# RESIDENCY MANUAL

## Table of Contents

**General Residency Information**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Residency “Ten Commandments”</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Pharmacy Mission, Vision, Goals and Scope of Service</td>
<td>4-5</td>
</tr>
<tr>
<td>Residency Advisory Committee</td>
<td>6</td>
</tr>
<tr>
<td>Residency Program Coordinator Roles</td>
<td>6</td>
</tr>
<tr>
<td>Pharmacy Service and Hospital Orientation</td>
<td>7</td>
</tr>
<tr>
<td>Learning Experiences</td>
<td>7-8</td>
</tr>
<tr>
<td>Assessment and Development Plan for Residency Training</td>
<td>9</td>
</tr>
<tr>
<td>Evaluations</td>
<td>9-10</td>
</tr>
<tr>
<td>Residency and Preceptor Quality Program</td>
<td>10-15</td>
</tr>
<tr>
<td>St. Louis College of Pharmacy Resident Education Academy</td>
<td>15</td>
</tr>
<tr>
<td>St. Louis College of Pharmacy Seminar</td>
<td>15</td>
</tr>
<tr>
<td>Teaching Opportunities Through St. Louis College of Pharmacy</td>
<td>16</td>
</tr>
<tr>
<td>Licensing Requirements for Pharmacy Residents</td>
<td>16</td>
</tr>
<tr>
<td>Pharmacy Resident Work Assignments While Awaiting Missouri Licensure</td>
<td>16-17</td>
</tr>
<tr>
<td>Recruitment and Selection of Residents</td>
<td>17</td>
</tr>
<tr>
<td>Early Commitment Process for PGY2 Programs</td>
<td>17-18</td>
</tr>
<tr>
<td>Residency Program Certificate</td>
<td>18</td>
</tr>
<tr>
<td>Dismissal of Residents</td>
<td>18-19</td>
</tr>
<tr>
<td>Vacation and Excused Absences</td>
<td>19-20</td>
</tr>
<tr>
<td>Extended Leave</td>
<td>20</td>
</tr>
<tr>
<td>Holidays</td>
<td>20</td>
</tr>
<tr>
<td>Illness Reporting</td>
<td>21</td>
</tr>
<tr>
<td>Duty Hours</td>
<td>21</td>
</tr>
<tr>
<td>Parking</td>
<td>21</td>
</tr>
<tr>
<td>Midyear Travel Reimbursement</td>
<td>22</td>
</tr>
</tbody>
</table>

**PGY1 Pharmacy Residency Manual**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Statement</td>
<td>24</td>
</tr>
<tr>
<td>Competency Areas, Goals, and Objectives of Residency Program</td>
<td>24</td>
</tr>
<tr>
<td>Practice Responsibilities</td>
<td>24</td>
</tr>
<tr>
<td>Medication Management and Patient Safety</td>
<td>24-25</td>
</tr>
<tr>
<td>Residency Advisor</td>
<td>25</td>
</tr>
<tr>
<td>Residency Manual</td>
<td>25</td>
</tr>
<tr>
<td>Residency Research Project</td>
<td>25-26</td>
</tr>
<tr>
<td>Residency Notebook</td>
<td>26</td>
</tr>
</tbody>
</table>

**PGY2 Critical Care Residency Manual**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Statement</td>
<td>28</td>
</tr>
<tr>
<td>Outcomes, Goals, and Objectives of Residency Program</td>
<td>28</td>
</tr>
<tr>
<td>Practice Responsibilities</td>
<td>29</td>
</tr>
<tr>
<td>Medication Management and Patient Safety</td>
<td>29</td>
</tr>
<tr>
<td>Residency Advisor</td>
<td>29</td>
</tr>
<tr>
<td>Residency Manual</td>
<td>29</td>
</tr>
<tr>
<td>Residency Research Project</td>
<td>29-30</td>
</tr>
<tr>
<td>Residency Notebook</td>
<td>31</td>
</tr>
</tbody>
</table>

**Appendices**

| Appendix A: ASHP PGY1 required Competency Areas                      | 32-43|
| Appendix B: PGY2 Critical Care Outcomes, Goals, Objectives          | 44-56|
| Appendix C: PGY2 Learning Experience Descriptions                   | 57-71|
question everything.

never give anyone reason to question thy work ethic.

never ignore thy responsibility to the sick and injured.

be a model of professionalism, integrity and responsibility at all times.

recognize your own biases and be objective when providing care.

balance thy professional and personal life, giving no undue time or attention to either.

honor and respect thy peers.

come to work every day with purpose: work hard, learn and deliver exceptional care.

respect the roles and concerns of other members of the healthcare team.

contribute as much to the profession as thou took from it.
INTRODUCTION

Congratulations and welcome to the SSM Health Saint Louis University Hospital Pharmacy Residency Program! The Residency Manual was developed to guide current and future residents, document our policies and expectations and to address questions or concerns that may arise during the residency year. The information contained herein serves as the basis and structure of the residency program, but is subject to change at the discretion of the Program Director and Director of Pharmacy Services based on department or individual needs.

MISSION, VISION, GOALS AND SCOPE OF SERVICE

Mission and Vision

SSMHealth mission: “Through our exceptional health care services, we reveal the healing presence of God.”

In accordance with the philosophy of the Franciscan Sisters of Mary, we value the sacredness and dignity of each person. Therefore, we find these five values consistent with both our heritage and ministerial priorities: Compassion, Respect, Excellence, Stewardship, Community.

Saint Louis University Hospital is a regional leader providing tertiary-quaternary healthcare in the SSM Health network, in partnership with the physicians of the Saint Louis University School of Medicine. We are the primary teaching site for health professions’ education for the University, training tomorrow’s health care leaders. We engage the passion of our people and partners in holistic care, respectful and inclusive of the uniqueness of each person.

The mission of the Department of Pharmacy Services is to provide safe and compassionate high quality, evidence-based pharmaceutical services in a professional, collaborative, and financially responsible environment.

The vision of the Department of Pharmacy Services is to be a recognized leader in pharmacy excellence by contributing to the optimal patient experience through:

– Recognizing our pharmacy staff as the foundation for our success
– Providing innovative, adaptable, cost-effective, and evidence-based pharmaceutical care as an integral member of the healthcare team
– Ensuring safe transitions of care across the healthcare continuum
– Educating today’s providers to become tomorrow’s leaders in healthcare

Goal

The Department of Pharmacy Services assists in meeting this mission through our departmental goal of:

Providing high-quality, comprehensive pharmaceutical care to patients in an atmosphere of educational growth, shared respect and communication. Pharmaceutical care has been defined as “the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient’s quality of life.” To this end, the Department of Pharmacy Services, in conjunction with the Department of Nursing, hospital administration and the medical staff, has directed efforts towards promoting and maintaining the role of pharmacy within the medication use system.

Scope of Service

The Department of Pharmacy Services ensures the safe, effective, timely and economical use of medications through provision of the following clinical and distributive services by licensed personnel:
1. The Department of Pharmacy Services ensures the accurate preparation, dispensing and administration of medications. Pharmacists verify medication orders; review and maintain accurate patient profiles; and ensure accurate medication compounding, dispensing and administration of medications. In addition, the Department of Pharmacy Services also recruits and retains specialized individuals qualified to deliver advanced clinical services via multidisciplinary rounds, protocol development, policy implementation and involvement in clinical research.

2. Pharmacists review and evaluate all medication orders for appropriateness of medication ordered, dosage, route and frequency of administration. Pharmacists consider patient-specific factors (age, weight, allergies, comorbidities, etc.), drug-specific factors (pharmacokinetics, pharmacodynamics, potential adverse events, etc.), previously ordered medications, medical staff policies and the biomedical literature in determining the appropriateness of the order. Pharmacists confer with physicians, nurses and other health care providers as needed to achieve optimal patient outcomes. If, in the pharmacist’s opinion, the therapeutic plan requires modification based on the above parameters, the prescriber is contacted and an alternate plan discussed.

3. The Department of Pharmacy Services further contributes to patient care and to the profession of pharmacy by serving as a training site for pharmacy students and residents. Trainees will learn to incorporate the concepts of evidence-based medicine as part of the delivery of comprehensive pharmaceutical care and to facilitate the delivery of care by functioning as an integral member of the healthcare system.

4. The Department of Pharmacy Services provides a formulary management process including the addition, deletion, temporary approval and recall of medications. Pharmacy personnel ensure the appropriate availability, procurement and storage of pharmaceuticals included on the hospital’s formulary.

5. The Department of Pharmacy Services coordinates the identification, researching, and cataloguing of Adverse Drug Reactions (ADRs) and Medication Errors (MEs). Further, the Director of Pharmacy or his/her representative reports serious ADRs and MEs to the Pharmacy, Therapeutics, Nutrition and Transfusion (PTNT) Committee. Action plans will be developed to manage or prevent particularly serious or recurrent events if deemed necessary by the PTNT Committee.

6. Investigational drugs are handled according to protocol, including proper records of use and storage.

7. The Department of Pharmacy Services provides drug information to physicians, nurses and other health care professionals.

8. The Department of Pharmacy Services provides a Medication Utilization Evaluation (MUE) process; a criteria-based process of drug usage monitoring and evaluation.

9. All medication orders and drug distribution policies and procedures approved by the medical staff shall meet JCAHO standards, federal laws and regulations and Missouri state laws and regulations.

