



# REQUIRED COMPETENCY AREAS, GOALS, AND OBJECTIVES FOR POSTGRADUATE YEAR TWO (PGY2) MEDICATION-USE SAFETY AND POLICY PHARMACY RESIDENCY

## Introduction

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 eight competency areas described herein are required.

The required competency areas and all 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 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. 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.<sup>1</sup>

Competency areas for PGY1 residencies are available on the ASHP website. PGY2 competency areas, goals, and objectives in Medication-Use Safety and Policy pharmacy residencies are differentiated from those from PGY1 by specialization and the expectation of PGY2 residents for greater work competence and proficiency.

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<sup>1</sup>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).

## Definitions

Competency Areas: Categories of the residency graduates' capabilities.

Competency areas are classified into one of three categories:

*Required*: Seven 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 because 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 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:

*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 to take responsibility for their health.
- Demonstrates cultural competence.

## **Competency Area R1: Assessing Safe and Effective Medication-Use Systems and Policies**

**Goal R1.1: Contribute to the organization's efforts to identify actual or potential failures and/or appropriate medication-use within the current medication-use systems/policies.**

**Objective R1.1.1: (Applying) Participate in a proactive risk assessment for a medication-use process, for example, a failure mode and effects analysis (FMEA).**

Criteria:

- Demonstrates understanding of the process for conducting a FMEA vs. other forms of proactive risk assessment, including the pros and cons of each.
- Evaluate medication-use problems reported in other external organizations to determine if current medication-use systems and policies can result in similar problems in the organization.
- Conduct an analysis of current medication-use systems and policies against nationally-recognized best practices/protocols.
- Prepare a formal written proactive risk assessment of a medication-use process or policy.
- Present a proactive risk assessment at a formal interdisciplinary committee meeting.

**Objective R1.1.2: (Applying) Demonstrate understanding of the steps and applicability of a root cause analysis (RCA).**

Criteria:

- Appropriately applies the process of RCA to an adverse drug event (ADE).
- Collects relevant evidence related to the RCA.
- Demonstrates understanding of the legal, regulatory, and internal cultural implications related to conducting an RCA for an ADE.
- Demonstrates understanding of the difference between FMEA and a root cause analysis.
- Participates in an RCA for an ADE, if one conducted during the residency.

**Objective R1.1.3: (Applying) Contribute to the organization's evaluation of, and response to, a medication-related adverse event.**

Criteria:

- Collaborates with risk managers, quality managers, and other appropriate individuals to determine the appropriate response for a medication-related adverse event.
- Prepares an effective written document evaluating a medication-related adverse event, with suggested responses to prevent further similar events.
- Presents an evaluation to a medication-related adverse event at a formal interdisciplinary committee meeting.

**Goal R1.2: Serve as an organizational resource for regulatory compliance related to the medication-use systems/policies.**

**Objective R1.2.1: (Evaluating) Evaluate the organization's medication-use process, systems and policies for appropriate compliance with relevant external standards, laws and regulations.**

Criteria:

- Accurately identifies or presents external standards, laws and regulations relevant to the organization's medication-use process, systems and policies, and their content.
- Researches and monitors updates to external standards, laws and regulations relevant to the organization's medication-use process, systems and policies.
- Evaluates current relevant external standards, laws and regulations related to an assigned organization medication-use process, system or policy.
- Evaluates upcoming new or changed external standards, laws and regulations related to the organization's relevant medication-use process, systems and policies.

**Goal R1.3: Assess the organization's current culture of safety.**

**Objective R1.3.1: (Evaluating) Assess the organization's culture of safety.**

Criteria:

- Accurately identifies the differences between a culture of safety, a just culture, and the culture of a highly reliable organization.
- Demonstrates understanding of the organizational processes in place for evaluating culture of safety.
- Demonstrates understanding of how departmental and organizational processes, systems and policies (e.g. error reporting, human resource management) can affect a culture of safety.
- Evaluates current organization's culture of safety either as part of a medication-related adverse event or as part of an overall organization's or pharmacy department's evaluation of the culture of safety.

**Competency Area R2: Medication-Use Data Collection and Analysis**

**Goal R2.1: Determine the appropriate data to collect for identification of a needed change.**

**Objective R2.1.1: (Understanding) Explain the types of data and information that can be useful for the analysis of each component of the organization's medication-use process.**

Criteria:

- Demonstrates understanding of structure, process and outcome measures and evidence-based strategies for effectively collecting data for each type of measure.
- Explains sources of assessment tools for conducting an analysis of an organization's medication-use process or drug therapy protocol.
- Compares the potential contributions to an analysis of each of the readily available tools.
- Explains the potential contribution of an internal organizational assessment of risk points.

**Goal R2.2: Design and utilize a data and information collection process.**

**Objective R2.2.1: (Creating) Design an approach to obtain the data needed for a specific analysis.**

Criteria:

- Determines the specific data and information to collect or obtain.
- Explains the use of the organization's information system in retrieving data.
- Explains the role of direct observation as an information-gathering strategy.
- Demonstrates understanding of other effective methods for gathering information, including identifying the pros and cons, to create the appropriate data collection approach.

