

ACCREDITATION COUNCIL FOR PHARMACY EDUCATION



**GUIDANCE FOR THE ACCREDITATION STANDARDS
AND KEY ELEMENTS FOR THE PROFESSIONAL PROGRAM IN
PHARMACY LEADING TO THE DOCTOR OF PHARMACY DEGREE**

(“GUIDANCE FOR STANDARDS 2016”)

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TABLE OF CONTENTS

Introduction	iii
Guidance for Educational Outcomes: Standards 1-4.....	1
Guidance for Approach to Practice and Care: Standard 3	1
Guidance for Personal and Professional Development: Standard 4.....	1
Guidance for Eligibility and Reporting Requirements: Standard 5	3
Guidance for College or School Vision, Mission and Goals: Standard 6	3
Guidance for Strategic Plan: Standard 7	3
Guidance for Organization and Governance: Standard 8.....	4
Guidance for Organizational Culture: Standard 9	6
Guidance for Curriculum Design, Delivery, and Oversight: Standard 10.....	6
Guidance for Interprofessional Education: Standard 11	9
Guidance for the Pre-APPE Curriculum: Standard 12	10
Guidance for the APPE Curriculum: Standard 13.....	11
Guidance for Student Services: Standard 14.....	13
Guidance for the Academic Environment: Standard 15	14
Guidance for Admissions: Standard 16.....	15

Guidance for Progression: Standard 17	16
Guidance for Quantitative Factors of Faculty and Staff: Standard 18	17
Guidance for Qualitative Factors of Faculty and Staff: Standard 19.....	17
Guidance for Preceptors: Standard 20.....	19
Guidance for Physical Facilities and Educational Resources: Standard 21.....	20
Guidance for Practice Facilities: Standard 22.....	20
Guidance for Financial Resources: Standard 23	21
Guidance for Assessment: Standards 24 and 25	22
Appendices to the Guidance Document	25

Guidance for Standards 2016

Introduction

This Guidance for Standards 2016 document was created for two primary purposes: (1) to provide clarifying comments about the 25 standards within Standards 2016 and its Key Elements, and (2) to offer strategies for colleges and schools to use to enhance the quality of their Doctor of Pharmacy programs. In addition, colleges and schools having difficulty maintaining compliance with certain standards may find related sections within this document helpful as a means of improving compliance. The Accreditation Council for Pharmacy Education (ACPE) anticipates that this Guidance document will be updated periodically as colleges and schools continue to innovate and provide new evidence of successful strategies to enhance the quality of Doctor of Pharmacy education.

Guidance is framed as *suggested strategies* for quality improvement. These strategies are based on evidence gleaned from the literature, responses provided by multiple stakeholders, and insights gained during ACPE site team visits. Experience has shown that when these strategies are implemented, quality improves. Comments are provided for most standards with the specific Standards and Key Elements related to each comment noted in parentheses. Suggested strategies are phrased to describe some effective approaches to address the various issues. As noted earlier, these strategies are not meant to be required elements, but include approaches that many programs have used to enhance the quality of their Doctor of Pharmacy programs. Finally, appendices at the end of this Guidance document provide additional insights for colleges and schools regarding quality improvement.

Guidance for Standards 2016

Guidance for Educational Outcomes: Standards 1-4

1a. CAPE Outcomes – As noted in the Standards, ACPE chose AACP's Center for the Advancement of Pharmacy Education (CAPE) Outcomes 2013 as the framework for establishing expected educational outcomes for Doctor of Pharmacy programs. At the outset, ACPE chose not to modify the specific wording within these outcome statements due to the rigorous and inclusive process that AACP used to develop them.

1b. Institutional-specific outcomes – In addition to the CAPE Outcomes, colleges and schools are encouraged to establish their own, institution-specific set of educational outcomes based on their mission, vision, goals, and objectives.

1c. Entrustable Professional Activities – Several healthcare disciplines have identified *Entrustable Professional Activities* to articulate the value of their disciplines to others (see www.aamc.org/cepaer). Similarly, pharmacy colleges and schools are encouraged to identify professional activities that their graduates perform routinely that help gain the trust of the healthcare team and the public they serve.

Guidance for Approach to Practice and Care: Standard 3

3a. Education venues – Possible audiences for education could include patients and their families, other healthcare practitioners, legislators, regulators, institutional CEOs, high school and college students interested in the pharmacy profession, and the general public. (3.2)

3b. Interprofessional collaborations – Possible competencies for interprofessional collaboration include:

1. Working with individuals from other professions to maintain a climate of mutual respect and shared values
2. Using the knowledge of the pharmacists' role and the roles and responsibilities of other professions to appropriately assess and address the healthcare needs of patients and populations served
3. Communicating with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease
4. Applying relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient- and population-centered care that is safe, timely, efficient, effective, and equitable (3.4)

From "Core competencies for interprofessional collaborative practice" <http://www.aacn.nche.edu/education-resources/ipcreport.pdf>

Guidance for Personal and Professional Development: Standard 4

4a. Defining and assessing Standard 4 elements – Several groups within the academy are working to develop comprehensive descriptions for these important concepts and more

standardized approaches to assessment. Colleges and schools are encouraged to share mechanisms they develop to assess Standard 4 elements through scholarly publications and presentations. (4)

4b. Co-curricular support of Standard 3 and 4 elements – Competence in Standard 4 elements, and some of the affective domain-related elements of Standard 3 may be well served by student involvement in experiences that complement, augment, and/or advance what is learned in the formal didactic and experiential curriculum. Such experiences are termed ‘co-curricular’. Co-curricular activities and experiences can be developed by the college or school or by student professional organizations or external groups, such as local or state pharmacy associations. Co-curricular experiences linked/mapped to one or more educational outcomes in Standards 1–4 are the most useful to students so that they can evaluate their development needs in required areas and seek experiences to grow professionally. Some examples of co-curricular activities and experiences linked to Key Elements of Standards 3 and 4 include:

- 3.2 Education: Participation in ‘brown bag’ medication review and education sessions at retirement communities, drug abuse/unintentional misuse (poisonings) education programs at schools or daycare centers, and local or state-based “Legislative Day” activities that inform legislators about the important role of pharmacists on the healthcare team
- 3.5 Cultural Sensitivity: Participation in ‘Ventanillas de Salud’ or similar programs with a cultural focus, hosting a health-screening booth at a local cultural event that brings students into conversations with others from a given culture, volunteering at a pro-bono clinic for underserved/impoverished citizens
- 4.1 Self-Awareness: Participation in reflective professional development retreats, initiating or joining a professionalism-focused journal club, working with academic advisors on a Continuing Professional Development (CPD)-driven learning portfolio, participation in career-discerning activities (e.g., research projects, specialized practice opportunities)
- 4.2 Leadership: Active participation in local, state, or national pharmacy or scientific organization meetings, holding office in student government bodies or professional organizations, serving on school/college or university committees, roundtable discussions with local pharmacy leaders, shadowing opportunities with state pharmacy association executives, participation in the Phi Lambda Sigma national leadership challenge program, demonstrating service leadership by working “behind the scenes” to advance important initiatives within the school, university, or community
- 4.3 Innovation/entrepreneurship: Presentation/discussion sessions with local pharmacists who have established innovative practices that meet community needs (e.g., immunization/travel immunization, specialized compounding, mobile pharmacies serving the homeless), participation in programs that recognize the development of innovative professional business plans
- 4.4 Professionalism: Participation in a session prior to a White Coat ceremony to analyze/make meaning of the Oath of a Pharmacist, reflection on the significance of the ceremony, involvement in Institute for Healthcare Improvement (IHI) Open School or similar programs to advance professionalism and interprofessional understanding/collaboration, participation in local, state, and national competitions that focus on patient counseling and clinical skill development, participation in Legislative Day events and legislative advocacy letter-writing campaigns, participation in AACP Student Community Engagement or similar programs, serving as a ‘student ambassador’ for the college/school/university admission office (3, 4)

4c. Leadership – Students are taught leadership skills to not only advance patient care, but to advocate for the advancement of the profession at local, regional, and national levels. There are several mechanisms by which this occurs:

- Incorporating specific learning outcomes into the curriculum
- Creating leadership-development programs for students
- Supporting leadership development for faculty members so they may serve as role models for students and also advance the profession from the academic perspective (4.2)

Guidance for Eligibility and Reporting Requirements: Standard 5

5a. Autonomy – Standard 5 stresses the need for college/school autonomy within its institution. Various institutions have different reporting relationships, so no one specific approach is mandated. The key is that the pharmacy dean reports directly to the individual who has control of the resources and the decision-making responsibility over the college or school; for example, a president, provost, or vice-president. (5.1, 8.2)

5b. Consultation with ACPE – When action is taken against the college or school, the dean is encouraged to seek advice and consultation from ACPE in an effort to bring the program back into compliance with the standards. (5.3)

Guidance for College or School Vision, Mission, and Goals: Standard 6

6a. Institution-specific focus – Colleges and schools are encouraged to develop specific programmatic focused areas of envisioned strengths and articulate them within their mission statements. Examples common to many colleges and schools include research, rural health, global health, religious mission, specific types of practice (e.g., ambulatory, community), or specific patient type (e.g., geriatrics, pediatrics, underserved). (6.2)

6b. Vision statements – The research and scholarship components of vision statements commit faculty members and students to fostering innovation through basic and applied research that advances the science, practice, and education-related aspects of pharmacy. (6.3)

6c. Values and goals – Vision and mission statements articulate the college or school's important values and goals. (6.3)

6d. Commitment to CPD – Colleges and schools have an important role in initiating the process of Continued Professional Development (CPD) for PharmD students. Students have many opportunities to advance their post-graduation professional development through residencies, fellowships, graduate education, specialty certification, and other educational opportunities. (6.3)

Guidance for Strategic Plan: Standard 7

7a. Planning processes – Strategic planning is a continuous process with systematic broad-based reflection (examination of present and projected environmental, professional, and programmatic factors) and revision as needed to achieve programmatic and educational goals. This process assesses the strengths, weaknesses, opportunities, and threats relevant to the

college or school and defines measurable outcomes and achievable timelines along with designated responsibilities for appropriate individuals or groups. In addition, sound plans identify the resources (human, technical, financial, and physical) required for strategic goal achievement. External stakeholders are purposely appointed to strategic planning committees (or their equivalent) to bring diverse opinions and professional experiences that challenge the status quo and advance innovative approaches to goal achievement. (7)

7b. Strategic goals and objectives – A college or school’s mission, vision, and goals differ from its strategic goals and objectives, as the former broadly describe the desired programmatic outcomes (curricular and others), while the latter are specific steps to achieve the desired outcomes. (6.1, 7)

7c. Strategic plan timeframe – Contemporary strategic plans address short-term (e.g., two to three years) goals and objectives that are key to the advancement of all aspects of the college or school’s mission, vision, and goals. (7)

