ACCP White Paper

Essential Components of a Faculty Development Program for Pharmacy Practice Faculty

American College of Clinical Pharmacy
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Prospective, ongoing faculty development programs are important in the initial orientation and short- and long-term development of faculty in higher education. Pharmacy practice faculty are likely to benefit from a comprehensive faculty development program due to the complex nature of their positions, incomplete training in select areas, and multiple demands on their time. The need for faculty development programs is supported by the increased need for pharmacy practice faculty due to the increased number of colleges and schools of pharmacy, expanding enrollment in existing colleges and schools, and loss of existing senior faculty to retirement or other opportunities within or outside the academy. This White Paper describes a comprehensive faculty development program that is designed to enhance the satisfaction, retention, and productivity of new and existing pharmacy practice faculty.

A comprehensive faculty development program will facilitate growth throughout a faculty member's career in pertinent areas. The structure of such a program includes an orientation program to provide an overview of responsibilities and abilities, a mentoring program to provide one-on-one guidance from a mentor, and a sustained faculty development program to provide targeted development based on individual and career needs. The content areas to be covered in each component include the institution (culture, structure, roles, responsibilities, etc.), student-related activities, teaching abilities, scholarship and research abilities, practice abilities and the practice site, and professional abilities (leadership, career planning, balancing responsibilities, etc.). A general framework for a comprehensive pharmacy practice faculty development program is provided to guide each college, school, department, and division in the design and delivery of a program that meets the needs and desires of the institution and its faculty.

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The need for faculty development programs in higher education is great for several reasons: 1) increases in the complexity of higher education; 2) demands from internal and external constituencies[1]; and 3) the necessity to balance teaching, scholarship, service, and personal responsibilities. Pharmacy practice faculty experience the unique and additional challenges of providing clinical services, training residents and fellows, assisting in the education and development of other health care providers, and assisting in the advancement of the profession of

pharmacy. In addition, the current dramatic increase in new Doctor of Pharmacy programs and growth in existing programs has increased the importance of recruitment,[2] development, and retention of pharmacy faculty, particularly those in pharmacy practice. Between 1995–1996 and 2000–2001, the majority of new assistant professors at schools of pharmacy were clinically trained, non-tenure track pharmacy practice faculty.[3] The aging and retirement of "baby-boomer" faculty, increased career opportunities for existing faculty, and increased emphasis on clinical training in pharmacy school curricula is likely to increase the future need for pharmacy practice faculty.

Many new pharmacy practice faculty have 1 or 2 years of post-graduate residency training in a patient-care environment,[4] while a much smaller proportion have over 2 years of training or work experience. With the exception of providing patient care, these new faculty members may not be prepared for a career in which substantial productivity is expected in teaching, scholarship, and service.[4] Most residencies and fellowships provide limited opportunities for teaching, but only select residency programs offer formalized training in teaching methods.[5–10] Residencies and fellowships include required research activities that appear to be valuable,[11] but residency programs focus on the development of practice abilities rather than research abilities. The impact of residency and fellowship programs on the development of research and scholarship abilities is unclear.

The expectation for successful performance of unfamiliar tasks and the need for balancing numerous responsibilities can create a stressful transition into academia,[12] increased job dissatisfaction, anxiety, and depression.[13] Exposure to a new culture and learning to function in a new environment can significantly add to this stress.[14] Without some guidance from the school, department, or a mentor or network of mentors, new faculty can become isolated and lost—causing them to leave academia or preventing a clear development plan from emerging as they progress toward promotion and/or tenure. The goals of a comprehensive faculty development program are to enhance faculty abilities and productivity, which are likely to result in diminished stress, enhanced job satisfaction, and improved recruitment, retention, and overall success.

The extent to which colleges of pharmacy currently provide faculty development programming is unclear. According to one survey, half of administrators and deans reported faculty development programs at their institutions,[15] but it is unclear what portion of those are formal, structured programs. Sabbatical leaves are available at most institutions, but most pharmacy practice faculty do not take advantage of these opportunities for development and renewal. The Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree adopted in 2006 by the Accreditation Council for Pharmacy Education (ACPE) include the need for faculty development programs and outline the need for development in teaching, scholarship and research, practice, professionalism, leadership, service, and the use of technology.[16] However, these Standards provide little guidance on how to meet those needs.

Faculty development programs should not be created as separate entities, but should become part of the culture of the college or school of pharmacy. A comprehensive orientation program and ongoing mentoring (formal or informal) are needed to facilitate a smooth transition for new faculty into the academy. While clearly important for junior faculty, such programs are important throughout a faculty member's career.[17] A variety of faculty development program formats have been described,[3] but most program formats include an initial orientation program in combination with a longitudinal component.

Design and Delivery of a Faculty Development Program

An ideal faculty development program would

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be a multidimensional process that develops the needed and desired abilities throughout faculty members' careers using standardized and individualized activities. Faculty development programs should be well designed, prospectively planned and implemented, supported by adequate institutional resources (time, materials, personnel, budget, facilities, organization, culture, etc.), evaluated for quality and effectiveness, and an integral part of the institutional culture.[18] Resources are also available through national educational and professional organizations to support career development of pharmacy practice faculty,[19] but the institution bears the primary responsibility for providing a comprehensive faculty development program for its pharmacy practice faculty. A faculty development program must be meaningful and efficient and therefore encouraging, and allow faculty the time needed for participation. In general, a comprehensive faculty development program can be divided into three major process elements: 1) comprehensive orientation program; 2) mentoring; and 3) ongoing development of specific abilities (Table 1). It is expected that each of these major process elements will include development in each content area (institution, teaching, research and scholarship, practice site and service, and professional abilities) based on the changing needs of faculty and the institution, including those areas highly valued by faculty and needed for promotion, tenure, and sustained growth (Table 1).[20, 21]

The remainder of this White Paper describes the essential components of a comprehensive faculty development program. Where possible, pertinent literature and examples from colleges and schools of pharmacy, medicine, nursing and other health professions are provided. Select model programs have been provided to assist in the development of institution- and department-specific faculty development programs.

Faculty Orientation Programs

Rationale

A detailed faculty orientation program serves

Table 1. Suggested Structure of a Comprehensive Faculty Development Program for Pharmacy Practice Faculty