- Develops a strategy and effective methods for data collection.

**Objective R2.2.2: (Applying) Utilize appropriate tools to collect the required data.**

Criteria:

- Utilizes the organization's information system in retrieving data.
- Demonstrates direct observation as an information-gathering strategy.
- Utilizes principles for the construction of data and information-gathering instruments.

**Goal R2.3: Analyze data using appropriate data analysis techniques.**

**Objective R2.3.1: (Analyzing) When given a set of data and the purpose for which the data was collected, select and use the appropriate data analysis method.**

Criteria:

- Uses specific techniques (e.g., Pareto Analysis, histograms, scatter charts, graphs) commonly used in the analysis of medication-use data.
- Examines how cognitive biases influence data analysis.

**Goal R2.4: Draw appropriate conclusions from a set of analyzed data and information.**

**Objective R2.4.1: (Evaluating) When given a set of analyzed data and information, interpret results that can be supported by the data and information.**

Criteria:

- Utilizes results of data analysis to draw conclusions and make appropriate recommendations for a medication-use issue.
- Accurately assesses the appropriate use and limitations of various techniques for the statistical analysis of data.

**Objective R2.4.2: (Evaluating) Identify opportunities for improvement in medication-use systems/policies based on analysis of relevant data from the organization or peer organizations.**

Criteria:

- Uses evidence-based principles to develop criteria for appropriate use.
- Effectively evaluates the organization's current medication-use systems and policies, including recommendations for improvement, based on an analysis of relevant data from the organization and peer organizations.
- Presents the evaluation at a formal interdisciplinary committee meeting.
- Participates in a structured medication-use assessment (e.g., MUE, audit).

## **Competency Area R3: Designing Safe and Effective Medication-Use Systems/Policies**

**Goal R3.1: Manage medication-use systems/policies as applicable to the organization, to improve safe and effective medication-use.**

**Objective R3.1.1: (Creating) Design and implement an intervention to improve an aspect of the organization's medication-use systems, policies, and/or culture of safety.**

Criteria:

- Demonstrates understanding of the differences between a policy (including appropriate elements of a policy), a procedure, guideline and protocol.
- Uses appropriate style in writing a policy to assure that it conveys the expectations of the organization without ambiguity.
- Utilizes evidence-based methods and techniques to effectively improve an organization's culture of safety.
- Understands common change management models/approaches and transactional versus transformational changes and team leadership.
- Makes appropriate recommendations related to organization's current culture to improve its culture of safety.
- Effectively uses techniques for achieving consensus among stakeholders.
- Develops an effective implementation plan.
- Gains, or demonstrates understanding of how to gain, approval of a needed change in the organization's medication-use environment.

**Objective R3.1.2: (Creating) Design a process to measure the impact of an intervention intended to improve an aspect of the organization's medication-use systems, policies, and/or culture of safety.**

Criteria:

- Identifies what outcomes should be utilized to effectively measure the operational and patient care/safety impact of a newly implemented intervention intended to improve an aspect of the organization medication-use systems, policies, and culture of safety.
- Defines the length of time needed for appropriate data collection for impact measurement.
- Utilizes data collection for ongoing monitoring of an intervention's effectiveness over time, to ensure that it remains effective.
- Develops a process for measuring the impact of all recommended interventions that efficiently utilizes technology and resources as part of the intervention proposal.
- Ensures collection of baseline data before implementing a new intervention, ensuring concurrent implementation of impact measurement with the intervention.

**Objective R3.1.3: (Creating) Construct systems that are standardized, streamlined, and reduce the risk for adverse events throughout each step of the organization's medication-use system.**

Criteria:

- Utilizes methodologies for process improvements (e.g., Six Sigma, LEAN, DMAIC) to create systems to reduce risk of adverse events or improve processes.
- Develops a proposal to standardize, streamline and/or reduce the risk for adverse events for an assigned organization medication-use system or patient care process.

**Goal R3.2: Support organizational interdisciplinary committees tasked with improving medication-use systems/policies.**

**Objective R3.2.1: (Applying) Actively contribute to organizational committees focused on medication-use systems/policies.**

Criteria:

- Contributes appropriate and relevant information to discussions at medication-related organization committees.

**Objective R3.2.2: (Creating) Prepare evidence-based information to enhance the organizational committee decisions related to medication-use systems/policies.**

Criteria:

- Prepares a written document of non-biased, evidence-based information on an assigned topic to enhance the organizational committee decisions related to medication-use systems/policies.
- Gives a concise presentation of non-biased, evidence-based information on an assigned topic at an organizational committee related to medication-use systems/policies, to assist the committee in making a decision.

**Objective R3.2.3: (Creating) Accurately document and communicate decisions of organizational committees to satisfy the requirements of organizational, regulatory, and accreditation bodies, as applicable.**

Criteria:

- Demonstrates understanding of organizational, regulatory and accreditation requirements for documenting committee meeting activities.
- Writes concise and accurate minutes of discussions and actions taken at medication-related organization committees that can be understood by people not attending the meeting.