10. The Department of Pharmacy Services is staffed 24 hours a day, seven days a week.
RESIDENCY ADVISORY COMMITTEE

The Residency Advisory Committee, composed of residency program directors, preceptors and pharmacy administrators, meets regularly and as needed. The Committee is responsible for:

1. Approving residency program and rotation goals and objectives
2. Assuring that residents and the program meet stated goals and objectives
3. Assuring that the program meets ASHP standards
4. Developing new residency practice opportunities
5. Approving preceptors and rotations
6. Reviewing individual resident plans, goals, rotation objectives and performance
7. Reviewing and approving resident research projects
8. Recruiting new residents
9. Reviewing and maintaining the quality of the residency program
10. Other duties deemed necessary by the committee

MEMBERS

Chairperson(s): Nicole Nesselhauf, Pharm.D., BCPS (PGY1 pharmacy residency program director)
Julia Alexander Pharm.D., BCPS (PGY2 critical care residency program director)

Members: Michael Daly, Pharm.D., MSCI, BCPS
Timothy Heuring, Pharm.D., BCPS
Lauren Kuckewich, Pharm.D., BCPS
Liz Gau, Pharm.D., BCCCP
Janet Laquet, Pharm.D., BCPS, BCOP
Valerie Mansfield, Pharm.D., BCPS
Stacy Revelle, Pharm.D., BCPS (PGY1 residency coordinator)
Robert Sbertoli, Pharm.D., BCCCP (PGY2 residency coordinator)
Anna Schmidt, Pharm.D., BCPS
Joseph Van Tuyl, Pharm.D., BCPS
Emily Welch, Pharm.D., BCPS
Susan Woelich, Pharm.D., BCOP
Ashley Reller, Pharm.D.*
James Braun, Pharm.D. *
Matthew Rubertus, Pharm.D.*
* Pending start and RAC approval

RESIDENCY PROGRAM COORDINATOR ROLES

The PGY1 and PGY2 Residency Program Coordinators serve in a leadership and supportive role within the residency program and assist the Residency Program Directors (RPD) with administrative duties/activities for the conduct of the residency program. The duties and activities that the Coordinators assist with include, but are not limited to:

1. Assisting with the quarterly evaluation and update of the Customized Training Plan for selected resident(s)
2. Participation in recruitment activities (local/national residency showcases, updating recruitment materials, website updates)
3. Residency candidate application evaluation and communication with candidates
4. Residency Advisory Committee (RAC) agenda planning and minutes
5. Residency scheduling (rotations, presentations, etc)
PHARMACY SERVICE AND HOSPITAL ORIENTATION

Each July is dedicated to orient new residents to the mission, policies, procedures, and general activities of the Saint Louis University Hospital Department of Pharmacy Services. The orientation includes the following:

1. Hospital Orientation

The Department of Human Resources presents a basic hospital orientation. This program introduces the resident to SSMHealth Saint Louis University Hospital's mission, philosophy, policies, procedures, benefits, and other general information. It also provides basic health and safety information required by state and federal law. This program is generally completed over the first two days of employment.

2. Patient Care, Pharmacy, and General Computer Training

During the remainder of the first week, the residents are instructed in the use of the patient care computer system. Computer training emphasizes information organization, medication order review and verification, patient information access, database management, and communications.

3. Pharmacy Practice Duties

During orientation the resident is assigned to work in the general pharmacy practice area to gain practical experience and get acquainted with the pharmacy staff. The resident receives training in all areas of the pharmacy and on patient care floors.

4. Distributive Responsibilities

Residents are assigned to scheduled general pharmacy practice coverage (“staffing”) on scheduled weekends and/or weekday evening shifts. These shifts may be days or evenings and may include duties in central pharmacy, on the floors, in satellites or other areas as dictated by the program director. The typical resident staffing schedule includes two 8-hour shifts every fourth weekend, and one 4-hour shift every week; this is subject to change based on department and resident needs. Residents who have received their Missouri pharmacist license will work independently; those that have not will have limited responsibilities as described in this manual.

5. Start Dates/Calendar

The incoming residency class will start on the first available orientation period after July 1 of the interviewing year. If possible, residents are encouraged to attend orientation before July 1. A detailed orientation schedule will be prepared as part of the Resident Development Plan.

PRACTICE ROTATIONS/LEARNING EXPERIENCES

Saint Louis University Hospital pharmacy residents are required to complete twelve (12) months of learning experiences during their residency, eleven of which must be completed at Saint Louis University Hospital. Additional rotations may be taken at affiliated institutions to meet specific skill needs and interests of each resident if approved by the program director and Residency Advisory Committee. The following learning experiences and associated preceptors are listed below:
<table>
<thead>
<tr>
<th>LEARNING EXPERIENCE</th>
<th>PRECEPTORS</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Marrow Transplant</td>
<td>Janet Laquet, Pharm.D., BCPS, BCOP</td>
<td>Patient care</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Joseph Van Tuyl, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
<tr>
<td>Cardiovascular Critical Care</td>
<td>Matthew Rubertus, Pharm.D.*</td>
<td>Patient care</td>
</tr>
<tr>
<td>Distributive Services</td>
<td>Nicole Nesselhauf, Pharm.D., BCPS</td>
<td>Longitudinal</td>
</tr>
<tr>
<td></td>
<td>Julia Alexander, Pharm.D., BCPS</td>
<td>Longitudinal</td>
</tr>
<tr>
<td>Electronic Health Record</td>
<td>Craig Phernetton, Pharm.D., BCPS</td>
<td>Non-patient</td>
</tr>
<tr>
<td></td>
<td>Erron Swick, Pharm.D., BCPS</td>
<td>care</td>
</tr>
<tr>
<td></td>
<td>Jimmy Thomas, Pharm.D.</td>
<td></td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>Stacy Revelle, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>Emily Welch, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
<tr>
<td>Integrated Practice</td>
<td>Valerie Mansfield, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
<tr>
<td>Neurocritical Care</td>
<td>James Braun, Pharm.D. *</td>
<td>Patient care</td>
</tr>
<tr>
<td>Oncology/Hematology</td>
<td>Susan Woelich, Pharm.D., BCOP</td>
<td>Patient care</td>
</tr>
<tr>
<td></td>
<td>Ashley Reller, Pharm.D. *</td>
<td></td>
</tr>
<tr>
<td>Pharmacy Practice</td>
<td>Tim Heuring, Pharm.D., BCPS</td>
<td>Administrative</td>
</tr>
<tr>
<td>Management/Medication Safety/</td>
<td>Mike Daly, Pharm.D., MSCI, BCPS</td>
<td></td>
</tr>
<tr>
<td>Investigational Drug Service</td>
<td>Anna Schmidt, Pharm.D., BCPS</td>
<td></td>
</tr>
<tr>
<td>Pulmonary Medicine Critical Care</td>
<td>Liz Gau, Pharm.D., BCCCP</td>
<td>Patient care</td>
</tr>
<tr>
<td></td>
<td>Bobby Sbertoli, Pharm.D., BCCCP</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>Anna Schmidt, Pharm.D., BCPS</td>
<td>Longitudinal</td>
</tr>
<tr>
<td>Resident Orientation</td>
<td>Nicole Nesselhauf, Pharm.D., BCPS</td>
<td>Administrative</td>
</tr>
<tr>
<td></td>
<td>Julia Alexander, Pharm.D., BCPS</td>
<td></td>
</tr>
<tr>
<td>Solid Organ Transplant</td>
<td>Nicole Nesselhauf, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
<tr>
<td>Surgical Critical Care</td>
<td>Julia Alexander, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
<tr>
<td>Teaching</td>
<td>Nicole Nesselhauf, Pharm.D., BCPS</td>
<td>Longitudinal</td>
</tr>
<tr>
<td></td>
<td>Julia Alexander, Pharm.D., BCPS</td>
<td></td>
</tr>
<tr>
<td>Trauma Surgery/Critical Care</td>
<td>Julia Alexander, Pharm.D., BCPS</td>
<td>Patient care</td>
</tr>
</tbody>
</table>

Rotations are 5 weeks in length for all experiences; the exception is the PGY2 resident is required to complete 10 weeks total in both Pulmonary/Medicine Critical Care and Trauma Critical Care. The learning experience descriptions with their associated goals, objectives, learning activities, and criteria for evaluation are available in PharmAcademic for PGY1 residents, and in Appendix C at the end of the manual for PGY2 critical care residents. These descriptions allow the resident to choose preceptors and practice experiences that best complement their practice interests, skill development needs, and career goals.

**PGY1 Required Rotations:** Resident Orientation, Integrated Practice, Infectious Diseases, Pharmacy Practice Management, Cardiology, one Critical Care rotation (Trauma Critical Care, Neurocritical Care, Pulmonary/Medicine Critical Care, Cardiology Critical Care), and two of: Oncology/Hematology, Bone Marrow Transplant, or Solid Organ Transplant,

**PGY2 Required Rotations:** Resident Orientation (if not an early commit from this institution), Emergency Medicine, Infectious Diseases, Pulmonary/Medicine Critical Care (two 5 week rotations), Neurocritical Care, Trauma Critical Care (two 5 week rotations), Surgery Critical Care, Cardiology Critical Care

Resident Orientation is required for all PGY1 residents and for all PGY2 residents that did NOT early commit from the PGY1 program at Saint Louis University Hospital.

* Pending start and RAC approval
INITIAL ASSESSMENT AND DEVELOPMENT PLAN FOR RESIDENCY TRAINING

In order to plan a challenging program that fulfills each resident’s professional goals and objectives, it is crucial to assess initial interests, goals, strengths, and weaknesses. This assessment will be made during the orientation period with the program director and a rotation schedule will be devised. Prior to this, the resident must complete the Entering Resident Data Sheet and either return it to the program director by email and/or complete in PharmAcademic as directed by the RPD. Progress and any adjustments will be reviewed quarterly during the course of the residency and documented in the Resident Development/Customized Plan. The most recent plan will always be available in PharmAcademic for PGY1 or in the Residency Notebook for PGY2 critical care.

EVALUATIONS

The resident must be evaluated at the end of each learning experience by his/her preceptor by both verbal and written assessments. In addition, all assignments, including journal clubs and presentations, must be evaluated by all attendees. The Residency Learning System will be used to provide a consistent method of training. Residents will be evaluated based on a 1-5 scale:

N/A – Not Applicable
1 - Does not know/No progress/Unable to complete basic/routine tasks
2 - Knows/Some progress, but below expectations. Requires guidance/extensive questioning to complete some or all basic tasks
3 - Knows how/Progress meets expectations. Independently completes all basic and routine activities.
4 - Shows how/Competent/Progress exceeds expectations. Consistently, independently completes basic and routine activities and starting to complete some complex patient care activities.
5 - Does/Mastered/Progress significantly exceeds expectations. Consistently, independently and efficiently completes all basic/routine and most complex patient care activities

Residents are evaluated by each preceptor considering 1) how the resident compares to an individual with the same level of training or experience and 2) the level of improvement in the skill since the last performance. A score of “3” indicates that the resident has met the minimum expectations for the criterion being evaluated.

