ACCP COMMENTARY

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ACCP clinical pharmacist competencies: Advocating alignment between student, resident, and practitioner competencies

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Abstract

Competency standards in pharmacy education and training have been formulated by different organizations to focus on various stages in the development of students, residents, and clinical pharmacists. This commentary advocates a deliberate alignment of educational outcomes, goals, and competencies across the developmental continuum of students, residents, and pharmacy practitioners. Consistent use of terminology and appropriate sequencing of expectations will help develop pharmacists who can meet the demands of the profession in the changing health care landscape. Progressive development is needed for the pharmacist's abilities, from student to resident to new practitioner to experienced professional. Consistency will ensure that educational and training programs optimally prepare individuals for board certification and professional roles. Specific recommendations include developing a common taxonomy that aligns within the pharmacy profession and across health care professions.

KEYWORDS
clinical pharmacist, pharmacist competency, pharmacy education

1 | INTRODUCTION

The need for competency-based systems for educating, training, and assessing health care professionals has been discussed in the literature for over a decade and many health care professions have adopted this approach. Along these lines, different organizations have formulated competency standards in pharmacy education and training that focus on various stages in the development of students, residents, and clinical pharmacists. In recent years, updated documents and position statements have provided guidance related to the

necessary competencies for pharmacists for a variety of intended audiences, including students and faculty, residents and preceptors, and clinical pharmacists and administrators. In 2013, the American Association of Colleges of Pharmacy (AACP) updated the Center for the Advancement of Pharmacy Education (CAPE) Educational outcomes for students in Pharm.D. programs.[1] In 2017, AACP established core entrustable professional activities (EPAs) for new pharmacy graduates.[2] Over recent years, the American Society of Health-System Pharmacists (ASHP) has updated the required competency areas, goals, and objectives (CAGOs) for postgraduate year one (PGY1) and postgraduate year two (PGY2) residency programs.[3] In 2017, ACCP updated the clinical pharmacist competencies, which describe the desired knowledge, skills, attitudes, and behaviors for pharmacists providing comprehensive medication management in team-based, direct patient care environments.[4] Each organization's standards pertain to various aspects of the Pharmacists' patient care process developed by the Joint Commission of Pharmacy Practitioners, but unlike in other health professions, the pharmacy competencies are inadequately aligned. This commentary advocates a deliberate alignment of educational outcomes, goals, and competencies across the developmental continuum of students, residents, and pharmacy practitioners. Consistent use of terminology and appropriate sequencing of expectations will help develop pharmacists with the abilities needed to meet the demands of the profession in the changing health care landscape.

Progressive development of abilities and expectations from student to resident to new practitioner to experienced professional is needed. The first checkpoint in this progression is a consistent curriculum. This is vital to ensure students are adequately prepared and successful upon graduation for the next phase of their career. Subsequently, for many pharmacists, licensure is no longer the endpoint assessment, but just a first step. The growth in postgraduate pharmacy residency training and the increased diversity of PGY2 specialty areas have opened new career paths. However, although growth in the number of pharmacy specialties has better defined the developmental path from resident to specialist, misalignment of competencies at each level of training can make the progression difficult to discern and navigate. Moreover, without alignment, it is difficult to systematically ensure that students, residents, and new practitioners are achieving key milestones in competency development.

To evaluate and provide evidence to support the necessity of alignment and sequential building of competencies, members of the 2018 ACCP Educational Affairs Committee first identify areas of alignment that are already clear. Beginning with the ACCP clinical pharmacist competencies, the committee notes which of the ASHP CAGOs and AACP CAPE outcomes fit under these competencies. Through this process, committee members also identify areas of the clinical pharmacist competencies not included in the AACP CAPE outcomes or the ASHP CAGOs. The committee then discusses areas that contain language different enough to suggest disagreement between the documents. Finally, the committee provides recommendations and suggests next steps for better alignment and building of pharmacy competencies.