**Objective R3.2.4: (Creating) Collaborate with an interdisciplinary team (as applicable) to aid in the preparation or revision of a drug class review, monograph, treatment guideline, policy, or protocol.**

Criteria:

- Utilizes influence of organizational climate on the design and implementation of medication-use policies and procedures.
- Appraises current policies for congruence with the organization's mission, goals, and needs.
- Appraises current procedures for congruence with the organization's mission, goals, and needs.
- Prepares or revises a drug class review, monograph, treatment guideline, policy, or protocol.
- Presents the prepared/revised drug class review, monograph, treatment guideline, policy, or protocol at an appropriate interdisciplinary committee.

**Goal R3.3: Improve medication-use systems/policies through appropriate formulary management.**

**Objective R3.3.1: (Evaluating) Participate in oversight of the formulary management process to improve patient care and medication safety.**

Criteria:

- Identifies the components of an effective formulary system.
- Explains the approval process for establishing a formulary.
- Explains the role of committees in addressing formulary issues.
- Explains how formularies are revised and maintained.
- Explains strategies used by pharmaceutical manufacturers and sales representatives to influence drug formularies.
- Participates in activities designed to ensure appropriate formulary use in patients to improve patient care.
- Participates in procedures regarding exceptions to the formulary.
- Participates in the process of making additions and deletions to the formulary.

- Participates in ensuring formulary changes are incorporated into system technologies (e.g. EHR, ADC, smart pumps).
- Participates in effective methods of communicating changes to the formulary.
- Participates in assuring successful implementation of formulary policies.
- Participates in drug policy strategies used to improve adherence to a formulary (e.g., therapeutic substitution, guideline development).
- Recommends improvements for medication safety through appropriate formulary drug selection.

## Competency Area R4: Drug Shortages and Supply Interruptions

### Goal R4.1: Manage drug shortages and supply interruptions.

**Objective R4.1.1: (Analyzing) Utilize strategies for early identification and communication of potential supply issues to minimize impact on patient care.**

Criteria:

- Examines evidence-based and current organizational strategies for early identification and communication of potential supply issues to minimize impact on patient care.
- Accesses information regarding updates to drug supplies, that impact patient care.
- Regularly monitors all current updates regarding drug shortage supply issues, that may impact patient care.

**Objective R4.1.2: (Evaluating) Complete an operational and therapeutic assessment of a drug shortage and/or a medication-related supply shortage.**

Criteria:

- Conducts an operational and therapeutic assessment of a new drug shortage and/or a medication-related supply (e.g. drug container) issue for the organization, including its potential effect on patient care, patient care systems, and medication safety.

**Objective R4.1.3: (Creating) Develop and implement a plan for managing a drug shortage and/or a medication-related supply shortage including effective communication of the plan.**

Criteria:

- Understands and builds strategies for managing a drug shortage, including how to increase stock, reduce usage and implement appropriate therapeutic alternatives.
- Works with key interdisciplinary stakeholders as appropriate, to develop a plan to manage a new drug shortage and/or a medication-related supply (e.g. drug container) issue for the organization that minimizes its impact on patient care, organizational systems, and medication safety.
- Develops a communications strategy for the plan that maximizes reach and understanding by appropriate medical staff and hospital personnel regarding drug shortages.

**Objective R4.1.4: (Evaluating) Manage medication, medication related supplies, or medication related device recalls and communications regarding recalls.**

Criteria:

- Demonstrates understanding of evidence-based and current organizational strategies for identification and communication of medication recalls minimizing its impact on patient care.
- Identifies where the specifics of new medication recalls can be found, and what those specifics are.



- Monitors new medication recalls and assess its operational and patient care impact on the organization.
- Develops a plan to manage a new medication recall for the organization that minimizes its impact on patient care, organizational systems, and medication safety.
- Develops a communications strategy for the plan that maximizes reach and understanding by appropriate medical staff and hospital personnel regarding a medication recall.

## **Competency Area R5: Medication-Use Technology**

### **Goal R5.1: Ensure the availability of drug- and patient-related information to support decisions by healthcare providers.**

#### **Objective R5.1.1: (Applying) Coordinate the implementation of medication-use policy or formulary decisions in medication-use technology.**

Criteria:

- Demonstrates an understanding of how organizational technology is utilized for medication-use.
- Works with appropriate organizational and/or department information technology (IT) personnel, to translate a new or revised medication-use process, formulary decision, treatment guideline, policy, or protocol into an appropriate order set, electronic health record, and/or technology-based software change.
- Works with the appropriate organization decision making body (e.g., committee), to plan for a purchase or modification of a technology based on a new or revised medication-use policy that improved patient care or medication safety.

### **Goal R5.2: Identify improvements to electronic medication-use systems that improve patient care and/or safety.**

#### **Objective R5.2.1: (Applying) Collaborate with clinicians and information technology specialists to develop or improve systems that support safe and effective medication-use.**

Criteria:

- Explains the principles of decision support as they apply to health care providers making direct patient-care decisions and their effect on medication-use safety and patient care.
- Compares the benefits and risks of currently available computerized patient and medication information systems and medication-related automation (e.g. pumps, bar-code medication administration, medication storage devices, dispensing cabinets, robotics).

