

ACCP WHITE PAPER

Quality Experiential Education

American College of Clinical Pharmacy

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The 2007 Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards and Guidelines for the Professional Program in Pharmacy delineate new expectations for experiential education within curricula and include guidance on the development and conduct of Pharmacy Practice Experiences. The American College of Clinical Pharmacy (ACCP) Educational Affairs Subcommittee C developed a position statement to further delineate the views of ACCP on factors necessary to meet contemporary standards for doctoral education in pharmacy and to provide guidance to our membership on how to implement the new standards. This White Paper provides explanation and supporting documentation for positions on quantitative and qualitative aspects of experiential education, as well as requirements for practice sites, preceptor roles, qualification, credentialing, and development and assessment of student performance.

Key Words: pharmacy curricula, experiential education, preceptor qualifications

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The Accreditation Council for Pharmacy Education (ACPE) adopted revised Accreditation Standards and Guidelines for the Professional Program in Pharmacy in January 2006.¹ These standards, effective July 2007, provide considerable delineation of the expectations for experiential education within curricula and

include guidance on the development and conduct of Pharmacy Practice Experiences. The most notable changes to the standards include a specification that curricula must include a minimum of 5% introductory pharmacy practice experiences (IPPE) and 25% advanced pharmacy practice experiences (APPE) based upon a 4-academic-year program. Standardization of experiences based upon outcomes is also required, with training encompassing the knowledge, skills, and attitudes to prepare students to enter pharmacy practice in any setting.

Investment in the future practice of pharmacy requires a dedicated interest in the educational foundations that undergird that future. The American College of Clinical Pharmacy (ACCP), as a member of the Joint Commission of Pharmacy Practitioners (JCPP), endorses a common vision for the future of the profession.²

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The Future Vision of Pharmacy Practice describes both how pharmacists will practice in the year 2015 and how pharmacy practice will benefit society. The vision also delineates the foundations of pharmacy education that are necessary to prepare future “pharmacists to provide patient-centered and population-based care.” The knowledge, skills, attitudes, and beliefs associated with this vision of practice should be a primary focus for experiential training. A summary of the Vision is included in Appendix 1.

To further define educational outcomes related to the Vision, ACCP recently published a commentary on the educational outcomes that should be met for all pharmacy graduates.³ The combination of curricular requirements in experiential education, increased pharmacy student enrollment, and an anticipated shortage of qualified preceptors bring us to a pivotal crossroad.^{4,5} In light of current and anticipated resource constraints, ensuring a consistent level of quality experiential education for all graduating pharmacists is essential.

The 2006 ACCP Educational Affairs Subcommittee C was charged to develop a Position Statement on Quality Experiential Education.⁶ This White Paper further delineates the views of the College on factors necessary to meet contemporary standards for doctoral education in pharmacy. This White Paper also provides guidance to our membership on how to implement the new standards in a manner that ensures the educational outcomes achieved are reflective of both the current practice of pharmacy and anticipated future practice roles. Finally, the document should serve as a tool for schools to assess the quality of their experiential education programs.

Section I: Experiential Education: Quantitative and Qualitative Aspects

Experiential education is defined as a methodology in which educators engage learners in direct experience and targeted reflection in order to increase knowledge and to develop skills, behaviors, and values.⁷ Experiential education should be utilized throughout all years of the pharmacy curriculum, typically culminating in the last professional year. Outcomes should be carefully designed and integrated within the curriculum as a whole such that each experience builds upon previous experiences.⁸ Experiential education is an ideal training medium for

application and reinforcement of information learned through didactic coursework. This form of active learning targets adult learning styles and promotes learner-centered and lifelong learning.^{8,9}

Quantity of Experience

The revised ACPE Standards now provide guidance on the amount of experiential education that is required. The IPPE should encompass no less than 5% of curricular content, while the APPE should comprise a minimum of 25% of a 4-academic-year program.¹ Interpretation of this standard will be difficult. The total semester credit hours required for graduation vary among pharmacy schools. Variation also exists across schools in the identification of curricular components that qualify as experiential education. Given the existing variation in the number of weeks of required APPE among schools (range 26–48, average 36.9 ± 6.4),¹⁰ further delineation of the requirements in the standard is warranted. ACCP interprets this recommendation as a minimum of 36 weeks of structured APPE based upon a standard 4-academic-year program. Incorporation of additional elective experiences is encouraged to provide flexibility for career-based training. Though IPPE are also difficult to quantify, 5% is interpreted as the equivalent of 300 hours of structured experiential activities.