	Program component		
	Orientation	Mentoring	Ongoing development
Timing	Early	Early and Throughout	Throughout
General Design	Standardized	Individualized and/or Self-Directed	Standardized, individualized, and/or self-directed
Activities	Group activities	One-on-one activities	Group, one-on-one, and/or individual activities
Content Depth & Breadth	Overview Introductory Broad	In-depth Focused	Variable depth Broad overall Focused sessions
Content Area			
Institution	Structure Policies & procedures Physical facilities	Culture Practices	Updates Refresher sessions
Student-Related	Advising	General approach	Specific abilities
Teaching	Expectations	General approach Specific abilities	Specific abilities
Scholarship & Research	Expectations	Goals and direction Specific abilities	Specific abilities
Practice	Site orientation	Goals and direction Specific abilities	Specific abilities
Professional	Time management Balancing priorities Career planning	Career planning Balancing priorities Leadership	Leadership Balancing priorities Meeting career goals

as the logical first step in professional networking, socialization, and acclimation to the academic world for new pharmacy practice faculty by addressing immediate issues and needs of new faculty as well as assisting in long-term planning.[22] The faculty orientation program can also serve as the foundation for the faculty development program. The 2006 ACPE Standards for Doctor of Pharmacy Programs call for orientation of faculty in general and specifically for experiential teaching (Guideline 14.6) and the use of the technologic and educational modalities (Guideline 25.10).[16] Similarly, the final report from the 2004–2005 Academic Affairs Committee of American Association of Colleges of Pharmacy (AACP) indicated that, "AACP member institutions should develop formalized orientation programs for new faculty that include and emphasize aspects of academic appointments that pertain to the multitude of academic success measures (e.g., in teaching, research, university and community service, patient care service)."[23] Successful implementation of faculty orientation, retention, and development programs and the impacts on faculty development from some colleges and schools of pharmacy have been described.[24] These programs vary significantly in content, depth, and breath. A 2004 survey of first-year pharmacy practice faculty in 82 colleges and schools of pharmacy in the United States found that 77% (34/44 usable surveys) of colleges and schools provided a formal orientation program and 80% of respondents felt that the orientation programs positively influenced their success during the first year.[25] However, respondents felt the need for further development, particularly in the areas of teaching and scholarship.

Goals and Desired Outcomes

The overall goal of a comprehensive orientation program should be to provide the new pharmacy faculty member with the information and tools necessary to integrate themselves into a complex organization and enhance their ability to fulfill their roles and responsibilities in teaching, scholarship, clinical practice, and service. It should also provide new faculty members with opportunities for professional socialization, networking, and collegiality within the institution and for development of professional abilities. This orientation should increase understanding of institution-specific operational procedures, encourage active participation in faculty governance, and stimulate planning for teaching, research, and service activities.[22] Effective communication practices, which are associated with career success,[26] can be initiated and developed during orientation programs.

Essential Components

The essential components of a comprehensive orientation program for pharmacy practice faculty include a general overview of the institution; an overview of responsibilities; and initial development of abilities in teaching, scholarship and research, student service, patient care, committee work and other academic service, and professional attributes (Table 2). The depth of coverage of those topics may vary based on the infrastructure and needs of the organization and the needs of the new faculty, but generally should be introductory and global. Faculty should leave with a basic understanding of the institution and the college or school of pharmacy, the institution's mission and administrative infrastructure, faculty roles and responsibilities, and how to obtain additional information or assistance. Self-study, time spent performing tasks, mentoring, and ongoing development programs can enhance the depth of understanding of the pertinent elements and further enhance the orientation program.

Assessment of Program Effectiveness

To our knowledge, there are no formal studies that evaluate the short- and long-term effectiveness of faculty orientation programs at colleges and schools of pharmacy. While many schools have orientation programs, few appear to have formal, systematic assessments of the effectiveness of the programs and no data are available that describe the longitudinal impact of such programs. A basic plan for assessing a faculty orientation program would include collecting data from participants at the end of the orientation program as short-term data and at the end of the first or second year to assist in planning the next orientation program. Orientation program planners should also consider informal or formal assessments conducted during the delivery of the program to make any needed adjustments and a formal, comprehensive review of the orientation program every 3 to 6 years to determine the long-term impact of the orientation program and

Table 2. Suggested Components of a Comprehensive Faculty Orientation Program

General Categories	Specific Components
General Overview of the Institution and Academic Service	• General human resource orientation (e.g., benefits enrollment, name badge, keys, information technology/computer orientation, etc.) • Tour of campus/building/practice sites/other pertinent locations • Review institution, school, and department mission, vision, goals, organizational structure, function, and funding • Overview of school committees and standing charges • Roles and responsibilities of faculty members, staff, administrators • Overview of annual evaluation, promotion and tenure processes and guidelines • Institution, school, and department policies, procedures, and process (e.g., travel, vacation, "moonlighting", etc.) • Introduction and socialization to faculty, staff, and administration of all departments
Teaching	• Overview of curriculum philosophy and structure • Review school policies and procedures for delivery of various courses (e.g., student failures, academic honesty policy) • Introduction and training to various teaching technologies (e.g., online course management program, distance learning technology, classroom podium, etc.) • Mechanics of course delivery at school for each type of course • Responsibilities of faculty members with regards to team membership or team leadership for interdisciplinary or team-taught courses • Communication methodologies for faculty and students • Active teaching methodologies in place at institution • Writing and assessing learning objectives • Exam question writing and analysis (e.g., psychometrics) • Using student and peer evaluations • Dealing with difficult students and student evaluations
Scholarship	• Describe expectations for scholarship • Review policies, procedures, and processes for submission of research to the Institutional Review Board, school/institution, and rules for reporting • Identify key support services available to assist faculty in research and scholarship
Student related responsibilities	• Student advising and mentoring program and responsibilities (advisee's intellectual growth, goals, self-esteem, self-assessment, career choices, behaviors, relationships, etc., and referral for academic or psychological problems)[27, 28] • Legal requirements and ramifications (FERPA, etc.)
Patient care service	• Orientation to patient care site and faculty/staff. • Requirements for documentation of outcomes and patient care • Review performance evaluation system at the practice site • Review HIPPA requirements • Finding the appropriate balance between patient care and other academic and personal responsibilities
Professional abilities	• Career planning • Time management • Balancing responsibilities • Setting short-term and long-term goals • Dealing with change

This table was adapted in part from reference 24.

coordination with the other components of the faculty development program. These program assessments should target the impact of the orientation program on professional socialization and ability development.

Mentoring Programs

Rationale

An effective mentoring program should be an integral component of faculty development and is critical for improving faculty success, providing career satisfaction, and minimizing faculty turnover.[29–33] Mentoring is a process where an experienced person (the mentor) serves as a role model, sponsor, and/or teacher to assist and encourage a less experienced person (the mentee or protégé) in professional and personal growth.[19, 34–40] Group-based faculty development workshops and orientation programs are useful for addressing general needs of all faculty members, but a mentoring program is necessary to provide individual guidance. Resources are available for self-mentoring, but these should only be used as adjuncts to a mentoring program.[20]

Mentors can be invaluable in providing guidance for the mentee's understanding and development of scholarship and research, teaching, practice, academic service, and professional abilities. Collaboration on research projects may also benefit both the mentor and the mentee through increased productivity.[30] For teaching and clinical abilities, a mentor may assist in the development of teaching skills and guide junior faculty towards practice expectations, including methods for documenting outcomes and integrating teaching and/or clinical activities into scholarship. A mentor may also assist in the development of professional abilities such as independence, time management, efficiency, and maintaining balance in personal and professional lives. Receiving guidance from a number of mentors may assist in the development of general and specific skills and knowledge. Improved understanding of academic and institutional culture along with professional and personal growth may diminish early burnout and ultimately lead to increased career satisfaction and achievement.[3] In addition, new faculty often have feelings of isolation. A mentor can be invaluable in facilitating development of social and/or professional networks as well as new friendships.[33]

The extent of mentoring programs in colleges and schools of pharmacy continues to evolve. In a 1992 survey of 74 schools of pharmacy (66% response rate) by the AACP Section of Pharmacy Practice's Task Force on Women in Academia, formal mentoring programs were present in 8.5% of colleges and schools of pharmacy and 13.3% of departments and informal mentoring efforts in 75.7% of colleges and 91.4% of departments.[41] In response to an informal survey conducted in early 2006 for this White Paper, junior pharmacy practice faculty from 67 (75%) of 89 colleges and schools of pharmacy in the United States indicated that formal mentoring programs were present in 19% and informal mentoring programs in over 50% of institutions. In addition, many pharmacy practice faculty members continue their mentoring relationships with previous post-doctoral residency or fellowship preceptors.