2 | NEED FOR ALIGNMENT

The ACCP clinical pharmacist competencies were developed to define the minimum expectations for clinical pharmacists entering practice and delivering comprehensive medication management in direct patient care settings.[4] As described by Saseen et al., the clinical pharmacist competencies were designed to be analogous to the Accreditation Council for Graduate Medical Education (ACGME) competencies for physicians entering practice and similarly target which training pathways, curricula, and assessment tools can be aligned to ensure learners are consistently prepared to move to the next stage in their training or career.[4,5]

One challenge of competency-based education/training is defining what competency looks like. A broad and difficult-to-measure competency makes curricular design and assessment difficult, creates unclear expectations for learners, and leads to subjective faculty judgments on performance in clinical settings.[6] Milestones and EPAs are concepts used in graduate medical education to create a shared method of defining competency.[7,8] Milestones are the progressive developmental outcomes (eg, knowledge, skills, attitudes, and behaviors) learners are expected to demonstrate as they progress within a competency and along the training continuum. Milestones in competency-based education/training can be seen as akin to the AACP CAPE subdomain outcomes or objectives and the ASHP CAGOs.

Pharmacy has begun incorporating EPAs into student education. In 2017, AACP released 15 core EPA statements for pharmacy programs to evaluate. These EPAs are mapped to the 2013 AACP CAPE outcomes and the Joint Commission of Pharmacy Practitioners Pharmacists' Patient Care Process, accompanied by examples of supporting tasks to help with assessment.[1,9] The EPAs are meant to serve as the baseline expectation for all Pharm.D. graduates, independent of practice setting, and can be modified or supplemented to meet specific needs. However, no such EPAs have been developed for graduating pharmacy residents or fellows.

Moreover, although core EPAs have been defined by AACP,[2] no streamlined model for teaching skills and knowledge within the pharmacy curriculum has yet been developed to ensure students can successfully perform each EPA. Active learning,[10] team-based learning,[11] and layered learning models[12] have been described in the literature regarding the delivery of pharmacy education. However, no systematic approach has been taken by U.S. schools and colleges of pharmacy to evaluate the most effective method for preparing students to perform each EPA or to ensure that a consistent approach is used.

Medical education has called for transparency in language between curricular competencies, milestones, and EPAs for over a decade.[6,13] EPAs have been implemented in various graduate domains, including internal medicine, family medicine, pediatrics, psychiatry, oncology, pulmonology, and critical care. Veterinary medicine has applied competency-based education, allowing trainees to perform in the workplace with a known outcome and timeline.[14,15] These professions have also encountered barriers to implementing competency-based education systems because of the lack of a

common language describing the domains of competence. A large project to develop General Physician Competencies was completed in 2013 by analyzing the published competency frameworks for all health care professions and comparing them with the most recent ACGME/American Board of Medical Specialties framework as a foundational reference list.[16] Through this project, 153 competency lists were identified, with significant overlap noted throughout the lists and eight themes emerging—patient care, knowledge for practice, practice-based learning and improvement, interpersonal and communication skills, professionalism, systems-based practice, interprofessional collaboration, and personal and professional development, which are directly comparable with areas of the ACCP clinical pharmacist competencies. Ultimately, the authors of this project developed the General Physician Competencies, which now serve as the framework for the Association of American Medical Colleges (AAMC) MedEdPORTAL and AAMC Curriculum Inventory and Reports sites, allowing authors and researchers to use a common language to advance and disseminate knowledge related to specific competencies. These competencies were written using general language that can apply to many other health professions, including pharmacy.

