REQUIRED COMPETENCY AREAS, GOALS, AND OBJECTIVES FOR POSTGRADUATE YEAR TWO (PGY2) INTERNAL MEDICINE PHARMACY RESIDENCIES

Introduction

The PGY2 pharmacy residency in internal medicine is focused on the care of adults with medical problems, primarily in the inpatient setting. Residency graduates are equipped to participate as integral members of interdisciplinary teams caring for internal medicine patients, assuming responsibility for the patient's medication-related care. In that role they provide the team with evidence-based medication-related information and formulate that information into expert recommendations to the team for the use of medications and other therapeutic approaches.

In addition, residency graduates' extensive patient care experience, combined with their wealth of knowledge of medical problems and their treatment, enables them to successfully serve health care organizations as an essential information resource to support decisions affecting the care of internal medicine patients. In this role, they contribute to the development and implementation of medication use policies and procedures. They also possess advanced skills for identifying the medication-related training needs of other health care professionals and trainees, as well as delivering effective training to them.

The competency areas, goals, and objectives are to be used in conjunction with the *ASHP Accreditation Standard for Postgraduate Year Two (PGY2) Pharmacy Residency Programs.* The first four competency areas described herein are required, and the others are elective.

The required competency areas and all of the goals and objectives they encompass must be included in all programs. Programs may add one or more required additional competency areas from the elective competency area choices to meet program-specific needs. Programs selecting an additional competency area are not required to include all of the goals and objectives in that competency area. In addition to the potential additional competency areas described in this document, programs are free to create their own unique competency areas with associated goals and objectives based on the specific needs of their program. Each of the objectives associated with the goals encompassed by the program's selected program competency areas (required and additional) must be taught and evaluated at least once during the residency year. An elective competency area(s) may also be selected for specific residents when creating their residency development plan.

Each of the objectives listed in this document has been classified according to educational taxonomy (cognitive, affective, or psychomotor) and level of learning. An explanation of the taxonomies is available elsewhere.[1]

Competency areas for PGY1 residencies are available on the ASHP website. PGY2 competency areas, goals, and objectives in internal medicine pharmacy are differentiated from those from PGY1 by breadth and depth of experiences and the expectation of PGY2 residents for greater work competence and proficiency.

Definitions

Competency Areas: Categories of the residency graduates' capabilities.

Competency areas are classified into one of three categories:

Required: Four competency areas are required (all programs must include them and all their associated goals and objectives).

Additional (for program): Competency area(s) that residency programs may choose to use (in addition to the four required areas) to meet program-specific program needs. Additional competency areas also include those developed by individual programs.

Elective (for specific residents): Competency area(s) or specific goals and objectives within the competency area(s) selected optionally for specific resident(s).

Educational Goals (Goal): Broad statement of abilities.

Educational Objectives: Observable, measurable statements describing what residents will be able to do as a result of participating in the residency program.

Criteria: Examples that describe competent performance of educational objectives. Since the criteria are examples, they are not all required but are intended to be used to give feedback to residents on how well they are doing and how they can improve on the skill described in educational objectives while they engage in an activity.

Activities: The Standard requires that learning activities be specified for each educational objective in learning experience descriptions. Activities are what residents will do to learn and practice the skills described in objectives. Activities are the answer to the question "What can residents do in the context of this learning experience that will provide the kind of experiences necessary to achieve the educational objective?" (Compare and contrast activities with criteria by referring to the definition of criteria immediately above.) Specified activities should match the Bloom's Taxonomy learning level stated in parentheses before each objective.

Example:

[1] Anderson, L. W. and Krathwohl, D. R., et al (Eds.) (2001) *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Allyn & Bacon. Boston, MA (Pearson Education Group).

Objective R1.1.2: (Applying) Interact effectively with patients, family members, and caregivers.

Learning activity: Provide education to patients regarding proper medication use and administration, adherence, and possible adverse drug effects for all new medications initiated during clinic appointments.

Criteria:

- Interactions are respectful and collaborative.
- Uses effective communication skills.
- Shows empathy.
- Empowers patients, family members, and care givers regarding the patient's well-being and health outcomes.
- Demonstrates cultural competence.

Competency Area R1: Patient Care

(See appendix for additional specific requirements.)

Goal R1.1: In collaboration with the health care team, provide safe and effective patient care to internal medicine patients following a consistent patient care process.

Objective R1.1.1: (Applying) Interact effectively with health care teams to manage internal medicine patients' medication therapy.

Criteria:

- Interactions are cooperative, collaborative, communicative, and respectful.
- Demonstrates skills in negotiation, conflict management, and consensus building.
- Demonstrates advocacy for the patient.

Objective R1.1.2: (Applying) Interact effectively with internal medicine patients, family members, and caregivers.

Criteria:

- Interactions are respectful and collaborative.
- Uses effective communication skills.
- Shows empathy.
- Empowers patients, family members, and care givers regarding the patient's well-being and health outcomes.
- Demonstrates cultural competence.

Objective R1.1.3: (Analyzing) Collect information on which to base safe and effective medication therapy for internal medicine patients.

Criteria:

- Collection/organization methods are efficient, effective, and functional for subsequent problem solving and decision-making.
- Collects relevant information about medication therapy, including:
  - History of present illness.
  - Relevant health data that may include past medical history, health and wellness information, biometric test results, and physical assessment findings.
  - Social history.
  - Medication history, including prescription, non-prescription, illicit, recreational, and non-traditional therapies; other dietary supplements; immunizations; and allergies.
  - Laboratory values.
  - Pharmacogenomics and pharmacogenetic information, if available.
  - Adverse drug reactions.
  - Medication adherence and persistence.
  - Patient lifestyle habits, preferences and beliefs, health and functional goals, and socioeconomic factors that affect access to medications and other aspects of care.
- Sources of information are the most reliable available, including electronic, face-to-face, and others.
- Clarifies information as needed.
- Displays understanding of limitations of information in health records.

Objective R1.1.4: (Evaluating) Analyze and assess information on which to base safe and effective medication therapy for internal medicine patients.