The categories of required documented evaluations are listed below.

1. Rotation Evaluation of the Resident (by the Preceptor)

The preceptor must evaluate the resident on the extent of their progress toward achievement of assigned educational goals and objectives, with reference to specific criteria. This evaluation will determine when a resident has achieved an objective and describe the behaviors, attributes and skills of the resident during and on completion of the rotation. Criteria assigned a score less than “3” should be regarded as areas of emphasis for the next evaluation period, with the expectation that noticeable improvement will have taken place. A score below “3” on the “Overall Performance” criterion indicates that the resident failed to satisfactorily attain the rotation’s assigned goals and objectives and the experience must be remediated; type of remediation will be determined by RPD and preceptor. Written evaluation of the resident must be completed at the end of every rotation. However, continuous informal feedback during the rotation is strongly encouraged. All rotation evaluations must be reviewed, signed (or equivalent in PharmAcademic) and dated by the resident, preceptor and program director.

2. Preceptor/Rotation Evaluation (by the Resident)

The resident must evaluate the quality of each learning experience/rotation, including the preceptor's performance as a teacher and mentor. This should be completed at the end of the rotation and discussed with the preceptor. The resident's evaluation provides useful information to the program director
regarding the resident’s evaluation of the strengths and weaknesses of the rotations, the preceptors and the residency program in order to improve the quality of future practice experiences.

3. Self-Evaluations

The ability to self-evaluate is considered an important skill. Individual preceptors may decide to assign a resident to complete a self-evaluation based on preceptor discretion and/or direction from the RPD. All PGY1 residents will complete quarterly self-evaluations to evaluate their progress.

PGY2 residents must evaluate their own performance 1) at the end of each learning experience, 2) after completion of each assignment and 3) at the end of each quarter (for longitudinal learning experiences). Preceptors will evaluate the quality and accuracy of the resident’s self-evaluation of his or her rotation performance at the final evaluation by providing comments specific to the resident’s self-evaluation in the “Preceptor Comments” area of the resident’s self-evaluation. All rotation evaluations must be reviewed, signed and dated by the resident, preceptor and program director.

4. Quarterly Evaluations

After review of all rotation evaluations and completion of all quarterly evaluations (distributive/staffing, research, teaching, pharmacy practice management), a plan for the following quarter is devised by the program director and resident. The Resident Development or Customized Plan is updated based on resident and program director assessment of the resident’s strengths, weaknesses, interests, needs and career plans as well as rotation, project and presentation performance. Criteria assigned a score less than “3” should be regarded as areas of emphasis for the next evaluation period, with the expectation that noticeable improvement will have taken place; the RPD should review these identified areas for improvement at RAC meetings so all preceptors are aware. All quarterly evaluations must be reviewed, signed (or equivalent in PharmAcademic) and dated by the resident and program director. At the end of the year, there is a final evaluation of the resident and the program that is documented as part of the Resident Development or Customized Plan.

5. Evaluation of Resident Assignments and Presentations

For exercises such as journal clubs or presentations, a score below “3” on the “Overall Performance” criterion indicates that the overall performance was unsatisfactory and may need to be repeated/remediated. The overall score assigned is not a mathematical average since there is no objective formula to define what combination of criteria constitutes a satisfactory performance; it is up to the evaluator to make that determination. After collaboration, the rotation preceptor and the program director will make the final decision on repeating or remediating the exercise. Examples of remediation include assignment of relevant readings, topic discussion with preceptor, or revision of the written handout.

All evaluations must be completed in a face-to-face discussion held between the resident and preceptor/program director within five business days of the completion of each rotation or assignment. It is important to complete the evaluations in a timely fashion to assure that the information contained within the evaluation is timely and accurate. Completed evaluations must be returned to the resident for inclusion in the Residency Notebook. If the completion of an evaluation must be delayed to allow completion of requirements or due to schedule problems, please communicate this to the program director.

RESIDENCY AND PRECEPTOR QUALITY PROGRAM

In order to ensure the continued quality of the residency program, both new and experienced preceptors must seek to improve their teaching skills. At the same time, the residency program is obligated to ensure the
continuity of the learning experience for all residents in the program. This is accomplished through the Preceptor Assessment and Development Strategy. Some elements of this policy are described below.

1. **Preceptor/site evaluations**

   The resident must evaluate the quality of each rotation, including the preceptor’s performance as a teacher and mentor. Information documented in the Preceptor/Site Evaluation (See “Evaluations”) will be cataloged and used by the program directors to ensure consistency in achievement of minimum rotation requirements, effectiveness of teaching and suitability of rotation sites. Also, trends in preceptorship requiring modification, either related to the program or an individual preceptor, can be identified and addressed by the program director and/or the Residency Advisory Committee. At least annually, the program directors will assess the effectiveness of each preceptor and site and, if necessary, discuss options for improving the rotation experience.

2. **Minimum rotation requirements**

   The Residency Advisory Committee has identified a set of rotation standards that must be achieved for every rotation. The consistent achievement or failure to achieve these standards may be used in assessing the suitability of a given rotation:

   a) **Orientation to the rotation site** should be performed by the preceptor at the outset of the rotation and should include elements that are integral to the resident’s performance (i.e., introduction to team members, location of patients, location of references, time and location of conferences/meetings).

   b) **Expectations of the resident** should be addressed in a face-to-face discussion between the preceptor and the resident at the beginning of the rotation. Expectations are delineated in each Learning Experience Description.

   c) **Execution of the rotation will follow the Learning Experience Description**, unless significant variability is required by external circumstances. Such circumstances should be documented in the rotation evaluation.

   d) **Five days of modeling** (i.e., rounding with the resident, if applicable), which might vary according to resident experience and comfort level as discussed between resident and preceptor. The expected time periods for preceptor modeling, coaching, and facilitation are delineated in each Learning Experience Description.

   e) **At least 4 scheduled topic discussions** conducted between the resident and preceptor.

   f) **A minimum of 8 patient care discussions**, although consistent patient care discussions throughout the learning experience is encouraged and expected.

   g) **All evaluations will be completed and reviewed in a face-to-face meeting between preceptor and resident within five business days of the completion date.** This includes the final rotation evaluation. In the case of presentation evaluations, the preceptor from whose rotation the topic content was drawn (or their designee) is responsible for collecting and reviewing the evaluations with the resident.

3. **Continuing preceptor education**

   Preceptors will use the following learning opportunities to promote their professional development:

   a) Resident presentations

   b) Pharmacotherapy Self-Assessment Program continuing education (for BPS-certified practitioners)

   c) Other methods of self-learning including, but not limited to, literature review, preparation of presentations and teaching- and practice-based learning

   d) SLU medical or surgical conferences

   e) Local and national meetings in their area(s) of practice
4. New preceptor development (see Preceptor Assessment and development strategy – below)
   a) Local and national preceptor development meetings
   b) On-site orientation to the program and expectations by program directors
   c) Assistance with setting up rotations for new preceptors, peer review of new learning experience description
   d) Assignment of preceptor mentor

Preceptor Assessment and Development Strategy for Saint Louis University Hospital PGY1 Pharmacy Residency and PGY2 Critical Care Residency Programs

PURPOSE:
To outline how the Saint Louis University Hospital residency program director (RPD) will determine if prospective residency preceptors meet the standards set forth by this residency program and/or the American Society of Health-System Pharmacists (ASHP) Residency Accreditation Standard.

To establish a policy and procedure for preceptor development and improvement in accordance with the ASHP accreditation standards.

To define strategies for ongoing program improvement and to define a plan of action to ensure a high level of competency for all pharmacists involved as residency preceptors.

POLICY:
The Saint Louis University Hospital Pharmacy Residency Program will evaluate and select potential preceptors as well as maintain preceptor development and improvement in accordance with ASHP standards.

RESPONSIBILITY:
The RPD is responsible to select residency preceptors based on standards set forth and reassess preceptors for continued adherence to these standards.

The RPD, with support from pharmacy management, is responsible for providing preceptors with the opportunity for development of knowledge and skills related to serving as an effective preceptor. It is the responsibility of each individual preceptor to participate in opportunities offered.

Overall responsibility for residency program quality improvement is with the RPD and the Residency Advisory Committee (RAC).

PROCEDURES:

2. The ASHP Accreditation Standards for PGY1 (Standard 4.4) and PGY2 (Principle 4.3) Residency Programs establish that a residency program should undergo continual program evaluation and improvement.
   a. The RPD evaluates potential preceptors based on their desire to teach and their aptitude for teaching (as differentiated from formal didactic instruction). The RPD shall evaluate the current preceptor list annually to determine if listed preceptors maintain the desire and aptitude to precept residents. Desire will be determined based on subjective information and evaluations
from current residents involved with each preceptor. Aptitude is based on each preceptor's current privileging status with the hospital (active license, etc.), meeting of eligibility and qualification criteria set forth in the ASHP Accreditation Standard for PGY1 (Standard 4.6, 4.8.a-f.) and PGY2 (Principle 5.7, 5.8, 5.9.a-g.) Pharmacy Residency Programs established in Principle 5.9, along with participation in preceptor development activities and evaluation of preceptors from current and previous residents. The RPD has the authority to add or remove preceptors from the preceptor list at any time at his/her discretion.

b. The RPD provides preceptors with opportunities to enhance their teaching skills. It is the responsibility of the RPD to determine which activities will be offered for preceptor development. For presentations, or other group educational activities, preceptors will be required to sign in to the program, remain for the entire program, and complete all the necessary activities for credit. For suggested personal activities (articles, online seminars, etc.), the honor system will be used. The RPD should provide at least two activities per residency year. The activities may include, but are not limited to:
   - An overview by the RPD (or preceptor, if applicable) of the highlights of the National Pharmacy Preceptors Conference
   - A preceptor development activity hosted by the St. Louis College of Pharmacy
   - A formal presentation on a preceptor development topic chosen by the Preceptor of the Year or RAC

c. The RPD utilizes a plan for improving the quality of preceptor instruction based on an assessment of residents' written evaluation of preceptor performance and other sources. The RPD will use a format supported by ASHP to evaluate preceptor performance and overall rotation experience. Any issues identified by the RPD in any of these evaluations will be addressed by the RPD with the included parties. Any issues brought to the RPD's attention in addition to official evaluations will be handled in the same manner.

d. At least annually, the RPD will consider overall program changes based on evaluations, observations, and other information obtained in resident exit interview.