#### **Objective R5.2.2: (Creating) Apply automation to medication-use and patient monitoring systems, as applicable to the organization.**

Criteria:

- Uses the available technology and automation available related to medication-use and patient care.
- Demonstrates an understanding of the technology and automation systems available that improve medication-use and patient care, including those not currently available in the organization.

- If assigned, participates in designing a proposal for a new technology or automation systems that can improve medication-use or patient care, and work with the appropriate organization decision making groups to acquire it.

## **Competency Area R6: Medication-Use Research**

### **Goal R6.1: Demonstrate ability to conduct a quality improvement or research project using effective project management skills.**

**Objective R6.1.1: (Analyzing) Identify and/or demonstrate understanding of specific project topic to improve care of a specified population of patients or for a topic for advancing the pharmacy profession.**

Criteria:

- Appropriately identifies or understands problems and opportunities for improvement or research projects.
- Conducts a comprehensive literature search and draws appropriate conclusions.
- Determines an appropriate research question or topic for a practice-related project of significance to patient care that can realistically be addressed in the desired time frame.
- 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 R6.1.2: (Creating) Develop a plan or research protocol for a quality improvement or research project related to the care of a specified population of patients or for advancing the pharmacy profession in medication-use safety and policy.**

Criteria:

- Develops specific aims, selects an appropriate study design, and develops study methods to answer the research question(s).
- Applies safety design practices (e.g., standardization, simplification, human factors training, lean principles, FOCUS-PDCA, other process improvement or research methodologies) appropriately and accurately.
- Develops a plan for improvement that includes appropriate reviews and approvals required by department or organization and addresses the concerns of all stakeholders.
- Applies evidence-based and/or basic pharmacoeconomic principles, if needed.
- Develops a feasible design for a prospective or retrospective clinical or outcomes analysis project that considers who or what will be affected by the project.
- Identifies and obtains necessary approvals, (e.g., IRB, quality review board, funding) and responds promptly to feedback or reviews for a practice-related project.
- Acts in accordance with the ethics of research on human subjects, if applicable.
- Implements the project as specified in its design.
- Plan design is practical to implement and is expected to remedy or minimize the identified challenge or deficiency.

**Objective R6.1.3: (Evaluating) Collect and evaluate data for a quality improvement or research project related to the care of a specified population of patients or advancing the pharmacy profession in medication-use safety and policy.**

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.
- Uses continuous quality improvement (CQI) principles to assess the success of the implemented change, if applicable.
- 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 R6.1.4: (Applying) Implement quality improvement or research project related to the care of a specified population of patients or advancing the pharmacy profession related to medication-use safety and policy.**

Criteria:

- Effectively presents a research project (e.g., accurately recommends or contributes to recommendation for operational change, formulary addition or deletion, implementation of medication guideline or restriction, or treatment protocol implementation) to appropriate audience.
- Demonstrates appropriate assertiveness in presenting pharmacy concerns, solutions, and interests to external stakeholders.
- Gains necessary commitment and approval for implementation.
- Follows established timeline and milestones.
- Effectively communicates any changes in medication formulary, medication usage, or other procedures to appropriate parties.

**Objective R6.1.5: (Evaluating) Assess changes or need to make changes to improve care of a specified population of patients or advancing the pharmacy profession related to medication-use safety or policy.**

Criteria:

- Evaluates 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.
- 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 a plan to address opportunities for additional changes.

## Competency Area R7: Leadership and Management

### Goal R7.1: Exhibit essential personal skills of a practice leader.

#### **Objective R7.1.1: (Applying) Use sound ethical reasoning to guide practice decisions.**

Criteria:

- Demonstrates understanding of common practice situations that can present ethical dilemmas.
- Appraises current policies governing relations between the organization and the pharmaceutical, medication supply and technology industry to ensure that ethical practices are observed.
- Accurately assesses why medication-related industry representatives regard the pharmacist as an influential individual in their organization.
- Maintains an appropriate relationship between oneself and all medication-related industry representatives.
- Demonstrates understanding of ethical issues that may arise in publishing and applying biomedical literature.

#### **Objective R7.1.2: (Applying) Identify actual or perceived conflict-of-interest situations in one's practice and organizational activities.**

Criteria:

- Explains the concept of perceived conflict-of-interest versus actual conflict-of-interest.
- Explains the types of conflict-of-interest that may arise in research, purchasing, formulary decision-making, publishing, and professional practice.
- Effectively resolves, or explains how to resolve, conflict-of-interest situations that commonly occur in practice.

#### **Objective R7.1.3: (Applying) Practice self-assessment and self-managed continuing professional development to improve personal performance.**

Criteria:

- Demonstrates understanding of criteria for judging one's performance of tasks that are critical in one's own practice.
- Stays current with, and when possible contributes to, pertinent medication-use safety and policy-related literature.
- Actively participates in, local, state, and/or national medication-use safety and policy-related professional organizations.
- Effectively acts as an advocate for medication-use safety and policy, such as through assertive and persuasive presentation of safety issues to members of organizational leadership, health care team, patients and/or caregivers.
- Effectively serves as a mentor to appropriate individuals.