Informal mentoring programs are more common than formal mentoring programs. However, "naturally occurring" mentoring has been shown to be generally ineffective.[33] While data addressing outcomes of formal mentoring programs are not available in the pharmacy literature, studies have been conducted in other disciplines. In a 6.5-year study of a formal mentoring program in sciences, social sciences, and humanities departments, new faculty participating in formal mentoring programs always came close to departmental expectations for scholarly productivity, always exceeded departmental expectations for adequate teaching by year 2 on campus, and were always rated as adequately collegial and cooperative by reappointment committees.[33] Several other observations of formal mentoring problems have been observed. First, avoiding pre-existing friendships between mentor-mentee pairs is advisable, as these tend to more commonly fail due to authoritarian and/or unrealistic expectations of mentees. Second, despite the widespread perception that mentoring is extremely time-consuming, brief, consistent meetings of only 10–20 minutes with occasional group meetings is all that is necessary.[42] Small talk during lulls is useful to maintain consistency and further develop bonds until issues arise. Third, despite widespread belief that the mentor-mentee pairs should be similar, cross-departmental pairings have been shown to work particularly well. Likewise, a mentor need not be a senior faculty member. Data have shown that pairings with senior mentors (e.g., >15 years experience) perform only marginally better than those with more junior mentors (i.e., <5 years).[33] Last, while payment may be useful for establishing mentor involvement initially, mentors often get as much, if not more, out of

the mentoring process, as it forces self-examination and reflection on ways to improve.[42]

Goals and Desired Outcomes

The expected outcomes for both the mentor and the mentee are professional and personal growth, career satisfaction, and faculty retention.[43] Professionally, the process may help the mentee to develop into a mature, independent scholar, teacher, clinician, and mentor. The specific goals for each mentor-mentee relationship should be allowed to vary based on the nature of the program as well as the needs of the mentee and experience of the mentor. Individual faculty are encouraged to develop a mentoring network over their career. A formal, assigned mentor program that targets mentees in the first 1 to 3 years of their hire may have a wide scope of expectations involving all major components of faculty roles and responsibilities (institution, teaching, scholarship, service, professional abilities). Informal, self-selected mentoring relationships that develop at any time during a career may target specific content areas based on the needs of the mentee. These informal, self-selected mentoring relationships are often necessary to develop skills in the varied areas pharmacy practice faculty are involved. A mentoring program is expected to complement the individual and group based developmental activities described in the other sections of this paper.

Essential Components

All faculty members should be provided mentoring opportunities, particularly early in their academic career through required or elective, formal or informal programs (Table 3).[44–47] The design of the mentoring program should be consistent with the institution's mission, goals, culture, and resources. A comprehensive mentoring program would contain two major components: 1) formal mentoring for the first 1 to 3 years after a mentee is hired; and 2) informal mentoring to occur at any time during a faculty member's career. The formal mentoring program should be well described, target major content areas for faculty development, and contain the following: an indication of the roles and responsibilities of the mentor and the mentee, criteria for becoming a mentor, and a process for selecting the mentor-mentee pairs or groups. An informal mentoring program should also be planned and described, but also enable flexibility. All mentoring programs should contain explicit guidelines for mentoring new faculty members. Table 4 lists ideal design features for a university-, college-, or school-based mentoring program, whether formal or informal. Table 5 lists the roles and responsibilities of the mentor and mentee. Of importance, any program should have scheduled assessments to evaluate progress to provide plans for required adjustments.

There are a number of types of mentoring programs that can be successful. The most

Table 3. Examples of Mentoring Programs

Mentoring Program and Description	Characteristics
Formal, required assigned one-on-one mentor program[44–46]	Roles and responsibilities are well defined; process is formal. Each new assistant professor is designated as a mentee. One mentor is assigned to each mentee, but mentors may have more than one mentee.
Formal, elective, assigned two-on-one voluntary mentoring program for women faculty[47]	Roles and responsibilities are well defined; process is formal. New faculty must apply to become a mentor, but this program is only for women. Two senior faculty mentors (at least one must be a woman) are assigned to one mentee.
Informal mentor program following formal mentoring[44]	Roles and responsibilities only broadly defined. The process appears elective and somewhat informal. Mentees were eligible after a formal mentoring 1-year program. Each mentee was assigned a peer advisory team of 2 mentors.
Informal mentor program	Roles and responsibilities may or may not be well defined. The process is elective, informal, and based on specific mentee needs. Each mentee seeks out their own mentor(s) based on specific needs.

Table 4. Design Features of a Faculty Mentoring Program

General Categories	Specific Components
Mentoring Program Description	General mentoring program goals and expected outcomes
	Process for determination of who will be a mentee and mentor
	Process for determination of the mentee-mentor pairing
	Roles and responsibilities of mentors and mentees
	Formal or informal mentorship agreements
	Expected activities
	Process for changing mentors
	Supporting documents and references
	Mentor training
	Program evaluation and assessment
Institutional Support	Administrative and faculty buy-in and support
	Administrative / faculty oversight of the program
	Financial support / release time
	Recognition and rewards for mentors
	Orientation and/or training sessions for mentor and mentee
	Assessment of the mentoring program
	Development of a culture of mentoring
Individualized	Specific goals and expectations
	Formal or informal agreement or contract
	Meeting schedule
	Self-assessment schedule
	Capacity to revise the relationship / program

appropriate mentoring model for pharmacy practice faculty and others in the complex environment of higher education may include a combination of a mentee-driven model, where the mentee directs his/her mentoring, and a multiple mentoring model, where each mentee is expected to develop multiple mentors that may include assigned, unassigned, peer and senior faculty mentors.[48] Mentoring programs described in the literature have been formal and/or informal, required or elective, included assigned and/or selected mentee-mentor pairs, and utilized various mentor-to-mentee ratios (1:1, 2:1, etc.) (Table 3). It is unclear if any of these types are more effective than others. An institution may offer a variety of programs and options for mentors and mentees to choose that will allow each relationship to flourish. This may enable more flexibility, while ensuring faculty-identified goals and assessment of progress.

Assessment of Program Effectiveness

The assessment of a mentoring program is generally based on observations from individual mentors and mentees. While mentoring program assessment obtains data that target the program, outcomes data regarding effectiveness in scholarship productivity, faculty morale, and success during the promotion and/or tenure process should also be collected. Both the mentor and the mentee should consider self-assessment and assessment of his/her mentor or mentee in order to improve their current relationship or determine the need for a change. The evaluation or assessment of mentors and mentees should be shared with the appropriate administrative personnel (department chair, division head, mentoring program coordinator, etc.) in order to improve future mentorships, identify ideal mentors, and reward faculty who serve as mentors.