Per section 2a:
The RPD will review the current preceptor list at least annually. The RPD will conduct an exit interview with each resident upon separation from the program. Any information received from this interview, along with information received from evaluations, observations, and other sources will be considered by the RPD for potential program changes. Issues regarding preceptor performance, rotation dissatisfaction, etc. will be discussed with the involved parties by the RPD. The RPD may add or remove preceptors or rotations from the program at any time at his/her discretion.

e. At the end of the residency year, a member of pharmacy management will solicit the input of the residents through the use of an evaluation tool to determine a Preceptor of the Year. A preceptor cannot receive this distinction two consecutive years.

**ACTION:**
The Saint Louis University Hospital residency program will provide activities, opportunities, and resources for preceptor orientation, development, and improvement.

1. Required activities:
   a. Initial preceptor assessment (ability to meet preceptor criteria) will be done during pharmacist position interviews and during orientation.
b. New preceptor orientation will be completed prior to taking a resident on rotation (new preceptor orientation will occur when a new clinical pharmacist is ready to take residents on rotation, or when new clinical pharmacy specialists are hired). Specifically, new preceptors will:
   i. Be appointed a “preceptor mentor” (will be the most recent Preceptor of the Year, unless circumstances prevent this individual from serving in this capacity).
   ii. Be provided an overview of the residency program (i.e., goals, structure, policies, resident responsibilities, preceptor responsibilities) by the RPD
   iii. Complete a checklist prior to taking a resident on rotation
       1. Attend/complete at least one preceptor development session/activity
       2. Develop a rotation calendar (with input from preceptor mentor)
       3. Develop a learning experience description (with input from preceptor mentor) that is reviewed and approved by the RAC
       4. Observe at least one resident feedback session led by preceptor mentor
       5. Submit to RPD the ASHP Preceptor Academic and Professional Record

c. Attendance at 75% of Residency Advisory Committee meetings

d. Active participation in residency interviews and selection process

e. Completion and submission to the department clinical manager and/or RPD the ASHP Preceptor Academic and Professional Record at annual employee review or by June 1 of each year or http://www.ashp.org/DocLibrary/Accreditation/Applying-for-Accreditation/AP-Record-Form-Residency.pdf

f. Completion and submission to the RPD a Preceptor Self-Assessment Form by June 1 of each year

g. Submission to RPD of at least one residency research project idea and seminar topic by June 1 of each year
   i. Submission is optional if the Preceptor has served as primary mentor on a research project or seminar for the previous two consecutive residency years

h. Participation (as a presenter or attendee) at scheduled preceptor development sessions
   i. If selected as Preceptor of the Year, must be a presenter at one session the following year (this will count as one of the required formal presentations)

2. Encouraged activities:
   a. Participating in and facilitating informal preceptor development discussions at scheduled residency advisory committee meetings (e.g. generational gap presentation, leadership presentation, pharmacy topic video, presentation of clinical pearls, preceptor development articles)
   b. Attending local, state, and national programs and bringing information back to share with other preceptors
   c. Participating in training offered by affiliated colleges of pharmacy on preceptor development issues
   d. Actively pursuing scholarship activities in a variety of areas, such as formal presentations, participating as a journal reviewer, writing and submitting publications, performing research
   e. Acquire board certification, fellow status, etc. for formal recognition by peers as a model practitioner
   f. Actively seeking out training for self-improvement in the development of skills as a preceptor

3. Preceptor resources:
   a. ASHP Mentoring and Preceptor Development
      http://www.ashp.org/menu/MemberCenter/SectionsForums/NPF/Getting-Started/Mentoring-Preceptor-Development.html#d2
   b. American College of Clinical Pharmacy (ACCP): www.accp.com
   c. ACCP Teaching and Learning Certificate Program
   d. ACCP Pharmacotherapy Self Assessment Continuing Education
   e. ACCP Teaching and Learning resources
ST. LOUIS COLLEGE OF PHARMACY RESIDENT EDUCATION ACADEMY (REA)

Saint Louis University Hospital pharmacy residents are required to participate in the Resident Education Academy certificate program at the Saint Louis College of Pharmacy. Residents from many St. Louis area residency sites meet to discuss abilities-based education. The purpose of the workshops is to understand the knowledge, skills, and attitudes necessary to promote student-centered, assessment-driven learning and to use abilities-based education to achieve desired ability outcomes. After completion of the course in the fall, residents will apply these concepts in a didactic teaching setting at St. Louis College of Pharmacy.

ST. LOUIS COLLEGE OF PHARMACY SEMINAR

A formal seminar presentation at St. Louis College of Pharmacy is required during the fall of the residency. The formal seminar is an opportunity to develop speaking skills and a presentation that may be used in future job interviews. The resident may choose a topic in any clinical or professional practice area based on the resident’s interests. Topics are preferred to be in a clinical area where a current controversial issue exists and must be approved by the residency program director.

The resident will be assigned a preceptor as a faculty mentor to assist them in preparing a 45-50 minute PowerPoint presentation, which will be followed by a 10-15 minute period of questions and answers. Prepared handouts are required.

Residents should plan ahead and allow appropriate time for the following:
1. Selection of seminar topic
2. Research using PubMed and other resources
3. Preparation of handout and PowerPoint slide presentation

Prior to the scheduled date of the presentation, the resident must present his/her formal seminar to the preceptors for constructive criticism. Revisions and subsequent presentations are at the discretion of the program director, mentor and resident.
TEACHING OPPORTUNITIES THROUGH ST. LOUIS COLLEGE OF PHARMACY

The St. Louis College of Pharmacy offers a variety of teaching opportunities for pharmacy residents. Opportunities may exist for didactic lectures, discussion group leadership, and student preceptorship.

 LICENSING REQUIREMENTS FOR PHARMACY RESIDENTS

Technician Licensure in Missouri:
Residents cannot report for work or training without a valid pharmacist or technician license. New residents NOT LICENSED AS A PHARMACIST IN ANY STATE BY JULY 1 must apply for a Missouri technician license. Residents must have a valid pharmacist license by the start of patient care rotations and should begin pursuing a Missouri pharmacist license as soon as possible after they receive their ASHP Resident Matching Program results.

Pharmacist Licensure in Missouri:
Pharmacy residents have the following options to become a licensed pharmacist in the state of Missouri:

1. Pharmacist License by EXAMINATION
   a) Testing is by appointment at participating centers
   b) Must take 2 examinations: NAPLEX (or NAPLEX score transfer) and Missouri MPJE
2. Pharmacist License by RECIPROCITY
   a) Resident must be licensed in another state that grants reciprocity
   b) Must take Missouri MPJE
3. Temporary Pharmacist License
   a) Resident must be licensed in another state
   b) Allows pharmacists who are licensed in another state to practice in Missouri, but only in approved locations and circumstances (non-Missouri pharmacist in post-graduate training)

Residents must also obtain a Certificate of Medication Therapeutic Plan authority issued by the Missouri Board of Pharmacy. [http://pr.mo.gov/boards/pharmacy/IMTSAPP.pdf](http://pr.mo.gov/boards/pharmacy/IMTSAPP.pdf)

Residents must submit their Pharmacist License application and Medication Therapy Certificate application to the Missouri Board of Pharmacy by June 1 and be prepared to produce evidence of timely submission to the program director upon request. Residents must be licensed in Missouri as a pharmacist by August 1 unless granted an extension by the program director. Residents not licensed by September 1 are subject to termination.

For an examination application and instructions contact the Missouri Board of Pharmacy by phone at (573) 751-0091 or visit their website at [http://pr.mo.gov/pharmacists-forms.asp](http://pr.mo.gov/pharmacists-forms.asp)

Pharmacist licensing frequently asked questions: [http://pr.mo.gov/boards/pharmacy/Pharmacist%20Licensing%20FAQ.pdf](http://pr.mo.gov/boards/pharmacy/Pharmacist%20Licensing%20FAQ.pdf)

Please contact the program director with any questions or problems as soon as possible.

PHARMACY RESIDENT WORK ASSIGNMENTS WHILE AWAITING MISSOURI LICENSURE

A resident who is a graduate of an ACPE-accredited college of pharmacy but has not yet received a Missouri pharmacist license may perform only work assignments not restricted by statute or regulation. The following activities may NOT be performed by a pharmacy resident pending Missouri licensure.

A resident awaiting licensure:
- May NOT verify physician orders in electronic medical record
- May NOT enter orders as a pharmacist in electronic medical record
- May NOT check completed new unit dose medications for correct contents and sign on the "pharmacist"
May NOT check completed IV's and IVPB's and sign on the "pharmacist" line
• May NOT sign for controlled substance deliveries and issuance or other paper work for scheduled medications
• May NOT prepare oncology chemotherapy unless he/she has completed the chemotherapy training class and has successfully passed the chemotherapy examination
• May NOT check crash carts and operating room case carts and sign on the "pharmacist" line
• May NOT enter or check outpatient prescriptions

RECRUITMENT AND SELECTION OF RESIDENTS

Saint Louis University Hospital recruits pharmacy residents through mailings, meeting contacts and referrals as well as through the Residency Showcase and Personnel Placement Service (PPS) available at the ASHP Midyear Meeting. At Midyear, the program director, current residents, and all preceptors in attendance participate in the recruitment of candidates for the residency program. The Saint Louis University Hospital Pharmacy Residency participates in the Pharmacy Resident Matching Program through ASHP.