### Goal R7.2: Exercise effective communications skills.

#### **Objective R7.2.1: (Applying) Use group participation skills when leading or working as a member of an interdisciplinary committee or informal work group.**

Criteria:

- Demonstrates understanding of the roles and responsibilities of the leader of a meeting.

- Applies effective strategies for leading meetings.
- Applies effective negotiation skills to resolve conflicts, when needed.

**Objective R7.2.2: (Applying) Apply strategies for dealing with challenging communications situations.**

Criteria:

- Accurately assesses the level of health literacy of a patient.
- Adjusts communications according to the level of health literacy of the patient.
- Demonstrates understanding of common situations in the work of a medication-use policy specialist that can produce a difficult communications encounter.
- Uses effective communications strategies in challenging encounters.
- Adjusts communications based on cultural differences.
- Uses appropriate communication strategies for patients who are non-English speakers or who have disabilities.
- Adjusts communication strategies to accommodate personal characteristics.

**Objective R7.2.3: (Analyzing) Use an understanding of effectiveness, efficiency, customary practice and the recipient's preferences to determine the appropriate type of, and medium and organization for, communication.**

Criteria:

- Accurately identifies the primary theme or purpose of one's written or oral communication.
- Accurately determines what information will provide credible background to support or justify the primary theme of one's written or oral communication.
- Properly sequence ideas in written and oral communication.
- Accurately determines the depth of communication appropriate to one's audience.
- Accurately determines words and terms that are appropriate to one's audience.
- Accurately determines one's audience's needs.
- Accurately identifies the length of communication that is appropriate to the situation.
- Accurately assesses the listener's understanding of the message conveyed.
- Accurately assesses the level of health literacy of a patient.
- Uses sources of patient information that are adjusted for various levels of health literacy.
- Effectively uses techniques for persuasive communications.
- Follows guidelines for the preparation of statements to be distributed to the media.

**Objective R7.2.4: (Applying) Use effective negotiation skills to resolve challenging and complex operational and organizational issues to reach consensus between stakeholders.**

Criteria:

- Accurately determines when authoritarian approach to new processes is ineffective even in situations where authority is present.
- Accurately determines when effective negotiation and consensus-building skills and the principles behind them, both within and outside of the pharmacy department.
- Effectively applies these negotiation and consensus-building skills for an assigned project.
- Utilizes these skills effectively during interdisciplinary committee meetings.

**Goal R7.3: Demonstrate effective teamwork and interpersonal skills necessary to improve the organization's medication-use process or policies.**

**Objective R7.3.1: (Analyzing) When confronted with a barrier to the accomplishment of a project, analyze the organizational environment, including its structure, network of resources, and politics, to determine a strategy for achieving success.**

Criteria:

- Accurately identifies the organization's structure including the function of each of its departments and key individuals.
- Effectively uses techniques for effective networking in removing barriers.
- Identifies key stakeholders of a given project.
- Demonstrates understanding of the importance of persuasion as a skill of effective leaders.
- Compares the types of persuasive arguments that are potentially effective.
- Identifies formal and informal medical staff leaders and how they can help achieve the desired goal.

**Objective R7.3.2: (Creating) Develop effective strategies to engender support from key organizational leaders related to medication-use system improvements and policies.**

Criteria:

- Demonstrates understanding of the motivational factors and organizational politics for leadership approval of system improvements and policies.
- When assigned, work to obtain leadership approval of a system improvement or policy.

**Goal R7.4: Contribute to strategic planning for medication-use.**

**Objective R7.4.1: (Evaluating) Participate on an organizational group identifying goals for improvement in the organization's current medication-use system.**

Criteria:

- Accurately identifies groups in the organization charged with identifying improvements in the organization's current medication-use system and the specific functions of each group.
- Reviews a set of current goals for improvement in the organization's medication-use systems and policies, making recommendations for addition or revision.
- Prepares for, attends and contributes information in the group meeting involving revision or development of these improvement goals, including presenting recommended added or revised goals.

**Objective R7.4.2: (Creating) Participate in the development of appropriate short-term and long-term strategic planning goals.**

Criteria:

- Demonstrates an understanding of the difference between short- and long-term strategic planning goals for the pharmacy department.
- Reviews a set of current short- and long-term pharmacy strategic planning goals for improvement in the organization's medication-use systems and policies, making recommendations for addition or revision.
- Participates with the appropriate pharmacy leader(s) in the development of new annual long-term and short-term strategic planning goals.

## Competency Area R8: Teaching, Education, and Dissemination of Knowledge

**Goal R8.1: Retrieve, evaluate and communicate pertinent evidence-based medication literature in response to a question.**

**Objective R8.1.1: (Creating) Develop an appropriate plan to retrieve, evaluate, and communicate pertinent evidence-based medical literature.**

Criteria:

- Utilizes the most effective techniques and resources to retrieve, evaluate and communicate pertinent evidence-based medical literature.
- For specific project(s), develops an appropriate plan to retrieve, evaluate, and communicate pertinent evidence-based medical literature.
- Implements the plan to retrieve, evaluate, and communicate pertinent evidence-based medical literature, creating a document of the information for the project.

