

Competencies

The provider develops activities/educational interventions in the context of desirable attributes of the healthcare team (e.g., Institute of Medicine competencies, professional competencies, healthcare team competencies: values/ethics, roles and responsibilities, interprofessional communication, teams and teamwork).

ACGME/Nursing

Patient Care: Provide care that is compassionate, appropriate and effective treatment for health problems and to promote health.

Medical Knowledge: Demonstrate knowledge about established and evolving biomedical, clinical and epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Interpersonal and Communication Skills: Demonstrate skills that result in effective information exchange and collaboration with patients, their families and professional associates.

Professionalism: Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to diverse patient populations.

Practice-based Learning and Improvement: Able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence and improve their practice of medicine.

Systems-based Practice: Demonstrate awareness of and responsibility to larger context and systems of healthcare. Be able to call on system resources to provide optimal care.

National Academy of Medicine/Nursing

Provide patient-centered care: Identify, respect, and care about patients' differences, values, preferences, and expressed needs; listen to, clearly inform, communicate with, and educate patients; share decision making and management; and continuously advocate disease prevention, wellness, and promotion of healthy lifestyles, including a focus on population health.

Work in interdisciplinary teams: Cooperate, collaborate, communicate, and integrate care in teams to ensure that care is continuous and reliable.

Employ evidence-based practice: Integrate best research with clinical expertise and patient values for optimum care and participate in learning and research activities to the extent feasible.

Apply quality improvement: Identify errors and hazards in care; understand and implement basic safety design principles, such as standardization and simplification; continually understand and measure quality of care in terms of structure, process, and outcomes in relation to patient and community needs; and design and test interventions to change processes and systems of care, with the objective of improving quality.

Utilize informatics: Informatics processes and technologies are used to manage and improve the delivery of safe, high-quality, and efficient healthcare services in accordance with best practice and professional and regulatory standards. Communicate, manage knowledge, mitigate error, and support decision making using information technology.

Population Health: Population health spans the healthcare delivery continuum from public health prevention to disease management of populations and describes collaborative activities with both traditional and non-traditional partnerships from affected communities, public health, industry, academia, health care, local government entities, and others for the improvement of equitable population health outcomes.

Interprofessional Education Collaborative (IPEC) Competencies

Core competencies for Interprofessional Collaborative Practice

Values/Ethics for Interprofessional Practice: Work with individuals of other professions to maintain a climate of mutual respect and shared values.

Roles/Responsibilities: Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.

Interprofessional Communication: Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.

Teams and Teamwork: Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

Resources:

Bormann, L., Institute of Medicine Core Competencies for Health Professionals: Foundation for Care Coordination in Practice

https://www.wku.edu/nursing/documents/organizations/institute_of_medicine_core_competencies.pdf Accessed 1/4/2022

Stanford Medicine (GME) Core Competencies [https://med.stanford.edu/gme/housestaff/all-topics/core_competencies.html#patient-care-\(pc\)](https://med.stanford.edu/gme/housestaff/all-topics/core_competencies.html#patient-care-(pc)) Accessed 1/4/2022

Core Competencies

<https://www.msm.edu/Education/ExtendedProfessionalEducation/EPEDocuments/corecompetenciessflbEpe.pdf> Accessed 1/4/2022

Edgar, L, et.al., The Milestones Guidebook, version 2020

<https://www.acgme.org/globalassets/milestonesguidebook.pdf> Accessed 1/4/2022

Interprofessional Education Collaborative. (2016). Core competencies for interprofessional collaborative practice: 2016 update. Washington, DC: Interprofessional Education Collaborative.

<https://hsc.unm.edu/ipe/resources/ipec-2016-core-competencies.pdf> Accessed 1/4/2022

AACN, The Essentials: Core Competencies for Professional Nursing Education, 2021

<https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf> Accessed 1/4/2022

Institute of Medicine (US) Committee on the Health Professions Education Summit; Greiner AC, Knebel E, editors. Health Professions Education: A Bridge to Quality. Washington (DC): National Academies Press (US); 2003. Chapter 3, The Core Competencies Needed for Health Care Professionals. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK221519/>

CAPE Competencies: Pharmacists

EDUCATIONAL OUTCOMES

Domain 1 - Foundational Knowledge

1.1. Learner (Learner) - Develop, integrate, and apply knowledge from the foundational sciences (i.e., pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient-centered care.