Guidance for Organization and Governance: Standard 8

8a. Administrative team scholarship – To provide leadership, the dean and other members of the administrative team display a commitment to advancing education, practice, and scholarship. They publish in the pharmacy and/or medical sciences literature in areas relevant to the mission and goals of the college or school and are recognized for career accomplishments by pharmacy or other health-profession educators, researchers, and/or practitioners. They have experience with, and a commitment to, systematic planning, assessment, and continuous programmatic improvement and have a thorough understanding of teaching, student learning, and contemporary pedagogy. (8.2, 8.3)

8b. Demonstrating leadership responsibilities – In addition to the requirements stated within Standard 8, administrative leadership is demonstrated through:

- Advancing the pharmacy science and practice disciplines, as required by the curriculum and as organized within the college or school
- Mentoring, developing, and evaluating faculty, staff, and preceptors
- Ensuring effective development, delivery, and improvement of the curriculum and co-curriculum, including oversight and quality assurance of course work, professional development opportunities, and pharmacy practice experiences
- Managing operations and budgetary affairs
- Fostering and—to the extent possible—supporting research and other scholarly activities
- Developing and evaluating interprofessional education, practice, and patient-care opportunities
- Promoting opportunities for engagement in professional, institutional, and/or community service
- Fostering a culture of civility and professionalism among faculty, students, and staff
- Ensuring that comprehensive and effective systems for assessment and evaluation are in place
- Initiating, implementing, and managing programs for the recruitment and admission of qualified students
- Establishing and implementing standards for academic performance and progression (8)

8c. Dean’s leadership responsibilities – More specifically, CEO deans demonstrate their leadership by ensuring:

- Acceptance of the mission, vision, and goals by the stakeholders
- Collaborative efforts to develop, implement, evaluate, and enhance interprofessional education, practice, service, and research programs
- Recruitment, development, and retention of competent faculty and staff
- Resource acquisition and mission-based allocation
- Continuous enhancement of the visibility of the college or school on campus and to external stakeholders
- Uniting and inspiring the administrative team and fostering collegiality throughout the school or college (8.2)

8d. Qualified dean – The dean has a history of substantial engagement with pharmacy education, the profession, and the supporting sciences. (8.2)

8e. Assessment of leadership – The periodic review of the dean and other administrative leaders of the college or school includes input from other administrators, faculty, staff, students, and preceptors. (8.2, 8.3)

8f. Administrative team collaboration – As stated in Key Element 8.5, the college or school’s administrative leaders function as a unified team as they strive to accomplish the mission and goals and advance the vision of the college or school. Staff support ensures that teams remain effective. Seminars, programs, mentors, and other activities designed to ensure the growth and development of the administrative capabilities of both the leaders and the team are also helpful. (8.5)

8g. Committee structure – College or school committees address key components of the mission and goals. When staffing committees, an appropriate balance between membership continuity and the introduction of fresh ideas and new voices is considered. A philosophy of shared governance is reflected by appointment of faculty, staff, students, preceptors, alumni, and other pharmacy practitioners, when appropriate, to standing and ad hoc committees. Minutes of faculty meetings and committee actions are maintained and communicated to appropriate parties. (8.7)

8h. Appropriate policies and procedures – College or school bylaws, policies, and procedures typically address the following organizational and administrative issues:

- Governance of the college or school
- Conformity with university bylaws, policies, and procedures
- Professional responsibilities
- Academic freedom
- Research, scholarship, and service expectations and policies
- Intellectual property
- Employment contracts or letters of appointment and conditions of service
- Faculty and staff recruitment, promotion, and—if applicable—tenure
- Grievances, including discrimination and harassment and due process
- Membership responsibilities and voting rights of the faculty
- Officers of the faculty
- Faculty meetings and committees

- Policy development and adoption (8.7)

8i. Contingency planning – Contingency plans described in Key Element 8.8 include, but are not limited to:

- Creating secure backups of critical applications and systems data
- Providing mechanisms for making up missed course work and academic credit
- Securing alternate means for communication and information delivery in the event of natural disasters or systems failures
- Creating exit strategies to protect students if part or all of a program loses viability (8.8)

Guidance for Organizational Culture: Standard 9

9a. Professional development – This standard addresses the need to develop leadership and professionalism within the academic community (e.g., faculty, staff, students, and administrators). Colleges and schools are also encouraged to assist with the professional development of their alumni and other practitioners to be thoughtful leaders and effective advocates for the profession. (9.1)

9b. Student participation – Colleges and schools are encouraged to foster and support opportunities for students to participate in self-governance and to actively support the establishment and engaged functioning of student government organizations. (9.1)

9c. Participation in organizations – Colleges and schools are also encouraged to support student, faculty, administrator, preceptor, and staff participation in local, state, and national pharmacy, scientific, and/or other professional organizations. Faculty members and administrators model professionalism through active and visible participation in professional organizations, meetings, and events. (9.1)

9d. Broaden student experiences – Colleges or schools broaden the professional horizons of students through guest lecturers and participation in extracurricular activities, service learning, and other beneficial activities. (9.1)

9e. Interaction with students – To foster harmonious relationships and provide positive role models for students, residents and fellows, colleges and schools encourage formal and informal interactions with faculty, administrators, preceptors, and staff. Faculty, administrators, and staff are encouraged to actively participate in student organizations as advisors and—if appropriate—attend special events offered by student organizations and/or classes. (9.1)

9f. Formal agreements – To strengthen collaborative relationships, formal agreements with external organizations or agencies are signed by authorized representatives. Such agreements codify the nature, intent, and duration of the collaboration, address the legal liability of the parties, and clearly specify any financial arrangements. These agreements are reviewed by both parties on a regular basis. (9.3)

Guidance for Curriculum Design, Delivery, and Oversight: Standard 10

10a. Credit allocation – Higher education has not adopted a uniform formula for calculating credit hours, contact hours, or academic credit allocations. Credit-related definitions are

especially challenging in light of new teaching methodologies that use distance learning technologies and that require out-of-class student-centered learning activities (e.g., problem- or team-based learning) and other active-learning strategies. While ACPE expects consistency in the calculation of these elements across the curriculum, it does not mandate a specific method for their determination. Likewise, it does not specify a certain number of credit hours for completion of the PharmD program. (10.1)

10b. Elective credit hours – ACPE does not mandate the specific number of elective credits needed within the PharmD curriculum. However, programs commonly have 6 to 15 hours of didactic elective courses, and 1 to 4 elective APPE. (10.9)

10c. Involvement of stakeholders – Stakeholders external to the college or school (preceptors, alumni, employers, residency directors, and other practitioners) are encouraged to be actively engaged in activities that impact and advance curricular design, delivery, and improvement. (10.2)

10d. Knowledge application – ACPE supports curricular models that employ an ‘introduce-reinforce-demonstrate’ approach to education. Colleges and schools are encouraged to promote collaboration between faculty members of all disciplines in helping students make connections between scientific understandings and patient care, and in evaluating their developing knowledge-application skills. (10.3, 10.4)

10e. Relevance of curriculum – To ensure that their curriculum prepares graduates for contemporary practice, schools and colleges evaluate periodically the core competencies advanced by pharmacy organizations and specialty practice groups and adjust curricular content and experiential education activities as appropriate. (10.4)

10f. Application of PPCP – The Pharmacists’ Patient Care Process (PPCP) uses a patient-centered approach that depends on the pharmacist having an established relationship with the patient. This relationship supports engagement and effective communication with the patient, family, and caregivers throughout the process. The process also involves the pharmacist working with prescribers and other practitioners to optimize patient health and medication outcomes. The process involves five important aspects of patient care: (1) collecting subjective and objective data, (2) assessing information collected, (3) generating an evidenced-based care plan, (4) implementing the plan, and (5) following by monitoring/evaluating patient outcomes. Using the PPCP during patient care APPE is a desired goal of experiential learning programs. (10.8)

10g. Innovation – Colleges and schools are encouraged to experiment in the design and/or delivery of the curriculum at or above the level required by the Standards. Such curricular innovations are grounded in sound educational principles and are based on the best evidence in educational practice. In addition, formative assessments of the outcomes of curricular innovation are conducted often, and any needed changes are made promptly, so as to ensure that the anticipated benefits of the innovation are realized by learners. (10.11)

10h. Faculty shortages– In times of faculty shortages, colleges and schools can sometimes be challenged in the delivery of their curricula. Colleges and schools are encouraged to work collaboratively through regional consortia and/or with AACP to identify effective approaches to educating their students in a quality way during times of gaps in faculty expertise. Many times, resources are needed to cover expenses associated with these approaches to curriculum delivery. Administrative leaders should plan proactively to secure needed resources. (10.6)

10i. Curriculum mapping – When mapping curricula to Appendix 1, colleges and schools identify specific content elements from various courses that lead to the expected outcomes. Curriculum maps that address both breadth and depth of content coverage provide insight into how well a given learning expectation is being addressed. (10.7)

10j. Encouraging scholarship – Elective courses that engage students in the research/scholarship programs of faculty are encouraged in all general curricular areas (biomedical sciences, pharmaceutical sciences, social/administrative/behavioral sciences, clinical sciences, community engagement, pharmacy education, and professional practice). (10.9)

10k. Dual-degree credit allocation – Many colleges and schools have developed well-structured dual-degree programs (e.g. PharmD/MPH, PharmD/MBA). However, the counting of elective transfer credit between these programs, as well as student workload and financial implications, is carefully monitored so that the dual-degree programs enhance, rather than distract from, the quality of both degree programs. (10.9)

10l. Common student-performance rubrics – Colleges and schools that share preceptor sites and practitioners are encouraged to collaborate on common student-performance evaluation rubrics to facilitate the work of preceptors in providing consistent, meaningful feedback to learners and programs. (10.10)

10m. Curriculum quality improvement – Many programs have been given ‘noteworthy practice’ recognition by ACPE evaluation site teams for novel and/or effective approaches to curricular quality assurance and improvement. Colleges and schools are encouraged to visit the AACP website to find out more about these initiatives and to network with colleagues to optimize their success in achieving curricular goals. (10.11)

10n. Promote self-directed lifelong learning – Colleges and schools are encouraged to include opportunities for independent study to foster the skills, attitudes, and values necessary for self-directed lifelong learning. Inherent in the concept of self-directed lifelong learning is participation in formal and informal learning activities that develop and maintain competence, enhance professional practice, and support achievement of career goals. In keeping with the CPD model, colleges and schools develop mechanisms that permit students to self-assess learning needs. Such programs also direct students toward curricular, co-curricular, and/or extra-curricular activities and experiences that address identified learning needs. (10.12)

10o. Engaging diverse learners – Colleges and schools on campuses with education departments/programs are encouraged to collaborate to identify effective approaches to delivering course content in ways that engage, respect, and positively address the diverse needs of learners. (10.12, 10.13)