**Goal R8.2: Employ advanced literature analysis skills to analyze evidence-based information.**

**Objective R8.2.1: (Applying) Conduct an efficient and effective advanced search strategy to obtain information.**

Criteria:

- Explains the full range of biomedical information resources that are currently available.
- Explains content and applicability of specialized sources of biomedical information.
- Explains the principles of using search engines when the search needs to be at an advanced level.
- Implements an effective search strategy to determine the appropriate answer to a question posed.

**Objective R8.2.2: (Analyzing) Accurately assess the study design employed for a piece of biomedical literature.**

Criteria:

- Explains the key features of observational (e.g., epidemiologic) and experimental designs and the strengths and weaknesses of each.
- Determines the relevant limitations of the study design for a published research article.
- Determines if the study's design and methodology are appropriate to accomplish the objectives of a piece of biomedical literature.

**Objective R8.2.3: (Evaluating) Accurately interpret the results of a study presented in a piece of biomedical literature.**

Criteria:

- Explains the application and interpretation of advanced statistical methods.
- Determines instances in which a study conclusion is not supported by the data presented.
- Explain the potential biases of a piece of biomedical literature.
- Determines if the potential biases are relevant to the question posed, for which the literature is being used to support an answer.
- Determines the internal and external validity of a piece of biomedical literature.
- Determines if a study's results have applicability for hypothesizing future research or for directing patient care decisions.

**Objective R8.2.4: (Evaluating) When presented with conflicting biomedical literature, determine the validity and applicability for a specific information need.**

Criteria:

- Compares and contrasts the reputations of biomedical journals.
- Compares and contrasts the peer-review procedures of biomedical journals.
- Explains how to appraise biomedical information for the expertise and reputation of the author(s).
- Describes what additional factors may explain conflicting biomedical literature information (e.g., publication date, scope of information cited).

**Objective R8.2.5: (Evaluating) When presented with limited evidence-based biomedical literature, synthesize a reasonable response for the specific information need.**

Criteria:

- Evaluates the available biomedical literature to determine if there is an appropriate answer to the question posed.

**Objective R8.2.6: (Evaluating) Appraise information provided by a pharmaceutical manufacturer.**

Criteria:

- Determines if information provided by pharmaceutical manufacturers, or supported by grants from the pharmaceutical industry, is trustworthy and can be included in responding to an issue or question posed.

**Objective R8.2.7: (Analyzing) Prepare an expert response to a complex information need.**

Criteria:

- Explains standards of care applicable to a specific information need.
- Uses a standardized process to document, store, and retrieve information responses.
- Develops a response to a question posed utilizing evidence-based information.

**Goal R8.3: Provide effective medication and practice-related education to patients, caregivers, health care professionals, and students.**

**Objective R8.3.1: (Applying) Design effective educational activities.**

Criteria:

- Accurately defines educational needs, including learning styles, regarding target audience (e.g., individual versus group) and learning level (e.g., health care professional versus patient, student versus PGY1 resident).
- Selects topics of significance to (insert customized information here) pharmacy as outlined in the appendix.
- 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 R8.3.2: (Applying) Use effective presentation and teaching skills to deliver education in large and small group situations.**

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).
- Appropriately uses body language, movement, and expressions that 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 R8.3.3: (Applying) Use effective written communication to disseminate knowledge related to a specified area.**

Criteria:

- Writes in a manner that is concise, easily understandable, grammatically correct, 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 effective tables, graphs, and figures to enhance reader’s understanding of the topic when appropriate.
- Writes at a level appropriate for the target readership (e.g., physicians, pharmacists, other health care professionals, patients, and the public).
- Creates one’s own work and does not engage in plagiarism.

**Objective R8.3.4: (Applying) Appropriately assess effectiveness of education provided.**

Criteria:

- Selects assessment method (e.g., written or verbal assessment or self-assessment questions, case with case-based questions, and 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, reviews, and applies feedback from learners and others to improve effectiveness as an educator.

**Goal R8.4: Effectively employ appropriate preceptor roles when engaged in teaching students, pharmacy technicians, or fellow health care professionals.**

**Objective R8.4.1: (Analyzing) When engaged in teaching related to a specified area, select a preceptor role that meets learners' educational needs.**

Criteria:

- Identifies which preceptor role is applicable for the situation (direct instruction, modeling, coaching, facilitating).
  - 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 R8.4.2: (Applying) Effectively employ preceptor roles, as appropriate, when using instructing, modeling, coaching, or facilitating skills.**

Criteria:

- Accurately assesses the learner's skill level to determine the appropriate preceptor role for providing practice-based teaching.
- 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.

