges and schools of pharmacy only hire faculty with significant research/scholarly activity experience, the reality of the current applicant pool is that some will be hired who need further skill development. Colleges/schools must make a significant commitment to help develop these skills among junior faculty who may not be prepared for this task. Colleges/schools need to develop reward systems for teaching excellence, and should not penalize new faculty members who have not been adequately prepared for their jobs and are undergoing further skill development. The college/school must provide time for all new faculty to develop the skills they need to be successful. Strategies to prepare junior faculty who have been hired include: (a) hiring faculty initially into the non-tenure track to allow time to sequentially develop teaching skills and then research skills and then converting them to the tenure track once adequately prepared; (b) supporting the enrollment of faculty into formal training programs to specifically develop their knowledge and skills in teaching, grant writing, and research design; (c) creating a mentored research development plan. Sufficient time must be allotted over the first two years of the hire to make the development plan successful; and (d) developing a mentored teaching development plan when the individual hired lacks the advanced training required. Colleges/schools should also provide development programs to enhance teaching skills and scholarly activity among existing faculty.

Despite the above-mentioned strategies to improve the skills of practice faculty once they are hired, it also is essential that residency programs include opportunities for baseline skill development in education and research so that the post-hire skill development is minimized. Colleges and schools of pharmacy can play a key role in providing those opportunities. Furthermore, a closer tie between the college or school and the residency training program will better expose residents to role models who may encourage them to seek an academic career.

RECOMMENDATION 11. AACP should encourage colleges and schools of pharmacy to work with all residency programs to provide opportunities for residents to develop teaching skills.

We suggest that graduate pharmacy education should incorporate formal training in educational processes for all residents since we anticipate most will need to serve as preceptors for pharmacy students and to provide formal education (ie, inservices, continuing education, grand rounds) to other health professionals within their practice settings. Colleges and schools of pharmacy can play a major role in provision of the educational background and opportunities for didactic teaching, while the practice site can provide supervised experience in serving as a preceptor.

RECOMMENDATION 12. In addition, AACP should assist colleges and schools of pharmacy in developing innovative models of residency education that provide more intensive training in teaching, both didactic and experiential, and assessment of learning, as well as research, to specifically prepare residents for faculty positions. Furthermore, AACP should work with ASHP to facilitate accreditation of such programs.

BACKGROUND

The Task Force conducted a survey of 84 colleges of pharmacy to assess their commitment to graduate pharmacy education. 74 colleges and schools of pharmacy responded to the survey (Table 4 and Appendix 3). The results generally indicate that (a) 93.2% of responding colleges/schools are participating in residency training; (b) 56.5% of colleges/schools that participate in residency training have a college/school-based coordinator; (c) the percentage of accredited residencies range from 50%-100%; (d) the residency programs variably include educational programs or experiences to prepare individuals for some faculty roles including professional writing assignments, grant writing practice, didactic teaching skill development, experiential education teaching skill development, technology skills; (e) 66% of the respondents indicated that the resident’s salary was paid by the hospital with the college/school paying a portion of the resident’s salary and/or benefits. In general, the data suggests wide variation in the activities employed by colleges/schools that could help prepare future faculty, and a lack of standardization and focus on developing skills that would be helpful to faculty despite these residencies being affiliated or strongly linked to the colleges/schools of pharmacy. We strongly encourage colleges/schools to take a more proactive approach to identifying residents who may wish to pursue faculty roles and providing a more intensive and structured opportunity to develop both teaching and research skills during the residency period (which may have to be longer than a single year in order to not compromise on the development of clinical skills).

Table 4. Colleges and Schools Reported Offering the Following Services to Residents

Program	Yes	No
Research training	47	9
Professional writing skills	35	15
Grant writing	16	27
Teaching skills – didactic	60	5
Teaching skills – precepting	61	3
Technology skills	25	13
Other programs: see below	13	

Other programs: ACLS/Physical Assessment (2); Laboratory Instruction/Techniques (2); QI Skills (1); Clinical Practice (1); Faculty Development Programs (2); Pharmacogenomics (1); Telecare (1); PBL (1); Clinical Service Development (1); SOAP Note Review (1)

Task Force members agree that one strategy for training future full time practice faculty who are expected to practice in a specialty area is for individuals to earn the Pharm. D. degree, then complete a pharmacy practice residency and a specialized residency. However, insufficient number of Pharm. D. graduates complete two years of graduate pharmacy education to meet the faculty workforce needs of colleges/schools of pharmacy. Thus, the Task Force feels that

other advanced training program models are necessary to address the faculty manpower shortage.