10p. Course syllabi – Among other things, course syllabi include: (1) expected learning outcomes, (2) the methods by which achievement of those outcomes will be assessed, and (3) aspects of direct patient care (for clinical practice courses). As appropriate, syllabi also describe the interprofessional education aspects of didactic and clinical courses. (10.14)

10q. Experiential quality assurance – While the exact nature of student experiences during IPPE and APPE will be site-dependent, the quality and comprehensiveness of the education remain consistent. (10.15)

10r. Assistance during experiential education – A college or school may assist students with experiential education logistics (e.g., travel, housing) during IPPE and APPE without violating standards related to receipt of payment during experiential rotations. (10.16)

10s. Experiential placement at employment site – Students may be placed in an IPPE or APPE in a pharmacy where they are employed as long as their experiential education and employee roles are clearly differentiated and do not overlap. For example, a student may be employed by a health system in a specific capacity and/or in one area of the facility and be assigned to an IPPE or APPE in a clearly distinct capacity or area of the health system. (10.16)

Guidance for Interprofessional Education: Standard 11

11a. Partnerships – To provide students with meaningful interprofessional education and practice experiences, colleges and schools partner with external academic institutions, healthcare systems, and health profession practitioners. Colleges and schools can tailor their approach to IPE based on the insight provided by evolving research within this important area. (11.1, 3.4)

11b. Interprofessional simulation experiences – Colleges and schools are encouraged to develop interprofessional simulations to ensure the expectations of Key Element 11.1 are met. In addition to face-to-face interprofessional interactions, simulations can include virtual interprofessional engagement. College/school and/or university financial and physical resources needed to support these interprofessional activities should be anticipated. (11.2)

11c. IPE dynamics – The evolving IPE literature provides numerous examples of effective IPE strategies and assessment instruments. Colleges and schools are encouraged to periodically review the IPE literature for further developments. (11.1)

11d. Non-pharmacist preceptors – Interprofessional practice-based educational experiences for pharmacy students involve pharmacist-preceptors serving as integral members of the team. On occasion, such experiences are precepted by non-pharmacist members of the healthcare team. ACPE recognizes the value of these experiences, but only as a small percentage of required APPE experiential time. Non-pharmacist preceptors are well-versed in the professional competencies and expectations of pharmacists and are supportive of the value they bring to the healthcare team. (11.3, 20.1)

11e. Interaction with prescribers – Key Element 11.3 states that IPE involves student pharmacist interaction with prescribers and students studying to be prescribers. This requirement is based on the fact that, to have the greatest impact on direct patient care, pharmacists and student pharmacists need to interact effectively with prescribers. Prescribers include physicians, dentists, nurse practitioners, physician assistants, veterinarians, and their respective students. The goal is to address a patient's drug therapy problems and attempt to achieve clinical care goals established by the patient and his/her healthcare team. (11.3)

11f. Interprofessional educational activities – To be most effective, such activities are conducted in "real-time," implying that pharmacy students interact with healthcare providers/students via face-to-face interactions, tele-health, or other telephonic/videoconferencing technology. (11.2)

Guidance for the Pre-APPE Curriculum: Standard 12

12a. Science education – The biomedical sciences that are common to many health professions (e.g., anatomy, physiology, pathology, biochemistry, medical microbiology) may be taught in the pre-professional component of the curriculum. Sciences specific to the profession of pharmacy (i.e., pharmaceutical, social/administrative/behavioral, and clinical sciences) are taught within the professional component of the curriculum to be explicitly linked to practice. (12.1)

12b. Assistance from education experts – Collaboration with individuals with educational expertise (such as colleagues within Departments of Education) is encouraged to facilitate the evaluation and implementation of contemporary, outcomes-targeted teaching/learning strategies for didactic course work. (12.1)

12c. Co-curricular support of learning – Co-curricular activities and experiences can enrich learning in all of the Educational Outcomes standards and associated key elements. Colleges and schools are encouraged to thoughtfully develop co-curricular offerings and encourage student self-reflection in selecting activities that would deepen their understanding of the profession and its expectations as articulated in the Standards. Interprofessional co-curricular programs and experiences are also encouraged, as is active faculty, staff, alumni, and preceptor involvement in these programs and experiences. (12.3)

12d. Timing of IPPE – Colleges and schools are encouraged to initiate IPPE early in the professional curriculum and to link IPPE-based learning to learning that has taken or is taking place in the didactic curriculum to facilitate the development of knowledge application and clinical reasoning skills. (12.2, 12.4, 12.6, 10.3)

12e. IPPE exemptions – In accordance with its policies and procedures and using established criteria, a college or school may exempt applicable students from the requirements of certain IPPE, provided that the college or school has assessed or otherwise validated that the student has achieved the desired outcomes of that experience through an alternative experience. Replacement IPPEs will then be used to advance students' understanding of practice and their preparation for success in APPE. The key is that all students receive a minimum of 300 hours of IPPE in the professional program. (12.5)

12f. Simulation within IPPE – A college or school may choose to include structured simulation as part of the overall IPPE to meet program goals and objectives. A college or school is not required to include simulation experiences as a portion of IPPE. Simulation is defined as an activity or event replicating pharmacy practice. Simulation closely mimics an actual pharmacy activity or delivery of a medication to a patient (whether simulated patient, standardized patient, or virtual patient). Colleges and schools are encouraged to develop interprofessional simulations. They are also encouraged to seek guidance from ACPE, if needed, on appropriate simulation experiences to meet IPPE program goals and objectives. (12.7)

12g. Appropriate use of simulation – General pharmacy practice simulations provided early in the curriculum are often helpful for students who have had limited exposure to pharmacy practice. Simulation experiences are deemed appropriate when they: (1) are structured around a set of specific learning objectives, (2) involve structured assessment activities to assure that students have met the stated learning objectives, (3) are supervised by pharmacy educators,

practitioners, or other appropriately trained faculty/facilitators, and (4) involve learning experiences that are difficult to achieve in actual practice, such as:

- High-risk, low-occurrence medical situations (e.g., CPR, medical emergencies, medications errors)
- When a state's Pharmacy Practice Act limits certain patient-care activities (e.g., immunization training)
- Hands-on learning opportunities that enhance student learning experiences (e.g., ensuring student pharmacists are exposed to important disease states which they may or may not experience in real patient-care settings) (12.7)

12h. Types of simulation – Colleges and schools may consider the use of actors, virtual-reality software, artificial models/manikins, or artificial/virtual environments in the patient-care simulations within IPPE. (12.7)

12i. Service Learning within IPPE - Service learning is a structured learning experience performed by students in collaboration with community partners. Such experiences require clearly defined objectives, careful preparation, purposeful reflection, and engaged discussion with fellow students, faculty members, and—if possible—members of the served community. Service learning *per se*, although beneficial in developing altruistic student attitudes and values, does not necessarily qualify as IPPE. Colleges and schools wishing to employ service learning as a component of the IPPE curriculum should ensure that the activities encompassed in the experience relate directly to: (1) the pharmacist's responsibility to establish professional relationships with patients and communities, (2) their role in promoting patient welfare, (3) the mandate for interprofessional collaboration, and/or (4) the need for drug distribution systems management exposure. (12.5)

12j. Across the lifespan – This phrase indicates that students understand and can professionally address the essential patient-care issues for different patient age groups (e.g., newborns, pediatric, teen, young adult, adult, and geriatric). (12.4)

Guidance for the APPE Curriculum: Standard 13

13a. Exposure to innovation – Wherever possible, colleges and schools are encouraged to offer APPE in settings where students are exposed to innovative healthcare delivery systems and treatment protocols. (13.1)

13b. Patient diversity – It is important that students gain experience treating patients from various segments of the general society. From a mission standpoint, it may be desirable to place students in specific practice environments (e.g., rural health, underserved areas). In addition, specific locations may be offered as a convenience for students allowing them to complete all APPEs in local facilities. Both approaches are acceptable as long as students, in the aggregate, are exposed to diverse populations of patients. (13.2)

13c. Timing – As noted in Key Element 13.5, APPE commences at the completion of all required didactic course work. Capstone-type courses and activities are allowed within the APPE curriculum. Examples of capstone courses or activities include those that provide summative reviews of contemporary practice strategies and law, engage students in formal reflection on their comprehensive educational experience, showcase student research projects, or provide opportunity for additional professional growth and insight. Programs have the latitude

to determine if/when elective didactic courses may be taken while students are completing the APPE curriculum. (13.5)

13d. APPE duration – APPE rotations are typically full time (40-hours per week) to provide in-depth experiences and continuity of patient-care training for students. However, part-time rotations may be needed in uncommon situations (for example, working with other healthcare providers/students around their scheduled hours). (13.4)

13e. Required APPE settings – Within the four required APPE settings, students are expected to encounter, in the aggregate, a holistic experience of direct patient care that is both pharmacist- and team-delivered, along with the systems management/dispensing/administrative functions that are essential components of entry-level practice. In contemporary pharmacy practice, ‘ambulatory care’ has been expanded and is now practiced not only in ambulatory care clinics, but also in some community pharmacy and health system settings that deliver patient care in a comparable manner. (13.6)

13f. APPE activities – To the extent legally permitted, the APPE curriculum typically includes, but is not limited to, the following activities:

Direct Patient Care

- Interacting face-to-face with a diverse population of patients
- Optimizing individual patient drug therapy outcomes
- Consulting with and advising patients on self-care products
- Educating patients on the safe and effective use of prescription and nonprescription medications, dietary supplements, medical equipment and devices, non-drug therapies, and complementary and alternative therapies
- Providing pharmacist-delivered education and care to patients of diverse cultural, economic, geographic, or disease state-related backgrounds
- Delivering evidence-based care through the retrieval, evaluation, and application of findings from the scientific and clinical literature
- Ensuring continuity of quality care as patients transition between healthcare settings
- Engaging in activities designed to further advance evidence-based therapeutic decision-making, collaborative interprofessional team-based care, clinical services entrepreneurship, and systems management

Interprofessional interaction and practice

- Engaging in collaborative patient-care decision-making with members of an interprofessional healthcare team with an emphasis on face-to-face interactions, but also incorporating other communications options
- Identifying, evaluating, and communicating to healthcare team members the appropriateness of the patient’s specific pharmacotherapeutic agents, dosing regimens, dosage forms, routes of administration, delivery systems, etc.