Teaching Abilities Development

Rationale

Historically, the ability to teach was assumed to be part of content expertise,[49] but teaching proficiency is now recognized as a separate skill, requiring specific training. Pharmacy practice faculty members generally teach in a greater variety of settings than faculty in other departments, may be asked to teach students in other health care disciplines, and, therefore, have additional needs for faculty development in teaching. The demands of teaching in introductory and advanced pharmacy practice experiences, lectures, small group discussions, and other settings begin early in their academic appointment. Incomplete preparation for teaching often results in heightened anxiety for

Table 5. Roles and Responsibilities of the Mentor and Mentee.[29–32, 34, 43, 44, 47]

Content Area	Roles and Responsibilities	
	Mentor	Mentee
Interaction & Development of Professional Abilities	Guide in setting goals	Set measurable goals and timelines
	Guide in the development of a plan	Develop a plan
	Be available for and attend meetings	Schedule and attend meetings
	Allow adequate time for interaction	Allow adequate time for interaction
	Communicate openly and honestly	Communicate openly and honestly
	Meet consistently and in moderation	Meet consistently and in moderation
	Develop trust	Develop trust
	Be a good listener	Be a good listener
	Be a role model	Do not rely too heavily on the mentor
	Nonjudgmental assessment	Develop abilities and understanding
	Provide guidance, support and advice	Accept recommendations for improvement
	Network to assist mentee	Learn to network
	Refer to others with expertise, responsibility	Seek advice from others as well
	Discuss other professional abilities (leadership, mentoring, advising, career development, balance, etc.)	Discuss other professional abilities (leadership, mentoring, advising, career development, balance, etc.)
	Do not compete with the mentee	Do not compete with the mentor
	Maintain confidentiality	Maintain confidentiality
	Evaluate the success of the mentoring process	Evaluate the success of the mentoring process
	Recommend a change in mentors if needed	Consider a change in mentors if needed
	Accept thanks	Develop initiative
	Enhance mentoring skills	Become a mentor for others
Institution	Explain the institutional culture and organizational structure	Understand the institutional culture and organizational structure
	Explain unwritten rules and practices and the written policies and procedures	Understand the unwritten rules and practices and the written policies and procedures
	Introduce mentee to the community	Begin to network
Development of Teaching Abilities	Discuss philosophy, goals, and expectations of teaching	Discuss philosophy, goals, and expectations of teaching
	Review & evaluate course materials (syllabi, notes, slides, assignments,exams, etc.)	Provide course materials (syllabi, notes, slides, assignments, exams, etc.)
	Review & evaluate teaching style	Provide access for observing teaching
Development of Research & Scholarship Abilities	Discuss philosophy, goals, and expectations of scholarship and research	Discuss philosophy, goals, and expectations of scholarship and research
	Provide recommendations and guidance on selection of scholarly activities	Evaluate and consider recommendations for selection of scholarly activities
	Review grant applications, project proposals, manuscripts, abstracts, etc.	Review grant applications, project proposals, manuscripts, abstracts, etc.
	Collaborate if appropriate and feasible	Collaborate if appropriate and feasible
Development of Practice Abilities	Discuss philosophy, goals, and expectations of practice	Discuss philosophy, goals, and expectations of practice
	Review specific plans for practices ite development	Develop and provide specific plans for practice site development
	Review and evaluate practice and practice site	Provide observation of or access to practice and practice site materials

new pharmacy practice faculty as well as frustration for students, other faculty, and administration.[4] As a consequence, junior faculty tend to over-prepare for teaching responsibilities, which may result in difficulty meeting their research, practice, service, and other responsibilities.[3] It is no surprise that pharmacy practice faculty report a desire for formal faculty development to improve teaching skills.[4]

As noted above, half of administrators and deans reported faculty development programs at their institutions,[15] but the extent and depth of teaching skills development in faculty programs overall are unknown. Fortunately, the content and design of some teaching development programs in colleges and schools of pharmacy and medicine have been described in the literature (Table 6).[50–58] In addition, a number of colleges and schools of pharmacy or their parent institutions have developed centers or offices to enhance the teaching abilities of faculty.

Table 6. Examples of Faculty Development Programs to Enhance Teaching Abilities

Type of Program	Specific Program Components - Teaching Focus
2.5 day seminar[50]	Higher education Understanding students and learning Matching teaching goals to the teaching / learning activities Reflection in teaching Teaching portfolio development Creating a balance of teaching and other responsibilities
Formal multi-year program[51]	Orientation week Biweekly meetings with the department chair Formal department and college retreats Peer review
Web-based program[52]	Seven modules utilizing Boyer's model of scholarship[58] Select activities and readings Topics: prepare, test, assess, reflect, and document changes in their teaching practices Encouraged individuals to collaborate with other at their own institution to discuss topics and provide peer feedback
Medical faculty: 5-Session Weekend program[53]	One session on teaching skills
Medical faculty: Weekly meetings for 9 months[54]	3.5 hours per week for 9 months Limited, stable group of 4 to 6 individuals Variety of methods, including experience and reflection
Medical faculty: Year-long program[55]	University courses to provide foundation Independent study to work on specific educational projects devoted to curricular design, teaching evaluation or research in medical education Workshops for sharing, reflection, skill development Monthly seminars for sharing, reflection, skill development Attendance at a national conference
Medical Education Scholars Program (MESP)[56]	One-year program Competitive admission One half-day per week of release time Sessions in educational theory, assessment/evaluation, and teaching-skills development, etc. Required completion of a project
AACP Education Scholar Program[52]	Self-directed program Series of modules Development of a teaching portfolio Focus on learner-centered teaching methods Promote scholarship of teaching
ACCP Teaching & Learning Certificate Program[57]	Live interactive workshops Provide sessions on didactic and experiential education Mentoring and self-assessment opportunities Development of a teaching portfolio

Goals and Desired Outcomes

The primary goals for the teaching component of a pharmacy practice faculty development program are to enable faculty to successfully demonstrate the abilities (knowledge, skills, behaviors, attitudes, etc.) needed to facilitate and enhance student learning, evaluation, and assessment in a variety of teaching settings (lecture, discussion, facilitation, seminar, laboratory, and experiential). Additional goals are to develop the ability of faculty to effectively participate in the design, management, and assessment of courses and curricula as a whole. A participant completing a formal teaching development program would be expected to have increased confidence, enjoyment, efficiency, and effectiveness in teaching. It would also be expected that a participant would be able to utilize a variety of methods to enhance student learning and evaluation; and to demonstrate improved peer-, student-, and self-evaluations of their teaching.

Essential Components

The essential components of a program designed to enhance the teaching abilities of

pharmacy practice faculty should be fundamentally based (Table 7) and focus both on teaching in the classroom and experiential settings. Instruction in curricular design and educational policies and procedures should be a core component for all faculty, but additional detail and lessons in these areas may be necessary for those with significant curricular responsibilities.