At a minimum, residencies designed to train future faculty should include minimum mandatory didactic and experiential training opportunities. A few residencies also provide exposure and critiquing of formal didactic teaching experiences that would help residents come to a faculty position with a reasonable level of teaching skill in that type of setting. Alternative strategies to prepare future faculty candidates include: teaching certificate or graduate degree program options delivered in parallel with a graduate pharmacy educational program. However, the Task Force is not aware of data that demonstrates that a longitudinal sequence of advanced training programs (ie, that a pharmacy practice residency must be completed before a specialized residency) more effectively enhances knowledge and skill development than a more integrated model of advanced training over two years. Therefore, the Task Force suggests that other creative models of advanced training should be considered. Some have been developed at various institutions that incorporate training in pedagogy as well as some that are integrated across the PGY1 and PGY2 years and include entry level and advanced clinical training as well as an opportunity to develop teaching and research skills. These models, or others that are similar, may be implemented by enhancing existing graduate pharmacy educational programs or creating new programs.

Graduate pharmacy education should also help prepare a pharmacy practice faculty member for more traditional service activities, e.g., committees, team projects, and administrative duties.

AACP should work with ASHP to facilitate the creation of advanced training programs that focus on the development of future faculty by creating specific accreditation standards and a program classification that focuses on teaching competencies and scholarly activity, as described by the ideal core competences for faculty (Appendix 2). It is anticipated that these residencies may use multiple rotation sites to enable the most cost-effective use of available resources for the number of residents involved. The Task Force also suggests that ASHP adopt more flexible standards for postgraduate year 1 and 2; rather than continue to use the present system, which are currently known as pharmacy practice and specialized residencies, and is highly focused and differentiated by practice site, and often lacks application to current specialized residency models. The competencies for the PG1 and PG2 years would reflect entry level and advanced practice, respectively. Each residency could have an appendix of separate content areas, which would correspond to specialty areas of practice and that would make it unique. Flexibility in standards should not be construed as a lack of quality, but rather that the standards are viewed as more applicable to a wider variety of graduate pharmacy educational programs.

RECOMMENDATION 13: AACP should encourage that colleges/school-affiliated residency programs bolster the research nature of projects performed by residents. Colleges of pharmacy should work collaboratively with residency programs to facilitate the completion and publication of research projects.

BACKGROUND

Although pharmacy residency programs typically require the residents to undertake and complete a project under supervision, the projects are often not original research. Further, when research projects are done, they are often not completed at the conclusion of the program and the results are frequently not submitted for publication. Thus, the resident is unable to gain valuable writing experience. Research skills are best developed in fellowship and graduate programs; however, few pharmacy practice faculty candidates have this credential.

It is the opinion of the Task Force that during a residency, the task area with the least potential for development is research. Depending on the residency preceptor's research ability and the residency project chosen by the resident, some potential exists for the resident to develop rudimentary research skills. This is, however, extremely variable and should not be relied upon by colleges/schools as an indicator of potential for success as a scholar.

Colleges/schools of pharmacy can provide several resources to bolster the quality of residency research projects. College/school faculty can serve as research project mentors, can provide ideas for quality projects, and can provide resources for statistical analysis of data. They can also mentor the resident to submit the final work for publication.

RECOMMENDATION 14. On an ongoing basis and in collaboration with other organizations, AACP should address sharing information on innovative graduate pharmacy education programs and the ways they are funded, particularly for programs that focus on developing future pharmacy faculty by integrating teaching skill development throughout the program and/or integrating general and specialized practice training and research activity. AACP should also assist schools and colleges in promoting such residencies to qualified pharmacy students and in mentoring students and residents who show an interest in becoming future faculty.

BACKGROUND

A variety of innovative graduate pharmacy education programs have already been created which provide formal training in pedagogy and scholarly activity. ASHP is sponsoring a national residency conference on August 13-15, 2004 in San Diego that will showcase these programs. AACP should promote the results of this meeting to its membership, particularly college leaders, as it will likely help colleges/schools formulate strategies for developing new or modifying existing programs.