Aside from NAPLEX (North American Pharmacist Licensure Examination), which is not designed to measure the AACP CAPE outcomes, no current process for pharmacists mirrors the process established by the United States Medical Licensing Examination or the Comprehensive Osteopathic Medical Licensing Examination to become a licensed allopathic or osteopathic physician in the United States. Allopathic medical students must pass step 1 (written exam) at the end of their second year of medical school and step 2 (clinical knowledge and clinical skills exams) in their fourth year. Step 3 (foundations of independent practice and advanced clinical medicine) usually occurs during the first or second year of postgraduate training.[17] The 2016 Accreditation Council for Pharmacy Education standards require that all pharmacy students take the PCOA (Pharmacy Curriculum Outcomes Assessment)[18]; however, this exam is not currently a high-stakes assessment at most institutions.[19,20] Use of a standardized residency exam for pharmacy trainees to assess knowledge upon entry and exit from residency programs has been described; however, no shared version currently exists across programs.[21] Rather, the profession has embraced trainees' achievement of residency learning objectives as the standard measure of progression. Use of standardized performance assessments at various levels throughout the curriculum has not yet been fully addressed for pharmacy education.

To align practitioner and resident competencies, curricular and program design must ensure that pharmacy programs are preparing students to perform at the expected entry level of a pharmacy resident and that residency programs are preparing trainees to perform at the expected level of a clinical pharmacist upon completion of education and training, respectively.[4,22] Similar to backward course design, by first considering the desired skill set and abilities of clinical pharmacists, a structure can be built that prepares residents to enter clinical practice rather than focusing on teaching content only.[23]

From a trainee perspective, alignment of competencies at each stage of training will provide a clear road map of the skills required to become a qualified clinical pharmacist. Along that road map, learners will be able to see the progression of skills expected from educational milestone to milestone and how these skills build on one another. This framework certainly requires a level of agreement between competencies for Pharm.D. curricula, PGY1 pharmacy residencies, and practicing clinical pharmacists. However, distinctions between expectations for the two learner levels and the clinician level (eg, regarding case complexity and independence) should be clear. Table 1 shows an example of such a progression.

A clear road map will assist with curricular design and individual assessment, feedback, and self-directed learning. Such a road map will also help identify struggling learners early on by providing more explicit and transparent expectations for performance and development.[7]

3 | CURRENT AREAS OF ALIGNMENT

The three competency documents currently have several areas of alignment, as well as areas of partial alignment. Tables 2–7 show which section of each competency document corresponds with the others and provide additional detail on what each competency document describes for each of the six main competency domains.

TABLE 1 Example of progression of clinical skill expectations: communication

Progression of clinical skill expectations		
Clinical pharmacist (ACCP clinical pharmacist competencies) at end of first year of practice or end of PGY2 residency	**PGY1 pharmacy resident at residency program completion (ASHP CAGOs)**	**Pharmacy student at graduation (AACP CAPE outcomes)**
Tailor communication style of recommendations to effectively communicate in various clinical environments and patient scenarios with any audience, including patients, family/caregivers, and interdisciplinary team members	Communicate recommendations to the interdisciplinary patient care team using consensus building and negotiation skills	Clearly communicate patient-specific recommendations to the interdisciplinary patient care team at appropriate times during patient care

Source: Adapted from Haines et al.[2]; American Society of Health-System Pharmacists (ASHP)[3]; Saseen et al.[4]; Pittenger et al.[24]

Specifically, Table 2 depicts the relevant patient care competency domains among the three documents. Direct patient care competencies across the three documents generally align. Each document highlights important aspects of the patient care process, such as assessing patient problems, developing therapeutic plans, and collaborating with other health care practitioners to achieve the best outcomes. Although neither the ASHP document nor the AACP document directly addresses the ACCP competency of applying knowledge of the roles of other health care team members, several of the competencies in the three documents partly align and support the notion that pharmacists must actively participate and interact effectively within the health care team.

Table 3 shows that the Pharmacotherapy Knowledge domain has minimal direct alignment across the three guidance documents. The ASHP PGY1 residency CAGOs do not directly address the practitioner's knowledge. In general, the ACCP clinical pharmacist competencies highlight individual practitioner knowledge as a major competency while neither the ASHP residency CAGOs nor the AACP CAPE outcomes address this; however, the latter two documents do note outcomes that require appropriate pharmacotherapy knowledge.