The structure of a faculty development program in teaching abilities should have a longitudinal design and include general, faculty-wide components in addition to individualized components. An initial condensed orientation program on teaching abilities is an excellent starting point. Such programs have the advantage of time efficiency, separation of the program from other responsibilities, and the potential to increase attendance.[3] Pharmacy colleges and schools may be able to collaborate with other clinical education units within their institutions to provide instruction on educational principles and methodology more efficiently. In addition, help should be sought from any existing university-wide resources like teaching excellence centers, which are geared to provide teaching development support across many different curricular areas and standardized teaching assessment tools. Longitudinal components of the program have the ability to provide an active learning environment for faculty through the design, development, critique, and utilization of teaching abilities. For example, after a session on writing goals and learning objectives, participants may write goals and objectives for a lecture or experiential rotation, and then bring the objectives to the next session for sharing and peer feedback. The longitudinal components of a teaching abilities development program should be ongoing and be available to all faculty members. Workshops, mentoring, student and peer assessment,

Table 7. Essential Components of a Faculty Development Program in Teaching Abilities

General Categories	Specific Components
Design	Review of the curriculum and expected outcomes
	Role of courses in the curriculum
	Course design
	Writing goals and objectives - course, lecture, etc.
	Developing an educational philosophy
	Faculty members role in various settings
	Learning styles of students
	Technology-applications and uses
Teaching and enhancing learning	Student-centered and active teaching methods
	Developing educational materials (syllabi, lectures, lesson plans, scoring rubrics, readings, etc.)
	Delivering a lecture
	Facilitating a discussion in large and small group sessions
	Teaching in experiential and laboratory settings
Managing the learning environment	Civility
	Academic integrity
	Disability accommodations
	Professionalism-student and faculty
	Being a role model
Assessing and evaluating students	Consistency among goals, delivery methods, and assessments
	Overview of types of student evaluation and assessment
	Providing feedback
	Writing, grading and evaluating multiple choice and other types of questions
	Developing and using scoring rubrics
	Formative and ungraded methods to assess student learning
	Course grades
	Academic standards
Course and instructor evaluations	Informal, formative student feedback (during the course)
	Student evaluations
	Peer evaluations
	Self evaluations
	Teaching portfolios
Scholarship of teaching	Previous and current examples

individualized one-on-one consultation, and attendance at local, regional, and national conferences on teaching can be used in the development of teaching abilities over time.

If possible, an on-campus faculty development program in teaching abilities should model the techniques to be used. Sessions should be held in an active learning format whenever possible in order to model and reinforce teaching strategies that participants may employ in their own teaching.[3, 53] The use of standardized learners for teaching and feedback scenarios may be a useful format for active learning.[59] The ACCP Academy offers a well-designed Teaching and Learning Certificate program.[60] There are a number of other resources that can be used to enhance teaching and evaluation.[61–70]

Assessment of Program Effectiveness

There is a need to assess the impact of a faculty development program in teaching abilities, but few examples are described in the literature.[49] To date, many program assessments are limited to evaluation of content and instructional approach by participants immediately after sessions. Further, since programs at individual institutions are small and institutional culture is unique, small sample size and variability among institutions may limit the generalization of results. Quasi-experimental and qualitative research has documented increases in teaching skill by observation, student report, student examination scores, and self-report.[49] In an intensive longitudinal faculty development program for teaching, participants reported improved teaching effectiveness and enjoyment, in addition to improved abilities to give feedback and evaluate learning, compared with nonparticipants.[54] Evaluations of other programs in medicine have documented significant self-reported improvements in teaching skills,[53] confidence,[71] promotions in rank, educational awards,[56] and course development.[55] A review of curriculum vitae has documented an increased number of scholarly pursuits related to teaching following a faculty development program in teaching.[56] Teaching portfolios can also be very useful. Although not reported, assessing the impact of the program on confidence, attitudes, stress levels, and the recruitment and retention of pharmacy practice faculty can also be useful. The final assessment of the impact of faculty development in teaching can be completed based on performance as documented through improvements in teaching evaluations (by students, peers, and other observers), receipt of teaching awards or competitions at the departmental, school/college, university, and national levels,[72, 73] and scholarship of teaching through articles, abstracts, and invited presentations on teaching at the institutional, regional, and national level.

Research and Scholarly Abilities Development

Rationale

The need for research and scholarly abilities development is based on and should be coordinated with the expectations of the faculty member and the culture of the institution. Scholarship may be defined in a number of ways, including Boyer's widely accepted categories of discovery, integration of knowledge, teaching, and service.[58] To the best of our knowledge, the scholarship and research abilities of new or existing pharmacy practice faculty or of those completing residencies or fellowships have not been studied. However, the development of problem-solving skills and grantsmanship in a majority of residencies and fellowships may be lower than the expectations set forth by granting agencies that support funding opportunities for pharmacy practice faculty. Pharmacy practice faculty members are expected to demonstrate scholarship and research productivity early and throughout their careers. According to a study published in 2004, grant application and manuscript submission were expected in 53% of first-year tenure track pharmacy practice faculty and 19% to 23% of first-year nontenure track pharmacy practice faculty.[25] Initiation of research and presentation of research were expected in 71% of first-year tenure track pharmacy practice faculty and 23% of first-year nontenure track pharmacy practice faculty.[25] A more recent survey of ACCP members revealed that those working in academic settings published an average of 1.9 publications per year, with an average of 2.6 and 0.7 original research articles per year for faculty in research-intensive and non-research-intensive positions, respectively.[74] A total of 64% of all respondents had research-intensive positions, despite formal research training for only 27% to 34% of respondents, and 90% of faculty with research-intensive positions held grants over the 5-year period. These results may not accurately describe the research productivity by pharmacy

practice faculty as a whole due to the low response rate to this survey and the restriction to only ACCP members.[74] Other estimates have indicated that pharmacy practice faculty average approximately 0.5 publications per year. These data indicate the expectations for scholarship and research and the subsequent need for faculty development in this area.

The ability of a college or school of pharmacy to develop and sustain scholarship is dependent on the development of a culture of scholarship and research—a culture that includes faculty mentoring and development.[75] In a medical school, individual research productivity is associated with mentoring in addition to personal drive, sufficient time, size and expertise of the department, culture of scholarship and research, and the communication network among scholars.[32] Pharmacy practice faculty appear to highly value securing a major grant, authoring an article in a refereed journal, authoring a textbook or chapter in a textbook, and presenting to a national audience as an invited speaker.[76] Research and scholarship have also been identified as the area where pharmacy practice faculty members experience the most job stress.[77] Lack of sufficient formal training, prior experience, and allocation of time for research are the most common reasons for this stress. Faculty development in scholarship and research is expected to diminish this stress and enhance satisfaction and productivity.

Goals and Expected Outcomes

The goals of a structured scholarship and research development program are to: 1) inform the faculty of institutional expectations and definitions of scholarship and research; 2) enhance the faculty's ability to develop, establish, and maintain a successful scholarship and research program; 3) enhance the ability of faculty to identify sources for funding and venues for presentation and publication; and 4) enhance the likelihood of faculty to demonstrate productivity in scholarship and research (receive extramural research funding and publish abstracts, manuscripts, chapters, and books). Institutional goals generally include enhancing a culture of scholarship and research as well as enhancing scholarly productivity and recognition.

Essential Components

The essential components of a pharmacy practice faculty development program in these disciplines include an overview and orientation to expectations in scholarship and research. In addition, abilities in conducting and managing scholarship and research, obtaining funding, and writing must be honed (Table 8). These components must be integrated into the culture and structure of each institution based on its mission, vision, and goals.