Criteria:

- Includes accurate assessment of patients':
  - Health and functional status.
  - Medical conditions.
  - Risk factors.
  - Health data.
  - Cultural factors.
  - Health literacy.
  - Access to medications.
  - Immunization status.
  - Allergies.
  - Need for preventive care and other services, when appropriate.
  - Other aspects of care, as applicable.
- Identifies medication therapy problems, including:
  - Lack of indication for medication.
  - Medical conditions for which there is no medication prescribed.
  - Medication prescribed or continued inappropriately for a particular medical condition.
  - Suboptimal medication regimen (e.g., dose, dosage form, duration, schedule, route of administration, method of administration).
  - Therapeutic duplication.
  - Adverse drug or device-related events or the potential for such events.
  - Clinically significant drug–drug, drug–disease, drug–nutrient, drug–DNA test interaction, drug–laboratory test interaction, or the potential for such interactions.
  - Use of harmful social, recreational, nonprescription, nontraditional, or other medication therapies.
  - Patient not receiving full benefit of prescribed medication therapy.
  - Problems arising from the financial impact of medication therapy on the patient.
  - Patient lacks understanding of medication therapy.
  - Patient not adhering to medication regimen and root cause (e.g., knowledge, recall, motivation, financial, system).
  - Laboratory monitoring needed.
  - Discrepancy between prescribed medications and established care plan for the patient.

Objective R1.1.5: (Evaluating) Evaluate biomedical literature in the management of internal medicine patients' medication therapy.

Criteria:

- Selects core biomedical literature resources appropriate for internal medicine pharmacy practice.
- Accurately evaluates biomedical literature including the following:
  - Determines if the study design and methodology are appropriate to accomplish study objectives.
  - Accurately interprets statistical information.
  - Identifies potential sources of bias and the impact on study results.
  - Determines if the overall study design, population, and results apply to specific patient scenarios.

- Draws reasonable conclusions when presented with limited evidence-based biomedical literature.

Objective R1.1.6: (Creating) Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans) for internal medicine patients.
Criteria:

- Specifies evidence-based, measurable, achievable therapeutic goals that include consideration of:
  - Relevant patient-specific information including culture and preferences.
  - The goals of other inter-professional team members.
  - The patient's disease state(s).
  - Medication-specific information.
  - Best evidence.
  - Ethical issues involved in the patient's care.
  - Quality-of-life issues specific to the patient.
  - Integration of all the above factors influencing the setting of goals.
- Designs/redesigns regimens that:
  - Are appropriate for the disease states being treated.
  - Reflect:
    - The therapeutic goals established for the patient.
    - The patient's and caregiver's specific needs.
    - Consideration of:
      - Any pertinent pharmacogenomic or pharmacogenetic factors.
      - Best evidence.
      - Pertinent ethical issues.
      - Pharmacoeconomic components (patient, medical, and systems resources).
      - Patient preferences, culture, and/or language differences.
      - Patient-specific factors, including physical, mental, emotional, and financial factors that might impact adherence to the regimen.
  - Adhere to the health system's medication-use policies.
  - Follow applicable ethical standards.
  - Address wellness promotion and lifestyle modification.
  - Support the organization's or patient's formulary.
  - Address medication-related problems and optimize medication therapy.
- Designs/redesigns monitoring plans that:
  - Effectively evaluate achievement of therapeutic goals.
  - Ensure adequate, appropriate, and timely follow-up.
  - Establish parameters that are appropriate measures of therapeutic goal achievement.
  - Reflect consideration of best evidence.
  - Select the most reliable source for each parameter measurement.
  - Have appropriate value ranges selected for the patient.
  - Have parameters that measure efficacy.
  - Have parameters that measure potential adverse drug events.
  - Have parameters that are cost-effective.
  - Have obtainable measurements of the parameters specified.
  - Reflects consideration of medication adherence.
  - If for an ambulatory patient, includes strategy for ensuring patient returns for needed follow-up visit(s).

- When applicable, reflects preferences and needs of the patient.

Objective R1.1.7: (Evaluating) Ensure implementation of therapeutic regimens and monitoring plans (care plans) for internal medicine patients by taking appropriate follow-up actions.
Criteria:

- Effectively recommends or communicates patients' regimens and associated monitoring plans to relevant members of the health care team including the following activties:
  - Recommendation is persuasive.
  - Presentation of recommendation accords patients'right to refuse treatment.
  - If patient refuses treatment, pharmacist exhibits responsible professional behavior.
  - Creates an atmosphere of collaboration.
  - Skillfully defuses negative reactions.
  - Communication conveys expertise.
  - Communication is assertive but not aggressive.
  - Where the patient has been directly involved in the design of the plans, communication reflects previous collaboration appropriately.
- Ensures recommended plan is implemented effectively for the patient, including ensuring that the:
  - Therapy corresponds with the recommended regimen.
  - Regimen is initiated at the appropriate time.
  - Medication orders are clear and concise.
  - Activity complies with the health system's policies and procedures.
  - Tests correspond with the recommended monitoring plan.
  - Tests are ordered and performed at the appropriate time.
- Takes appropriate action based on analysis of monitoring results (redesign regimen and/or monitoring plan if needed).
- Appropriately initiates, modifies, discontinues, or administers medication therapy as authorized.
- Responds appropriately to notifications and alerts in electronic medical records and other information systems that support medication ordering processes (based on factors such as patient weight, age, gender, comorbid conditions, drug interactions, renal function, and hepatic function).
- Provides thorough and accurate education to patients and caregivers, when appropriate, including information on medication therapy, adverse effects, medication adherence, appropriate use, handling, and medication administration.
- Addresses medication- and health-related problems and engages in preventive care strategies, including vaccine administration.
- Schedules follow-up care as needed to achieve goals of therapy.

Objective R1.1.8: (Creating) For internal medicine patients, document direct patient care activities appropriately in the medical record or where appropriate.
Criteria:

- Selects appropriate direct patient care activities for documentation.
- Documentation is clear.
- Documentation is written in time to be useful.
- Documentation follows the health system's policies and procedures, including requirements that entries be signed, dated, timed, legible, and concise.