In addition to overall time spent in experiential education time, guidance is warranted regarding the types of experiences required to meet the desired educational outcomes. ACPE requires direct patient care experiences in multiple practice settings. This requirement supports the JCPP Vision Statement that states direct patient care skills will be essential to the future of pharmacy practice.² ACPE and JCPP agree that schools of pharmacy must prepare pharmacy graduates to enter practice in any setting.^{1,2} In medicine, the medical school curriculum outlines a specific list of required training experiences in order to prepare a generalist practitioner who can enter into any area of graduate medical education.¹¹ The profession of pharmacy will benefit from a similar outline of expectations for preparation of entry-level pharmacists. The guideline below lists suggested requirements for the minimum types of experiences that should be required within pharmacy curricula. Pharmacy faculty must maintain authority for curricula, including the development of experiential programs. That authority must come with a level

of accountability to ensure that each student who completes the experiential training program has demonstrated proficiency in all areas of entry-level practice. Recommended required experiences include the following:

- *Community Practice Management*: Distributive functions, medication counseling, patient education and relations, managing pharmacy operations, personnel management, retrieval and evaluation of drug information, monitoring and evaluating drug therapy, and direct patient care experience (e.g., administration of immunizations, health-related screenings, medication therapy management services, and collaborative practice) where allowed by state regulation.
- *Health-Systems Practice Management*: Broad range of distributive functions, experience in resource management (e.g., formulary development and management, protocol development and utilization, medication use evaluation, personnel management), population-based care activities, and use of technology to advance patient care.
- *Direct Patient Care*: Multiple direct patient care experiences should be included in the inpatient, ambulatory, and community environments. Approximately two-thirds of the experiences should include direct patient care, specifically in the areas of acute care medicine, ambulatory care, community practice, and specialized training experiences. Qualifying experiences should include face-to-face contact with patients and health care providers as well as active participation in patient care decision-making. Through the sum of experiences, students should be exposed to a variety of disease states as well as diverse patient populations (i.e., patients from a variety of age groups, gender, race, socioeconomic, and educational levels). While different practice models have relative strengths and weaknesses, the inclusion of multiple experiences should provide balance. Standard knowledge sets, including specific medication therapies and disease states, should be defined for each experience.
- *Electives*: Opportunities should be available for students to explore different career tracks through a variety of electives. Availability of electives should reflect current practice and career trends. In particular, advanced or specialty electives in community settings should be available as the majority of

students enter that area of practice. Other potential career tracks include patient care subspecialties, research, academia, administration, drug information, and industry. Electives should be scheduled logically based upon career interests, with prerequisite experiences defined when necessary. Regardless of elective type, all should have established standards with clear objectives, assessment, and outcomes.

Quality of Experiences

Delineating quantity is not useful if the experiences are not of sufficient quality. A quality experience is broadly defined as a well-planned, outcomes-focused training experience with adequate supervision and assessment by a qualified preceptor within a learning-rich practice environment. These characteristics are further defined within subsections of the White Paper. The responsibility for achieving quality resides with schools of pharmacy. Faculty ownership of curricular design and delivery is important given the unique opportunities and resources of each school. Curricular autonomy allows for innovation to develop unique educational models that will, in turn, further advance the practice of pharmacy. However, a minimum basic template for the structure of experiential clerkships across all schools of pharmacy is warranted to ensure consistent outcomes. Key recommendations related to the development of experiential education within pharmacy school curricula include the following:

- IPPE should begin early, ideally during the first professional year, and should involve actual practice experiences and service activities focusing on proficiency in meeting core competencies that are clearly articulated. Mock or case-based scenarios may play a limited role in introductory training, but are not a substitute for hands-on practice experiences.¹² Direct involvement of students in patient care activities at all stages is essential for reinforcement of didactic coursework early in the curriculum and enhancement of student motivation and learning skills.¹³ These activities should build upon one another in preparation for the APPE and are ideal for development of fundamental skills and attitudes such as professionalism, communication with patients and health care professionals, and problem-solving.