Examples of Learning Objectives (colleges or schools are encouraged to expand or edit these example learning objectives to meet local needs, as these are not designed to be prescriptive):*

- 1.1.1. Develop and demonstrate depth and breadth of knowledge in pharmaceutical, social/behavioral/administrative, and clinical sciences.
- 1.1.2. Articulate how knowledge in foundational sciences is integral to clinical reasoning; evaluation of future advances in medicine; supporting health and wellness initiatives; and delivery of contemporary pharmacy services.
- 1.1.3. Integrate knowledge from foundational sciences to explain how specific drugs or drug classes work and evaluate their potential value in individuals and populations.
- 1.1.4. Apply knowledge in foundational sciences to solve therapeutic problems and advance patient-centered care.
- 1.1.5. Critically analyze scientific literature related to drugs and disease to enhance clinical decision making.
- 1.1.6. Identify and critically analyze emerging theories, information, and technologies that may impact patient-centered and population based care.

Domain 2 - Essentials for Practice and Care

2.1. Patient-centered care (Caregiver) - Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

Examples of Learning Objectives:*

- 2.1.1. Collect subjective and objective evidence related to patient, medications, allergies/adverse reactions, and disease, by performing patient assessment (including physical assessment) from chart/electronic health records, pharmacist records and patient/family interviews.
- 2.1.2. Interpret evidence and patient data.
- 2.1.3. Prioritize patient needs.
- 2.1.4. Formulate evidence based care plans, assessments, and recommendations.
- 2.1.5. Implement patient care plans.
- 2.1.6. Monitor the patient and adjust care plan as needed.
- 2.1.7. Document patient care related activities.

2.2. Medication use systems management (Manager) - Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.

Examples of Learning Objectives:*

- 2.2.1. Compare and contrast the components of typical medication use systems in different pharmacy practice settings.
- 2.2.2. Describe the role of the pharmacist in impacting the safety and efficacy of each component of a typical medication use system (i.e., procurement, storage, prescribing, transcription, dispensing, administration, monitoring, and documentation).
- 2.2.3. Utilize technology to optimize the medication use system.
- 2.2.4. Identify and utilize human, financial, and physical resources to optimize the medication use system.
- 2.2.5. Manage healthcare needs of patients during transitions of care.
- 2.2.6. Apply standards, guidelines, best practices, and established processes related to safe and effective medication use.
- 2.2.7. Utilize continuous quality improvement techniques in the medication use process.

2.3. Health and wellness (Promoter) - Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.

Examples of Learning Objectives:*

- 2.3.1. Describe systematic preventive care, using risk assessment, risk reduction, screening, education, and immunizations.
- 2.3.2. Provide prevention, intervention, and educational strategies for individuals and communities to improve health and wellness.
- 2.3.3. Participate with *interprofessional* healthcare team members in the management of, and health promotion for, all patients.
- 2.3.4. Evaluate personal, social, economic, and environmental conditions to maximize health and wellness.

2.4. Population-based care (Provider) - Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.

Examples of Learning Objectives:*

- 2.4.1. Assess the healthcare status and needs of a targeted patient population.
- 2.4.2. Develop and provide an evidence-based approach that considers the cost, care, access, and satisfaction needs of a targeted patient population.
- 2.4.3. Participate in *population health management* by evaluating and adjusting interventions to maximize health.

Domain 3 - Approach to Practice and Care

3.1. Problem Solving (Problem Solver) - Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.

Examples of Learning Objectives:*

- 3.1.1. Identify and define the primary problem.
- 3.1.2. Define goals and alternative goals.
- 3.1.3. Explore multiple solutions by organizing, prioritizing, and defending each possible solution.
- 3.1.4. Anticipate positive and negative outcomes by reviewing assumptions, inconsistencies, and unintended consequences.
- 3.1.5. Implement the most viable solution, including monitoring parameters, to measure intended and unintended consequences.
- 3.1.6. Reflect on the solution implemented and its effects to improve future performance.