Objective R1.1.9: (Applying) Demonstrate responsibility to internal medicine patients.
Criteria:

- Gives priority to patient care activities.
- Plans prospectively.
- Routinely completes all steps of the medication management process.
- Assumes responsibility for medication therapy outcomes.
- Actively works to identify the potential for significant medication-related problems.
- Actively pursues all significant existing and potential medication-related problems until satisfactory resolution is obtained.
- Helps patients learn to navigate the health care system, as appropriate.
- Informs patients how to obtain their medications in a safe, efficient, and cost-effective manner.
- Determines barriers to medication adherence and makes appropriate adjustments.

Goal R1.2: Ensure continuity of care during internal medicine patient transitions between care settings.

Objective R1.2.1: (Applying) Manage transitions of care effectively for internal medicine patients.

Criteria:

- Effectively participates in obtaining or validating a thorough and accurate medication history.
- Participates in the medication reconciliation process.
- Follows up on all identified drug-related problems.
- Participates effectively in medication education.
- Provides accurate and timely follow-up information when patients transfer to another facility, level of care, pharmacist, or provider, as appropriate.
- Follows up with patient in a timely and caring manner.
- Provides additional effective monitoring and education, as appropriate.
- Takes appropriate and effective steps to help avoid unnecessary hospital admissions and/or readmissions.

Competency Area R2: Advancing Practice and Improving Patient Care

Goal R2.1: Demonstrate ability to manage formulary and medication-use processes for internal medicine patients, as applicable to the organization.

Objective R2.1.1: (Creating) Prepare or revise a drug class review, monograph, treatment guideline, or protocol related to care of internal medicine patients.

Criteria:

- Displays objectivity.
- Effectively synthesizes information from the available literature.
- Applies evidenced-based principles.
- Consults relevant sources.
- Considers medication-use safety and resource utilization.
- Uses the appropriate format.
- Effectively communicates any changes in medication formulary, medication usage, or other procedures to appropriate parties.

- Demonstrates appropriate assertiveness in presenting pharmacy concerns, solutions, and interests to internal and external stakeholders.
- Implements approved changes, as applicable.

Objective R2.1.2: (Applying) Participate in medication event reporting and monitoring related to care for internal medicine patients.
Criteria:
- Effectively uses currently available technology and automation that supports a safe medication-use process.
- Appropriately and accurately determines, investigates, reports, tracks, and trends adverse drug events, medication errors, and efficacy concerns using accepted institutional resources and programs.

Objective R2.1.3: (Analyzing) Identify opportunities for improvement of the medication-use system related to care for internal medicine patients.
Criteria:
- Lead a medication-use evaluation related to care for internal medicine patients that includes the following components:
    - Uses evidence-based principles to develop criteria for use.
    - Demonstrates a systematic approach to gathering data.
    - Accurately analyzes data gathered.
    - Demonstrates appropriate assertiveness in presenting pharmacy concerns, solutions, and interests to internal and external stakeholders.
    - Implements approved changes, as applicable.
- Appropriately identifies problems and opportunities for improvement and analyzes relevant background data.
- Accurately evaluates or assists in the evaluation of data generated by health information technology or automated systems to identify opportunities for improvement.
- Uses best practices to identify opportunities for improvements.
- When needed, makes medication-use policy recommendations based on a review of practice standards and other evidence (e.g., National Quality Measures, Institute for Safe Medication Practices alerts, Joint Commission sentinel alerts).
- Demonstrates appropriate assertiveness in presenting pharmacy concerns, solutions, and interests to internal and external stakeholders.

Objective R2.1.4: (Applying) Manage aspects of the medication-use process related to formulary management for internal medicine patients.
Criteria:
- Follows appropriate procedures regarding exceptions to the formulary, if applicable, in compliance with policy.
- Ensures non-formulary medications are dispensed, administered, and monitored in a manner that ensures patient safety.

Objective R2.1.5: (Applying) Contribute to the work of an organizational committee or work group concerned with the improvement of medication use policies or guidelines.
Criteria:

- Demonstrates understanding of the group's purpose and medication use policies or guidelines addressed by the group.
- Makes meaningful contributions to the work of the group.
- Makes effective contributions to the group.

Goal R2.2: Demonstrate ability to conduct a quality improvement or research project.

Ideally, objectives R2.2.1-R2.2.6 will be addressed through residents working on one quality improvement and/or research project.

Objective R2.2.1: (Analyzing) Identify or refine a specific project topic to improve patient care of internal medicine patients, or a topic for advancing internal medicine pharmacy practice.
Criteria:

- Appropriately identifies problems and opportunities for improvement and analyzes relevant background data.
- Determines an appropriate topic for a practice-related project of significance to patient care.
- Uses best practices or evidence-based principles to identify opportunities for improvements.
- Accurately evaluates or assists in the evaluation of data generated by health information technology or automated systems to identify opportunities for improvement.

Objective R2.2.2: (Creating) Develop a plan or research protocol for a practice quality improvement or research project for the care of internal medicine patients, or a topic for advancing the pharmacy profession or internal medicine pharmacy practice.
Criteria:

- Steps in plan are defined clearly.
- Applies safety design practices (e.g., standardization, simplification, human factors training, lean principles, FOCUS-PDCA, other process improvement or research methodologies) appropriately and accurately.
- Plan for improvement includes appropriate reviews and approvals required by department or organization and addresses the concerns of all stakeholders.
- Applies evidence-based principles, if needed.
- Develops a sound research or quality improvement question that can be realistically addressed in the desired time frame, if appropriate.
- Develops a feasible design for a project that considers who or what will be affected by the project.
- Identifies and obtains necessary approvals and resources (e.g., IRB, funding) for a practice-related project.
- Plan design is practical to implement and is expected to remedy or minimize the identified challenge or deficiency.

Objective 2.2.3: (Evaluating) Collect and evaluate data for a practice quality improvement or research project for the care of internal medicine patients or for a topic for advancing the pharmacy profession or internal medicine pharmacy practice.
Criteria:

- Collects the appropriate types of data as required by project design.
- Uses appropriate electronic data and information from internal information databases, external online databases, appropriate Internet resources, and other sources of decision support, as applicable.