Table 4 shows that the ACCP clinical pharmacist competencies and the ASHP PGY1 residency CAGOs align well with respect to the Systems-Based Care and Population Health domain. However, the AACP CAPE outcomes are not directly aligned.

Table 5 shows that, with respect to the communication domain, all three documents have elements or objectives that align with effective communication with patients, caregivers, family, and health care professionals. However, ACCP and AACP have diverse populations as part of the element and learning objective, whereas cultural competence is listed as a criterion under an ASHP patient care learning objective. This element also discusses communication with stakeholders.

Table 6 outlines the relevant professionalism domains among the three documents. ACCP's clinical pharmacist competencies state that upholding the highest standards of integrity and honesty is the first element of this domain. This aligns with the AACP CAPE outcomes, which state that the student should demonstrate altruism, integrity, trustworthiness, flexibility, and respect during all interactions. The ASHP PGY1 standards do not discuss integrity or honesty; however, several of the ASHP learning objectives and criteria contain actions that exemplify these qualities. These include the resident's involvement in ethical issues, responsibility for medication therapy outcomes, and responsibility for reporting and monitoring medication events. ACCP's second element of professionalism is a commitment to a fiducial relationship with patients. This aligns with the AACP CAPE learning objective that states the student should display preparation, initiative, and accountability consistent with a commitment to excellence. This element is indirectly stated in the ASHP CAGOs; examples of trust are listed as criteria in the patient care competencies. ACCP's third element of professionalism describes the clinical pharmacist's role as a model and leader for students, trainees, and colleagues by portraying professionalism. There is direct alignment with both the ASHP CAGOs and the AACP CAPE outcomes, with each organization devoting a competency/subdomain area to leadership and management. The last element of professionalism in the ACCP clinical pharmacist competencies is advancing clinical pharmacy through

TABLE 2 Domains and examples of alignment across the three competency documents: direct patient care

	ACCP clinical pharmacist competencies	ASHP PGY1 residency CAGOs	AACP CAPE outcomes
Domain	Direct patient care	Patient care	Essentials for practice and care approach to practice and care
Examples	Describes assessing patients, evaluating drug therapy, developing therapeutic plans, monitoring outcomes, collaborating with members of the health care team, and applying knowledge of the roles of other health care team members	Describes assessing patients, evaluating drug therapy, developing therapeutic plans, monitoring outcomes, and collaborating with members of the health care team Does not directly address applying knowledge of the roles of other health care team members	Describes assessing patients, evaluating drug therapy, developing therapeutic plans, monitoring outcomes, and collaborating with members of the health care team Does not directly address applying knowledge of the roles of other health care team members

TABLE 3 Domains and examples of alignment across the three competency documents: pharmacotherapy knowledge

	ACCP clinical pharmacist competencies	ASHP PGY1 residency CAGOs	AACP CAPE outcomes
Domain	Pharmacotherapy knowledge	N/A	Foundational knowledge
Examples	Describes demonstrating and applying pharmacy knowledge, evaluating scientific literature, using biomedical literature in clinical decision-making, pursuing specialty certification, and enhancing self-assessment and continued lifelong learning	Not explicitly addressed	Describes demonstrating and applying pharmacy knowledge and evaluating scientific literature Does not directly address using biomedical literature in clinical decision-making, pursuing specialty certification, and enhancing self-assessment and continued lifelong learning