Residency candidates must submit a letter of intent, a copy of their curriculum vitae, an academic transcript and three letters of recommendation via the Pharmacy Online Residency Centralized Application Service (PhORCAS) by the application deadline in order to be considered for an on-site interview. Residency applicants meeting the following criteria may be deemed ineligible for an on-site interview:

• All residency application materials not received by the application deadline
• Any letter of recommendation that recommends the applicant at any level below “recommend”
• Cumulative grade point average below 3.0 on a 4-point scale (or equivalent) OR a grade of “B-” or lower on any graded rotation
• Five or more errors on the applicant’s curriculum vitae

The number of candidates invited on-site will not exceed 16 (PGY1 program) or 4 (PGY2 program) unless an exception is granted by the program director. The above criteria are applicable after the passing of the application deadline and ONLY when the number of applicants exceeds the maximum allowable for the program. If, after application of all five criteria listed above, the number of eligible candidates still exceeds the maximum, the program director will rank the candidates using the Candidate Evaluation Form. An invitation for a one-day, on-site interview will be extended to the top candidates as determined by the program director under advisement from members of the Residency Advisory Committee.

Following completion of all candidate interviews, members of the Residency Advisory Committee participate in the ranking of candidates for each residency program. These rankings and any interviewer comments are reviewed by the program director, who will determine the final rank order of candidates for each residency program. The final rank list for each respective program is submitted to the ASHP Resident Matching Program. All discussions regarding resident selection must be kept strictly confidential amongst the preceptors.

EARLY COMMITMENT PROCESS FOR PGY2 PROGRAMS

Current PGY1 residents are eligible for early commitment to a PGY2 program at Saint Louis University Hospital without participating in the ASHP Resident Matching Program. Each PGY1 resident interested in early commitment to a PGY2 program will be evaluated using the following process:

1. Each eligible and interested resident must submit a letter of intent and curriculum vitae to the director of the PGY2 program of interest by November 1 or as otherwise communicated by the PGY2 program
director during the residency year.

2. The program director may schedule the candidate(s) for an abbreviated interview before departure for the Midyear meeting in December.

3. After the interview, the Residency Advisory Committee will meet to discuss and, if necessary, rank the internal candidates. The program director may early commit a resident for the following academic year. Both individuals will sign the letter of agreement (downloadable from: https://www.natmatch.com/ashprmp/aboutecp.html) and the program will pay the necessary fees to the National Matching Service.

4. All discussions regarding resident selection must be kept strictly confidential amongst the preceptors. This is particularly important when two or more residents are interviewing for the same position.

**RESIDENCY PROGRAM CERTIFICATE**

Upon successful completion of all program requirements and compliance with all conditions of the residency program, Saint Louis University Hospital will award the resident a certificate indicating successful completion of the residency program. All of the following criteria must be satisfied to successfully complete the program:

1. Satisfactory completion of all rotations as determined by the primary preceptor for the rotation.

2. Completion of the required number of journal clubs and formal presentations (excluding the StLCOP seminar presentation). All must be deemed satisfactory by the program director and the preceptor of the rotation on which the journal club or presentation is given (refer to "Evaluations" section).

3. Completion of a residency research project that is approved by the program director and submission of a formal write-up in manuscript format.

4. Completion of the seminar presentation and, if required by the program director, the Abilities-Based Education Workshops offered at the St. Louis College of Pharmacy.

5. Submission of a Resident Poster for presentation at the ASHP Midyear Clinical Meeting.

6. Completion of all other assignments (formulary reviews, longitudinal projects, MUEs, CQI projects, etc.)

7. Completion of all forms in PharmAcademic and/or residency notebook.

8. Within each program, the resident must complete the following:
   a. “Achieve for Residency” 100% of goals within Competency Area R1 (PGY1) and Outcome R2 (PGY2)
   b. “Achieved for Residency” 85% of goals within the remaining outcomes
   c. All other goals must have satisfactory progress

Residents who fail to complete all program requirements and/or do not comply with all conditions of the residency program shall not be awarded a certificate of completion.

**DISMISSAL OF RESIDENTS**

**Performance Management (refer to SSM Health Human Resources)**

You are expected to meet facility performance expectations and standards of your job. If your performance or conduct does not meet facility expectations and standards, the facility will use a positive performance management and progressive corrective action approach whenever possible to motivate you to participate directly in the resolution of such situations. We believe that such an approach fosters your understanding of and commitment to correct a performance or conduct problem and increases the likelihood of a satisfactory resolution. However, circumstances may arise which make it inadvisable or inappropriate to follow the general Performance Management and progressive corrective action procedures. When circumstances warrant, facility management may decide, in its sole discretion, that some or all of the steps in the Performance Management process should not be followed and that immediate corrective action, including termination of employment is necessary. Employment with the company or any of its facilities is at will, and either you or the facility may terminate the employment relationship at any time with or without notice.
Generally, the Performance Management process involves an initial informal counseling, followed by more formal counseling including suspension, and/or decision-making leave, if necessary, if performance has not improved. If you have any questions regarding the Performance Management process, please speak to your supervisor or your facility Human Resources Representative.

Specifically, meeting assignment and project deadlines is an important standard of job performance. If, at any time, a resident fails to meet a deadline, the preceptor involved should collaborate with the program director to develop a plan of action. After the first offense, the resident will be counseled by the program director on the importance of meeting deadlines and pulled from rotations to complete the assigned work, if necessary. After the second offense, a written warning will be placed in their permanent employment record in human resources. Subsequent offenses will proceed according to HR policy using positive performance management and progressive corrective action (as stated above).

Episodes of gross misconduct including (but not limited to) grossly inappropriate or unethical behavior, intentional review or manipulation of privileged information or violation of hospital compliance may be punishable by immediate termination.

Resignation and Separation of Employment (refer to SSM Health Human Resources)
Separation of employment, either voluntary or involuntary, is an inevitable part of personnel activity within an organization. It is the policy of the facility to approach each employee termination with fairness, both to the employee and the facility. Since employment with the facility is based on mutual consent, both the employee and the facility have the right to terminate employment at will, with or without cause, at any time.

All accrued, vested benefits that are due and payable at termination will be paid. Some benefits may be continued at your expense if you choose. You will be notified in writing of the benefits that may be continued and the terms, conditions and limitations of such continuation. Your final pay will be distributed in accordance with applicable state law.

In the case of voluntary separation of employment, non-exempt employees, if at all possible, are expected to notify their supervisor two (2) weeks in advance of their last expected day of work. Those employees with management responsibilities are expected, if at all possible, to give four (4) weeks’ notice.

Please be sure to keep us informed of any address changes within the following year after you leave the facility. This will ensure proper and timely handling of forms such as W-2s and pension plan disbursements.

VACATION AND EXCUSED ABSENCES

Pharmacy residents receive 7.2 hours per pay period of paid time off (PTO) and may take vacation time under the following conditions:

1. The resident is eligible to use vacation after 30 days of employment. All Human Resources policies apply and are detailed in the Employee Handbook.

2. Requests for vacation or time off must be submitted electronically to both the rotation preceptor and the program director at least 30 days in advance for approval. The resident will work with his/her preceptor and the program director to ensure that alternative arrangements to meet program requirements are made to accommodate the absence. Exceptions may be granted at the discretion of the rotation preceptor and the program director.

3. The resident must also notify the administrative assistant and/or pharmacist scheduler of all time off to ensure correct payment.
4. Residents may trade “staffing” days with other pharmacy residents to secure specific days off; however, residents may not request off on staffing days without an approved trade. Exceptions may be granted for required off-site residency responsibilities.

5. Vacation time should be used to schedule job interviews in the last two to three months of the residency; therefore the resident should save at least five (5) vacation days for interviewing and traveling.

6. No more than two vacation days are allowed on any one rotation. Residents are encouraged to block out single days during the week or around weekends to avoid compromising the quality of rotations. Exceptions may be granted at the discretion of the rotation preceptor and the program director.

7. Vacation time accrued as a resident is retained if the resident continues employment as a pharmacist at Saint Louis University Hospital. Otherwise, accrued vacation time not used during the residency will be paid at completion of the residency. (Residents in the past have used their accrued vacation time payout for moving expenses).

**EXTENDED LEAVE**

Extended leave is defined as a resident missing at least 50% or three weeks of a rotation, whichever is less. At the time the absence is taken, the resident should submit written evidence of the medical necessity of an extended absence. Strategies for make-up may include rearranging the resident’s schedule or, at the discretion of the program director, extending the training period for up to one month. For absences exceeding 6 weeks, termination may be considered.

**HOLIDAYS**

Saint Louis University Hospital recognizes the following holidays:

- New Year’s Day*
- Good Friday
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day*
- Friday after Thanksgiving Day*
- Christmas Day*

*Denotes major holidays

Residents are expected to help provide staffing coverage of the main holidays (Thanksgiving, Friday after Thanksgiving Day, Christmas Eve, Christmas Day, New Year’s Eve and New Year’s Day); the number and exact days will be determined based on scheduling of other department pharmacists. Residents will be scheduled off for the week in between the Christmas and New Year’s holidays as well as all other recognized holidays. If a minor holiday occurs during the week, it is at the preceptor’s discretion to assign the day as a holiday. Residents may trade holiday coverage with other pharmacy employees under general scheduling rules to secure specific days or holidays off. All time off during holidays are paid out of the employee’s PTO account.
ILLNESS REPORTING

Should a resident be unable to work because of illness or need for medical care, he/she must notify his/her rotation preceptor or program director in writing prior to the regular starting time. The program director will, in turn, notify the pharmacy scheduler. If notification in writing is not possible, information regarding the nature of the absence, duration of time to be missed and any other pertinent dates, times and locations should be communicated verbally and documented at the first opportunity. These guidelines apply to both on-site and off-site rotations and for illnesses occurring mid-workday.

Missing time during a scheduled residency assignment or other professional deadline is discouraged, but if it is unavoidable, the deadline or assignment date will be moved to the resident’s first day back on rotation. Exceptions may be granted at the discretion of the program director. All hospital and pharmacy department policies regarding illness reporting apply and notification and documentation must be made pursuant to these policies.

DUTY HOURS

Programs must comply with the current duty hour standards as set forth by ASHP [http://www.ashp.org/DocLibrary/Residents/Pharmacy-Specific-Duty-Hours.pdf](http://www.ashp.org/DocLibrary/Residents/Pharmacy-Specific-Duty-Hours.pdf). Duty hours are defined as all clinical and academic activities related or unrelated to the residency program. Duty hours must be limited to 80 hours per week, averaged over a 4-week period, inclusive of all in-house call and home call activities and moonlighting. Residents must be provided with 1 day in 7 free from all educational and clinical responsibilities averaged over a 4-week period. Residents should have 10 hours free of duty between scheduled duty, and must have at a minimum 8 hours between scheduled duty periods.