- Uses appropriate methods for analyzing data in a prospective and retrospective clinical, humanistic, and/or economic outcomes analysis.
- Develops and follows an appropriate research or project timeline.
- Correctly identifies need for additional modifications or changes to the project.
- Applies results of a prospective or retrospective clinical, humanistic, and/or economic outcomes analysis to internal business decisions and modifications to a customer's formulary or benefit design as appropriate.
- Considers the impact of the limitations of the project or research design on the interpretation of results.
- Accurately and appropriately develops plan to address opportunities for additional changes.

Objective R2.2.4: (Applying) Implement quality improvement or research project to improve care of internal medicine patients or implement an idea/project intended to advance the pharmacy profession or internal medicine pharmacy practice.

Criteria:

- Follows established timeline and milestones.
- Implements the project as specified in its design.
- Collects data as required by project design.
- Effectively presents plan (e.g., accurately recommends or contributes to recommendation for operational change, formulary addition or deletion, implementation of medication guideline or restriction, treatment protocol implementation) to appropriate audience, when applicable.
- Plan is based on appropriate data.
- Gains necessary commitment and approval for implementation, when applicable.
- Effectively communicates any changes in medication formulary, medication usage, or other procedures to appropriate parties, when applicable.
- Demonstrates appropriate assertiveness in presenting pharmacy concerns, solutions, and interests to external stakeholders.
- Uses continuous quality improvement (CQI) principles to assess the success of the implemented change, if applicable.

Objective R2.2.5: (Evaluating) Assess the implemented project and determine whether changes are required.

Criteria:

- Evaluate data and/or outcome of project accurately and fully.
- Includes operational, clinical, economic, and humanistic outcomes of patient care, if applicable.
- Uses continuous quality improvement (CQI) principles to assess the success of the implemented change, if applicable.
- Effectively assists the organization in achieving compliance with accreditation, legal, regulatory, and safety requirements related to the use of medications (i.e. The Joint Commission requirements; ASHP standards, statements, and guidelines; state and federal laws regulating pharmacy practice; OSHA regulations).
- Correctly identifies need for additional modifications or changes based on outcome.
- Accurately assesses the impact of the project, including its sustainability (if applicable).
- Accurately and appropriately develops plan to address opportunities for additional changes.

Objective R2.2.6: (Creating) Effectively develop and present, orally and in writing, a final project or research report suitable for publication related to care for internal medicine patients or for a topic for advancing the pharmacy profession or internal medicine pharmacy practice at a local, regional, or national conference. (The presentation can be virtual.)
Criteria:

- Outcome of change is reported accurately to appropriate stakeholders(s) and policy-making bodies according to departmental or organizational processes.
- Effectively contributes to preparing an article or a newsletter or bulletin or press release addressing either a medication or medication policy.
- Report includes implications for changes to or improvement in pharmacy practice.
- Determine appropriate activities and documentation to meet accreditation, legal, regulatory or safety requirements for pharmacy.
- Report uses an accepted manuscript style suitable for publication in the professional literature.
- Oral presentations to appropriate audiences within the department and organization or to external audiences use effective communication and presentation skills and tools (e.g., handouts, slides) to convey points successfully.

Competency Area R3: Leadership and Management

Goal R3.1: Demonstrate leadership skills for successful self-development in the provision of care for internal medicine patients.

Objective R3.1.1: (Applying) Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership in the provision of care for internal medicine patients.
Criteria:

- Demonstrates effective time management.
- Manages conflict effectively.
- Demonstrates effective negotiation skills.
- Effectively participates on inter-professional teams.
- Uses effective communication skills and styles.
- Demonstrates understanding of perspectives of various health care professionals.
- Effectively expresses benefits of personal profession-wide leadership and advocacy.
- Effectively provides leadership in patient care related services such as inter-professional teams.

Objective R3.1.2: (Applying) Apply a process of ongoing self-evaluation and personal performance improvement in the provision of care for internal medicine patients.
Criteria:

- Accurately summarizes own strengths and areas for improvement (e.g., in knowledge, values, qualities, skills, and behaviors).
- Effectively uses a self-evaluation process for developing professional direction, goals, and plans.
- Effectively engages in self-evaluation of progress on specified goals and plans.
- Demonstrates ability to use and incorporate constructive feedback from others.
- Effectively uses principles of continuous professional development (CPD) planning (reflect, plan, act, evaluate, record/review).

Goal R3.2: Demonstrate management skills in the provision of care for internal medicine patients.

Objective R3.2.1: (Applying) Contribute to internal medicine departmental management.
Criteria:

- Helps identify and define significant departmental needs.
- Helps develop plans that address departmental needs.
- Participates effectively on committees or informal work groups to complete group projects, tasks, or goals.
- Participates effectively in implementing changes using change management and quality improvement best practices and toolsconsistent with team, departmental, and organizational goals.

Objective R3.2.2: (Applying) Manage one's own internal medicine practice effectively.
Criteria:

- Accurately assesses successes and areas for improvement (e.g., a need for staffing, projects or education) in managing one's own practice.
- Makes accurate, criteria-based assessments of one's own ability to perform practice tasks.
- Regularly integrates new learning into subsequent performances of a task until expectations are met.
- Routinely seeks applicable learning opportunities when performance does not meet expectations.
- Demonstrates effective workload and time-management skills.
- Assumes responsibility for personal work quality and improvement.
- Is well prepared to fulfill responsibilities (e.g., patient care, projects, management, meetings).
- Sets and meets realistic goals and timelines.
- Demonstrates awareness of own values, motivations, and emotions.
- Demonstrates enthusiasm, self-motivation, and a "can-do" approach.
- Strives to maintain a healthy work–life balance.
- Works collaboratively within the organization's political and decision-making structure.
- Demonstrates pride in and commitment to the profession through appearance, personal conduct, plans to pursue board certification, and participation in pharmacy association membership activities.
- Demonstrates personal commitment and adherence to organizational and departmental policies and procedures.

Competency Area R4: Teaching, Education, and Dissemination of Knowledge

Goal R4.1: Provide effective medication and practice-related education to internal medicine patients, caregivers, health care professionals, students, and the public (individuals and groups).

Objective R4.1.1: (Creating) Design effective educational activities related to internal medicine.
Criteria:

- Accurately defines educational needs with regard to target audience (e.g., individual versus group) and learning level (e.g., health care professional versus patient).
- Defines educational objectives that are specific, measurable, at a relevant learning level (e.g., applying, creating, evaluating), and address the audiences' defined learning needs.