	ACCP clinical pharmacist competencies	ASHP PGY1 residency CAGOs	AACP CAPE outcomes
Domain	Systems-based care and population health	Patient care advancing practice and improving patient care	Essentials for practice and care Approach to practice and care
Examples	Describes using health care delivery and information systems to optimize the care of patients and populations, participating in identifying system errors and correcting them, resolving medication-related problems to improve quality metrics, applying knowledge of pharmacoeconomics and risk–benefit analyses, participating in developing process improvements for transitions of care, and designing quality improvement processes to improve medication use	Describes using health care delivery and information systems to optimize the care of patients and populations, participating in identifying system errors and correcting them, resolving medication-related problems to improve quality metrics, applying knowledge of pharmacoeconomics and risk-benefit analyses, participating in developing process improvements for transitions of care, and designing quality improvement processes to improve medication use	Describes using health care delivery and information systems to optimize the care of patients and populations, participating in identifying system errors and correcting them, resolving medication-related problems to improve quality metrics, applying knowledge of pharmacoeconomics and risk-benefit analyses Does not directly address participating in developing process improvements for transitions of care and designing quality improvement processes to improve medication use

TABLE 4 Domains and examples of alignment across the three competency documents: systems-based care and population health

	ACCP clinical pharmacist competencies	ASHP PGY1 residency CAGOs	AACP CAPE outcomes
Domain	Communication	Patient care Advancing practice and improving patient care Leadership and management Teaching, education, and dissemination of knowledge	Approach to practice and care
Examples	Describes communicating effectively with patients and health care professionals, providing clear and concise consultations, developing professional written communications, tailoring verbal communication to environment, and communicating with appropriate assertiveness, confidence, empathy, and respect	Describes interacting effectively with patients and health care professionals, ensuring implementation of therapeutic regimens, developing effective written communications, using effective teaching skills to deliver education, and communicating with appropriate assertiveness and expertise	Describes communicating effectively with individuals, groups, or organizations; documenting clear and concise patient care activities; developing professional documents; adapting instruction to the intended audience; and communicating assertively, persuasively, confidently, clearly, and with empathy

TABLE 5 Domains and Examples of Alignment Across the Three Competency Documents: Communication

TABLE 6 Domains and examples of alignment across the three competency documents: professionalism

	ACCP clinical pharmacist competencies	ASHP PGY1 residency CAGOs	AACP CAPE outcomes
Domain	Professionalism	Patient care Leadership and management Teaching, education, and dissemination of knowledge	Approach to practice and care Personal and Professional development
Examples	Describes upholding integrity and honesty, committing to fiducial relationships with patients, serving as a role model to students and colleagues, and advancing clinical pharmacy through professional stewardship, training, and active engagement in professional societies	Describes demonstrating skills critical for leadership and providing education to health care professionals and students Does not directly address integrity and honesty, fiducial relationships with patients, or active engagement in professional societies	Describes demonstrating integrity and altruism, exhibiting behaviors and values consistent with the trust given to the profession, demonstrating leadership, and engaging in the profession by demonstrating a commitment to continual improvement

professional stewardship, training, and engagement in professional societies. This aligns with the ASHP CAGOs and the AACP CAPE outcomes, which outline the pharmacist's role as an educator not only to patients and health care providers, but also to fellow pharmacists, interns, and technicians. The AACP CAPE outcomes also include personal and professional development outcomes that focus on using innovation and entrepreneurship to advance the profession and developing a commitment to continual improvement.

Table 7 depicts the relevant continuing professional development competency domains among the three documents. The ACCP element of commitment to excellence and lifelong learning is not explicitly stated in the ASHP CAGOs but is aligned precisely with the AACP CAPE learning objectives. The ACCP element of self-awareness and continuing professional development is strongly aligned with the ASHP CAGOs and the AACP CAPE outcomes. Providing professional education to students, trainees, or other health professionals is also aligned within the three documents. Board certification, such as through the Board of Pharmacy Specialties (BPS), is a criterion in the ASHP CAGOs but is not addressed in the AACP CAPE outcomes, which is appropriate because certifications are pursued after pharmacy licensure is obtained.