The framework for a faculty development program for scholarship and research must be in place before faculty are hired and include a supportive culture, administration, and structure in addition to clear delineations of the expectations of faculty based on type of appointment, stage of career, and definitions of acceptable scholarship and research.[78, 79] Seed grant programs or a competitive institutional grant program for young faculty should be considered if resources allow. Infrastructure for

Table 8. Essential Components of Faculty Development in Research and Scholarship Abilities

General Categories	Specific Components
Overview and orientation	Definitions and expectations of scholarship and research
	Institutional support
	Developing a long-term plan
	Integrating scholarship and research with teaching, practice, service
	Balancing research and scholarship with other responsibilities
Conducting and managing scholarship and research	Organizing time and activities for continued production
	Identifying areas / topics for research and scholarship
	Identifying collaborators and mentors
	Creating and managing budgets
	Institutional review board policies and procedures
	Data collection, storage, and analysis
Funding	Sources of funding: internal and external
	Application
Writing Skills	Grant writing
	Selecting a target journal, meeting, etc.
	Scientific and medical writing skills
	Editing skills
	Performing external peer review of manuscripts for biomedical journals
Presentation Skills	Creating a poster
	Creating and delivering a platform presentation

budget management, research coordination, and utilization of resources within and outside the department and the college or school is also needed to optimize development and productivity in scholarship and research. The development of a scholarship or research committee or a grant development project may also enhance the pharmacy practice faculty member's interest, attitude, and abilities in scholarship.[80, 81] The department and/or college should provide the faculty member the opportunity to enhance abilities and collaborations by organizing faculty research seminar series within the department as well as discussion sessions, interest groups, and seminars with other groups of scholars or researchers. Faculty should be informed of grant sources, particularly those available from national pharmacy organizations and those that target junior pharmacy faculty (Appendix A). Finally, a formal or informal mentoring program, as noted above, may be key in the development of research and scholarship abilities and productivity.[19, 32, 74, 75]

Scholarship and research abilities should be developed utilizing a multidimensional approach, which may include initial orientation, mentoring, general and specific workshops and seminars, pertinent books and other resources (see below), internal grant and manuscript review process, grant and manuscript submission, response to reviewers, and sabbaticals. Research-intensive departments and institutions should consider developing faculty research fellow programs with National Institutes of Health (NIH)-funded or other successful grant procuring mentors and providing support for faculty to participation in the programs offered by the NIH (K12 Clinical Scientist Development Program and other programs), ACCP, American Society of Health-Systems Pharmacists (ASHP),[82] Pharmaceutical Research Manufactures of America (PhRMA),[83] and other organizations. A number of other resources are also available to assist pharmacy practice faculty in the development of abilities in research and scholarly activities, including conducting research,[82] research design,[84, 85] funding and grant writing,[86–91] statistics, medical and scientific writing,[92–98] outcomes research,[99] and the scholarship of teaching.[100–103]

Assessment of Program Effectiveness

A faculty development program for scholarship and research can be assessed by tracking individual and group productivity and recognition. Examples of productivity measures include the number, type, and significance of publications, grant proposals, grant awards, and abstracts. Receipt of national pharmacy organization research awards documents achievement through acknowledgment by peers.[72] Acknowledgment is also indicated by being selected to serve as a mentor for junior faculty, invited speaker, reviewer for abstracts or grants, peer reviewer, or member of an editorial board for a professional publication. The culture of scholarship can be assessed by studying mentoring and collaboration among faculty as well as by the presence of research seminars, review panels, working groups, and research centers, among others. Finally, faculty surveys or focus groups can be used to assess the culture of scholarship and faculty satisfaction and needs.

Practice Site and Abilities Development

Rationale

Practice site development and the delivery of pharmacy practice services require the faculty member to master a complex range of skills, including administrative and clinical problem solving, time management, and adaptability to continuous changes in pharmacotherapeutics and the practice environment. In addition, pharmacy practice faculty must learn to balance competing priorities from non-practice site activities (e.g., didactic teaching, research and scholarship, and academic service) and integrate clinical practice with teaching and scholarly activities. Requiring completion of an accredited residency or equivalent experience for all pharmacy practice faculty would enhance the development of the needed practice and practice site abilities. The vast majority of pharmacy practice faculty members have completed at least 1 year of residency training and most are well trained to delivery pharmaceutical care services. However, many receive none to limited training on establishing a new practice site and further developing an existing practice site, particularly in the complex settings of a full-time faculty position where numerous non-practice activities and responsibilities coexist.

There is a paucity of literature that describes the orientation and development of the practice abilities of practice faculty. There appears to be considerable variability ranging from providing little or no direction to providing guided

development of practice sites and the practice itself. Many colleges and schools of pharmacy have provided orientation or developmental programs for adjunct pharmacy practice faculty,[104] but there are few reports of organized programs for the practice development of full-time faculty. Faculty orientation programs providing guidance on developing a clinical practice site were experienced by 28% of first-year tenure track pharmacy practice faculty and 10% of first-year nontenure track pharmacy practice faculty.[25] Orientation programs are an excellent starting place, but should not be expected to serve as comprehensive programs for establishing and developing practice sites, practice abilities, and skills to integrate clinical practice with other roles and responsibilities.

Goals and Expected Outcomes

In general, the goals of faculty development in practice abilities are to enable pharmacy practice faculty to establish and develop a practice setting that allows for patient care, teaching, scholarship, and personal development. Such a program should promote the development of a clinician-educator who is able to effectively integrate clinical expertise, clinical practice, didactic and experiential teaching, and scholarship and research opportunities. Development would hopefully improve retention and enhance promotion of pharmacy practice faculty. The outcome of a practice should meet the Institute of Medicine's five core competencies: provide patient-centered care, work in interdisciplinary teams, employ evidence-based practice, apply quality improvement, and utilize informatics.[105] Finally, faculty development in practice abilities should enable faculty to respond to new expectations, challenges, and opportunities in the health care environment.

Essential Components

The development of pharmacy practice faculty in the areas of practice should be accomplished in the three major elements of a faculty development process: faculty orientation, faculty mentoring, and targeted ongoing faculty development and assessment (Table 9).[19] The major categories to be addressed include practice site development and management, clinical service provision, clinical expertise development

Table 9. Essential Components of Faculty Development in Practice Abilities and Practice Site Development

General Categories	Specific Components
Administrative aspects of the practice site	Expectations, roles, and responsibilities of faculty
	Orientation to the practice site
	Administrative structure of the practice site
	Designing and developing the practice
	Time management
	Business planning
	Billing for services
Providing clinical / practice service	Philosophy of practice
	Patient care activities and processes
	Clinical expectations, roles, and responsibilities
	Clinical privileges
	Practice site committees, etc.
	Documentation of services provided
Maintaining and enhancing clinical expertise (professional development)	Life-long learning
	Certification and credentialing
	Training
	Continuing education
	Seminars
Integration of clinical / experiential teaching and training	Expectations for experiential education of students
	Expectations for training of residents and fellows
	Experiential and trainee program description
	Defining the expectations, roles, and responsibilities of students and trainees
Integration of scholarship and research	Scholarship of teaching and of practice
	Identifying research topics (e.g., practice site needs and outcomes)
	Involving students and trainees in research
	Institutional review board

and maintenance, and the integration of clinical service, teaching, training, and scholarship and research (Table 9).[19, 106] Initial orientation programs are expected to provide general approaches to practice development, but mentoring and ongoing developmental programs are more likely to be individualized and targeted. The ongoing developmental program should contain a number of options, including institutional, regional, and national workshops; seminars; programs; and educational or training sessions.