- Direct patient care experiences, including IPPE and APPE, should reflect specific measurable outcomes and should include appropriate evaluation techniques. Outcomes must include knowledge (e.g., commonly encountered pharmacotherapy, including reinforcement/learning of basic sciences, therapeutic principles, and practice management); skills (e.g., demonstration of direct patient care, patient assessment, communications); and attitudes and beliefs (e.g., demonstration of concern for patient welfare, demonstration of self-learning behaviors).¹ Measurable outcomes, learning activities, and assessment methods for each individual experience need to be well defined and consistent across all sites where the experience is offered. Development of novel experiences or more rigorous outcomes is encouraged, but the minimum educational outcomes for each required experience should ultimately be consistent from one school of pharmacy to another.
- Innovative training models are encouraged. For example, a comprehensive patient care experience is envisioned by this committee as one where the student would be involved in distributive functions as well as direct patient care functions for targeted patients, providing continuity of care across multiple environments (e.g., the student is responsible for a given patient whether seen in an acute care or clinic setting). This particular model espouses several of the more challenging outcomes, including the acceptance of responsibility for patient care and outcomes across the continuum of care. Innovation and flexibility in design of experiences may alleviate resource constraints. Caution should be taken, however, to ensure that innovations involve realistic practice opportunities that result in an improvement in educational outcomes.

Section II: Practice Sites

Program Oversight

The structure of all experiential educational experiences should be clearly defined by each school. Schools should have a dedicated faculty member (i.e., Director of Experiential Education) who is responsible for oversight of the school's experiential education program. On a routine basis, the school should actively assess whether

the experiential components of the curriculum are effective in achieving their desired outcomes.

Practice Site Requirements

Each experiential site should be licensed and should maintain accreditation as appropriate to the practice areas covered. In general, sites should provide routine access to patient medical records. Sites that provide direct patient care experiences should provide students the opportunity for face-to-face interaction with patients on a daily basis and for routine communication with health care professionals. Sites should allow comprehensive assessment and contribution to patient drug therapy and should allow preceptors and students to document written communication through medical records. Practice sites generally should have a diverse patient population, as previously described, for student exposure; qualified preceptors to serve as role models for patient care; and adequate drug information resources. Each site should outline a specific communication network for use by the school, preceptors, students, and other health care professionals. Students should be oriented to the entire scope of pharmacy services provided at each practice site in order to better understand how their experience fits into the practice model. The ideal practice site should provide opportunities for both introductory and advanced practice experiences. Site-specific deficiencies should be identified and addressed through the selection of other required experiences. For example, a student exposed to a narrow patient population during one experience should have the opportunity to interact with other, more diverse patient populations during other experiences. Because the requirements for individual sites vary, recommended practice model requirements for each individual experience type are delineated in Appendix 2.

Practice Site Assessment

Performing quality assurance evaluations of the practice site, preceptor, and student's delivery of care is required to adequately assess each experience. Quality assessments should focus on site qualifications and resources, preceptor performance, and student outcomes (i.e., do students who rotate through the site achieve all established objectives for a given experience). Quality assurance evaluations should be ongoing, with direct observation/assessment at the practice

site occurring no less than every 3 years.

Section III Precepting Requirements

Supervision

In general, student activities should take place under the supervision and monitoring of a qualified preceptor who is, in most cases, a licensed pharmacist. When the primary preceptor is not available, alternate supervision and support must be clearly defined. Whenever feasible, pharmacy residents are encouraged to be actively integrated into the experiential teaching model in order to begin developing individual precepting skills. In this instance, the primary preceptor should be readily accessible to the pharmacy resident and pharmacy student and should provide specific direction, assessment, and feedback for all resident precepting activities. Other health care professionals may be utilized for elective experiences. However, non-pharmacist-precepted experiences must have a well-defined structure and support system, including availability of pharmacist consultants.

Level of Interaction

The primary preceptor should treat the student as a colleague-in-training and directly interact with the pharmacy student at least daily, with more frequent interaction as necessary. The knowledge and skill level of the student and the nature of the practice site should determine the length and frequency of interactions. The preceptor should regularly assess if the interaction frequency needs adjustment. Methods of interaction should be site specific in order to meet educational goals and outcomes, and tailored to meet the needs of the student. Interactions should challenge the student, encourage self-directed learning, and provide ongoing constructive feedback.

Student-to-Preceptor Ratio

The Boards of Pharmacy for many states provide limitations for student-to-preceptor ratios. However, data are lacking to support an optimal number of students within a learning experience. The student-to-preceptor ratio at each practice site should be carefully considered in order to ensure adequate individualized instruction, guidance, supervision, and assessment for each student assigned to the site. Practice site demographics, including the number

of pharmacists and technicians, workflow and facility design, and types and numbers of patients cared for, are important factors. Pharmacy resident and physician support may also impact the number of students that can be effectively precepted. Finally, consideration should also be given for the amount of time a preceptor is able or required to dedicate to precepting activities versus other roles.