In addition, AACP should organize a symposium on graduate pharmacy education programs that focus on developing future pharmacy practice faculty at an upcoming national meeting. These model programs could stimulate colleges/schools to develop their own programs. Moreover, AACP should be encouraged to sponsor a study to identify those graduate pharmacy programs that have successfully prepared faculty. These programs should be showcased and the best aspects shared with college/school leadership.

Colleges and schools should be encouraged to provide formal programming at repeated intervals throughout the professional doctoral curriculum to introduce students to academia and encourage students to pursue graduate pharmacy education programs targeted toward becoming a faculty member after graduation.

Because residency programs will be a prerequisite for future practice faculty positions, colleges and schools should mentor students who show promise as future faculty. Students and first year residents with unique abilities should be informed of their potential to be future faculty and nurtured along this path.

Acknowledgements

The Task Force gratefully recognizes Lucinda Maine, Executive Vice President, Kenneth Miller, Vice President, Graduate Education, Research, and Scholarship and Arlene Flynn, Vice President, Professional Affairs, of AACP who provided insightful comments and background information to facilitate our work.

Appendix 1. Job description for Assistant/Associate Dean for Graduate Pharmacy Education

The Assistant/Associate Dean Graduate Pharmacy Education is responsible for (1) defining the mission goals and scope of services for the Graduate Pharmacy Education Office; (2) strategic planning to ensure compliance of the graduate pharmacy education office with the institutional mission, COC requirements, and applicable federal and state laws and regulations; (3) defining job descriptions for office staff; (4) developing a manageable work load for each employee; and (5) cross-training faculty and staff to insure coverage for all areas of the office.

Institutional Duties and Responsibilities

1. Develop and produce residency list.
2. Issue resident contracts.
3. Provide housing information.
4. Communicate with in-coming pharmacy residency on the process of "getting started."
5. Plan and produce a system-side orientation for new residents.
6. Develop and maintain tracking program for compliance with health service and infection control requirements.
7. Maintain database on current and graduates of residency training programs.
8. Responsible for house staff parking, mail, uniforms, etc.
9. Coordinate the administration of residency staff benefits and payroll and monitor accuracy of residency payroll.
10. Maintain house staff files.
11. Sign deferment forms for the residency student loan program.
12. Coordinate the residency education program.
13. Responsible for certificate approval for graduating residents.
14. Coordinate residency staff appointment/reappointment process.
15. Initiate/prepare, submit termination documents.
16. Verify alumni training.
17. Is a member of Graduate Pharmacy Education Committee.
18. Coordinate residency staff counseling and support services.
19. Ensure that residency staff remains in compliance with hospital policies and procedures.
20. Responsible for preparing hospital disbursement agreements and cost reports for reimbursement of resident salaries and fringes from teaching hospitals.
21. Responsible for maintaining current knowledge COC standards for institutional/program accreditation and for maintaining Institutional Accreditation.
22. Coordinate Internal Review process.
23. Advise administration/program directors about interpretation of and compliance with accreditation requirements.
24. Ensure that the Graduate Pharmacy Education Committee is set up and carries out its required functions.
25. Complete Graduate Pharmacy Education Committee surveys from various agencies.
26. Coordinate and submit national resident matching program rank order lists.
27. Assist with due process for residency staff being terminated, put on probation, etc.
28. Attend local, state, and/or national pharmacy education conferences.
29. Verify license, insure and OSHA health requirements for visiting residency staff.
30. Act as a liaison among hospital, program and accrediting agencies.
31. Act as a liaison between residency staff and faculty.
32. Responsible for maintaining institutional data pertaining to residency programs

Appendix 2. Core Competencies of Faculty

Core competencies in teaching:

1. Is knowledgeable of effective teaching strategies that enhances student learning in various settings, e.g., large classes, small group, clinical setting.
2. Understands mechanics of course development and administration: developing objectives, designing a course to achieve the objectives, create a syllabus, can identify a sequence of topics for a course that make sense, developing grading criteria, ensuring adequate library resources to support a course, maintaining course records, handling common problems with course administration (plagiarism, academic dishonesty, how to motivate students), preparing for class
3. Effectively evaluates student performance: can develop clear multiple choice questions, can interpret item analyses of test performance by students, can provide formative and summative evaluations, and can design learning assignments and exercises.
4. Understands the impact of learning and teaching styles on the learning environment.
5. Identifies and enhances learning opportunities associated with diversity in the classroom.
6. Effectively evaluates teaching performance.
7. Effectively uses common audiovisual equipment and media resources to support lecture presentation.
8. Effectively motivates students to learn (by exhibiting professional behavior, exhibit proactive concern about students, have empathy for student's personal needs).²

Core competencies in research and scholarly activity

9. Can prepare a manuscript for publication.
10. Is knowledgeable of the process of submitting a manuscript for publication, and the review process and the revision process.
11. Understands the importance of being productive in this area relative to promotion in academic rank and tenure.
12. Is familiar with conducting a comprehensive and systematic literature search
13. Effectively designs a study.
14. Effectively analyzes and interpret primary literature.
15. Formats and prepares a manuscript for submission to an appropriate journal, where the audience matches the content of the manuscript.
16. Understands how assessment and documentation of teaching can be scholarly activity

Core competencies in service

17. Understands the importance of service to the department/division, college, university, and to the profession relative to promotion in academic rank and tenure.
18. Is knowledgeable about the faculty governance system and the decision-making role of faculty.
19. Understands the committee structure and how to get involved.
20. Demonstrates effective leadership skills.
21. Demonstrates excellent written and oral communication skills.

Appendix 3. Task Force Survey of Commitment to Residency Training by Colleges/Schools of Pharmacy

Survey Response: 74/84 surveys were returned
88% response rate

1. Do you participate in residency training?
Yes 69
No 5
69/74 (93.2%) of respondents participate in residency training
2. Do you have a college-based residency program coordinator?
Yes 39
No 30
39/69 (56.5%) of schools that participate in residencies have a college-based coordinator
3. Do you have a college-based residency committee that oversees the residents/resident training?
Yes 24
No 42
No response 3
4. If you sponsor or cosponsor a residency, please indicate the number of positions per year. Finally, please indicate if the position is ASHP accredited.

Residency	Number*	ASHP accredited	% accredited
Pharmacy Practice	168	140	83.3
Community Practice	80	35	43.7
Critical Care	25	14	56
Drug Information	30	13	54.1
Geriatrics	6	5	83.3
Infectious Diseases	20	2	10
Internal Medicine	10	10	100
Managed Care	21	8	38.1
Nuclear	2	1	50
Nutrition Support	1	1	100
Oncology	13	10	76.9
Pediatrics	16	10	62.5
Pharmacotherapy	12	6	50%
Pharmacy Practice Management	11	10	90.9
Primary Care	47	29	61.7
Psychiatry	21	11	52.4
Other: see below	18		
Total # positions	501	302	60.3

Other: Cardiology (3); Organ transplant (2); Palliative care (1); Informatics(1); Family Medicine (2); Academic/PhPr (1); Nephrology (2); Am Care (3); Internal Medicine (1); Academic (1); Patient Safety (1)

*If a school listed a range for number of positions e.g. 3-4, the higher number was used, since this measures capacity to conduct the residency.

5. Educational Programs the Colleges/Schools Offer to Residents:

Program	Yes	No
Research training	47	9
Professional writing skills	35	15
Grant writing	16	27
Teaching skills – didactic	60	5
Teaching skills – precepting	61	3
Technology skills	25	13
Other programs: see below	13	

Other programs: ACLS/Physical Assessment (2); Laboratory Instruction/Techniques (2); QI Skills (1); Clinical Practice (1); Faculty Development Programs (2); Pharmacogenomics (1); Telecare (1); PBL (1); Clinical Service Development (1); SOAP Note Review (1)

6. Services the College/Schools Offer to Residents:

Service	Yes	No
Recruitment Coordinator	18	26
Resident Seminars	42	12
Monthly Seminars	27	16
End of year recognition (plaques, certificates, dinners)	52	6
Research assistance	47	6
Pager/beeper	37	13
Office space	43	11
Computer access	55	6
Parking	36	15
Other: See below		

Other services: Staff Support (1); Health benefits (1); Faculty title (4); Palm Pilot (1); Travel funds (13) DI Center/Library (1); Health Insurance/Retirement benefits (3); Lab coat (1); Textbooks (1); Public transportation vouchers (1); Tuition remission (1); Supplemental stipends for extra teaching (1).