Duty periods:
Duty periods for PGY1 residents must not exceed 16 hours. PGY2 residents and above may be scheduled for up to 24 hours of continuous duty in the hospital, but must not be assigned additional clinical responsibilities after 24 hours of continuous duty.

Moonlighting:
Moonlighting must not interfere with the resident’s ability to satisfactorily meet the goals and objectives of the residency program (as assessed by the program director). Time spent by residents in internal and external moonlighting must be counted toward the 80-hour maximum weekly hour limit. PGY1 residents may not be employed in medical-related work outside of Saint Louis University Hospital for the duration of their residency year. PGY2 residents may maintain outside medical-related work provided: 1) the resident works no more than 8 hours per week; 2) outside shifts do not occur on days that the resident provides services to Saint Louis University Hospital and 3) outside employment are not otherwise in violation of the ASHP Duty Hours standard. The program director may, at any time and without notice, prohibit the resident from moonlighting if his/her assessment indicates that resident performance is being compromised or the moonlighting arrangement is in violation of this policy or the ASHP Duty Hours standard.

PARKING

Pharmacy residents are assigned parking on a surface lot during the week (Monday thru Friday) or, if available, the parking garage across from the hospital. Pharmacy residents are able to park in the covered garage across from the hospital on weekends and after 1pm on weekdays if their regular parking assignment is on a surface lot. There may be a fee taken out of the resident’s paycheck for parking depending on parking lot location.
MIDYEAR TRAVEL REIMBURSEMENT

Residents are expected to attend the ASHP Midyear meeting held in December with the program directors to assist in the resident recruitment process. ASHP Midyear travel expenses and meeting registration will be coordinated with the RPD and Pharmacy Director. Residents will work with the RPD to establish an appropriate flight itinerary and hotel accommodations based on the compliment of pharmacy staff attending the meeting. If residents are requested to provide the necessary monetary funds to secure travel arrangements and/or meeting registration, he/she will be responsible to obtain the appropriate expense documentation and submit these expenses per SSM Health policy within 1 week of the meeting.
Saint Louis University Hospital
PGY1 Pharmacy Residency Manual

Program Director

Nicole Nesselhauf, Pharm.D., BCPS
Transplant Pharmacy Clinical Specialist
Saint Louis University Hospital
3635 Vista Ave. at Grand Blvd
St. Louis, MO 63110
Pager: 314.491.6785  Speed: 10549
Phone: 314.268.5954

PGY1 Residency Coordinator

Stacy Revelle, Pharm.D., BCPS
Emergency Medicine Pharmacy Clinical Specialist
Saint Louis University Hospital
3635 Vista Ave. at Grand Blvd
St. Louis, MO 63110
Pager: 314.491.5422  Speed: 11125
Phone: 314.268.5956
MISSION STATEMENT

PGY1 program purpose:
To build on the Doctor of Pharmacy (Pharm.D.) education and outcomes to contribute to the development of clinical pharmacists responsible for medication-related care of patients with a wide range of conditions, eligible for board certification, and eligible for postgraduate year two (PGY2) pharmacy residency training.

COMPETENCY AREAS, GOALS, AND OBJECTIVES OF RESIDENCY PROGRAM

The residency program is executed according to the ASHP Accreditation Standard http://www.ashp.org/DocLibrary/Residents/ASO-PGY1-Residency-Accreditation-Standard.pdf and the accompanying competency areas, goals, and objectives (Appendix A) for postgraduate year one (PGY1) pharmacy residencies. Competency areas are categories of the residency graduates’ capabilities. Educational goals are defined as a broad statement of abilities, whereas educational objectives are defined as observable, measurable statements describing what residents will be able to do as a result of participating in the residency program. The required competency areas, including all of the goals and objectives under them, must be included in all programs; programs may also choose to add one or more of the additional competency areas. The required competency areas are:

R1: Patient Care
R2: Advancing Practice and Improving Patient Care
R3: Leadership and Management
R4: Teaching, Education, and Dissemination of Knowledge

Learning Experience Descriptions (available in PharmAcademic) specify which goals and objectives will be taught and evaluated.

PRACTICE RESPONSIBILITIES

The resident provides complete pharmacy services in coordination and cooperation with Pharmacy Service professionals and support staff. These are consistent with policies and procedures for operations and clinical practice and meet all the requirements and obligations of pharmacists on staff.

The resident shall actively participate in rotation activities including team meetings, rounds, and other interdisciplinary conferences that occur on the services of his/her rotations. The rotation preceptor shall be responsible for identifying these opportunities and ensuring the resident effectively participates.

The resident shall identify therapeutic issues and problems and shall develop and present seminars to the medical, nursing, and pharmacy staffs addressing those issues. The resident is encouraged to seek opportunities to educate other ancillary health care practitioners, such as physician’s assistants, nurse practitioners, physical therapists, occupational therapists and speech therapists on subjects relating to pharmacology and medication usage.

MEDICATION MANAGEMENT AND PATIENT SAFETY

An important function of the pharmacist is to oversee the medication management process and ensure that medications are used in a way that maximizes patient safety. To this end, PGY1 Pharmacy Practice residents may serve as active participants on key committees that oversee medication management, including the Pharmacy, Therapeutics, Nutrition and Transfusion (PTNT) Committee, Medication Safety Committee and other committees.
at various times throughout the year. Committee service is a longitudinal experience and will be assigned by the program director based on institutional, departmental and resident need. Responsibilities may include, but are not limited to, taking minutes, preparing handouts or presentations, and leading initiatives and are subject to change based on need.

RESIDENCY ADVISOR

Each resident is assigned a program advisor from the available preceptors at the beginning of the residency program. The resident’s advisor will 1) help the resident meet the requirements for successful completion of the residency program and 2) advise the resident and facilitate execution of his/her career plan. Meetings are at the discretion of the resident and he/she may contact the residency program director and request the assignment of an alternative preceptor to serve as his/her advisor.

RESIDENCY MANUAL

A copy of the Residency Manual shall be provided to each resident outlining the requirements of the residency program. Residents must make themselves knowledgeable of all program requirements. Feedback from each residency class will be incorporated into the annual revision of the Residency Manual. Corrections, additions, or other changes to the Residency Manual should be addressed to the residency program director.

RESIDENCY RESEARCH PROJECT

The resident shall, with the guidance and supervision of a mentor, develop and complete a residency project. The project shall be written using a format and style consistent with publication in a professional journal (including project subject, background, methods, results, and conclusions). Some general pertinent project deadlines are listed below; residents will be notified as soon as possible when specific dates are determined.

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
<th>Contact(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY 2 Seminar Survey</td>
<td>July 15</td>
<td>Complete via Survey Monkey email RPD, Mentor(s)</td>
</tr>
<tr>
<td>(topic, description, mentor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGY 1 Seminar Survey</td>
<td>July 21</td>
<td>Complete via Survey Monkey email RPD, Mentor(s)</td>
</tr>
<tr>
<td>(topic, description, mentor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Project topic/title</td>
<td>July 29</td>
<td>RPD, Mentor(s)</td>
</tr>
<tr>
<td>GCCP run-through</td>
<td>August 24</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>Submit protocol and data collection form</td>
<td>August 31</td>
<td>Mentor(s), Anna Schmidt, Mike Daly, Nicole</td>
</tr>
<tr>
<td>for internal review</td>
<td></td>
<td>Nesselhauf</td>
</tr>
<tr>
<td>GCCP Resident Research Symposium Slide</td>
<td>September 12 By 0800</td>
<td>Mentor(s) <a href="mailto:gccp.st.louis@gmail.com">gccp.st.louis@gmail.com</a></td>
</tr>
<tr>
<td>submission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRB submission complete</td>
<td>September 23</td>
<td>Anna Schmidt</td>
</tr>
<tr>
<td>Seminar Program Information deadline (CV and disclosure document)</td>
<td>September 14</td>
<td></td>
</tr>
<tr>
<td>ASHP Resident Poster Abstracts</td>
<td>October 1</td>
<td>Mentor(s), ASHP</td>
</tr>
<tr>
<td>October seminar slide submission deadline</td>
<td>October 3</td>
<td>@stlcop.edu</td>
</tr>
<tr>
<td>STLCOP seminars</td>
<td>October 11</td>
<td></td>
</tr>
<tr>
<td>November seminar slide submission deadline</td>
<td>October 25</td>
<td>@stlcop.edu</td>
</tr>
<tr>
<td>STLCOP seminars</td>
<td>November 4</td>
<td></td>
</tr>
<tr>
<td>December seminar slide submission deadline</td>
<td>December 1</td>
<td>@stlcop.edu</td>
</tr>
<tr>
<td>Event</td>
<td>Date</td>
<td>Responsible Party</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>STLCOP seminars</td>
<td>December 14</td>
<td></td>
</tr>
<tr>
<td>≥50 % Project data collection complete</td>
<td>February 28</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>Project data collection complete</td>
<td>March 31</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>STLCOP run-through</td>
<td>May 10</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>St. Louis Resident Research Symposium</td>
<td>May 8</td>
<td>Mentor(s) @stlcop.edu</td>
</tr>
<tr>
<td>Abstracts due</td>
<td>May 8</td>
<td></td>
</tr>
<tr>
<td>St. Louis Resident Research Symposium</td>
<td>May 24</td>
<td></td>
</tr>
<tr>
<td>Manuscript draft</td>
<td>May 31</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>PTNT presentation</td>
<td>May &amp; June</td>
<td>Mike Daly, Tim Heuring</td>
</tr>
<tr>
<td>Final manuscript</td>
<td>June 30</td>
<td>Mentor(s), RPD</td>
</tr>
</tbody>
</table>

The resident also must meet the deadline set forth by ASHP for resident poster submission to the Midyear Clinical Meeting. Additional sub-deadlines (i.e., data collection milestones), in addition to the above, developed by the resident and mentor(s) are strongly recommended. A recurring appointment between the resident and mentor(s) is suggested to monitor progress and identify project issues. All communication related to the project (as well as seminar) should be communicated to all mentors involved, and the RPD and coordinator should also be copied on these emails to ensure continuity of communication and adherence to timelines. RPD must be notified immediately if a deadline or sub-deadline is missed.