Individuals whose primary responsibility is student precepting may be able to effectively manage more students than would an individual who has less time allocated for precepting activities. Based upon this factor, a 2:1 student preceptor ratio is suggested for advanced practice experiences precepted by non-full-time faculty. The scheduling of two students concurrently with one preceptor can enhance the learning experience, especially in situations that are advantageous for student-to-student mentorship and collegiality. A student-to-preceptor ratio as high as 4:1 may be justified for full-time faculty who have significant time allocated for practice-based teaching as long as no other resource constraints exist. Recognizing that preceptors are often responsible for other learners such as residents, trainees, or non-pharmacy health profession students, the total learner-to-preceptor-ratio should be considered for each experience and should not be greater than 4:1. In situations where larger student-to-preceptor ratios are utilized, appropriate documentation must be maintained to demonstrate that students attain all of the required learning outcomes for the experience.

In addition to the student-to-preceptor ratio, the annual cumulative number of students per preceptor should be assessed. Infrequent (once or twice per year) or excessive precepting may result in less than optimal preceptor performance. Student-to-student interaction may be beneficial and should be considered when evaluating the optimal number of students per experience.

Section IV: Preceptor Qualifications, Credentials, Development

Preceptor Qualifications

Schools are striving to increase the number of preceptors involved in the provision of experiential training. Care must be taken to ensure that new preceptors, as well as existing preceptors, meet professional standards endorsed

Appendix 2: (continued)**Direct Patient Care: Advanced Community**

- Preceptors should have a minimum of 1 year of residency or equivalent experience in direct patient care activities. Additional certification is strongly encouraged and is particularly encouraged in sites that also conduct accredited residency programs¹⁴ or in specialized practice environments. Preceptors should optimally spend at least 30% of time in direct patient care activities.
- Site should establish a structure that includes a minimum of 30% direct patient care activities (outside of limited prescription counseling) in addition to practice management/operations, personnel management, and well-defined project related activities. Activities should ideally include administration of medications (immunizations), comprehensive patient education, disease-focused group classes, and patient assessment (such as screenings) with implementation of patient care plans.

Health-Systems Practice Management

- Preceptors should have 1 and ideally 2 years of residency training or equivalent experience consistent with their respective position. Preceptors should have training and job responsibilities commensurate with most required objectives for the experience and should orchestrate and supervise activities mentored by other pharmacists. Additional mentors should be utilized for structured segments of the experience to meet objectives as needed.
- Students should gain an understanding of the drug distribution system and departmental structure, participation in the activities of relevant institutional committees (e.g., Pharmacy and Therapeutics Committee, Institutional Review Board, quality improvement), working with pharmacists in a variety of settings, and interaction with pharmacy administrators.

by the school. Preceptors must have a valid professional license and meet requirements designated by the Board of Pharmacy. Preceptors, regardless of level of affiliation with the school, should have appropriate credentials for their level of practice. Suggested credentials by experience type are outlined in Appendix 2. Preceptors of direct patient care experiences should maintain an active patient care practice. Of equal weight with credentials are the more intangible attributes of an effective preceptor. These include mentorship, professionalism, and demonstration of empathy and caring for patients. Schools are encouraged to adopt or adopt with modification the Preceptor Criteria defined by ACPE.¹ Preceptors should be required to submit their curriculum vitae and a detailed description of their current practice site for review by the school. Teaching evaluations

should be reviewed by the school on an annual basis in order to identify any potential concerns with individual preceptors. If identified, the school should have a process in place to correct the deficiencies. Evaluations should not be punitive, but rather, should be utilized for all preceptors as a method of ongoing professional development leading to quality improvement. Schools should develop criteria for review and re-appointment of preceptors. Re-appointment should be based on the demonstration of effective teaching evaluations over several years in conjunction with a re-evaluation of the practice site and documentation of ongoing professional development.

In order to continue to attract highly qualified preceptors, schools should ensure that adjunct faculty and volunteer faculty are provided incentives for supporting the experiential component of their curriculum. Schools should recognize adjunct/volunteer faculty on an annual basis for excellence in teaching and practice. Offering incentives to individual preceptors should assist schools in retaining highly qualified preceptors. Example incentives include travel support to attend professional meetings; payment of professional membership dues, specialty certification fees, and fees to participate in professional development programs; purchase of textbooks and electronic resources; and advanced faculty appointments if certain performance levels are met. Volunteer and adjunct faculty should be actively engaged in the school's ongoing efforts to develop, restructure, or assess the experiential program and should have significant input in the structure of individual experiences.