Medication dispensing, distribution, administration, and systems management

- Appropriately dispensing medications to a diverse population of patients
- Participating in the supervision, oversight, and direction of the medication dispensing/distribution systems
- Administering medications in a safe and legally acceptable manner
- Managing the medication therapy regimen by monitoring patient outcomes
- Identifying and reporting medication errors and adverse drug reactions

- Engaging in pharmacovigilance activities designed to detect, assess, understand, and prevent drug-related problems
- Participating in the health system's formulary process
- Interacting with third-party payers to optimize individual patient drug therapy
- Working competently with the technology associated with various practice settings
- Participating in discussions and assignments of human resources management, medication resources management, and pharmacy data management systems, including pharmacy workload and financial performance in community/ambulatory care and hospital/health systems environments
- Contributing actively to discussions on health policy, drug approval processes, legal and regulatory compliance, patient safety, accreditation, and standards setting
- Participating in the management of systems for storage, preparation, and dispensing of medications
- Allocating and using key resources and supervising pharmacy technical staff
- Participating in purchasing activities
- Participating in the management of medication use systems and applying the systems approach to medication safety
- Participating in the pharmacy's planning process and quality improvement program
- Conducting a drug utilization review
- Participating in the management of the use of investigational drug products
- Participating in therapeutic protocol development
- Participating in the management of medical emergencies
- Performing prospective and retrospective financial and clinical outcomes analyses to support formulary recommendations and therapeutic guideline development

Professional development

- Demonstrating attitudes and behaviors consistent with a respected member of the pharmacy profession
- Providing evidence of self-directed learning
- Demonstrating an aptitude to implement the elements of the Continuing Professional Development cycle (reflect, plan, learn, evaluate, apply) that underpin lifelong learning (13.3, 13.6)

13g. Elective APPE - Elective APPEs are meant to allow students to explore areas of potential practice interest. Programs are encouraged to develop an array of elective opportunities and, to the extent possible, allow students to select elective experiences that match their career interests. (13.7)

13h. Geographic issues – While ACPE is committed to a global perspective on pharmacy education and patient welfare, students graduating from ACPE-accredited programs should be adequately prepared to begin practice in the U.S. healthcare system. Required APPE is conducted at U.S. sites. Elective APPE can be completed internationally. (13.8)

Guidance for Student Services: Standard 14

14a. Examples of student services – Common elements of quality student services programs (in addition to those described within Standard 14) include:

- Conducting student recruitment programs focused on strengthening the diversity, leadership, professionalism, and/or intellectual quality of the student body
- Orienting prospective and new students to the mission, goals, values, and educational philosophy of the college or school
- Liaising with the student government organization and recommending student members of standing and ad hoc committees
- Orienting students to (and regularly reinforcing) the importance of codes of professional conduct as articulated in the Oath of a Pharmacist and honor codes/professional behavior expectations in place at the college or school
- Implementing policies and procedures that ensure due process for all parties when adjudicating cases of academic or non-academic misconduct
- Training students in proficient use of the program's technology and educational methodologies
- Identifying and promulgating professional technical standards required as part of the admissions and progression procedures
- Advancing professionalism, civility, and morale among the student body
- Ensuring that students who have off-campus classes or practice experiences know how to access institution-based learning resources and health and counseling services, secure financial aid guidance, and retain insurance coverage (14)

14b. Nondiscrimination – State and federal laws outline the various types of discrimination that typically include age, race, religion, gender, lifestyle, sexual orientation, national origin, and disability. (14.5)

Guidance for the Academic Environment: Standard 15

15a. Types of student information – College/school or university information related to prospective and current students includes:

- The mission, goals, objectives, and educational philosophy of the professional degree program
- The curricular plan, course descriptions, credit hours, and any non-curricular requirements for graduation
- Resources available to support the curriculum
- Criteria, policies, and procedures related to admissions, progression, and access to student records
- College or school grading policy, grading scheme, and GPA calculation policy
- Student code of conduct documents that clearly outline expected behaviors and the possible sanctions imposed for their violation
- Off-campus curricular requirements, such as practice experiences in other geographic locations, and student financial responsibilities that may be incurred in meeting those requirements
- Campus-based and 'real time' synchronous requirements for distance students
- Graduation requirements
- Tuition and fees, including refund policies
- Financial aid guidance
- Statement of nondiscrimination
- Provision of on- and off-campus housing, including availability during off-campus practice experiences

- Graduation and post-graduation placement rates (e.g., employment, post-graduate education and training programs)
- Opportunities for post-graduate education and training (residencies, fellowships, graduate school)
- Recent (e.g., three year) pass rates of graduates taking the national standardized licensure examinations (NAPLEX, MJPE) for the first time
- Recent (e.g., three year) on-time graduation rates
- Expectations for attitudes, values, traits, and ethics required by the profession
- A description of policies regarding student life, such as accommodations for disabilities, harassment, non-discrimination, antiviolence, and others
- Immunization and other health or practice site requirements (15.1)

15b. Feedback to students – Colleges and schools also share the aggregate results of systematic program evaluation and improvement initiatives with students. (15.1)

15c. Pathway information – Colleges and schools offering multiple program pathways are encouraged to assess appropriate tuition and fees for facilities and services rendered. An explanation of tuition and fee differences between pathways or differences in facilities and services between pathways is helpful to students. In addition, students are provided with equitable representation on committees, student government bodies, and other key groups regardless of the program pathway in which they are enrolled. (15.1)

15d. Student representation on committees – Many colleges and schools allow students to serve on important governance-related groups, such as:

- Curriculum committees
- Assessment committees
- Recruitment committees
- Dean’s councils
- Student affairs committees (or similar progression committees)
- Student discipline/grievance committees
- Admission committees (15.4)

**provided appropriate Family Educational Rights and Privacy Act (FERPA) training and other confidentiality parameters are met*

Guidance for Admissions: Standard 16

16a. Enrollment management – Where the effectiveness of a new program or pathway has yet to be determined, initial enrollments are limited and are increased gradually until the effectiveness of the initiative can be documented. (16.1)

16b. Early assurance programs – Students may be admitted to the professional degree program under early assurance agreements or policies within the institution or from another institution. Formal and published agreements between the college or school and the associated institution(s) and information on the policies are provided to prospective students. Early assurance students are admitted to the professional degree program contingent upon successful completion of entrance requirements and application procedures, including a pre-admission interview. Colleges and schools enroll early assurance students who are as well

qualified as students accepted for direct entry into the first professional year. In addition, colleges or schools ensure that the number of students matriculating under early assurance agreements is managed in alignment with adequate resources. (16.2)

16c. Preprofessional curricula – To better prepare prospective students, preprofessional educational programs include chemical and biological sciences (including general chemistry, organic chemistry, biology, and other foundational sciences that focus on human biochemical and physiological processes and diseases), mathematics, information and communication technologies, physical sciences, economics, and general education (defined as humanities, behavioral sciences, social sciences, and communication skills). Elements of general education also may be attained concurrently or integrated within the professional degree curriculum. (16.3)

16d. Admission criteria – Factors beyond grade point average are considered to determine which candidates qualify for interviews. Admissions criteria take into account desirable qualities important to the development of the personal and professional characteristics articulated within Standard 4. The admission process fosters diversity in the matriculated student body while ensuring that legal parameters in the selection of students are followed. (16.4)

16e. Distance education considerations – Colleges and schools that educate students at distance locations assess student self-motivation, commitment, basic technological skills, competencies, and support needed to succeed in a distance-learning environment. Information gained during these assessments is used to update future admission and recruitment policies and decisions. (16.4)

16f. Interviews – Admission interviews are conducted by faculty members, preceptors, or professional staff, and are held either on campus, in an off-site location, or using telephonic or videoconferencing technology. Current pharmacy students may participate in applicant interviews under the guidance of the aforementioned individuals as long as adherence to FERPA mandates is assured by college or school admission administrators. To foster inter-rater reliability, interviewers receive training in the method that the college or school has chosen for standardization of the interview process. (16.7)

16g. Transfer between PharmD programs – As per ACPE policy, credits toward completion of the professional program in pharmacy may be transferred from one ACPE-accredited professional degree program to another. (16.8)

16h. Transfer of credits into other pathways or programs – For colleges or schools with nontraditional curricular pathways (for example, pathways for graduates of an ACPE-accredited baccalaureate in pharmacy program) or for students in multiple professional degree program pathways (e.g., PharmD/MBA), admission criteria and transfer credits are customized in accordance with the results of an assessment of the individual candidate's documented or demonstrated experience, performance, and competency. (16.8)

Guidance for Progression: Standard 17

17a. Progression considerations – Data about student retention and attrition are used to identify and analyze trends and to make programmatic adjustments to optimize student progression. Some factors that have been found to contribute to student success include:

- Adherence to sound admission criteria

- Supportive and proactive student services, including mentoring/advising by faculty members, preceptors, and professional staff
- An array of meaningful co-curricular opportunities
- Structured curricular evaluation and revision
- Periodic formative and summative assessment of student achievement of competencies
- Peer evaluation of faculty teaching
- Examination validation and enhancement (17.2)

Guidance for Quantitative Factors of Faculty and Staff: Standard 18

18a. Student-to-faculty ratios – Overall student-to-faculty ratios should be close to 10:1 or lower to provide students with the individualized attention needed to advance deep learning and foster professional development. (18.1)

18b. Faculty responsibilities – In determining the number of faculty, consideration is given to the other responsibilities that the faculty may have in other academic programs and activities related to research, professional/institutional/community service, and patient care. (18.1)

18c. Adequate number of faculty and staff – Periodic assessments of faculty and staff workload help determine staffing requirements. Recruitment and retention strategies involve assessments of future substantive program changes, retirements, potential illnesses, and the time needed to prepare for responsibilities within the program. (18.1, 18.2)

18d. Preparing new faculty members – Newly hired faculty members benefit from having adequate time to prepare course work (e.g., lessons, assignments, assessments) before the start of their assigned classes and—if applicable—to develop experiential practice sites prior to student assignment. Peer mentoring of faculty members new to the academy by more experienced faculty members is encouraged. (18.1)

18e. Use of part-time personnel – Full-time faculty and staff comprise the majority of a college or school's personnel. However, full-time faculty/staff may be complemented to a limited extent by part-time personnel. Part-time faculty positions may be co-staffed or co-funded. (18.1)

Guidance for Qualitative Factors of Faculty and Staff: Standard 19

19a. Qualifications of faculty – In addition to the criteria stated within the Standard 19, full-time faculty members typically hold earned doctoral degrees appropriate to their responsibilities in the program. Many disciplines use post-doctoral training as a component of professional preparation. Pharmacy practice faculty members also possess additional professional training (residency, fellowship, or equivalent experience). Most practice faculty members either have or are working towards credentials (for example, specialty certification) relevant to their practice and teaching responsibilities. (19.1)

19b. Distance education considerations – Faculty members, instructors, and teaching assistants involved in distance education have additional skills to manage, mentor, teach, engage, and evaluate students enrolled in distance learning courses or activities. (19.1)

19c. Awareness of colleagues' research – To ensure understanding of the foundations of the curriculum and foster collaborative teaching and research, faculty have a general awareness of

the scholarship and research interests of their colleagues in other academic disciplines. Interdisciplinary/interprofessional teaching, service, and scholarship activities that advance this goal are encouraged. (19.2)

19d. Evaluation of faculty – Assessment of faculty members' abilities commonly involves the following factors (depending on their responsibilities within the college/school):