4 | AREAS OF DISAGREEMENT OR OMISSION

4.1 | Areas of disagreement

When comparing the ACCP clinical pharmacist competencies, the ASHP CAGOs, and the AACP CAPE outcomes, many elements and learning objectives have the same underlying theme. However, these documents vary significantly in how they organize and define the major competencies, as well as in their use of terminology. Improving the consistency in how the major components are defined and the terminology used to define them will provide clarity for educators and trainees alike. In addition, the level of detail included in each competency currently differs. Although the ACCP clinical pharmacist competencies and the student AACP CAPE outcomes focus on high-level and broad definitions of a clinical pharmacist's or student's abilities, the ASHP residency CAGOs are much more granular, with specific

examples that should be accomplished during a residency year. For example, under the communication domain of the ACCP clinical pharmacist competencies, the elements include using verbal communications tailored to the appropriate audience and developing professional written communications, whereas the ASHP residency CAGOs include more specific communication objectives such as developing and presenting a final project report and preparing a drug monograph or drug class review.

Moreover, although the first domain of the ACCP clinical pharmacist competencies, Direct Patient Care, aligns fairly well with the ASHP CAGO domain patient care and the AACP CAPE domain essentials for practice and care, the ACCP clinical pharmacist competencies focus more on evaluating drug therapy for appropriateness, optimizing patient care through collaboration with other health care providers, and understanding the roles and responsibilities of other health care providers. The ASHP residency CAGOs include collaboration objectives in other domains and a component of data collection. The first domain of the ACCP clinical pharmacist competencies also focuses more on interprofessional education than on the less specific "collaboration." The second domain of the AACP CAPE outcomes, Essentials for Practice and Care, is further divided into four subdomains: patient-centered care, medication use systems management, health and wellness, and population-based care. Many elements of these subdomains, excluding patient-centered care, are aligned with the ACCP systems-based care and population health competency rather than direct patient care. Similarly, many of the learning objectives under patient care in the ASHP CAGOs are consistent with elements of the communication domain of the ACCP clinical pharmacist competencies (document direct patient care activities; interact effectively with patients, family members, and caregivers).

The second domain of the ACCP clinical pharmacist competencies, pharmacotherapy knowledge, emphasizes that in-depth knowledge of pharmacology and pharmacotherapy is required to make drug therapy decisions. Similarly, the first domain of the AACP CAPE outcomes (Foundational Knowledge) focuses on developing, integrating, and applying foundational knowledge to advance population health and patient-centered care. Although the essence of the first domain in the AACP CAPE outcomes is captured by the second domain of the ACCP clinical pharmacist competencies, the AACP CAPE outcomes do not explicitly emphasize evidence-based therapeutic decision-making.

TABLE 7 Domains and examples of alignment across the three Competency Documents: Continuing Professional Development

	ACCP clinical pharmacist competencies	ASHP PGY1 residency CAGOs	AACP CAPE outcomes
Domain	Continuing professional development	Leadership and management Teaching, education, and dissemination of knowledge	Approach to practice and care Personal and professional development
Examples	Describes committing to excellence and lifelong learning, self-assessment, and development through continuing professional development; providing professional education; and maintaining BPS certification	Describes applying self-evaluation and personal performance improvement, providing professional education, and pursuing board certification Does not directly address committing to excellence and lifelong learning	Describes possessing qualities consistent with a commitment to excellence, self-awareness, and professional development and providing education Does not address BPS certification

Moreover, ACCP's pharmacotherapy knowledge competency includes demonstrating and applying in-depth knowledge of pathophysiology and the natural history of diseases and/or disorders; however, it is unclear whether possessing a sound knowledge of pathophysiology is a focus of the first domain in the AACP CAPE outcomes.