Preceptor Training / Credentialing/ Development

With approximately 30% of the pharmacy curriculum being experiential, preceptors involved in this portion must have appropriate training prior to precepting students. Thus, there is an immediate need for schools to establish a training program for preceptors. ACCP endorses the development of a universal training program for all preceptors. However, there is still a need to individualize training to the mission and goals of the school.

Each school should start by identifying the desired components of their initial comprehensive preceptor training program. The program may need to incorporate individual modules, each with its own objectives. Schools

should consider the development of web-based training programs or CD-ROM-based training programs. After completion of an initial preceptor training program, ongoing preceptor development should be required of preceptors every 1–2 years. Schools that share preceptors should try to standardize preceptor training and requirements for those preceptors to eliminate redundancy. Schools should consider incorporating the following components into preceptor training:

- Orientation to the school's mission, goals, and values
- A review of the professional pharmacy curriculum
- A review of the overall goals of experiential training and the structure of the school's experiential training program
- An understanding of the student requirements that must be completed prior to site/experience assignment
- Techniques for effective experience design
- Information about effective learning techniques/strategies
- Effective strategies for resolving difficult student issues, motivating students, and changing student behavior
- A review of the overall assessment program (process for student evaluation, requirements for filing grades, preceptor evaluation, etc)
- Suggested approaches for individualization of experience based upon the background of the student

The Director of Experiential Education should ensure that all preceptors have completed the appropriate training prior to being scheduled for their first student. Schools should consider encouraging new preceptors to co-precept with a more experienced colleague for their first 1 or 2 experiences.

Schools must provide support for the continual professional development of all preceptors involved in experiential training. Preceptors should have access to current literature through the school or another academia-based library system. Ongoing preceptor development in the area of instruction may be met through live preceptor training programs held at Schools of Pharmacy and state or national organization meetings. Alternate formats for offering professional development programs should be explored to ensure all preceptors have an opportunity to participate. Effective communication mechanisms must exist between

preceptors and the school. Schools should consider developing an experiential education newsletter that addresses timely issues in experiential education (and provides recognition to deserving preceptors). Documentation of ongoing professional development related to the area of experiential instruction should be a part of annual preceptor review. Such documentation should be a required component for re-appointment or promotion. Schools should promote their professional development program as a benefit/incentive to becoming an adjunct or volunteer faculty member.

Section V: Mechanisms for Effective and Consistent Assessment of Student Performance

There are three areas of student performance that should be assessed: knowledge, skills, and attitudes. Assessments need to determine not only the quality of student performance in the different areas, but also that the required quantity of experiences and proficiencies (as outlined in Section I) have been accomplished and are consistent for each student. Student portfolios can be used to assist in this process. The portfolios can include checklists of required elements, records of skills and activities performed during the experiences, logs of topics discussed and types of patients seen, and examples of written work such as drug information questions or selected notes from medical records. Portfolios should also include assessments by preceptors and self-assessments by students. Self-assessment is particularly useful when conducted during the early and middle stages of an experience. These portfolios provide a continuum for the assessment process. They can be used throughout the entire experiential education program by both students and preceptors to determine and document areas of deficiency that may be provided or remedied during subsequent experiences.

Assessments should be standardized so that all students completing a specific experience will be assessed in the same fashion. Assessments should be both formative and summative. Formative assessments help to guide the students through the learning process by providing constructive criticism that molds their performance to that which is desired. Summative assessments provide an evaluation at the completion of an experience or program.¹⁵

Students should be specifically assessed on knowledge. Core knowledge competencies and

related assessment measures should be included for each experience rather than just providing an overall subjective assessment of quality of knowledge base. This principle increases student responsibility for outcomes and promotes self-learning. The mastery of this knowledge can be assessed through written and verbal examinations.

With the expanding roles of pharmacists, there is an increasing need to assure the competency of pharmacy graduates. Competency (or performance) skills and attitudes are assessed through observation of students. A form for uniform assessment of 19 competencies was developed at Virginia Commonwealth University.¹⁶ These competencies were evaluated on a 5-point scale and were classified as communication/ education, pharmacy care plan, professionalism, or practice-specific competencies.

Another type of assessment that has been proposed is a “high-stakes” comprehensive examination at the end of the pharmacy program. This may take the form of an objective structured clinical examination (OSCE). This type of test assesses both practice knowledge and performance using standardized patients.¹⁵ Problems with the use of a comprehensive examination include difficulty in validating the examination, and determining how to remediate students who have passed all their courses but fail the examination.