- Plans use of teaching strategies that match learner needs including active learning (e.g., patient cases, polling).
- Selects content that is relevant, thorough, evidence based (using primary literature where appropriate), timely, and reflects best practices.
- Includes accurate citations and relevant references, and adheres to applicable copyright laws.

Objective R4.1.2: (Applying) Use effective presentation and teaching skills to deliver education related to internal medicine.

Criteria:

- Demonstrates rapport with learners.
- Captures and maintains learner/audience interest throughout the presentation.
- Implements planned teaching strategies effectively.
- Effectively facilitates audience participation, active learning, and engagement in various settings (e.g., small or large group, distance learning).
- Presents at appropriate rate and volume and without exhibiting poor speaker habits (e.g., excessive use of "um" and other interjections).
- Body language, movement, and expressions enhance presentations.
- Summarizes important points at appropriate times throughout presentations.
- Transitions smoothly between concepts.
- Effectively uses audio-visual aids and handouts to support learning activities.

Objective R4.1.3: (Creating) Use effective written communication to disseminate knowledge related to internal medicine.

Criteria:

- Writes in a manner that is easily understandable and free of errors.
- Demonstrates thorough understanding of the topic.
- Notes appropriate citations and references.
- Includes critical evaluation of the literature and knowledge advancements or a summary of what is currently known on the topic.
- Develops and uses tables, graphs, and figures to enhance readers' understanding of the topic when appropriate.
- Writes at a level appropriate for the target readership (e.g., physicians, pharmacists, other health care professionals, patients, the public).
- Creates one's own work and does not engage in plagiarism.

Objective R4.1.4: (Evaluating) Appropriately assess effectiveness of education related to internal medicine.

Criteria:

- Selects assessment method (e.g., written or verbal assessment or self-assessment questions, case with case-based questions, learner demonstration of new skill) that matches activity.
- Provides timely, constructive, and criteria-based feedback to learner.
- If used, assessment questions are written in a clear, concise format that reflects best practices for test item construction.
- Determines how well learning objectives were met.
- Plans for follow-up educational activities to enhance or support learning and (if applicable) ensure that goals were met.
- Identifies ways to improve education-related skills.

- Obtains and reviews feedback from learners and others to improve effectiveness as an educator.

Goal R4.2: Effectively employ appropriate preceptor roles when engaged in teaching students, pharmacy technicians, or fellow health care professionals in internal medicine.

Objective R4.2.1: (Evaluating) When engaged in teaching related to internal medicine, select a preceptor role that meets learners' educational needs.
Criteria:

- Identifies which preceptor role is applicable for the situation (direct instruction, modeling, coaching, facilitating)as follows:
  - Selects direct instruction when learners need background content.
  - Selects modeling when learners have sufficient background knowledge to understand the skill being modeled.
  - Selects coaching when learners are prepared to perform a skill under supervision.
  - Selects facilitating when learners have performed a skill satisfactorily under supervision.

Objective R4.2.2: (Applying) Effectively employ preceptor roles, as appropriate, when instructing, modeling, coaching, or facilitating skills related to internal medicine.
Criteria:

- Instructs students, technicians, or others as appropriate.
- Models skills, including "thinking out loud," so learners can "observe" critical-thinking skills.
- Coaches, including effective use of verbal guidance, feedback, and questioning as needed.
- Facilitates, when appropriate, by allowing learner independence and using indirect monitoring of performance.
- Effectively facilitates learner self-evaluation, as appropriate.

ELECTIVE COMPETENCY AREAS, GOALS, AND OBJECTIVES FOR POSTGRADUATE YEAR TWO (PGY2) INTERNAL MEDICINE PHARMACY RESIDENCIES

Competency Area E1: Academia

Goal E1.1: Demonstrate understanding of key elements of the academic environment and faculty roles within it.

Objective E1.1.1: (Understanding) Demonstrates understanding of key elements of the academic environment and faculty roles within it.

Criteria:

- Accurately describes variations in the expectations of different colleges/schools of pharmacy for teaching, practice, research, and service, including public versus private colleges/schools of pharmacy and relationships between scholarly activity and teaching, practice, research and service.
- Accurately describes the academic environment, including how the decisions by university and/or college administration impact faculty and how outside forces (e.g., change in the profession, funding sources, accreditation requirements) impact administrator and faculty roles.
- Accurately describes faculty roles and responsibilities.
- Accurately describes the types and ranks of faculty appointments, including the various types of appointments (e.g., non-tenure, tenure-track, and tenured faculty); various ranks of faculty (e.g., instructor, assistant professor, associate professor, full professor); the role and implications of part-time and adjunct faculty as schools continue to expand and faculty shortages occur; and promotion and tenure process for each type of appointment, including types of activities that are considered in the promotion and tenure process.
- Accurately explains the role and influence of faculty in the academic environment including faculty in governance structure (e.g., the faculty senate, committee service) and faculty related to teaching, practice, research, and service roles (e.g., curriculum development and committee service).
- Accurately identifies resources available to help develop academic skills including the role of academic-related professional organizations (e.g., AACP) and other resources to help develop teaching skills and teaching philosophies.
- Accurately identifies and describes ways that faculty maintain balance in their roles.
- Accurately describes typical affiliation agreements between a college of pharmacy and a practice site (e.g., health system, hospital, clinic, retail pharmacy).

Goal E1.2: Exercise case-based and other teaching skills essential to pharmacy faculty.

Objective E1.2.1: (Applying) Develop and deliver cases for workshops and exercises for laboratory experiences.

Criteria:

- Identifies the appropriate level of case-based teachings for small group instruction.
- Identifies appropriate exercises for laboratory experiences.
- Provides appropriate and timely feedback to improve performance.

Objective E1.2.2: (Evaluating) Compare and contrast methods to prevent and respond to academic and profession dishonesty and adhere to copyright laws.
Criteria:

- Accurately evaluates physical and attitudinal methods to prevent academic dishonesty.
- Accurately describes methods of responding to incidents of academic dishonesty.
- Accurately explains the role of academic honor committees in cases of academic dishonesty.
- Identifies examples and methods to address unprofessional behavior in learners.
- Accurately describes copyright regulations as related to reproducing materials for teaching purposes.
- Accurately describes copyright regulations as related to linking and citing on-line materials.