3.2. Educator (Educator) - Educate all audiences by determining the most effective and enduring ways to impart information and assess understanding.

Examples of Learning Objectives:*

- 3.2.1. Conduct a learning needs assessment of constituents who would benefit from pharmacist-delivered education (e.g., patients/caregivers, technicians and interns, pharmacy students, fellow pharmacists, other healthcare providers, legislators).
- 3.2.2. Select the most effective techniques/strategies to achieve learning objectives.
- 3.2.3. Demonstrate the ability to coordinate educational efforts with other healthcare providers, when appropriate, to ensure a consistent, comprehensive, and team-based encounter.
- 3.2.4. Ensure instructional content contains the most current information relevant for the intended audience.
- 3.2.5. Adapt instruction and deliver to the intended audience.
- 3.2.6. Assess audience comprehension.

3.3. Patient Advocacy (Advocate) - Assure that patients' best interests are represented.

Examples of Learning Objectives:*

- 3.3.1. Empower patients to take responsibility for, and control of, their health.
- 3.3.2. Assist patients in navigating the complex healthcare system.
- 3.3.3. Ensure patients obtain the resources and care required in an efficient and cost-effective manner (e.g., triage to social and/or other healthcare services).

3.4. Interprofessional collaboration (Collaborator) - Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

Examples of Learning Objectives:*

- 3.4.1. Establish a climate of shared values and mutual respect necessary to meet patient care needs.
- 3.4.2. Define clear roles and responsibilities for team members to optimize outcomes for specific patient care encounters.
- 3.4.3. Communicate in a manner that values team-based decision making and shows respect for contributions from other areas of expertise.
- 3.4.4. Foster accountability and leverage expertise to form a highly functioning team (one that includes the patient, family, and community) and promote shared patient-centered problem solving.

3.5. Cultural sensitivity (Includer) - Recognize social determinants of health to diminish disparities and inequities in access to quality care.

Examples of Learning Objectives:*

- 3.5.1. Recognize the collective identity and norms of different cultures without overgeneralizing (i.e., recognize and avoid biases and stereotyping).
- 3.5.2. Demonstrate an attitude that is respectful of different cultures.
- 3.5.3. Assess a patient's health literacy and modify communication strategies to meet the patient's needs.
- 3.5.4. Safely and appropriately incorporate patients' cultural beliefs and practices into health and wellness care plans.

3.6. Communication (Communicator) - Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.

Examples of Learning Objectives:*

- 3.6.1. Interview patients using an organized structure, specific questioning techniques (e.g., motivational interviewing), and medical terminology adapted for the audience.
- 3.6.2. Actively listen and ask appropriate open and closed-ended questions to gather information.
- 3.6.3. Use available technology and other media to assist with communication as appropriate.
- 3.6.4. Use effective interpersonal skills to establish rapport and build trusting relationships.
- 3.6.5. Communicate assertively, persuasively, confidently, and clearly.
- 3.6.6. Demonstrate empathy when interacting with others.
- 3.6.7. Deliver and obtain feedback to assess learning and promote goal setting and goal attainment.
- 3.6.8. Develop professional documents pertinent to organizational needs (e.g., monographs, policy documents).
- 3.6.9. Document patient care activities clearly, concisely, and accurately using appropriate medical terminology.

Domain 4 - Personal and Professional Development

4.1. Self-awareness (Self-aware) - Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

Examples of Learning Objectives:*

- 4.1.1. Use metacognition to regulate one's own thinking and learning.
- 4.1.2. Maintain motivation, attention, and interest (e.g., habits of mind) during learning and work-related activities.
- 4.1.3. Identify, create, implement, evaluate and modify plans for personal and professional development for the purpose of individual growth.
- 4.1.4. Approach tasks with a desire to learn.
- 4.1.5. Demonstrate persistence and flexibility in all situations; engaging in help seeking behavior when appropriate.
- 4.1.6. Strive for accuracy and precision by displaying a willingness to recognize, correct, and learn from errors.
- 4.1.7. Use constructive coping strategies to manage stress.
- 4.1.8. Seek personal, professional, or academic support to address personal limitations.
- 4.1.9. Display positive self-esteem and confidence when working with others.