The primary disagreement regarding the third domain of the ACCP clinical pharmacist competencies, systems-based care and population health, is which overlying domain includes these objectives. ACCP does not include this competency domain within patient care, whereas the ASHP CAGOs includes it in the advancing practice and improving patient care competency and the AACP CAPE outcomes also includes it under patient care. In addition, the ACCP domain includes a focus on pharmacoeconomics and the integration of health informatics, which are not highlighted in the ASHP residency or AACP student competencies. The ASHP CAGOs focus more on the specific tasks that should be completed by a resident (drug class review, drug monograph, medication use evaluation), whereas the ACCP clinical pharmacist competencies have a broader definition to develop and create processes to improve population health.

The components of the communication domain of the ACCP clinical pharmacist competencies are fairly consistent with the objectives scattered throughout the ASHP resident and AACP student competencies. The key difference is that, instead of having a main communication domain, ASHP and AACP include the aspects of communication under other domains (ie, advancing practice and improving patient care, approach to practice and care).

Although many elements of professionalism are implied in the ASHP leadership and management CAGO, the domain of professionalism in the ACCP clinical pharmacist competencies focuses more on professionalism and service *within the profession*, including engaging in professional societies, upholding the values and behaviors of a pharmacist, and serving students and other trainees. Although precepting and managing one's own practice effectively are ASHP CAGO objectives, these ideas of professionalism and service *to pharmacy* are largely lacking in the ASHP residency CAGOs. The fourth domain of the AACP CAPE outcomes (Personal and Professional Development) is consistent with the last domain of the ACCP clinical pharmacist competencies (continuing professional development).

The AACP CAPE outcomes have some areas that do not align. There is no obvious correlation among the AACP CAPE outcomes for identifying systems-based errors, nor do they address transitions of care or quality improvement. The ACCP clinical pharmacist competencies highlight broad, sweeping system and process end points, and although the ASHP PGY1 CAGOs cover similar concepts, the AACP CAPE outcomes do not discuss the application of systems-based education and process improvement.

4.2 | Areas of omission

In contrast to the ASHP residency CAGOs and the student AACP CAPE competencies, the ACCP clinical pharmacist competencies do not specifically address promotion of health and wellness or innovation and entrepreneurship. The ACCP competencies also have no domain that addresses leadership and management in as much detail as the ASHP residency CAGOs.

When comparing the ASHP residency CAGOs and the student AACP CAPE outcomes with the ACCP clinical pharmacist competencies, the most significant areas of silence include the omission of a foundational knowledge competency in the ASHP residency CAGOs. Foundational knowledge is a required domain in both the ACCP clinical pharmacist competencies and the AACP CAPE outcomes. The ASHP residency CAGOs also lack specific components of professionalism in their outcomes and have no domain that highlights the importance of pharmacy residents acting to the highest moral, ethical, and legal conduct.

The AACP CAPE outcomes lack the systems-based care and population health competencies, particularly as they pertain to transitions of care and quality improvement processes. Another area missing from the AACP CAPE outcomes is a component of continuing professional development specifically mentioning that BPS certification is meant to ensure that therapeutic knowledge is current. Yet exposing students to the type of experience required to achieve a BPS or other specialty certification and emphasizing the importance of achieving such certification is essential.

5 | RECOMMENDATIONS

5.1 | Develop a common taxonomy

Currently, the language used in the ACCP clinical pharmacist competencies, the ASHP CAGOs for postgraduate resident training, and the

clinical components of the AACP CAPE student outcomes differs. As a result, measuring and tracking the progression of a learner to a practitioner is difficult. For example, the AACP CAPE outcomes are divided into domains, subdomains, and learning objectives,[1] whereas the ASHP residency CAGO training competencies use the terminology of competency area rather than domains, which are further subdivided into goals, objectives, and criteria.[3] The ACCP clinical pharmacist competencies are organized into domains with elements. Maintaining consistency in the structure and taxonomy of the desired competency guidance would increase the focus on a common language that is meaningful across the profession and the progression from learner to clinical pharmacist. Stakeholder organizations such as AACP, ACCP, and ASHP should assemble a joint task force to closely examine this issue and consider opportunities to develop a common taxonomy.