Faculty should be encouraged to take advantage of the practice standards and guidelines, practice development programs and materials, and position statements from ACCP,[107–110] the American Pharmaceutical Association (APhA), ASHP,[111] the American Society of Consultant Pharmacist (ASCP), National Institute for Pharmacist Care Outcomes (NIPCO), and others. Practice faculty should also be encouraged to pursue and maintain board certification by the Board of Pharmaceutical Specialties (BPS) and/or other credentialing that is specific for their practice through national and regional pharmacy organizations (Appendix B). Other types of faculty development programs may be developed to meet specific needs and have been described in the medical education literature, including faculty development programs in palliative care[112] and cultural competence.[113] The department chairperson or mentor can assist in directing the faculty member in the development of practice abilities and the practice site as well as integration with other roles and responsibilities. It is critical to engage the site's pharmacy and/or medical leadership in order to prevent the development of competing responsibilities and expectations. Due to the considerable variability in practice sites utilized and the expectations of practice faculty in those settings, each institution should design a practice developmental program that is specific to the roles, responsibilities, and expectations of its faculty.

Assessment of Program Effectiveness

A faculty development program for practice site and abilities development can be assessed by tracking individual and practice status, productivity, and recognition. The assessment of faculty development in clinical practice and the clinical practice site can include feedback from patients, colleagues, managers, other health care professionals, trainees, and students. Documentation of site-based patient care outcomes, generation of revenue or cost savings, number of visits or consults, and patient load can be very useful in selected settings and may also result in scholarly publication or presentation of those results.[114] Pharmaceutical care and other pharmacy practice competencies as well as practice outcomes can be assessed using standardized instruments or tools.[106, 108, 115–117] In addition, national board certification (see Appendix B); fellowship status in national organizations; and national, regional, and local awards for innovative and effective practices are useful measures to assess practice development. Finally, an assessment of development for practice site and abilities can include documentation of support for certification and development.

Professional Abilities Development

Rationale

Pharmacy practice faculty members are expected to perform well in a number of diverse settings, requiring a broad set of abilities. Since few faculty have formal education or training in these areas, faculty should have opportunities for the development of a set of professional abilities. While the development of time management, advising, mentoring, and budget development and management skills are important and have been discussed in other sections, the development of abilities in leadership,[118] professional organization involvement, community volunteerism, and career planning are also important for the development of pharmacy practice faculty. Further development of professional abilities benefits the individual, the institution, and the profession.

Understanding and implementing leadership that is not tied to position[119] is a critical ability linked to both individual and institutional success. Leadership abilities enhance the development and delivery of teaching, training, scholarship, practice, mentoring, and service responsibilities. Leadership development will aid individuals in assuming roles over the course of their career that will enhance their success in the promotion and tenure process. Pharmacy practice faculty are often limited in gaining influence within their academic institutions due to the high practice and leadership demands at their clinical practice site. Faculty accepting

leadership responsibilities in national pharmacy organizations have enabled those organizations to move forward and enhance pharmacy practice and education.[120] Although faculty may be expected to become leaders in professional organizations as their careers progress, they generally receive little development toward that goal. Leadership programs may also assist in preparing faculty to assume administrative and mentoring roles in colleges and schools of pharmacy and also help correct the disproportionately lower number of leadership positions in colleges and schools of pharmacy held by women and minorities.[121]

Career planning and networking are also minimally covered in faculty development programs. Career planning often focuses solely on progression toward promotion and tenure. Career planning should be multifaceted and continuous. It should focus not only on an understanding of the various career pathways, but also on achieving a balance among personal and professional life as well as among teaching, scholarship, and service responsibilities.[122] A majority of current pharmacy practice faculty members enter academia as practitioner-educators, but then evolve into educator-practitioners as their careers mature. Developing an effective professional network is an important component of career development. Faculty should be encouraged to expand their perspective and influence through the development of an ever-expanding network. Retaining faculty is at least partially dependent on career planning and networking that evolves over time.

Goals and Desired Outcomes

The goals of development of professional abilities are to enhance pharmacy practice faculty abilities and understanding of their current and future roles in the department, school, college, university, profession, and community—and enabling them to achieve personal success, contribute to the advancement of their institution and the profession, and to better plan for their future.

Essential Components

An ideal faculty development program in the areas of professional abilities should provide a variety of opportunities for the development of specific abilities in all faculty members based on needs, desires, and expectations for current and future roles. Examples of specific areas for professional development include leadership, management, career planning, and networking (Table 10). Development of professional abilities can be based on needs identified in short-term and long-term career goals, annual performance evaluations, and pre-promotion or pre-tenure reviews. Full realization of professional abilities is targeted not only to acquiring knowledge but implementing this knowledge in the faculty member's current environment.

The essential components of a faculty development program should include the goals of such a program, criteria for participation, methods for assessment of faculty abilities, and then plans for development in the areas identified. There are a variety of methods to provide faculty development in these areas, including mentoring, on- and off-campus programs, and self-directed development through distance education or reading (Appendix C). Opportunities for peer interaction, networking, role-playing, and real-life application of knowledge and skills will enhance ability

Table 10. Suggested Components of Faculty Development in Professional Abilities

General Categories	Specific Components
Leadership	Leadership definition and theories Leadership abilities Leadership styles
Management	Personnel management Budget management
Career planning	Potential career paths Short- and long-term planning Sabbaticals Evolving career plans
Networking	Benefits and risks of networking Strategies for networking

development. Combining these components with a mentor where actual situations can be discussed, strategies determined, and opportunities for debriefing following implementation exist would provide the broadest opportunity for growth and development. An up-to-date library on pertinent topics may prove very useful.

Leadership Development—an Example

A comprehensive leadership development program includes an inventory of current abilities and development plan for enhancing abilities.[123] Faculty leadership abilities can then be developed through the numerous leadership development programs and resources available through national and state pharmacy organizations,[124–130] universities,[131–133] colleges and schools of pharmacy,[134, 135] and the American Council for Higher Education's Center for Effective Leadership (Appendix C).[136] Leadership development programs targeted toward women are also available through various organizations.[121, 135, 137] Leadership programs should provide a foundation in the definitions of leadership, types of power, leadership theories, styles of leadership, emotional intelligence, strategic decision-making, leadership skills, ethical components underlying human interaction, and negotiation.[128, 138, 139] Additional topics that should be included are critical components of leadership (core self, vision, relationships, learning, mentoring), spheres of influence (internal and external), budget and resource acquisition and utilization, entrepreneurship (innovation, problem solving, risk taking).[128] An on-campus library could contain a number of leadership-based books,[140, 141] periodicals, and articles, including those that target leadership in higher education,[142, 143] the health professions,[144] or health science education.