Residents will be scheduled a week in December to work on their research project. In addition to time allotted for research activities the week in December, residents are encouraged to use the resident recruitment interview days in January/February to work on research project.

**RESIDENCY NOTEBOOK**

Each resident MUST maintain a Residency Notebook as a complete record of the resident’s program activities. The resident should begin to keep this ongoing notebook of activities from the first day of the program. At the conclusion of the residency training program, the program coordinator retains the original notebook. Completion of this record is a requirement for successful completion of the program.

The residency program notebook shall include the following items completed during the residency:

1. Curriculum Vitae
2. Completed Resident Development Plan
3. All quarterly evaluations and quarterly self-evaluations (completed and signed)
4. A record of all educational in-services and seminars presented
   a) Outlines
   b) Evaluations
   c) Attendance sheet
5. Residency Project
   a) Data collection form
   b) IRB submission
   c) Final written report
   d) Copy of poster
6. St. Louis College of Pharmacy Seminar presentation with evaluations
7. St. Louis College of Pharmacy Resident Teaching Workshop assignments
8. Formulary reviews, MUE, written drug information responses or other completed assignments
Saint Louis University Hospital
PGY2 Critical Care Residency Manual

Program Director
Julia Alexander, Pharm.D., BCPS
Trauma Critical Care Pharmacy Clinical Specialist
Saint Louis University Hospital
3635 Vista Ave. at Grand Blvd
St. Louis, MO 63110
Pager: 314.419.8404 Speed: 10349
Phone: 314.268.7157

PGY2 Residency Coordinator
Bobby Sbertoli, Pharm.D., BCCCPh
Pulmonary Medicine Critical Care Pharmacy Clinical Specialist
Saint Louis University Hospital
3635 Vista Ave. at Grand Blvd
St. Louis, MO 63110
Pager: 314.490.5772 Speed 10542
Phone: 314.577.8951
MISSION STATEMENT

ASHP PGY2 Purpose:
PGY2 residency programs are designed to develop accountability; practice patterns; habits; and expert knowledge, skills, attitudes, and abilities in the respective advanced area of pharmacy practice. PGY2 residencies build upon the broad-based competencies achieved in a PGY1 residency, deepening the resident’s ability to provide care in the most complex of cases or in the support of care through practice leadership. Therefore, PGY2 residencies provide residents with opportunities to function independently as practitioners by conceptualizing and integrating accumulated experience and knowledge and transforming both into improved medication therapy for patients. A resident who completes successfully an accredited PGY2 residency should possess competencies that enable attainment of board certification in the practice area, where board certification for the practice area exists.

SSMHealth Saint Louis University Hospital PGY2 purpose:
Pharmacists completing the residency program will be able to integrate evidence-based pharmaceutical care as a component of the total care of seriously ill and injured patients requiring drug therapy in multiple critical care environments. They will be accountable for achieving optimal therapeutic outcomes as members of the healthcare team. Pharmacists will have the ability to educate patients and healthcare professionals on critical care topics. They will demonstrate leadership skills and professional maturity by following a personal philosophy of practice, managing their own practice, evaluating their own performance and exhibiting commitment to the profession of pharmacy.

OUTCOMES, GOALS, AND OBJECTIVES OF PGY2 CRITICAL CARE RESIDENCY PROGRAM

The residency program is executed according to the ASHP Accreditation Standard http://www.ashp.org/DocLibrary/Residents/ASO-PGY2-Accreditation-Standard-2005.pdf and the accompanying educational outcomes, goals, and objectives (Appendix B) for postgraduate year two (PGY2) pharmacy residencies in critical care. Educational outcomes are statements of broad categories of the residency graduates’ capabilities. Educational goals are defined as a broad statement of abilities, whereas educational objective achievement is determined by assessment of the resident’s ability to perform the associated educational objectives listed for each goal. The required outcomes, including all of the goals and objectives under them, must be included in all programs; programs may also choose to add one or more of the elective outcomes. The required educational outcomes are:

R1: Demonstrate leadership and practice management skills
R2: Optimize the outcomes of critically ill patients by providing evidence-based medication therapy as an integral part of an interdisciplinary team
R3: Demonstrate excellence in the provision of training, including preceptorship, or educational activities for health care professionals and health care professionals in training
R4: Demonstrate the skills necessary to conduct a critical care pharmacy research project
R5: Participate in the management of medical emergencies

Learning Experience Descriptions (Appendix C) specify which goals and objectives will be taught and evaluated.
PRACTICE RESPONSIBILITIES

The resident provides complete pharmacy services in coordination and cooperation with pharmacy professionals and support staff. These are consistent with policies and procedures for operations and clinical practice and meet all the requirements and obligations of pharmacists on staff.

The resident shall actively participate in rotation activities including team meetings, rounds, and other interdisciplinary conferences that occur on the services of his/her rotations. The resident and preceptor shall be responsible for identifying these opportunities and ensuring the resident effectively participates.

The resident shall identify therapeutic issues and shall develop and present seminars to the medical, nursing, and pharmacy staffs addressing those issues. The resident is encouraged to seek opportunities to educate other ancillary health care practitioners, such as physician's assistants, nurse practitioners, and physical therapists on subjects relating to pharmacology, therapeutics and medication usage.

The resident must ensure coverage of all the ASHP critical care residency areas of emphasis list; this can be accomplished either through didactic discussions, reading assignments, case presentations, written assignments, and direct patient care experience. The resident will keep track of coverage on the provided tool, and it should be up to date for each quarterly evaluation.

MEDICATION MANAGEMENT AND PATIENT SAFETY

An important function of the pharmacist is to oversee the medication management process and ensure that medications are used in a way that maximizes patient safety. To this end, pharmacy residents are active participants on key committees that oversee medication management. Critical care residents will serve on the Critical Care Committee, which oversees respiratory and critical care practice, as well as the Medication Safety Committee, for the entire residency year. Responsibilities may include, but are not limited to, taking minutes, preparing handouts or presentations, and leading initiatives and are subject to change.

RESIDENCY ADVISOR

Each resident is assigned a program advisor from the available preceptors at the beginning of the residency program. The resident’s advisor will 1) help the resident meet the requirements for successful completion of the residency program and 2) advise the resident and facilitate execution of his/her career plan. Meetings are at the discretion of the resident and he/she may contact the residency program director and request the assignment of an alternative preceptor to serve as his/her advisor.

RESIDENCY MANUAL

A copy of the Residency Manual shall be provided to each resident outlining the requirements of the residency program. Residents must make themselves knowledgeable of all program requirements. Feedback from each residency class will be incorporated into the annual revision of the Resident’s Manual. Corrections, additions, or other changes to the Residency Manual should be addressed to the residency program director.

RESIDENCY RESEARCH PROJECT

The resident shall, with the guidance and supervision of appropriate preceptors, develop and complete a residency research project. The project shall be written using a format and style consistent with publication in a professional journal (including project subject, background, methods, results, and conclusions). The project will be expected to
be submitted for publication in a professional journal by the end of the academic year. Some general pertinent project deadlines are listed below; residents will be notified as soon as possible when specific dates are determined:

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
<th>Contact(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY 2 Seminar Survey (topic, description, mentor)</td>
<td>July 15</td>
<td>Complete via Survey Monkey email RPD, Mentor(s)</td>
</tr>
<tr>
<td>PGY 1 Seminar Survey (topic, description, mentor)</td>
<td>July 21</td>
<td>Complete via Survey Monkey email RPD, Mentor(s)</td>
</tr>
<tr>
<td>Research Project topic/title</td>
<td>July 29</td>
<td>RPD, Mentor(s)</td>
</tr>
<tr>
<td>GCCP run-through</td>
<td>August 24</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>Submit protocol and data collection form for internal review</td>
<td>August 31</td>
<td>Mentor(s), Anna Schmidt, Mike Daly, Nicole Nesselhauf</td>
</tr>
<tr>
<td>GCCP Resident Research Symposium Slide submission</td>
<td>September 12</td>
<td>Mentor(s) <a href="mailto:gccp.st.louis@gmail.com">gccp.st.louis@gmail.com</a></td>
</tr>
<tr>
<td>IRB submission complete</td>
<td>September 23</td>
<td>Anna Schmidt</td>
</tr>
<tr>
<td>Seminar Program Information deadline (CV and disclosure document)</td>
<td>September 14</td>
<td></td>
</tr>
<tr>
<td>ASHP Resident Poster Abstracts</td>
<td>October 1</td>
<td>Mentor(s), ASHP</td>
</tr>
<tr>
<td>October seminar slide submission deadline</td>
<td>October 3</td>
<td>@stlcop.edu</td>
</tr>
<tr>
<td>STLCOP seminars</td>
<td>October 11</td>
<td></td>
</tr>
<tr>
<td>November seminar slide submission deadline</td>
<td>October 25</td>
<td>@stlcop.edu</td>
</tr>
<tr>
<td>STLCOP seminars</td>
<td>November 4</td>
<td></td>
</tr>
<tr>
<td>December seminar slide submission deadline</td>
<td>December 1</td>
<td>@stlcop.edu</td>
</tr>
<tr>
<td>STLCOP seminars</td>
<td>December 14</td>
<td></td>
</tr>
<tr>
<td>≥50 % Project data collection complete</td>
<td>February 28</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>Project data collection complete</td>
<td>March 31</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>STLCOP run-through</td>
<td>May 10</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>St. Louis Resident Research Symposium Abstracts due</td>
<td>May 8</td>
<td>Mentor(s) @stlcop.edu</td>
</tr>
<tr>
<td>St. Louis Resident Research Symposium</td>
<td>May 24</td>
<td></td>
</tr>
<tr>
<td>Manuscript draft</td>
<td>May 31</td>
<td>Mentor(s)</td>
</tr>
<tr>
<td>PTNT presentation</td>
<td>May &amp; June</td>
<td>Mike Daly, Tim Heuring</td>
</tr>
<tr>
<td>Final manuscript</td>
<td>June 30</td>
<td>Mentor(s), RPD</td>
</tr>
</tbody>
</table>

The resident also must meet the deadline set forth by ASHP for resident poster submission to the Midyear Clinical Meeting.