Goal E1.3: Develops and practices a philosophy of teaching.

Objective E1.3.1: (Creating) Develop or update a teaching philosophy statement.
Criteria:

- Teaching philosophy includes:
  - Self-reflection on personal beliefs about teaching and learning;
  - Identification of attitudes, values, and beliefs about teaching and learning; and,
  - Illustrates personal beliefs on practice and how these beliefs and experiences are incorporated in a classroom or experiential setting with trainees.
  - If updating, reflect on how one's philosophy has changed.

Objective E1.3.2: (Creating) Prepare a practice-based educational activity.
Criteria:

- Develops learning objectives using active verbs and measureable outcomes.
- Plans teaching strategies appropriate for the learning objectives.
- Uses materials that are appropriate for the target audience.
- Organizes teaching materials logically.
- Plans relevant assessment techniques.
- When used, develops examination questions that are logical, well-written, and test the learners' knowledge rather than their test-taking abilities.
- Participates in a systematic evaluation of assessment strategies (e.g., post-exam statistical analysis) when appropriate.
- Ensures activity is consistent with learning objectives in course syllabus.

Objective E1.3.3: (Applying) Deliver a practice-based educational activity, including didactic or experiential teaching, or facilitation.
Criteria:

- Incorporates at least one active learning strategy in didactic experiences appropriate for the topic.
- Uses effective skills in facilitating small and large groups.
- Development of experiential activities include the following:
  - Organizes student activities (e.g., student calendar).
  - Effectively facilitates topic discussions and learning activities within the allotted time.
  - Effectively develops and evaluates learner assignments (e.g., journal clubs, presentations, SOAP notes.
  - Effectively assesses student performance.
  - Provides constructive feedback.

Objective E1.3.4: (Creating) Effectively document one's teaching philosophy, skills, and experiences in a teaching portfolio.
Criteria:

- Portfolio includes:
  - A statement describing one's teaching philosophy.
  - Curriculum vitae.
  - Teaching materials including slides and other handouts for each teaching experience.
  - Documented self-reflections on one's teaching experiences and skills, including strengths, areas for improvement, and plans for working on the areas for improvement.
  - Peer/faculty evaluations.
  - Student/learner evaluations.

Competency Area E2: Outcomes Research

Goal E2.1: Contribute to internal medicine clinical, humanistic and economic outcomes analyses.

Objective E2.1.1: (Evaluating) Contribute to an internal medicine prospective clinical, humanistic and/or economic outcomes analysis.
Criteria:

- Follows, or explains, principles and methodology of basic pharmacoeconomic analyses.
- Selects, or explains, study design appropriate for their research (e.g., prospective clinical, humanistic, or economic outcomes analysis).
- Appropriately uses modeling, if appropriate, or explains how modeling is used.
- Effectively collects data for their research or explains the types of data that must be collected in a prospective clinical, humanistic, and economic outcomes analysis.
- Uses, or explains, reliable sources of data for a clinical, humanistic, and economic outcomes analysis.
- Effectively analyzes, or explains how to analyze, collected data in a prospective clinical, humanistic, and economic outcomes analysis.
- Applies, or explain how research results can be applied, to internal business decisions including modifications to a customer's formulary or benefit design.

Objective E2.1.2: (Evaluating) Contribute to an internal medicine retrospective clinical, humanistic, and/or economic outcomes analysis.
Criteria:

- Accurately explains the purpose of a retrospective clinical, humanistic, or economic outcomes analysis.
- Accurately explains study designs appropriate for a retrospective clinical, humanistic, and economic outcomes analysis.
- Accurately explains the types of data that must be collected in a retrospective clinical, humanistic, and economic outcomes analysis.
- Accurately explains the content and utilization of reports and audits produced by the pharmacy department.
- Accurately explains possible reliable sources of data for a retrospective clinical, humanistic, and economic outcomes analysis.
- Accurately explains methods for analyzing data in a retrospective clinical, humanistic, and economic outcomes analysis.

- Accurately explains the impact of limitations of retrospective data on the interpretation of results.
- Accurately explains how results of a retrospective clinical, humanistic, and economic outcomes analysis can be applied to internal business decisions including modifications to a customer's formulary or benefit design.

Competency Area E3: Management of Emergency Situations

Goal E3.1: Participate in the management of medical emergencies.

Objective E3.1.1: (Creating) Exercise skill as a team member in the management of a medical emergency according to the organization's policies and procedures.
Criteria:
- Uses appropriate medication therapy in medical emergency situations.
- When administration is allowed by the organization, effectively administers emergency medications.

Goal E3.2: Understand the role of the internal medicine pharmacy specialist in public health initiatives.

Objective E3.2.1: (Understanding) Demonstrate understanding of the internal medicine pharmacy specialist's role in public health initiatives.
Criteria:
- Demonstrates understanding of the development of emergency protocols for public health disasters (e.g., natural disaster, bioterrorism, epidemic).
- Demonstrates understanding of the role of the internal medicine pharmacy specialist in advocacy for vaccination, including the role of vaccination in the prevention and control of the spread of infectious diseases and methods to secure credentials for administering vaccinations.

Competency Area E4: Delivery of Medications

Goal E4.1: Manage medications to support safe and effective drug therapy for internal medicine patients.

Objective E4.1.1: (Applying) Manage aspects of the medication-use process related to oversight of dispensing for internal medicine patients.
Criteria:
- When appropriate, follows the organization's established protocols.
- Effectively checks accuracy of medication orders written.
- Makes effective use of relevant technology to aid in decision-making and increase safety.
- Demonstrates commitment to medication safety in medication-use processes.
- Effectively prioritizes workload and organizes workflow.
- Checks accuracy of medications dispensed including correct patient identification, medication, dosage form, label, dose, number of doses, and expiration dates; and proper repackaging and relabeling medications, including compounded medications (sterile and nonsterile).
- Checks the accuracy of the work of pharmacy technicians, clerical personnel, pharmacy students, and others according to applicable laws and institutional policies.