Care must be taken when redesigning assessment methods to ensure that they can be efficiently conducted by preceptors. Schools can assist preceptors by collaborating to develop similar assessment methods and tools when practice sites are used by more than one school.

Summary

ACCP members, regardless of role as academician, preceptor, or practitioner, should each play an active role in defining and implementing standards for quality experiential education. Standardization in experiential education will produce pharmacy graduates with a consistently high level of knowledge and skills that will provide society with highly competent pharmacists. Quality experiential training with an emphasis on direct patient care will prepare graduates for the type of practice envisioned for 2015 and will better position the profession as a whole for attainment of this vision.

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Appendix 1: The JCPP Future Vision of Pharmacy Practice²

The Foundations of Pharmacy Practice. Pharmacy education will prepare pharmacists to provide patient-centered and population-based care that optimizes medication therapy; to manage health care system resources to improve therapeutic outcomes; and to promote health improvement, wellness, and disease prevention. Pharmacists will develop and maintain:

- A commitment to care for, and care about, patients
- An in-depth knowledge of medications and the biomedical, sociobehavioral, and clinical sciences
- The ability to apply evidence-based therapeutic principles and guidelines, evolving sciences and emerging technologies, and relevant legal, ethical, social, cultural, economic, and professional issues to contemporary pharmacy practice

How Pharmacists Will Practice. Pharmacists will have the authority and autonomy to manage medication therapy and will be accountable for patients' therapeutic outcomes. In doing so, they will communicate and collaborate with patients, caregivers, health care professionals, and qualified support personnel. As experts regarding medication use, pharmacists will be responsible for:

- Rational use of medications, including the measurement and assurance of medication therapy outcomes
- Promotion of wellness, health improvement, and disease prevention
- Design and oversight of safe, accurate, and timely medication distribution systems

Working cooperatively with practitioners of other disciplines to care for patients, pharmacists will be:

- The most trusted and accessible source of medications and related devices and supplies
- The primary resource for unbiased information and advice regarding the safe, appropriate, and cost-effective use of medications
- Valued patient care providers whom health care systems and payers recognize as having responsibility for assuring the desired outcomes of medication use

Appendix 2: Recommended Practice Model and Preceptor Qualifications for Select Experiences

Direct Patient Care: Acute Care (includes Adult Medicine, Surgery, Pediatrics, and Inpatient Subspecialty)

- Preceptors should have 1 and ideally 2 years of residency training or equivalent experience commensurate with their respective position. Board certification is strongly encouraged, in particular at sites that also conduct accredited residency programs.¹⁴ Preceptors should maintain an active practice site.
- Site should provide daily opportunities for students to engage in direct patient care, including active participation in daily patient rounds with a practice team or individual physician. Where the traditional academic model is not available, frequent face-to-face communications with other health care professionals must be assured. The site should provide resources for comprehensive assessment and monitoring of patients, including access to patients, patient medical records, and drug information resources. Pharmacists should have access to medical records and should have a defined mechanism for documenting activities and/or recommendations in the patient record. The site should guarantee appropriate quantity and diversity of patient exposure as required for each specific experience. The site should engage and support preceptors and students in population-based activities (e.g., adverse drug event and medication error reporting, medication use evaluation, development and use of protocols and guidelines). Finally, patient care practice should be supported by appropriate clinical evidence.

Direct Patient Care: Ambulatory / Primary Care

- Preceptors should have 1 and ideally 2 years of residency training or equivalent experience commensurate with their respective position. Additional certification (e.g., BPS certification in a recognized specialty, Certified Diabetes Educator, Certified Geriatric Pharmacist) is strongly encouraged, particularly for sites that also conduct accredited residency programs¹⁴ or in specialized practice environments. Preceptors should engage in direct patient care activities on a daily basis.
- Ideally, students should be exposed to different models of ambulatory practice. "Collaborative" models should include daily interaction with patients and participation in patient care decision-making with other health care professionals. "Primary care" models should include daily interaction with patients, including comprehensive assessment, clinical decision-making, and implementation of drug therapy plans. Regardless of model, students and preceptors should routinely document patient care activities in the medical record. Experiences may involve multiple sites if necessary to ensure that students gain proficiency across multiple areas of ambulatory care (e.g., anticoagulation, diabetes, dyslipidemia, hypertension, cardiovascular disease, women's health) as defined by individual experience standards.