7. What financial arrangements have you developed for your residencies? Are you satisfied with the arrangement?

66% of the respondents with residency programs indicated that resident was paid by the hospital with the college paying part of the resident's salary and/or benefits. Additionally 36% indicated that the resident is funded by a third party (e.g. by a pharmaceutical company).

Appendix 4. Examples of Educational Programs for Residents

University of Tennessee College of Pharmacy

2003 Post-Doctoral Resident and Fellow Symposium
(supported in part by an educational grant from Pfizer)

"A Focus on Research Development and Teaching Effectiveness"

Fogelman Executive Conference Center
The University of Memphis
Memphis, Tennessee

Friday, August 15, 2003

12:00 p.m. - 1:00 p.m.	Registration
1:00 p.m. - 1:15 p.m.	Welcome and Introduction to Conference Dick R. Gourley, Pharm.D. David K. Solomon, Pharm.D., FASHP
1:15 p.m. - 2:00 p.m.	"Emotional Intelligence and Leadership: Challenges for Residencies and Beyond" Daniel Ashby, MSc, FASHP
2:00 p.m. - 2:45 p.m.	"Basic Principles of Research Design" Bradley Boucher, Pharm.D., BCPS
2:45 p.m. - 3:30 p.m.	"Developing and Drafting a Proposal for the Resident Project" Marilyn Lee, Pharm.D., BCPS
3:30 p.m. - 3:45 p.m.	Break
3:45 p.m. - 4:30 p.m.	"Review of the Institutional Review Board Process" Peter Chyka, Pharm.D., DABAT, FAACT
4:30 p.m. - 5:15 p.m.	"Strategies for Teaching Effectiveness" Rex O. Brown, Pharm.D., BCNSP
5:15 p.m. - 5:45 p.m.	Model Resident/Fellow Presentations Eric Mueller, Pharm.D. Jamie Bubla, Pharm.D. Joseph Swanson, Pharm.D.
6:30 p.m. - 7:00 p.m.	Reception - Spaghetti Warehouse
7:00 p.m. - 8:00 p.m.	Dinner - Spaghetti Warehouse

Saturday, August 16, 2003

7:30 a.m. - 8:00 a.m.	Continental Breakfast and Viewing of Resident Poster Presentations
8:00 a.m. - 9:00 a.m.	"Preparing and Presenting a Professional/Scientific Abstract or Poster" Robbie Parker, Pharm.D., BCPS
9:00 a.m. - 10:00 a.m.	"So You Want to Get Published...Views from the Journal Editor's Desk" Colin Gittens
10:00 a.m. - 10:15 a.m.	Break
10:15 a.m. - 11:30 a.m.	"Effective Didactic and Experiential Teaching" Joanna Hudson, Pharm.D., BCPS
11:30 a.m. - 12:00 p.m.	Symposium Summary and Evaluation David K. Solomon, Pharm.D., FASHP
Noon	Lunch will be provided

Glossary

Graduate pharmacy education-refers to pharmacy residencies, specialized residencies, and fellowships.

Postgraduate professional education-AACP coined this phrase in the Commission to Implement Change Background Paper IV to refer to pharmacy residencies, specialized residencies, and fellowships.

Pharmacy Practice Residency-organized, postgraduate experiences in defined areas of practice that enable entry-level practitioners to enhance existing competencies and/or acquire additional competencies that exceed entry level.

Specialized Residency-an organized, directed, postgraduate training program that centers on the development of the knowledge, attitudes, and skills needed to provide pharmaceutical care in a specialized area of pharmacy practice.

Fellowship-a directed, highly individualized postgraduate training program designed to prepare participants to become independent researchers

Certificate Program-a structured and systematic postgraduate education and training experience for pharmacists that are generally smaller in magnitude and shorter in duration than degree programs, and that impart knowledge, skills, attitudes, and performance behaviors designed to meet specific practice objectives.

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