# ELECTIVE COMPETENCY AREAS, GOALS, AND OBJECTIVES FOR POSTGRADUATE YEAR TWO (PGY2) MEDICATION-USE SAFETY AND POLICY PHARMACY RESIDENCY

## 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 college administration impact the faculty and how outside forces (e.g. change in the profession, funding source, accreditation requirements) that 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), and 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 process and for tenure.
- 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 a teaching philosophy.
- 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:

- Develops a teaching philosophy that 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 teaching activity.**

Criteria:

- Develops learning objectives using active verbs and measurable 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.
- For experiential activities:
  - 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; and,
  - provides constructive feedback.

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

Criteria:

- Creates a portfolio that 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; and
  - other relevant documents.

**Goal E1.4: Provide effective information and education on medication-use issues to the public.**

**Objective E1.4.1: (Creating) Create accurate, appropriate, and timely evidence-based health information for use by the media, lay people, and/or the community.**

Criteria:

- Prepares the types of information that different media will seek.
- Demonstrates understanding of the lack of control of the final disposition of information provided to the press.

**Objective E1.4.2: (Creating) Design health information educational programs for the lay public.**

Criteria:

- Develops written health information for the lay public using an appropriate reading level and understandability avoiding the use of medical terminology, when appropriate.
- Creates written health information in a format that meets the attention-span of the lay public so that key information is imparted.

## **Competency Area E2: Publishing**

**Goal E2.1: Contribute to scientific literature.**

**Objective E2.1.1: (Creating) Write a piece of literature (e.g., research article, review, letter to the editor, case report) that is suitable for publication.**

Criteria:

- Uses a standard style for scientific journals in the preparation of research articles, reviews, letters to the editor, or case reports submitted for publication.
- Identifies appropriate journals to which an article might be submitted for publication.
- Appraises the potential to publish an article on a given pharmacy practice topic.
- Demonstrates understanding of the rules governing who may declare authorship of a given work.
- Demonstrates understanding of rules governing disclosure and ethics for contributions to scientific literature.

**Objective E2.1.2: (Applying) Follow the submission requirements of an appropriate peer-reviewed publication to submit a manuscript for publication.**

Criteria:

- Submits a correctly formatted manuscript.
- Follows appropriate submission procedures.
- Effectively addresses reviewer comments, if appropriate.

**Objective E2.1.3: (Evaluating) Perform peer review of an article submitted for publication or presentation by a pharmacist.**

Criteria:

- Completes evaluation forms for pharmacist presentations using criteria-based feedback (including a self-evaluation of a presentation).
- Performs an evaluation of a pharmacist-prepared article, using criteria-based feedback.
- If possible, conducts a review of an article for a peer-reviewed journal in the medical or pharmacy literature, using the publisher's review criteria.

**Objective E2.1.4: (Creating) Design an effective poster for the presentation of a specific topic.**

Criteria:

- Demonstrates an understanding of the types of content that should be included in a poster.
- Applies rules for visual presentation of poster material.
- Uses appropriate resources to generate poster materials.

**Objective E2.1.5: (Creating) Exercise skill in responding to questions occurring during the presentation of a poster.**

Criteria:

- Demonstrates effective listening skills, and the skill to respond to questions directly, concisely, and with content-expertise in an unbiased fashion using appropriate nonverbal communication.
- During poster presentations and for audience questions during a verbal stand-up or web-based presentation, utilizes these skills to respond to questions.

## **Competency Area E3: Medication-Use in Emergency Preparedness Planning**

**Goal E3.1: Contribute to the planning and implementation of plans for the management of internal and external emergencies.**

**Objective E3.1.1: (Creating) Contribute to the development or revision of the medication-use aspects of organizational plans for the management of internal and external emergencies.**

Criteria:

- Explains the essential medication-use safety-related components of an organization's plan for the management of internal and external emergencies (i.e. emergency preparedness plan or disaster plan).
- Explains who should be involved in the development of an organization's plan for the management of internal and external emergencies, and pharmacy's role.

**Objective E3.1.2: (Creating) Exercise skill in the delivery of staff training as specified in the organization's emergency preparedness plan.**

Criteria:

- Develops, if necessary, and conducts a training session for staff related to the organization's emergency preparedness plan utilizing active participation and delivering content relative to their role in the plan, with conciseness, understandability (at the level of the staff members in the audience).
- Develops, if necessary, and implements a method of competence assessment for each staff member attending the training session.

**Objective E3.1.3: (Creating) If needed, provide services and programs as specified in the organization's emergency preparedness plan.**

Criteria:

- Participates, when called upon, to provide services and programs as specified in the organization's emergency preparedness plan for the pharmacy related to medication-use.
- Evaluates the pharmacy's response and participation in the implementation of the organization's emergency preparedness plan and make suggestions for improvement.

## **Competency Area E4: Investigational Drug Services**

**Goal E4.1: Manage the use of investigational drugs according to established protocols and the organization's policies and procedures.**

**Objective E4.1.1: (Applying) Utilize appropriate procedures in storing investigational drugs.**

Criteria:

- Follows the organization's policies and procedures for storing investigational drugs.
- Identifies problems that commonly occur with storing investigational drugs.
- Appropriately corrects common problems that occur with the storage of investigational drugs.