5.2 | Use terminology appropriate for the targeted professional level

Careful attention to the leveling and calibrating of each competency for the designated professional role would allow for the building of competencies with continued experience, skills, and knowledge. For instance, starting with the competencies expected of a clinical pharmacist, the verbiage used should vary from the verbiage expected of a pharmacy resident, entry-level pharmacist, and student. Use of appropriate verbiage depending on the level of training and expectations would help avoid inconsistencies when a competency suggested by a graduate (eg, "participate with interprofessional health care team members in the management of, and health promotion for, all patients")[1] is not at a higher level than that of a practicing pharmacist (eg, "apply knowledge of roles/responsibilities of other team member").

5.3 | Develop a process for aligning competencies for interprofessional practice and education

Challenges associated with developing a standard taxonomy in competency-based education are not unique to the pharmacy profession, and prior literature has identified significant overlap in many health professions.[16] Considering the pharmacy profession's growth in interprofessional education and teamwork and the many competencies it shares with other professions, the pharmacy profession should consider working with other professions to develop a common language and framework for competencies. This process should include key stakeholders and involve cataloging and cross-classifying domains to develop a core set of competencies. This group should be formed from the various workgroups already in existence to ensure representation from each level of training.

The pharmacy profession's competencies should align to complement those of other health care professions that are doing the same, using the ACGME core competencies as the template. A multi-

professional group of key stakeholders from each health care profession should regularly review and update the common set of competencies, evaluating and incorporating other health care profession changes as necessary. A shared national framework will best ensure that the professions are adapting and addressing all areas, given that professional education is ultimately accountable for delivering the best health care. Aligning the profession's language with that of other health care professionals will be advantageous as the profession continues to grow in interprofessional education and team-based outcomes.

6 | NEXT STEPS

Once the competencies have been developed to align across the continuum of a clinical pharmacist's career, EPAs can be developed for each professional level. The pharmacy profession has embraced EPAs for new graduates but has not yet created EPAs that align with postgraduate residency training competencies or the ACCP clinical pharmacist competencies. EPAs are observable tasks and activities that lend themselves to providing feedback to the individual. However, EPAs do not replace competencies.[2] Rather, EPAs can be mapped to the competencies. Mapping EPAs for each level to the competencies for that level will allow for an overall assessment of an individual pharmacist's progression. For the discipline of clinical pharmacy, mapping should begin with the ACCP clinical pharmacist competencies for a clearer understanding of how education and training can best be structured to meet the needs of the profession and healthcare as a whole.

After aligning the competencies and EPAs for clinical pharmacists, residents, and pharmacy students, the profession can explore further alignment with exams for board certification and professional licensure. Necessary alignments in specialty (eg, PGY2 residencies) training should be discussed. Alignment and use of a common taxonomy should be a living process as the profession, competencies, and accreditation standards continually evolve to meet contemporary health care needs.

7 | CONCLUSION

Delivery of health care continues to evolve and change. As a result, it is even more important that competencies align at each stage of development, from student to resident to practitioner. To strengthen and enhance the education and training that support the advancement of practice, the supporting documents from which curricula and training programs are built should also be aligned.

A cohesive, well-structured framework must exist within the pharmacy profession to ensure a clear professional direction for all levels of learners and practitioners. Keeping these established competencies (as developed by various standards and accrediting bodies) as separate entities without consistent language, guidance, and criteria could have significantly negative implications for students, residents, educators, and preceptors. A consistent process must be created whereby the competencies of a student, resident, and clinical

pharmacist progressively build on one another, leading to a well-defined process of patient care. If alignment does not exist, students and residents striving to build on their skills and become successful clinical pharmacists will be left behind other health care professionals (eg, medical, nursing, dentistry) who have redesigned and aligned themselves and their respective training and competency expectations. This is of particular concern as clinical pharmacists advance their roles and responsibilities through interprofessional relationships to provide comprehensive medication management for patients.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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