- Promotes safe and effective drug use on a day-to-day basis.

Competency Area E5: Added skills for contributing to the body of internal medicine knowledge

Goal E5.1: Contribute to the dissemination of knowledge of internal medicine.

Objective E5.1.1: (Creating) Design an effective poster for the presentation of a specific topic.
Criteria:
- Includes appropriate types of content in a poster.
- Effectively applies rules for visual presentation of poster material.
- Uses appropriate resources to generate poster materials.

Objective E5.1.2: (Creating) Exercise skill in responding to questions occurring during the presentation of a poster.
Criteria:
- Demonstrates understanding of, and responsiveness to, questions.
- Content of responses is correct.
- Responses are thorough.

Objective E5.1.3: (Evaluating) Participate in the peer review of an internal medicine pharmacy professional's article submitted for publication or presentation.
Criteria:
- Uses appropriate sources of information on the components of a peer review.

Competency Area E6: Credentialing

Goal E6.1: Successfully apply for credentialing as an internal medicine pharmacy practitioner.

Objective E6.1.1: (Applying) Follow established procedures to successfully apply (may be a hypothetical application if not permitted at the site) for credentialing as an internal medicine pharmacy practitioner.
Criteria:
- Demonstrates understanding of the importance of credentialing and how itinfluences practice.
- Follows the practice setting's policy for applying to be credentialed as an internal medicine pharmacy practitioner.

Approved by the ASHP Commission on Credentialing on March 5, 2017. Endorsed by the ASHP Board of Directors on April 6, 2017. Developed by the ASHP Commission on Credentialing in collaboration with the American College of Clinical Pharmacy (ACCP). The design group was comprised of the following internal medicine pharmacy practitioners, residency program directors, and ASHP staff: Sara Brouse, Pharm.D., FCCP, BCPS, University of Kentucky Healthcare, Cardiovascular Clinical Pharmacist, UK Healthcare, Adjunct Associate Professor, UK College of Pharmacy; Stephen Davis, Pharm.D., MS, CPPS, Pharmacy Operations Managers/Health System Pharmacy Administration Residency Program Director, Texas Children's Hospital; Steven Pass, Pharm.D., FCCM, FCCP, FASHP, BCPS, Associate Professor and Vice Chair for Residency Programs Texas Tech, University Health Sciences Center School of Pharmacy; Winter J. Smith, Pharm.D., BCPS, Associate Professor of Pharmacy Practice, Adult Medicine Division, Texas Tech University Health Sciences Center School of Pharmacy; Ted Walton, Pharm.D., BCPS, Grady Memorial Hospital, Atlanta, Internal Medicine and Nephrology Clinical Pharmacist Specialist, Director, PGY2 Internal Medicine; Kurt Wargo, Pharm.D., BCPS, Regional Dean and Associate Professor of Pharmacy, Wingate University-Hendersonville Regional Campus; Andrea G. Roberson, Director, Process and Quality Improvement, Lead Surveyor, Accreditation Services Office, ASHP; and Naomi M. Schultheis, M.Ed., Director, Standards Development and Training, Accreditation Services Division, ASHP. This document replaces the educational goals and learning objectives for internal medicine pharmacy residencies approved by the ASHP Board of Directors on April 18, 2008. The contribution of reviewers is gratefully acknowledged.

The effective date for implementation of these educational outcomes, goals and objectives is commencing with the entering resident class of 2017.

PGY2 Internal Medicine Pharmacy Residency Appendix

Core Areas or Types of Patient Care Experiences
The list of topics below represents core areas or diseases that graduates of PGY2 Internal Medicine programs are expected to have adequate knowledge of to provide patient care. The primary method for PGY2 Internal Medicine programs to help residents achieve patient care competence in providing comprehensive medication management is to provide residents with sufficient experience providing patient care for common disease states and conditions.

For this purpose, residents are required to have direct patient care experience for disease states listed in the first column, "**Required – Direct Patient Care Experience".** Topics in the second column, **"Required-Case-Based Application Acceptable",** may be covered by direct patient care or by case-based application through didactic discussion, reading assignments, case presentations, and/or written assignments. Topics in the third column, **"Elective"**, are considered optional topics or diseases states that programs may include if applicable to the program's patient population. Elective areas may be covered by direct patient care or by case-based application through didactic discussion, reading assignments, case presentations, and/or written assignments.

TOPIC AREAS			
	REQUIRED	**REQUIRED**	**ELECTIVE**
TOPIC AREAS	**Direct Patient Care Experience Required**	**Case-Based Application Acceptable**	
Cardiology	• Acute coronary syndromes (STEMI, NSTEMI, unstable angina) • Atrial arrhythmias • Atherosclerotic cardiovascular disease, primary prevention • Atherosclerotic cardiovascular disease, secondary prevention • Cardiogenic/hypovolemic shock • Heart failure, acute decompensated & chronic • Hypertensive crises • Stroke (ischemic, hemorrhagic, and transient ischemic attack) • Venous embolism and thrombosis	• Advanced Cardiac Life Support (ACLS) • Basic Life Support (BLS) • Peripheral arterial (atherosclerotic) disease • Pulmonary arterial hypertension • Valvular heart disease • Ventricular arrhythmias	• Aneurysm • Drug-induced cardiac disease
Critical Care	• Drug/alcohol overdose/withdrawal	• Pharmacokinetic and pharmacodynamic considerations	• Acute respiratory distress syndrome • Hemodynamic