4.2. Leadership (Leader) - Demonstrate responsibility for creating and achieving shared goals, regardless of position.

Examples of Learning Objectives:*

- 4.2.1. Identify characteristics that reflect leadership versus management.
- 4.2.2. Identify the history (e.g., successes and challenges) of a team before implementing changes.
- 4.2.3. Develop relationships, value diverse opinions, and understand individual strengths and weaknesses to promote teamwork.
- 4.2.4. Persuasively communicate goals to the team to help build consensus.
- 4.2.5. Empower team members by actively listening, gathering input or feedback, and fostering collaboration.

4.3. Innovation and Entrepreneurship (Innovator) - Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.

Examples of Learning Objectives:*

- 4.3.1. Demonstrate initiative when confronted with challenges.
- 4.3.2. Develop new ideas and approaches to improve quality or overcome barriers to advance the profession.
- 4.3.3. Demonstrate creative decision making when confronted with novel problems or challenges.
- 4.3.4. Assess personal strengths and weaknesses in entrepreneurial skills
- 4.3.5. Apply entrepreneurial skills within a simulated entrepreneurial activity.
- 4.3.6. Conduct a risk-benefit analysis for implementation of an innovative idea or simulated entrepreneurial activity.

4.4. Professionalism (Professional) - Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

Examples of Learning Objectives:*

- 4.4.1. Demonstrate altruism, integrity, trustworthiness, flexibility, and respect in all interactions.
- 4.4.2. Display preparation, initiative, and accountability consistent with a commitment to excellence.
- 4.4.3. Deliver patient-centered care in a manner that is legal, ethical, and compassionate.
- 4.4.4. Recognize that one's professionalism is constantly evaluated by others.
- 4.4.5. Engage in the profession of pharmacy by demonstrating a commitment to its continual improvement.

Pharmacy Technician Competencies. Specific pharmacy technician knowledge statements (numbers 1.0 – 9.0) have been developed by the Pharmacy Technician Certification Board (PTCB) (2013):

1.0 Pharmacology for Pharmacy Technicians

- 1.1 Generic and brand names of pharmaceuticals
- 1.2 Therapeutic equivalence
- 1.3 Drug interactions (e.g., drug-disease, drug-drug, drug-dietary supplement, drug-OTC, drug-laboratory, drug-nutrient)
- 1.4* Strengths/dose, dosage forms, physical appearance, routes of administration, and duration of drug therapy
- 1.5 Common and severe side or adverse effects, allergies, and therapeutic contraindications associated with medications
- 1.6 Dosage and indication of legend, OTC medications, herbal and dietary

2.0 Pharmacy Law and Regulations

- 2.1 Storage, handling, and disposal of hazardous substances and wastes (e.g., MSDS)
- 2.2 Hazardous substances exposure, prevention and treatment (e.g., eyewash, spill kit, MSDS)
- 2.3 Controlled substance transfer regulations (DEA)
- 2.4 Controlled substance documentation requirements for receiving, ordering, returning, loss/theft, destruction (DEA)
- 2.5 Formula to verify the validity of a prescriber's DEA number (DEA)
- 2.6 Record keeping, documentation, and record retention (e.g., length of time prescriptions are maintained on file)
- 2.7 Restricted drug programs and related prescription-processing requirements (e.g., thalidomide, isotretinoin, clozapine)
- 2.8 Professional standards related to data integrity, security, and confidentiality (e.g., HIPAA, backing up and archiving)
- 2.9 Requirement for consultation (e.g., OBRA'90)
- 2.10 FDA's recall classification
- 2.11 Infection control standards (e.g., laminar air flow, clean room, hand washing, cleaning counting trays, countertop, and equipment) (OSHA, USP 795 and 797)
- 2.12 Record keeping for repackaged and recalled products and supplies (TJC, BOP)
- 2.13 Professional standards regarding the roles and responsibilities of pharmacists, pharmacy technicians, and other pharmacy employees (TJC, BOP)
- 2.14 Reconciliation between state and federal laws and regulations
- 2.15 Facility, equipment, and supply requirements (e.g., space requirements, prescription file storage, cleanliness, reference materials) (TJC, USP, BOP)