- Teaching abilities, communication skills, and effectiveness related to student learning
- Generation and dissemination of knowledge through research and other scholarly activities, including publications and presentations at local, regional, and national meetings of scientific, practice or academic peers
- Commitment to personal continuing professional development
- Patient care activities (if applicable)
- Understanding, commitment, and contributions to the advancement and promotion of the profession of pharmacy
- Understanding of scientific advances and their implications to the profession of pharmacy
- Contributions toward the professional development of students
- Contributions in support of achievement of the college or school's mission and goals
- Service contributions to the program and the community at large
- Collegiality and positive contributions to the organizational culture (19.1)

19e. Evaluation of staff members – Assessment of staff performance includes, but is not limited to:

- Competence in support of administrators, faculty, fellow staff, preceptors, students, alumni, and other stakeholders
- Commitment to continuing knowledge and skill development
- Collegial support of the achievement of the college or school's mission
- Service contributions to the program and the community at large (19.5)

19f. Evaluation and goal-setting processes – Faculty and staff evaluation and goal-setting processes are scheduled on a regular basis (e.g., annual) and involve self-assessment and collaborative career-development planning. Such assessments include appropriate input from peers, supervisors, and—if appropriate—students. The use of self-assessment and improvement tools (e.g., portfolios) by faculty and staff is often helpful. The faculty evaluation process recognizes the value faculty members have in the professional development of students through such activities as academic advising and mentoring, career pathway counseling, and student organization advising. (19.5)

19g. Professional development – Evidence of the effectiveness of continuing professional development of faculty members includes:

- Achievement of career development goals as a component of the performance evaluation process
- Evaluation of the quality of education, research and other scholarly activities, and practice responsibilities
- Development and evaluation of innovative education, research and other scholarly activity, and practice models
- Participation in professional and scholarly meetings, particularly by invitation

- Presentation/publication of scholarly work, particularly by invitation
- Service on committees of school or college, university and/or external organizations, developing that service into leadership roles over time
- Presentation of continuing education programs
- Other endeavors that promote the profession of pharmacy (19.5)

Guidance for Preceptors: Standard 20

20a. Preceptor criteria – As noted earlier, colleges and schools may use qualified non-pharmacist preceptors for a small percentage of APPE. Examples include research faculty members serving as preceptors for elective research rotations, other health professionals precepting pharmacy students in unique practice environments, and non-pharmacists precepting pharmacy students in an academic rotation or on team-based competency development. (20.1)

20b. Student-to-preceptor ratios – In addition to the expectations stated within the Standard 20, student:preceptor ratios for the practice experience components of the curriculum are based on assessment data regarding the quality of the experience. Important factors include the provision of individualized instruction, appropriate guidance and assessment, and compliance with state/federal statutes and regulations. In most situations, student:preceptor ratios for IPPE and APPE do not exceed 3:1 and 2:1, respectively. (20.2)

20c. Aptitude for teaching – Preceptors demonstrate a desire and aptitude for teaching that includes the important roles necessary for teaching clinical problem solving including instructing, modeling, coaching/mentoring, and facilitating. (20.1, 20.3)

20d. Attributes of preceptors – Preceptors serve as positive role models for students by demonstrating the following qualities (as applicable to their area of practice):

- Practicing ethically and with compassion for patients
- Accepting personal responsibility for patient outcomes
- Having professional education, experience, and competence commensurate with their position
- Utilizing clinical and scientific publications in clinical care decision-making and evidence-based practice
- Desiring to educate others (patients, caregivers, other healthcare professionals, students, residents)
- Demonstrating the willingness and ability to advocate for patients and the profession
- Demonstrating creative thinking that fosters an innovative, entrepreneurial approach to problem solving
- Having an aptitude for facilitating learning
- Being competent in the documentation and assessment of student performance
- Having a systematic, self-directed approach to their own continuing professional development and actively participate in self-directed lifelong learning.
- Collaborating with other healthcare professionals as a visible and contributing member of a team
- Being committed to their practice organization, professional societies, and the community (20.1)

20e. Preceptor appointments – Practitioner preceptors may be volunteers or paid program contributors, depending on local customs. Most have appropriate academic titles (e.g., Adjunct Associate Professor, Clinical Professor). Programs are encouraged to provide educational support (e.g., access to library resources and software used in the student education and evaluation process, provision of continuing professional education programs and materials) to preceptors to facilitate clinical skill development and the ability to mentor and evaluate students. Development of formal mechanisms through which preceptors may officially affiliate with the college or school is encouraged. (20.3)

20f. Preceptor preparation – In addition to the elements stated within Standard 20, preceptor education includes:

- Orientation to the college or school's mission, goals, and values
- Review of the college or school's curriculum and teaching methods
- Review of the specific objectives for the pharmacy practice experiences
- Guidance regarding the assessment of students' prior knowledge and experience relative to the rotation's objectives. This allows the preceptor to tailor the rotation to maximize the student's educational experience and ensure appropriate interaction with patients, their caregivers, and other health professionals, as applicable
- Orientation to systems in place to assist preceptors in dealing with serious student problems and/or unprofessional student behaviors
- Review of the college or school's performance assessment and grading systems, and policies to address behavioral problems or misconduct (20.3)

20g. Assessment of preceptors – To assess the qualities and performance of preceptors, colleges or schools obtain feedback from students in a manner that does not affect the grading process. This type of assessment includes the preceptor's ability to: (1) facilitate learning, (2) communicate effectively, (3) serve as a professional role model and mentor, and (4) positively represent and advance the profession. (20.3)

Guidance for Physical Facilities and Educational Resources: Standard 21

21a. Importance of facilities – Colleges and schools provide students, faculty members, preceptors, instructors, and teaching assistants access to appropriate resources to support their contribution to the college or school's mission. They also provide organized programs to instruct these individuals in the effective and efficient use of the library and educational resources. (21.2)

21b. Distance education considerations – Branch or distance campuses have access to physical facilities of comparable quality and functionality as those found on the main campus, including access to technical, design, and production services to support program initiatives. (21.2)

Guidance for Practice Facilities: Standard 22

22a. Additional criteria – In addition to the criteria stated within Standard 22, sites used for required pharmacy practice experiences typically have:

- A patient population that exhibits diversity in ethnic and/or socioeconomic culture, medical conditions, gender, and age
- A patient population that supports the learning objectives for the experience
- Access to learning and information resources
- A commitment to the education of pharmacy students
- A practice environment that nurtures and supports professional interactions between students, pharmacists, and patients and their caregivers
- Adequate resources to ensure that students receive oversight, professional guidance, and performance feedback from preceptors
- Equipment and technology that reflect contemporary practice and support student education for that practice
- Contemporary services for individual and group patient care, such as Medication Therapy Management (MTM)
- Collaborative professional relationships with other healthcare providers
- A strong commitment to health promotion, disease prevention, and patient safety, as reflected by the services provided (e.g., provision of health screening, tobacco cessation counseling, immunizations) and/or products made available (e.g., not stocking cigarettes and other tobacco products) (22.1)

22b. Non-patient care sites – Colleges and schools are encouraged to provide an array of quality-assured sites for non-patient care elective pharmacy practice experiences such as state or national pharmacy associations, state boards of pharmacy, pharmacy benefit management companies, insurance companies, pharmaceutical manufacturers, drug information or poison control centers, federal/state regulators, and research laboratories. (22.1)

22c. Official agreements – Written affiliation agreements between colleges/schools and their collaborating partners clearly define the responsibilities, commitments, and expectations of each of the parties and are signed by officers of both institutions. Such agreements provide criteria for termination and allow sufficient advance notification of termination to permit development of alternate affiliations when necessary. In situations where formal signed agreements are not possible (i.e., FDA, Boards of Pharmacy, etc.), informal documents articulate expectations. Agreements involving experiential education sites for students commonly address provision of health services, malpractice provisions, criminal background checks, student disclosures, immunization policies, and professional conduct expectations. (22.2)

Guidance for Financial Resources: Standard 23

23a. Resource management – University administrators responsible for the pharmacy program have a clear understanding of the resource needs of the professional degree program, such as the need to support scholarship, research, and other strategic programmatic initiatives, and the human, physical, and financial resource requirements of high-quality didactic and experiential education. Resources obtained from extramural sources are free of restrictions that may interfere with sound educational and ethical practices. All resources are used in a manner that maintains the integrity and advances the mission of the program. (23.2)

23b. Long-range financial support – Colleges and schools, with the support of the university, are encouraged to develop and maintain broad-based financial support—including extramural funds, through private giving, endowment income, grants, contracts, and other fund-raising mechanisms. (23.2)

23c. Return of resources – To ensure continuous quality improvement, tuition and professional fees specific to the pharmacy program are returned in large measure to the college or school. (23.3)

Guidance for Assessment: Standards 24 and 25

24a. Importance of assessment plans – In addition to the expectations described within Standards 24 and 25, assessment plans exist primarily to:

- Generate evidence related to the college's or school's success in achieving their stated vision, mission, goals, and strategic objectives
- Document how the learning experiences, whether didactic instruction, co-curricular activity, or supervised practice experience, are appropriate for the development of required competencies, and validate the instructional methods (e.g., presentations, demonstrations, discussions) and materials used to advance learning
- Promote consistency and reliability of student learning and course/instructor effectiveness assessments
- Assess practice sites and preceptors
- Foster data-driven continuous quality improvement of curricular and co-curricular structure, content, process, and outcomes
- Assess the achievement of the desired competencies and outcomes for each of the biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences curricular content areas, as well as the summative competencies and outcomes that reflect mastery of these sciences and their integration in pharmacy practice
- Foster and assess self-initiated student learning
- Foster and assess experimentation and innovation in education, research, and practice
- Ensure, based on mapping strategies and other assessment measures, that the breadth and depth of the curricular activities are adequate for the development of the required and desired competencies
- Ensure that educational settings and methods of instruction lead to effective and efficient learning experiences (24, 25)

24b. Components of assessment plans – In addition to the characteristics described within the standards, assessment plans contain:

- Desired outcomes of the college or school's mission, vision, and goals, including the educational program(s), research and other scholarly activities, professional and community service, interprofessional education, and pharmacy practice programs
- Student self-assessments, and faculty and preceptor assessments of student professional development, achievement of professional competencies, and demonstration of professional behaviors
- Formative and summative measures of goal achievement
- Input from faculty, students, administrators, preceptors, practitioners, state board of pharmacy members, alumni, and others
- Process and outcome assessments that will be evaluated, and with what frequency
- Lists of individual(s) responsible for data collection, analysis, and dissemination
- Lists of parties responsible to receive and authorized to act on the findings

- Manner by which resultant changes (e.g., revisions in the curriculum, modifications of faculty and student policies and procedures) will be implemented, evaluated, documented, and communicated
- Responses to changes in pharmacy practice and educational and practice technologies
- Comparisons that will be made with data from all ACPE-accredited programs and, if desired, a group of peer colleges and schools, with the basis for their selection
- Lists of resources (human, technical, financial, and physical) needed for successful plan implementation (24, 25)