Assessment of Program Effectiveness

Assessment and evaluation of programs focused on developing professional abilities are in their infancy and primarily focus on immediate evaluation of the program by its participants. Longitudinal tracking of participants to identify professional contributions and career success can produce generalized outcomes information, although this success cannot be directly attributable to participation in a leadership development program. Specific competencies for leaders have been developed.[128] Self-assessment along with peer or leadership team assessment may be utilized to determine success in skill development and application to the academic and/or practice environment. The individualized nature of professional abilities development may make it difficult to assess the entire professional development program, but surveys of faculty satisfaction, progression in abilities, and needs would be very useful.

Overall Faculty Development Program Assessment and Evaluation

As noted above, there are few studies or reports that document the design, implementation, and outcomes associated with faculty development programs. The assessment of the development of each faculty member and of the comprehensive faculty development program and its individual components can be performed in a number of ways. An individual faculty member's development can be followed through his or her performance and recognition in each area over time, including documentation in a dossier or portfolio. These data can be collated to assess the development program or its components. Finally, faculty can be surveyed to determine their satisfaction, needs, and perceptions of the development program and its components. A comprehensive review of the entire faculty development process should be considered every 5 to 10 years, with each component being comprehensively reviewed every 3 to 6 years. We strongly encourage the dissemination of information on the design, delivery, utility, and outcomes of faculty development programs as a whole or in part through the educational literature or during professional meetings.

Conclusion and Summary

Faculty are among the most cherished and important resources in higher education. A fundamental value in institutions of higher learning is the development of the abilities of individuals so they may realize their full capabilities. This value should be applied to faculty. Pharmacy practice faculty members have numerous challenges based on the multidimensional nature of their positions, high demands placed on their time and expertise, and the expectations in areas that they are not fully trained in. In order to continue to enhance

pharmacy education and pharmacy practice, it is necessary to develop a comprehensive program to assist in the development of faculty throughout their careers. Such programs are expected to enhance faculty abilities, but also to increase the job satisfaction and retention of current faculty as well as the recruitment of new faculty.

The comprehensive pharmacy practice faculty development program described in this White Paper is based on the fundamental principles of faculty development, but has been modified to focus on the wide spectrum of abilities needed by pharmacy practice faculty. The major structure of this faculty development program includes orientation, mentoring, and sustained components. Within each of those major components, the following content areas should be addressed: institutional aspects, student responsibilities, teaching abilities, scholarship and research abilities, clinical practice and practice site abilities, and professional abilities. The design and delivery of a comprehensive faculty development program should be accomplished using contemporary educational and training methodology and assessment.

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Appendix A. Examples of Grant Programs Available in 2006–2007 through Pharmacy Organizations.

Granting Agencies	Grants
American Association of Colleges of Pharmacy (AACP) and American Foundation for Pharmaceutical Education (AFPE)	New Investigators Program for Pharmacy Faculty
American College of Clinical Pharmacy (ACCP) Research Institute	ACCP Investigator Development Research Awards ACCP Frontiers Career Development Research Awards
American Pharmacists Association (APhA) Foundation	Incentive Grants for Practitioner Innovation in Pharmaceutical Care
American Society of Health-Systems Pharmacy (ASHP) Foundation	Fostering Young Investigators: Junior Investigator Research Grant Program Pharmacy/Nursing Partnership for Medication Safety Research Grant Program Federal Services Junior Investigator Grant Program: Optimizing Chronic Drug Therapy in the Elderly Fostering Young Investigators: Pharmacy Resident Health Services Grant Program Funding for Projects Outside of Formal Grant Programs
National Community Pharmacists Association (NCPA) Foundation	NCPA Foundation Research Grants
Pharmaceutical Research and Manufacturers of America (PhRMA) Foundation	Research Starter Grants Sabbatical Fellowships

Appendix B. Examples of Training, Education and Certification Programs Available in 2006 that May Enhance Practice Abilities and Credentials.

Organization	Program
Accreditation Council for Clinical Lipidology	Clinical Lipid Specialist (CLS)
American College of Clinical Pharmacy (ACCP)	Anticoagulation Training Program Cardiology Practice Research Network (PRN) Mini-sabbatical Program CNS PRN Mini-sabbatical Program Heart Failure Training Program Hematology/Oncology PRN Mini-sabbatical Program Infectious Diseases PRN Mini-sabbatical Program Nephrology PRN Mini-sabbatical Program Pain and Palliative Care PRN Mini-sabbatical Program Pharmacotherapy Self-Assessment Program (PSAP) BPS Certification Preparatory Courses
American Pharmacists Association (APhA) and APhA Foundation	Advanced Practice Institute Project ImPACT
American Society of Health-Systems Pharmacists (ASHP)	Antithrombotic Pharmacotherapy Traineeship Cardiovascular Risk/Dyslipidemia Traineeship Critical Care Traineeship Diabetes Patient Care Traineeship Pain Management Traineeship
American Society of Consultant Pharmacists (ASCP) Foundation	Alzheimer's/Dementia Traineeship HIV/AIDS Pharmacotherapy Traineeship GeroPsych/Behavioral Disorders Traineeship Interdisciplinary GeroPsych/Behavioral Disorders Traineeship Pain Management Traineeship Parkinson's Disease Traineeship
Board of Pharmaceutical Specialties (BPS)	Board Certification in Nuclear Pharmacy (BCNP) Nutrition Support Pharmacy (BCNSP) Oncology Pharmacy (BCOP) Pharmacotherapy (BCPS) Psychiatric Pharmacy (BCPP)
National Asthma Educator Certification Board (NAECB)	Certified Asthma Educator (AE-C®)
National Certification Board for Anticoagulation Providers	Certified Anticoagulation Provider (CACP)
National Certification Board for Diabetes Educators (NCBDE)	Certified Diabetes Educator (CDE)
National Institute for Pharmacist Care Outcomes (NIPCO)	Pharmacist Care Diplomate Credential
National Institute for Standards in Pharmacy Credentialing (NISPC)	Disease State Management Certification (CDM) in Anticoagulation Asthma Diabetes Mellitus Dyslipidemia

Appendix C. Examples of Leadership Development Programs Available from National Pharmacy and Higher Education Organizations in 2006.

Program and Web site Information	Length
ACCP Leadership and Management Certificate Program http://academy.accp.com/leader.asp	28 hours over 2–3 years
ACCP Leadership Experience www.leaderpoint.biz/accp.htm	4 days
AACP Academic Leadership Fellows Program http://www.aacp.org/site/page.asp?TrackID=&VID=1&CID=937$DID=5804	4–5 days over 1 year
APhA Executive Management Program for Pharmacy Leaders education@mail.apha.net	2 weeks
ASHP Conference for Leader in Health System Pharmacy www.ashp.org/emplibrary/2005LeadershipSummary.pdf	2 days
The Pharmacy Leadership Institute http://www.ashp.org/meetings/pharm-leadership.cfm	6 days
Harvard Institutes for Higher Education Management Development Program www.gse.harvard.edu/ppe/highered/	14 days
American Council on Education - Chairing the Academic Department: A Workshop for Division and Department Chairs and Deans http://www.acenet.edu/AM/Template.cfm?Section=DeptChairs	4 days
American Council on Education Fellows Program www.acenet.edu/AM/Template.cfm?Section=About&Template=/CM/ContentDisplay.cfm&ContentID=2750	3 weeks
Summer Institute for Women in Higher Education Administration http://www.brynmawr.edu/summerinstitute/index.html	1 month