		• Stress ulcer prophylaxis	Support • Pain, agitation, and delirium in ICU patients • Respiratory support • Shock syndromes (including cardiogenic, hypovolemic, vasogenic)
Endocrinology	• Diabetes mellitus, Type 1 • Diabetes mellitus, Type 2 • Syndrome of inappropriate antidiuretic hormone secretion (SIADH) • Thyroid disorders	• Adrenal gland disorders (e.g., adrenal insufficiency, hypercortisolism) • Hyperglycemic crises (diabetic ketoacidosis [DKA], hyperosmolar hyperglycemic state [HHS]) • Parathyroid disorders	• Diabetes insipidus (renal/ electrolyte) • Drug-induced endocrine disorders • Transgender health
Gastroenterology	• Cirrhosis, end-stage liver disease, and complications (e.g., portal hypertension, ascites, spontaneous bacterial peritonitis, varices, hepatic encephalopathy, hepatorenal syndrome) • Constipation • Diarrhea (including traveler's diarrhea) • Hepatitis (including viral) • Inflammatory bowel disease (Crohn's disease, ulcerative colitis) • Nausea/vomiting, simple (e.g., acute viral gastroenteritis, overindulgence, motion sickness) • Nausea & vomiting, complex (e.g., postoperative, chemotherapy-induced) • Pancreatitis (acute, chronic, and drug-induced)	• Gastroesophageal reflux disease • Motility disorders	• Celiac disease • Drug-induced hepatic disorders • Irritable bowel syndrome • Nonalcoholic steatohepatitis

	• Upper gastrointestinal bleeding		
Gerontology	• Medication use in older adults (e.g., polypharmacy, potentially inappropriate medications [PIMs], Beers Criteria, dose de-escalation)		
Hematology	• Anemias (e.g., iron deficiency, vitamin B12 deficiency, folic acid deficiency, chronic disease/inflammation) • Drug-induced hematologic disorders • Reversal of anticoagulants	• Coagulation disorders (e.g., hemophilia, von Willebrand disease, antiphospholipid syndrome, clotting factor deficiencies) • Disseminated intravascular coagulation • Platelet disorders (e.g., idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura) • Sickle cell disease	• Aplastic anemia • Porphyrias
Immunology	• Allergies/drug hypersensitivities (e.g., anaphylaxis, desensitization)	• Stevens-Johnson syndrome • Systemic lupus erythematosus • Toxic epidermal necrolysis	• Angioedema • Immunodeficiency diseases • Solid organ transplantation (e.g., heart, liver, lung, kidney, including immunosuppressive therapy)
Infectious Diseases	• Antimicrobial stewardship and infection prevention • Bloodstream and catheter-related infections • Bone and joint infections (e.g., osteomyelitis, prosthetic joint infections) • Central nervous system infections (e.g., meningitis, encephalitis, brain abscess) • Fungal infections, invasive (e.g., hematogenous	• Bacterial resistance • Fungal infections, superficial (e.g., vulvovaginal and esophageal candidiasis, dermatophytoses) • Immunizations (including vaccines, toxoids, and other immunobiologics) • Microbiological testing (including	• Spirochetal diseases (e.g., treponematosis, leptospirosis) • Tickborne illnesses (e.g., Lyme borreliosis, Ehrlichiosis, Rocky Mountain spotted fever, relapsing fever) • Prostatitis • Sexually transmitted

	candidiasis, aspergillosis) • Gastrointestinal infections (infectious diarrhea, *C. difficile*, enterotoxigenic infections) • Human immunodeficiency virus infection • Infective endocarditis • Infections in immunocompromised patients (e.g., febrile neutropenia, opportunistic infections in AIDS) • Influenza virus infection • Intra-abdominal infections (peritonitis, abscess, appendicitis, etc.) • Lower respiratory tract infections • Sepsis and septic shock • Skin and soft tissue infections • Tuberculosis • Urinary tract infections (complicated and uncomplicated)	rapid diagnostic tests)	infections (e.g., syphilis, gonorrhea, chlamydia, trichomoniasis, human papilloma virus, pelvic inflammatory disease; refer to CDC Guidelines) • Upper respiratory tract infections (e.g., otitis media, sinusitis, pharyngitis, bronchitis) • Viral infections (e.g., Varicella, cytomegalovirus, Herpes simplex, measles [rubeola], mumps, rabies)
Musculoskeletal and Rheumatology	• Gout/Hyperuricemia	• Osteoarthritis • Osteoporosis • Rhabdomyolysis • Rheumatoid arthritis	• Mixed connective tissue disease • Myopathies (e.g., dermatomyositis, polymyositis)
Nephrology	• Acid-base disorders • Acute kidney injury (prerenal, intrinsic, and postrenal) • Drug dosing considerations in renal dysfunction and renal replacement therapy • Drug-induced renal disorders • Electrolyte abnormalities (sodium, potassium, calcium, phosphorus, magnesium) • Evaluation of renal	• Chronic kidney disease and complications (anemia, bone & mineral disorders) • Dialysis and renal replacement therapies	• Fluid balance

	function		
Neurology	• Epilepsy • Neurocognitive disorders (e.g., Alzheimer disease, vascular and frontotemporal dementia) • Pain, neuropathic (e.g., diabetic, post-herpetic) • Pain, nociceptive (acute and chronic) • Parkinson disease • Peripheral neuropathy	• Status epilepticus	• Fibromyalgia • Multiple sclerosis
Nutritional Disorders	• Overweight and obesity	• Nutrition support	• Malabsorptive syndrome
Oncology	• Oncologic emergencies (e.g., tumor lysis syndrome, hypercalcemia, coagulopathy) • Supportive care (e.g., preventing/ treating complications associated with malignancy or treatment, myelosuppression, nausea/vomiting, pain, mucositis, secondary malignancies)		
Psychiatric and Behavioral Disorders	• Alcohol use disorder • Anxiety disorders (e.g., generalized anxiety, panic, social anxiety disorder) • Depressive disorders (e.g., major depressive disorder) • Delirium/acute agitation (non-ICU) • Opioid use disorder • Sleep disorders (e.g., insomnia. See other sleep-wake disorders in Neurologic Disorders section) • Tobacco/nicotine use disorder (including smoking cessation)	• Bipolar disorders (e.g., mania, bipolar depression, maintenance therapy) • Schizophrenia • Substance abuse (e.g., hallucinogens, stimulants, depressants, performance-enhancing drugs)	• Attention deficit disorders (with or without hyperactivity) • Obsessive-compulsive disorders • Posttraumatic stress disorder (PTSD)

Pulmonology	• Asthma • Chronic obstructive airway disease (other than asthma)		• Cystic fibrosis • Drug-induced respiratory disorders • Interstitial lung disease • Obstructive sleep apnea
Urology	• Benign prostatic hyperplasia • Urinary incontinence		• Sexual dysfunction