24c. Information to stakeholders – Colleges and schools are encouraged to make available to key stakeholders, at least annually, the major findings and actions resulting from its assessment plan through, for example, written reports or through postings on their website. (24, 25)

24d. Use of portfolios – Student portfolios are helpful in documenting student progressive achievement of the competencies throughout the curriculum, co-curriculum, and practice experiences. Such portfolios are standardized and include student self-assessment, as well as faculty and preceptor assessments of the educational outcomes. (24.3)

24e. Identifying underlying causes of poor performance – Colleges and schools are encouraged to assess and correct underlying causes of ineffective learning experiences. Such assessments consider the amount of student effort, the quality of faculty teaching, and the appropriateness of learning assessments used within the courses. In this regard, these assessments include measurements of perceived stress in faculty, staff, and students and an evaluation of stress' potential for a negative impact on programmatic outcomes and morale. (24.3, 24.4)

24f. Assessment of admission criteria – Colleges and schools can benefit from correlating admissions criteria with student achievement to ensure they are evaluating the most appropriate qualities and characteristics of applicants. (24.2)

24g. Use of PCOA – When administered at or near the end of the didactic curriculum, the Pharmacy Curriculum Outcomes Assessment (PCOA) provides a valid and reliable assessment of student competence in the four broad science domains of the didactic curriculum required of all ACPE-accredited programs as articulated in Appendix 1 (biomedical science, pharmaceutical science, social/behavioral/administrative science, and clinical science). In addition, it allows programs to benchmark student performance in retention of knowledge in required scientific domains to a national performance representing all pharmacy students at an equivalent time point in their education. If desired by the program, PCOA also allows for benchmarking against peer programs (e.g., programs with a similar curricular model, programs in the same geographic region, etc.) or for longitudinal assessment of student achievement within the program. (24)

24h. Use of performance-based assessments – Numerous programs are using a variety of performance-based assessments, such as formative and summative OSCEs, within their assessments plans. Others are developing key performance indicators to track student development. Programs are encouraged to keep abreast of research being conducted in these important areas. (24, 25)

24i. Additional assessment data – Appendix 3 within the Standards outlines required data elements that provide insight into the quality of the professional program. The following assessments have been helpful to programs in evaluating and documenting the effectiveness of quality assurance and improvement initiatives:

- Revisions made to the curriculum based on the performance of students/graduates on:
 - NAPLEX
 - Individual Competency Areas within NAPLEX
 - MPJE or other state-required law examinations
 - PCOA
 - Other assessments of specific areas of knowledge, skills, and/or competencies developed by individual programs or regional consortia
- Revisions made to the curriculum based on assessment data from:
 - AACP standardized surveys (graduating students, alumni, faculty, preceptors)
 - Individual and/or collective faculty reflection on curricular effectiveness
 - Student course evaluations,
 - Feedback from alumni, preceptors, employers, and other stakeholders (24, 25)

Appendices to the Guidance Document

A series of appendices are included within the Guidance Document to provide additional information for colleges and schools as they develop their curricula. **Appendix A** includes a 2010 report by a special AACP Task Force that identified domains and abilities viewed as central to the preparation of students prior to their entry into Advanced Pharmacy Practice Experience (APPE). This report appeared as Appendix D within Standards 2007.

Appendices B, C, and D provide opinions of practitioner groups on the skills PharmD graduates need to be 'practice-ready.' In constructing these appendices, ACPE worked with members from the American Society of Health-System Pharmacists (ASHP), the National Association of Chain Drug Stores (NACDS) Foundation, the National Community Pharmacists Association (NCPA), and the Academy of Managed Care Pharmacy (AMCP).

Appendix E contains links to documents prepared by various organizations that should prove helpful to colleges and schools in the development of their programs.

Appendix A

Domains of Pre-Advanced Pharmacy Practice Experiences Within the Doctor of Pharmacy Curriculum

The material described below was extracted from the 2010 American Association of Colleges of Pharmacy document *Pre-APPE Performance Domains and Abilities*¹ that described the domains and abilities central to the preparation of students prior to their entry into Advanced Pharmacy Practice Experience (APPE). Colleges and schools are encouraged to provide evidence of student achievement of these elements to ensure student readiness to enter APPE. Programs are also encouraged to incorporate elements of the Pharmacists' Patient Care Process when constructing their courses and experiences.

Appendix A is organized around critical domains and ability performance statements that are based on the educational outcomes articulated within Standards 1-4. Each domain has one or more suggested ability statement(s) (knowledge, skill, attitudes, values, or behavior). The Key Elements within the Standards that are related to these ability statements are noted in parentheses. Each domain also has suggested example competencies that can be utilized to demonstrate student achievement of the domain ability. There is some overlap in these competency statements which is a reflection of how different colleges/schools and their faculty members decide to approach each core domain. Therefore it is not expected that every college or school will demonstrate student achievement of every performance competency statement in this document, but rather will use the domain-specific ability statements in determining their own student performance objectives for each of the core domains.

The performance assessments should be compatible with a college/school's own experiential learning system. Recognizing the need for educational flexibility and creativity, it is anticipated that, while many of these abilities can and will be achieved during Introductory Pharmacy Practice Experience (IPPE), colleges/schools will have multiple learning approaches in addition to IPPE to achieve learning of and documentation of student performance of the domain abilities. These approaches may include, but are not limited to, simulations, Objective Structured Clinical Evaluation (OSCE), and practice laboratories. It is also anticipated that each college/school may have additional student performance competencies they desire that their students achieve within each core domain or have additional "non-core" domains they want their students to achieve.

Core Domains

Patient Safety - Accurately Dispense Medications (order fulfillment)

Ability Statement:

Demonstrate a commitment to and a valuing of patient safety by assuring accurate preparation, labeling, dispensing, and distribution of prescriptions and medication orders.
(Key Element 2.2)

¹<http://www.aacp.org/governance/SECTIONS/pharmacypractice/Documents/Special%20Projects%20and%20Information/2010%20November%20PreAPPE%20Performance%20Domains%20and%20Abilities.pdf>

EXAMPLE Performance competencies:

- Accurately prepare and dispense medications or supervise the preparation of medications
- Evaluate the acceptability and accuracy of a prescription and verify that the information is correct, then correctly prepare the prescription and label for dispensing
- Evaluate appropriateness of medication orders by correlating the order with patient-specific data and drug information
- Compound parenteral and non-parenteral drug products using accurate calculations, pharmaceutical components, and techniques
- Dispense medications and devices in accordance with legal requirements
- Provide safe, accurate, and time-sensitive medication distribution
- Appropriately compound, dispense, or administer a medication, pursuant to a new prescription, prescription refill, or drug order
- Accurately process and dispense medication pursuant to a new prescription, prescription refill, or drug order
- Accurately evaluate and process a new prescription, prescription refill, and medication order in accordance with the law
- Determine appropriate storage of compounded medications before and after dispensing

Basic Patient Assessment**Ability Statement:**

Collect, record, and assess subjective and objective patient data to define health and medication-related problems. Patient information is collected in a manner demonstrating knowledge of patient educational level, the unique cultural and socioeconomic situations of patients, and compliance with requirements for patient privacy. (2.1, 2.3)

EXAMPLE Performance competencies:

- Collect patient histories in an organized fashion, appropriate to the situation and inclusive of cultural, social, educational, economic, and other patient-specific factors affecting self-care behaviors, medication use and adherence
- Obtain, record, and interpret a history from a patient to at minimum include drug allergies and reactions, drugs (prescription, non-prescription, and herbal) being taken, doses being used, cultural, social, educational, economic, and other patient-specific factors affecting self-care
- Patient Assessment: Obtain and interpret patient information to determine the presence of a disease, medical condition, or drug-related problem(s), and assess the need for treatment and/or referral
- Gather and organize accurate and comprehensive patient-specific information
- Obtain and interpret patient information, inclusive of cultural, social, educational, economic, and other patient-specific factors affecting self-care behaviors, medication use and adherence to determine the presence of a disease, medical condition, or drug-related problem(s), including a basic medication history from a patient to include drug allergies, a description of allergic reactions, drugs being taken, doses being used, over-the-counter medications being taken, and herbal/natural products being used
- Obtain accurate and comprehensive patient history (including drug allergies, description of allergic reactions, drugs being taken, doses being used, over-the-counter medications being taken, herbal/natural products being used, self-care behaviors, and adherence)
- Gather information necessary to evaluate patient drug therapy (both patient history and utilization of a chart)

- Record all patient information accurately, legally, and succinctly
- Perform a basic review of a patient's medication profile to identify medication allergies, correct doses, duplicate medications, and important drug interactions
- Obtain and accurately record a patient's health and medication history
- Gather and accurately record a patient's health and medication information from his/her medical record
- Evaluate patient information to determine the presence of a disease, medical condition, or drug-related problem(s), and assess the need for treatment and/or referral
- Evaluate a patient's medication profile to identify medication allergies, appropriate doses and patient instructions, duplicate medications, and clinically relevant drug interactions
- Identify and prioritize a patient's drug-related problems

Medication Information

Ability Statement:

Demonstrate knowledge—and accept responsibility for that knowledge—of commonly used medications, formulations, and drug products. (1.1, 12.1)

EXAMPLE Performance competencies:

- Summarize key information related to the use of common (Top 200) medications
- Identify brand and generic names, dosage forms, and usual dosing ranges for common (e.g., Top 200) medications and other drugs routinely used in specific patient populations
- Describe the mechanism of action of common medications (e.g., Top 200 medications) and other drugs routinely used in specific patient populations at the molecular, cellular, systems, and whole organism levels
- List and describe the mechanism(s) of common drug interactions
- Cite the spectrum and common indications for commonly used antibiotics
- Identify target drug concentrations for Narrow Therapeutic Index drugs
- Determine the appropriate storage of compounded medications before and after dispensing
- Identify appropriate medication information sources for professional and patient use

Identification, Assessment, and Resolution of Drug-related Problems

Ability Statement:

Correlate drug-related variables and patient-related variables to identify and assess drug-related problems. Evaluate how the unique characteristics of patients and patient populations impact on manifestations of drug-related problems. (2.1, 2.3, 2.4)

EXAMPLE Performance competencies:

- Evaluate medication orders to identify drug-related problems
- Assess the urgency and risk associated with identified drug-related problems
- Evaluate patient information and medication information that places a patient at risk for developing drug-related problems

Mathematics - Applied to pharmaceutical calculations, compounded medications, dose calculations, and applications of pharmacokinetic calculations

Ability Statement:

Utilize pharmaceutical and pharmacokinetics mathematics to perform accurate medication calculations. Value the importance of total accuracy in performing and applying these calculations. (1.1, 2.2)

EXAMPLE Performance competencies:

- Perform accurate pharmaceutical calculations, especially involved in the preparation of compounded oral, topical, rectal, ophthalmic, or parenteral preparation, and pharmacokinetic calculation of appropriate doses
- Apply mathematical principles (e.g., accurately perform dose calculations, kinetics) in pharmacy practice
- Apply mathematics to pharmacokinetics in drug therapy regimen design and patient assessment.