**Objective E4.1.2: (Applying) Utilize appropriate procedures in dispensing investigational drugs.**

Criteria:

- Identifies the correct protocol and determine if a patient meets study criteria for entry.
- Confirms that patients have signed an informed consent.
- Follows the organization's policies and procedures for dispensing study drugs.
- Demonstrates understanding of problems that commonly occur with dispensing of study drugs.
- Corrects common problems that occur with dispensing of study drugs.

**Objective E4.1.3: (Applying) Utilize appropriate procedures in documenting actions taken with investigational drugs.**

Criteria:

- Identifies appropriate documentation for drug study records.

**Objective E4.1.4: (Applying) Utilize appropriate procedures for initiation of an investigational study.**

Criteria:

- Effectively prepares a drug an investigational budget.

- Uses processes necessary for an investigational drug study.
- Applies principles for preparing necessary information for an investigational drug study.

**Objective E4.1.5: (Evaluating) Critique a protocol and patient consent according to conventions established by the organization’s institutional review board.**

Criteria:

- Reviews and evaluates a protocol (including the patient consent forms/process) according to conventions established by the organization’s institutional review board (IRB).
- Presents the findings of the evaluation (either verbally or in writing) to the IRB, when requested.

**Objective E4.1.6: (Understanding) Explain the process for reporting adverse drug events that occur during an investigational drug study.**

Criteria:

- Explains the process for reporting adverse drug events that occur during an investigational drug study, and how it is similar or differs from reporting adverse drug events for regular medications used in the organization.
- Describes the process (if any) for reporting adverse drug events for investigational drugs to the FDA.
- Uses the process for reporting adverse drug events that occur during an investigational drug study when such an event occurs.

## **Competency Area E5: Financial Analysis**

### **Goal E5.1: Provide drug cost forecasting.**

**Objective E5.1.1: (Analyzing) Estimate the future cost implications for the organization of a new pharmaceutical agent.**

Criteria:

- Identifies sources of information for medications in the pipeline.
- Accurately determines factors to consider when forecasting costs of a new agent.

**Objective E5.1.2: (Analyzing) Estimate the future cost implications for the organization from patent expiration.**

Criteria:

- Identifies sources of information for patent life.
- Accurately determines factors to consider when forecasting savings with a new generic.

**Objective E5.1.3: (Understanding) Explain the organization’s overall drug costs.**

Criteria:

- Describes the process for determining the organization’s overall drugs costs.

### **Goal E5.2: Understand organizational decision-making for pharmaceutical contracts and pharmacy services.**



**Objective E5.2.1: (Applying) Contribute to, or explain, the organization’s process for negotiating contracts for pharmaceuticals.**

Criteria:

- Demonstrates understanding of the relationships between the manufacturers of medications, group purchasing organizations (GPOs), wholesalers, and pharmacies.
- Demonstrates an understanding of oversight responsibilities for utilizing contracted services.
- Demonstrates understanding of laws and rules related to “own use” purchasing contracts.
- Demonstrates understanding of the regulatory and accreditation requirements for contracting pharmacy services.
- Effectively drafts or evaluates a written agreement for contracting pharmacy services to ensure compliance with regulatory/accreditation requirements and to ensure patient safety.
- Demonstrates an understanding of the concept of:
  - bundling relative to contracting.
  - tiers.
  - contract rebates.
  - market share.
  - chargebacks.
- Demonstrates an understanding of the typical bidding process for the purchase of pharmaceuticals.
- Demonstrates an understanding of the importance of effective contract analysis.
- Demonstrates an understanding of methods that GPOs use to evaluate multi-source drugs and vendor bid responses.
- Explains the 340B Program and its applicability to drug expenditures in a health-system setting.

**Goal E5.3: Contribute to the organizations cost containment and/or revenue capture enhancement activities.**

**Objective E5.3.1: (Applying) Contribute to the organizations cost containment and/or revenue capture enhancement activities.**

Criteria:

- Explains the pharmacy department’s role in resource utilization throughout the organization.
- Explains a proactive approach to monitoring drug expense.
- Explains strategies for minimizing the cost of pharmaceutical waste.
- Identifies operational and medication-use cost reduction opportunities in the pharmacy department.
- Explains the types of payment models and the impact on pharmacy reimbursement.
- Demonstrates an understanding of the pharmacy department’s role in pharmacy charge capture and revenue integrity activities.
- Participates in an activity to improve pharmacy charge capture (e.g., accuracy, compliance).
- Participates in the organizations’ activities (including required documentation) related to cost containment and/or revenue capture.

**Goal E5.4: Understand organizational decision-making for acquiring new practice-related positions (full time equivalent - FTE).**

**Objective E5.4.1: (Applying) Develop a proposal to hospital and pharmacy administration for increasing the staffing of pharmacist or supportive personnel in the practice-related area.**

Criteria:

- Demonstrates an understanding of the organization's proposal process for requesting increased pharmacy staffing in the practice-related area.
- When requested, develops a proposal for hospital and/or pharmacy administration for increasing the staffing of pharmacist and/or supportive personnel in the practice-related area.

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