3.0 Sterile and Non-Sterile Compounding

- 3.1 Infection control (e.g., hand washing, PPE)
- 3.2 Handling and disposal requirements (e.g., receptacles, waste streams)
- 3.3* Documentation (e.g., batch preparation, compounding record)
- 3.4* Determine product stability (e.g., beyond use dating, signs of incompatibility)
- 3.5 Selection and use of equipment and supplies
- 3.6* Sterile compounding processes
- 3.7* Non-sterile compounding processes

4.0 Medication Safety

- 4.1 Error prevention strategies for data entry (e.g., prescription or medication order to correct patient)
- 4.2 Patient package insert and medication guide requirements (e.g., special directions and precautions)
- 4.3 Identify issues that require pharmacist intervention (e.g., DUR, ADE, OTC recommendation, therapeutic substitution, misuse, missed dose)
- 4.4 Look-alike/sound-alike medications
- 4.5 High-alert/risk medications
- 4.6 Common safety strategies (e.g., tall man lettering, separating inventory, leading and trailing zeros, limit use of error prone abbreviations)

5.0 Pharmacy Quality Assurance

- 5.1 Quality assurance practices for medication and inventory control systems (e.g., matching National Drug Code (NDC) number, bar code, data entry)
- 5.2 Infection control procedures and documentation (e.g., personal protective equipment [PPE], needle recapping)
- 5.3 Risk management guidelines and regulations (e.g., error prevention strategies)
- 5.4 Communication channels necessary to ensure appropriate follow-up and problem resolution (e.g., product recalls, shortages)
- 5.5 Productivity, efficiency, and customer satisfaction measures

6.0 Medication Order Entry and Fill Process

- 6.1* Order entry process
- 6.2* Intake, interpretation, and data entry
- 6.3* Calculate doses required
- 6.4 Fill process (e.g., select appropriate product, apply special handling requirements, measure, and prepare product for final check)
- 6.5 Labeling requirements (e.g., auxiliary and warning labels, expiration date, patient specific information)
- 6.6* Packaging requirements (e.g., type of bags, syringes, glass, pvc, child resistant, light resistant)
- 6.7 Dispensing process (e.g., validation, documentation and distribution)

7.0 Pharmacy Inventory Management

- 7.1 Function and application of NDC, lot numbers and expiration dates
- 7.2 Formulary or approved/preferred product list
- 7.3* Ordering and receiving processes (e.g., maintain par levels, rotate stock)
- 7.4 Storage requirements (e.g., refrigeration, freezer, warmer)
- 7.5 Removal (e.g., recalls, returns, outdates, reverse distribution)

8.0 Pharmacy Billing and Reimbursement

- 8.1 Reimbursement policies and plans (e.g., HMOs, PPO, CMS, private plans)
- 8.2* Third party resolution (e.g., prior authorization, rejected claims, plan limitations)
- 8.3 Third-party reimbursement systems (e.g., PBM, medication assistance programs, coupons, and self-pay)
- 8.4 Healthcare reimbursement systems (e.g., home health, long-term care, home infusion)

8.5 Coordination of benefits

9.0 Pharmacy Information System Usage and Application

9.1 Pharmacy-related computer applications for documenting the dispensing of prescriptions or medication orders (e.g., maintaining the electronic medical record, patient adherence, risk factors, alcohol drug use, drug allergies, side effects)

9.2 Databases, pharmacy computer applications, and documentation management (e.g., user access, drug database, interface, inventory report, usage reports, override reports, diversion reports)

10.0 Verbal Communication Skills for Pharmacy Technicians

10.1 Effective and professional verbal communication skills with multidisciplinary healthcare members and patients/customers (e.g., effective listening, feedback, using proper verbal syntax, and questioning)

10.2 Effective telephone communication techniques/etiquette which comply with organizational protocols in both receiving and initiating calls 10.3 Identify nonverbal gestures (e.g., body language) which can positively or negatively affect verbal communication

**denotes content including calculations*