Ethical, Professional, and Legal Behavior**Ability Statement:**

In all healthcare activities, demonstrate knowledge of and sensitivity towards the unique characteristics of each patient. Comply with all federal, state, and local laws related to pharmacy practice. Demonstrate ethical and professional behavior in all practice activities. (1.1, 2.2, 4.4)

EXAMPLE Performance competencies:

- Demonstrate caring, ethical, and professional behavior when interacting with peers, professionals, patients, and caregivers
- Demonstrate sensitivity and responsiveness to culture, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities, and other aspects of diversity and identity when interacting with patients, caregivers, and other healthcare professionals
- Comply with federal, state, and local laws and regulations related to pharmacy practice
- Practice ethically, including maintaining patient confidentiality, responding to errors in care, and professional misconduct (including plagiarism)
- Comply with federal, state, and local laws and regulations related to pharmacy practice
- Demonstrate empathy, assertiveness, effective listening skills, and self-awareness
- Demonstrate professional and ethical behavior in all practice environments
- Apply legal and regulatory principles to medication distribution, use and management systems
- Accept responsibility for patient care
- Make and defend rational, ethical decisions within the context of personal and professional values

General Communication Abilities**Ability Statement:**

Demonstrate effective communication in interactions with patients, their families and caregivers, and other healthcare providers. Communication should be consistent with education level, cultural issues, and be empathetic. Elicit feedback validating understanding of communication. These skills are essential in carrying out the Pharmacists' Patient Care Process. (3.6, 4.1)

EXAMPLE Performance competencies:

- Communicate effectively (using verbal, non-verbal, and written communication as appropriate) with patients, caregivers, and other healthcare providers, at a suitable level for the partner in the interaction, to engender a team approach to patient care
- Demonstrate effective communication skills (verbal, non-verbal, and written) at an appropriate level for patients, caregivers, healthcare providers, and the general public

Patient Education**Ability Statement:**

Provide effective health and medication information to patients and/or caregivers and confirm patient and/or caregiver understanding of the information being provided. (3.2, 3.5, 3.6, 4.4)

EXAMPLE Performance competencies:

- Use effective written, visual, verbal, and nonverbal communication skills to provide patient/caregiver self-management education
- Appropriately and accurately provide basic medication counseling to a patient or caregiver receiving a medication
- Assess and validate the ability of patients and their agents to obtain, process, understand, and use health- and medication-related information
- Counsel patients on proper self-care and preventative care
- Use appropriate methods of patient education to review indications, adverse effects, dosage, storage, and administration techniques
- Use effective written, visual, verbal, and nonverbal communication skills to provide education to the patient/caregiver on drug, drug use, self- or preventative care, or other health-related education to healthcare providers
- Communicate alternative therapeutic strategies to the prescriber to correct or prevent drug-related problems
- Assist a patient in correctly selecting an over-the-counter preparation
- Develop and provide drug, drug use, or other health-related education to consumers or health providers
- Provide accurate response to drug information requests written and verbally
- Use effective written, visual, verbal, and nonverbal communication skills to counsel and educate a patient or caregiver regarding appropriate medication use, whether prescription and self-care
- Demonstrate and/or describe proper administration technique for various drug delivery systems (e.g., inhalers, eye drops)

Drug Information Analysis and Literature Research**Ability Statement:**

Assess information needs of patients and health providers and apply knowledge of study design and literature analysis and retrieval to provide accurate, evidence-based drug information. (2.1)

EXAMPLE Performance competencies:

- Collect accurate and comprehensive drug information from appropriate sources to make informed, evidence-based, patient-specific, or population-based decisions

- Recognize the type of content that is available in general (tertiary), secondary, and primary information sources
- Collect, summarize, analyze, and apply information from the biomedical literature to patient-specific or population-based health needs
- Demonstrate utilization of drug information resources
- Describe the type of content in commonly used drug and medical information resources.
- Collect and interpret accurate drug information from appropriate sources to make informed, evidence-based decisions
- Use effective written, visual, verbal, and nonverbal communication skills to accurately respond to drug information questions

Health and Wellness – Public Health

Ability Statement:

Know and apply principles of health and wellness when providing individual and population-based health and wellness information. Integrate unique characteristics of individuals and populations in design of health and wellness information. (2.3, 2.4)

EXAMPLE Performance competencies:

- Participate in activities that promote health and wellness and the use of preventive care measures
- Promote to patients the importance of health, wellness, disease prevention (e.g., immunizations, tobacco cessation), and management of their diseases and medication therapies to optimize outcomes
- Provide preventative health services (e.g., immunizations, tobacco cessation counseling)
- Public Health: Promote to patients the importance of health, wellness, disease prevention, and management of their diseases and medication therapies to optimize outcomes

Insurance/Prescription Drug Coverage

Ability Statement:

Utilizing knowledge of a wide array of private and public health insurance options, assist patients and caregivers to obtain their medications and related para-pharmaceuticals in an affordable manner that meets their healthcare needs. (2.2)

EXAMPLE Performance competency:

- Assist a patient or caregiver in problems related to prescription medication coverage, health insurance, or government healthcare programs

Appendix B

Entry-Level Competencies Needed for Community and Ambulatory Care Pharmacy Practice²

A pharmacist practicing in community and ambulatory care practice settings needs to possess competencies in the areas including pharmacist-delivered patient care (i.e. medication therapy management), public health, communication, dispensing systems management, business management, pharmacy law, and leadership. **Example performance competencies include:**

Pharmacist-Delivered Patient Care

- Demonstrate and routinely apply strong clinical skills and provide direct patient care services
- Medication Therapy Management (MTM)
- Define and appropriately document comprehensive MTM services
- Conduct a patient interview and provide education
- Conduct comprehensive medication review
- Identify and resolve medication therapy problems, manage drug interactions, and resolve gaps in care
- Recommend therapeutic alternatives and generic substitutions
- Document services and follow up with other health professionals
- Use multiple MTM platforms as required by third-party payers
- Support and assist patient behavior change
- Proactively identify and resolve patient-specific barriers to medication adherence
- Complete physical assessments and make appropriate recommendations or referrals
- Describe personalized medicine and apply an individual patient's genetic profile to the selection and modification of a medication regimen
- Demonstrate knowledge of specialty pharmaceuticals, and support patient adherence and administration of this growing category of medications
- Describe and apply clinical practice guidelines to patient care
- Facilitate patient self-administration of medications and disease monitoring
- Demonstrate knowledge of appropriate administration technique for dosage forms commonly dispensed in community pharmacy
- Proactively assess and resolve issues related to medication safety
- Describe common doses of drugs requiring monitoring and collaborative drug therapy management
- Proactively perform counseling and medication education which complies with OBRA-90

Public Health

Clinical Application of Public Health Policy:

- Discuss the pharmacist's role in education and intervention in public health initiatives applicable to pharmacy practice
- Collect, interpret, and make recommendations based on the results of health and wellness screenings and diagnostic tests
- Describe the need for Clinical Laboratory Improvement Amendments (CLIA) waiver and describe documentation of testing done in the community pharmacy

² From: *Entry-Level Competencies Needed for Community Pharmacy Practice* conducted by NACDS Foundation-NCPA-ACPE Task Force, 2013

- Proactively assist with patient self-care, including helping patients make appropriate selections of over-the-counter medications and dietary supplements
- Proactively promote healthy lifestyle and nutrition and describe how it impacts drug therapy and overall health
- Describe the role of a pharmacist in emergency management
- Identify and explain the major roles of the pharmacist in population-based provision of care (as distinguished from direct patient care)

Immunization:

- Be certified to administer immunizations (preferably early in curriculum to allow for practice and utilization during the professional program)
- Describe the Vaccine Information Statement (VIS), the Vaccine Adverse Events Reporting System (VAERS), and state vaccine registries

Communication Skills

Health Literacy:

- Determine patient level of health literacy by observation or interview, appropriately adjust counseling delivery, and to communicate at all levels of health literacy
- Solve adherence challenges created by low health literacy

Patient communications:

- Support patient behavior change and self-efficacy through skills such as motivational interviewing
- Demonstrate a respect for patient confidentiality and privacy rights
- Demonstrate patient compassion and empathy

Health professional communications:

- Effectively function as part of a team engaged in interprofessional, team-based care
- Document appropriate therapeutic recommendations related to medication therapy in the Electronic Health Record (EHR) or similar platforms

Drug information skills:

- When given a drug information question, access and utilize appropriate drug information resources and provide an accurate and credible solution in both written and oral forms
- Develop a variety of drug-related reports, monographs, reviews, and policies using drug literature evaluation skills
- Evaluate appropriateness of clinical trials and other study designs, including validation of methodology and assessment of data credibility
- Access appropriate drug information resources required for patient education

Medication management team communications:

- Identify and manage conflict at all levels
- Supervise and motivate employees
- Delegate appropriate tasks
- Effectively articulate team objectives and measure and report team performance

Dispensing Systems Management

Extemporaneous Compounding:

- Perform basic, non-sterile compounding

Supply Chain:

- Describe the pharmaceutical supply chain and anticipate, identify, and troubleshoot problems with the supply chain
- Oversee and effectively manage the drug procurement process

Operations:

- Outline typical pharmacy dispensing workflow
- Comprehend and adopt a given set of pharmacy operating procedures
- Comprehend and adopt an existing collaborative drug therapy management agreement
- Evaluate prescription for legitimate medical use, and appropriate dose
- Describe the roles and responsibilities of each pharmacy staff member
- Describe dispensing processes when pharmacy automation is utilized

Quality:

- Describe the concepts of quality measurement and improvement
- Apply national standards, guidelines, and best practices
- Develop a plan for quality and performance improvement

Pharmacy Technology:

- Describe the role of computerized pharmacy management systems in dispensing
- Dispense prescriptions utilizing technology-assisted workflow
- Describe the role of pharmacy robotics, point-of-sale systems and electronic signature capture
- Describe the electronic health record (EHR) and the role and responsibilities of a pharmacist who has access to a certified EHR

Business Management

Lead the operations of a community pharmacy practice site and to:

- Manage inventory costs and inventory levels or order points
- Identify cash flow problems and apply solutions to address
- Develop a sound business plan for clinical service programs
- Describe basic finance terms and analyze a financial statement
- Apply healthcare economics and pharmacoeconomics
- Describe strategies for asset protection and safety

Effectively use pharmacy technology including:

- Automated filling systems
- Prescription processing systems with contemporary features

Understand and communicate managed care/drug-coverage policies and to:

- Explain the purpose/function of a Pharmacy Benefit Management (PBM) program and the general concept of managed care

- Discuss general concepts associated with the benefit structure of a health plan, including co-pay vs. co-insurance, premium vs. deductible and maximum out of pocket costs
- Outline general provisions of Medicare Parts A, B, C and D, and Medicaid, including enrollment and other payment programs
- Provide guidance to patients seeking assistance to apply for drug payment programs
- Troubleshoot denied claims
- Discuss the concept of drug utilization review, formulary management and provide functional definitions of key managed care strategies (e.g., prior authorizations, step therapy, quantity limits)
- Identify major factors that contribute to prescription drug related fraud and abuse
- Identify the major factors influencing drug costs for a managed care organization (e.g., pharmacy costs, drug pricing methodologies, contracts/rebates, discounts)

Leadership Abilities

- Display confidence in the patient care skills learned in pharmacy school
- Demonstrate professional behavior (attitude, dress, appearance, etc.) in practice settings
- Embrace and advocate changes that improve patient care

Legal Considerations

- Understand laws and regulations that impact pharmacy practice
- Understand other state and federal rules and regulations affecting legal operation of a pharmacy.
- Identify issues, pending legislation, and regulations across all levels of government and how to make a positive impact
- Understand professional ethics as they apply to the practice of pharmacy
- Apply knowledge and understanding of all legal and ethical aspects of pharmacy practice required to evaluate a patient care decision

Appendix C

Entry-level Competencies Needed for Hospitals/Health Systems Practice³

A pharmacist practicing in a hospital/health system pharmacy practice setting needs to possess competencies in areas including pharmacy systems, medication safety and quality, clinical applications, and professional practice. **Example performance competencies include:**

Hospital/Health Pharmacy Systems

- Describe the medication use process in health systems, including how pharmacy impacts the safety of storage, prescribing, transcription, dispensing, administration and monitoring steps
- Describe the basic drug procurement process including drug selection, inventory management, backorders, recalls, drug waste, handling of drug shortages, and their relationship to safe, effective patient care
- Describe the integration and interface of clinical and distributive functions, including the synergy that translates into safe and effective medication therapy
- Outline the basic functionality of commonly used automated systems related to medication use (such as automated dispensing cabinets, computerized prescriber order entry systems, bar code medication administration systems, programmable infusion devices, and robotics), understanding their appropriate and safe use as well as unintended consequences
- Perform activities within a typical hospital drug distribution system, including order receipt, evaluation and review, and describe the appropriate roles of pharmacy technicians and pharmacists in these processes
- Demonstrate aseptic technique and describe processes and facilities needed to provide sterile compounded parenteral solutions, including the basic requirements of United States Pharmacopeia (USP) 797.
- Describe the appropriate use of injectable medications, including intravenous, intrathecal, intraocular, intradermal, and other routes. Description should include unique preparation techniques, concentration considerations, rates of administration, special infusion devices, and compatibility considerations
- In real or simulated scenarios, supervise pharmacy technicians in their work in medication preparation and delivery

Medication Safety and Quality

- Summarize current National Patient Safety Goals and articulate those goals that relate to medication use, pharmaceutical care, and pharmacy's role in each
- Describe how organizations such as the Joint Commission strive to ensure quality of healthcare through the accreditation process, giving examples of relevant standards related to safe and appropriate medication use
- Describe those national standards, guidelines, best practices, and established principles and process related to quality and safe medication use (e.g., storage of look-alike/sound-alike medications, high-alert medications, storage of concentrated

³ *Entry-level Competencies Needed for Pharmacy Practice in Hospitals and Health-Systems* conducted by the ASHP-ACPE Task Force, 2010.

potassium in patient-care areas, dangerous abbreviations, leading decimal points and trailing zeros, quality measure related to medications, etc.)

- Given a real or simulated case of a patient transitioning from one care setting to another, effectively reconcile his/her medications and make appropriate communications to involved pharmacy providers
- Employ performance improvement techniques used in health systems and describe how they are used to improve the medication use process

Clinical Applications

- Given a drug information question, access appropriate drug information resources, including primary literature, and provide an accurate and credible answer. Present the answer successfully in both written and oral forms
- Given a real or simulated case requiring practical application of pharmacokinetic dosing principles for commonly used drugs that rely on serum levels for dosing, determine the correct dose
- Make useful contributions to the establishment of medication-use policies, criteria, and maintenance of the formulary as a student member of the Pharmacy and Therapeutics Committee using an evidence-based approach to evaluation of the literature

Professional Practice

- Demonstrate effective verbal and written communications to staff, patients, and healthcare team members
- Demonstrate professional behavior (attitude, dress, appearance, etc.) in practice settings
- Given a real or simulated case, document appropriate therapeutic recommendations related to medication therapy
- Accurately triage multiple patient-care priorities in times of high activity and workload
- Given a real or simulated case, respond to questions with the appropriate level of detail necessary to ensure proper patient care and communication with other relevant parties
- Given a real or simulated pharmacy-related problem, demonstrate effective problem-solving skills
- Given a real or simulated case, demonstrate an appropriate level of clinical knowledge related to medications and therapeutics in making decisions or recommendations.]
- Analyze a recently published study
- Describe the impact of pharmacist involvement on medication safety and quality using appropriate literature
- Evaluate medication-use patterns in a specified patient population

Appendix D

Entry-level Competencies Needed for Managed Care Pharmacy⁴

In order to practice effectively in a managed care environment, graduates need a solid understanding of the principles of healthcare economics, population health, evidence-based medicine and evidence-based use of medications, quality measurement, supply-chain management, and drug-benefit management. **Example performance competencies include:**

Cognitive domain

- Explain the general concept of managed care
- Describe the differences between healthcare delivery models, including preferred provider organizations (PPOs), accountable care organizations (ACOs), integrated systems, and patient-centered medical homes
- Define pharmacoeconomics and explain practical applications
- Outline the general provisions of Medicare Parts A, B, C, and D, and Medicaid, including coverage of medications
- Define formulary systems and explain the rationale for and practical applications of a formulary system
- Describe the steps involved in developing a formulary system
- Discuss the concept of utilization management and provide functional definitions of key elements associated with drug-related utilization management (such as prior authorization, step therapy, and quantity limits)
- Discuss general concepts associated with the benefit structure of a health plan, including co-pay vs. co-insurance, premium vs. deductible, and maximum out-of-pocket costs
- Identify the major factors influencing drug costs for a managed care organization (e.g., pharmacy costs, drug-pricing methodologies, contracts/rebates, discounts)
- Identify and explain the steps involved in the drug-approval process in the U.S.
- Explain the purpose and function of pharmacy benefit management programs
- Discuss the principles of patient-centered care management programs
- Discuss the principles of quality management
- Explain the role of quality organizations in ensuring quality in the managed care setting
- Identify and explain the major roles of the pharmacist in population-based provision of care (as distinguished from direct patient care)
- Explain the term “specialty pharmaceuticals,” give examples of such products, and describe generally how they are procured, stored, and dispensed to patients
- Identify several major factors that contribute to drug-related fraud and abuse
- Identify several major factors that contribute to drug waste
- Discuss the requirements for patient confidentiality as provided for under the 1996 Health Insurance Portability and Accountability Act (HIPAA) and professional practice guidelines

Psychomotor domain

- Demonstrate strong clinical skills
- Communicate effectively, both orally and in writing, in a manner appropriate for the intended audience (e.g., patient, healthcare provider, plan sponsor)

⁴ Based on the work of a joint AMCP-ACPE Task Force, 2013.

- Apply critical-thinking and problem-solving skills
- Demonstrate strong computer skills and apply those skills in analyses, presentations, and communications
- Function as a productive team member
- Advocate on behalf of the appropriate use of medications and needs of patients
- Develop a variety of drug-related reports, monographs, reviews, and policies, using drug literature evaluation skills
- Develop educational materials and correspondences for patients and caregivers (at the appropriate level of understanding)
- Conduct literature searches on currently marketed drug products and those in the pipeline
- Evaluate appropriateness of clinical trials of medications, including validation of trial design and assessment of data credibility
- Create and maintain effective relationships with others, based on an understanding of the needs of key stakeholders
- Demonstrate effective medication therapy management skills
- Apply major clinical practice guidelines in making therapeutic recommendations for individual patients
- Demonstrate expertise in formulating, interpreting, and evaluating clinical medication criteria
- Conduct medication utilization evaluations
- Identify quality/outcome indicators that could be used in evaluating a specific pharmacy service or program
- Evaluate medication-use patterns in a specified patient population

Affective domain – Display the following attributes:

- Respect for employer, colleagues, and patients
- Honesty and integrity
- Appropriate work ethic
- Personal responsibility and accountability
- Professional dress
- Respect for patient confidentiality and privacy
- Honoring promises (keeping commitments)
- Punctuality

Appendix E Documents for Programmatic Development

Appendix E contains links to several documents that provide guidance in programmatic development.

Center for the Advancement of Pharmacy Education (CAPE) related topics – three insightful papers from groups with AACP on:

Assessment – Link:

<http://www.aacp.org/resources/education/cape/Open%20Access%20Documents/CAPEoutcomes2013.pdf>

Curriculum – Link:

<http://www.aacp.org/resources/education/cape/Documents/CurriculumSIGCAPEPaperFinalNov2014.pdf>

Leadership – Link:

<http://www.aacp.org/resources/education/cape/Documents/SLDCAPEManuscriptFINAL.pdf>

Continuing professional development – Guidance on Continuing Professional Development (CPD) for the Profession of Pharmacy – outlines critical issues in this important area along with suggested strategies for pharmacists and programs to consider.

Link:

<https://www.acpe-accredit.org/pdf/CPDGuidance%20ProfessionPharmacyJan2015.pdf>

Also see Guidance on Continuing Professional Development for Professional Degree Programs

Link:

<https://www.acpe-accredit.org/pdf/CPDGuidanceProfessionalDegreeProgramsJan2015.pdf>

Geriatric patient care – American Society of Consultant Pharmacists Curriculum Guide - suggested competencies for Doctor of Pharmacy graduates.

Link:

<http://www.ascp.com/sites/default/files/2ndEd-ASCP-CurriculumGuide.pdf>

Health care transformation – AACP's Task Force on the Impact of Healthcare Transformation on Pharmacy Education - contains a list of competencies for future practitioners providing direct patient care. Link:

<http://www.aacp.org/governance/councildeans/Documents/COD%20and%20Taskforces%20Final%20Report%20July%202012.pdf>

NABP licensing examination - Revised NAPLEX Competency Statements

Link:

<http://www.nabp.net/programs/examination/naplex/naplex-blueprint>

PCOA - Pharmacy Curriculum Outcomes Assessment - Technical Report by NABP – description of this assessment tool and relevant information for colleges and schools.

Link:

<http://www.nabp.net/programs/assessment/pcoa>

PPCP – Pharmacists’ Patient Care Process – description and relevant information for colleges and schools.

Link:

<http://www.pharmacist.com/sites/default/files/files/PatientCareProcess.pdf>

Quality measures - Pharmacy Quality Assurance’s National Quality Strategy – discussion of quality measures that pharmacists and student pharmacists should be aware of.

Link:

<http://pqaalliance.org/measures/default.asp>