Additional sub-deadlines (i.e., data collection milestones), in addition to the above, developed by the resident and mentor(s) are strongly recommended. A recurring appointment between the resident and mentor(s) is suggested to monitor progress and identify project issues. All communication related to the project (as well as seminar) should be communicated to all mentors involved, and the RPD and coordinator should also be copied on these emails to ensure continuity of communication and adherence to timelines. The RPD must be notified immediately if a deadline or sub-deadline is missed.

Residents will be scheduled a week in December to work on their research project. In addition to time allotted for research activities the week in December, residents are encouraged to use the resident recruitment interview days in January/February to work on research project.
RESIDENCY NOTEBOOK

Each resident must maintain a Residency Notebook as a complete record of the resident's program activities. At the conclusion of the residency-training program, the program director retains the original notebook. Completion of this record is a requirement for successful completion of the program.

The residency program notebook shall include the following items completed during the residency:

1. Curriculum Vitae
2. Completed Customized Plan for Residency Training (PGY2)
3. All quarterly evaluations and quarterly self-evaluations (completed and signed)
4. Preceptor evaluations of all rotations and all rotation self-evaluations
5. Completed Preceptor/Site evaluations
6. A record of all educational in-services and seminars presented
   a) Outlines
   b) Evaluations
   c) Attendance sheet
7. Residency Project
   a) Data collection form
   b) IRB submission
   c) Final written report
8. St. Louis College of Pharmacy Seminar presentation with evaluations
9. St. Louis College of Pharmacy Resident Teaching Workshop assignments, if applicable
10. Formulary reviews, MUE, written drug information responses or other completed assignments
11. ASHP critical care areas of emphasis list
REQUIRED COMPETENCY AREAS, GOALS, AND OBJECTIVES FOR POSTGRADUATE YEAR ONE (PGY1) PHARMACY RESIDENCIES

Introduction

The competency areas, goals, and objectives are for use with the ASHP Accreditation Standard for Postgraduate Year One (PGY1) Pharmacy Residency Programs. The first four competency areas are required and the others are elective.

The required competency areas, including all of the goals and objectives falling under them, must be included in all programs. Programs may add one or more additional competency areas. 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 contained in this document, programs are free to create their own additional competency areas with associated goals and objectives. Each of the goals falling under the program’s selection of program competency areas (required and additional) must be evaluated at least once during the residency year. In addition, elective competency areas may be selected for specific residents only.

Each of the document’s objectives has been classified according to educational taxonomy (cognitive, affective, or psychomotor) and level of learning. An explanation of the taxonomies is available elsewhere.62

Competency Area: Categories of the residency graduates’ capabilities.
Competency areas fall into one of three categories:
Required: Four competency areas are required (all programs must include them and all their associated goals and objectives).
Additional: Competency area(s) other than the four areas required for all program that programs may select to add as required for their specific residency program.
Elective: Competency area(s) selected optionally for specific resident(s).

Educational Goals (Goal): Broad statement of abilities.

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

Criteria: Examples intended to help preceptors and residents identify specific areas of successful skill development or needed improvement in residents’ work.

Competency Area R1: Patient Care

Goal R1.1: In collaboration with the health care team, provide safe and effective patient care to a diverse range of patients, including those with multiple co-morbidities, high-risk medication regimens, and multiple medications following a consistent patient care process.

Objective R1.1.1: (Applying) Interact effectively with health care teams to manage patients’ medication therapy.
Criteria:
• Interactions are cooperative, collaborative, communicative, respectful.
• Demonstrates skills in negotiation, conflict management, and consensus building.
• Demonstrates advocacy for the patient.

Objective R1.1.2 (Applying) Interact effectively with patients, family members, and caregivers.
Criteria:
• Interactions are respectful and collaborative.
• Uses effective communication skills.
• Shows empathy.
• Empowers patients to take responsibility for their health.
• Demonstrates cultural competence.

Objective R1.1.3: (Analyzing) Collect information on which to base safe and effective medication therapy.
Criteria:
• Collection/organization methods are efficient and effective.
• Collects relevant information about medication therapy, including:
  o History of present illness.
  o Relevant health data that may include past medical history, health and wellness information, biometric test results, and physical assessment findings.
  o Social history.
  o Medication history including prescription, non-prescription, illicit, recreational, and non-traditional therapies; other dietary supplements; immunizations; and allergies.
  o Laboratory values.
  o Pharmacogenomics and pharmacogenetic information, if available.
  o Adverse drug reactions.
  o Medication adherence and persistence.
  o 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.
• Recording system is functional for subsequent problem solving and decision making. Clarifies information as needed.
• Displays understanding of limitations of information in health records.

Objective R1.1.4: (Analyzing) Analyze and assess information on which to base safe and effective medication therapy.
Criteria:
• Includes accurate assessment of patient’s:
  o health and functional status,
  o risk factors
  o health data
  o cultural factors
  o health literacy
  o access to medications
- Immunization status
- 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 potential for such events.
  - Clinically significant drug-drug, drug-disease, drug-nutrient, drug-DNA test interaction, drug-laboratory test interaction, or 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: (Creating) Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans).

Criteria:
- Specifies evidence-based, measurable, achievable therapeutic goals that include consideration of:
  - Relevant patient-specific information including culture and preferences.
  - The goals of other interprofessional 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.
Engage the patient through education, empowerment, and self-management.

- 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 compliance.
  - 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 R1.1.6: (Applying) Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions.

Criteria:
- Effectively recommends or communicates patients’ regimens and associated monitoring plans to relevant members of the healthcare team.
  - Recommendation is persuasive.
  - Presentation of recommendation accords patient’s 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 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 which support medication ordering processes (based on patient weight, age, gender, co-morbid conditions, drug interactions, renal function, hepatic function, etc.).
- Provides thorough and accurate education to patients, and caregivers, when appropriate, including information on medication therapy, adverse effects, compliance, 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 R1.1.7: (Applying) 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.
- Written in time to be useful
- Follows the health system’s policies and procedures, including that entries are signed, dated, timed, legible, and concise.

Objective R1.1.8: (Applying) Demonstrate responsibility to 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 most cost-effective manner.
- Determines barriers to patient compliance and makes appropriate adjustments.

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

Objective R1.2.1: (Applying) Manage transitions of care effectively.
Criteria:
- Effectively participates in obtaining or validating a thorough and accurate medication history.
- Conducts medication reconciliation when necessary.
- Participates in thorough medication reconciliation.
- 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.

Goal R1.3: Prepare, dispense, and manage medications to support safe and effective drug therapy for patients.

Objective R1.3.1: (Applying) Prepare and dispense medications following best practices and the organization’s policies and procedures.
Criteria:
- Correctly interpret appropriateness of a medication order before preparing or permitting the distribution of the first dose, including:
  - Identifying, clarifying, verifying, and correcting any medication order errors.
  - Considering complete patient-specific information.
  - Identifying existing or potential drug therapy problems.
  - Determining an appropriate solution to an identified problem.
Securing consensus from the prescriber for modifications to therapy.
Ensuring that the solution is implemented.
- Prepares medication using appropriate techniques and following the organization's policies and procedures and applicable professional standards, including:
  - When required, accurately calibrates equipment.
  - Ensuring solutions are appropriately concentrated, without incompatibilities, stable, and appropriately stored.
  - Adheres to appropriate safety and quality assurance practices.
  - Prepares labels that conform to the health system's policies and procedures.
  - Medication contains all necessary and/or appropriate ancillary labels.
  - Inspects the final medication before dispensing.
- When dispensing medication products:
  - Follows the organization's policies and procedures.
  - Ensures the patient receives the medication(s) as ordered.
  - Ensures the integrity of medication dispensed.
  - Provides any necessary written and/or verbal counseling.
  - Ensures the patient receives medication on time.
- Maintains accuracy and confidentiality of patients’ protected health information (PHI).
- Obtains agreement on modifications to medication orders when acting in the absence of, or outside, an approved protocol or collaborative agreement.

Objective R1.3.2: (Applying) Manage aspects of the medication-use process related to formulary management.
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 R1.3.3: (Applying) Manage aspects of the medication-use process related to oversight of dispensing.
Criteria:
- When appropriate, follows the organization’s established protocols.
- Makes effective use of relevant technology to aid in decision-making and increase safety.
- Demonstrates commitment to medication safety in medication-use process.
- Effectively prioritizes work load and organizes work flow.
- Checks accuracy of medications dispensed, including correct patient identification, medication, dosage form, label, dose, number of doses, expiration dates, and properly repackaged and relabeled 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 R2: Advancing Practice and Improving Patient Care

Ideally, objectives R2.1.1-R2.1.5 will be addressed through residents working on one quality improvement or research project; however, if this is not possible, all objectives must be addressed by the end of the residency year and can be addressed through work on more than one initiative.

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

Objective R2.1.1 (Creating) Prepare a drug class review, monograph, treatment guideline, or protocol.
Criteria:
- Displays objectivity.
- Effectively synthesize information from the available literature.
- Applies evidenced-based principles.
- Consists 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.

Objective 2.1.2 (Applying) Participate in a medication-use evaluation.
- Uses evidence-based medicine 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.

Objective 2.1.3: (Analyzing) Identify opportunities for improvement of the medication-use system.
Criteria:
- 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 (e.g., National Quality Measures, ISMP alerts, Joint Commission Sentinel Alerts).
- Demonstrates appropriate assertiveness in presenting pharmacy concerns, solutions, and interests to internal and external stakeholders.

Objective 2.1.4: (Applying) Participate in medication event reporting and monitoring.
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.

Goal R2.2: Demonstrate ability to evaluate and investigate practice, review data, and assimilate scientific evidence to improve patient care and/or the medication use system.

Objective R2.2.1: (Analyzing) Identify changes needed to improve patient care and/or the medication-use systems.
Criteria:
- Appropriately identifies problems and opportunities for improvement and analyzes relevant background data.
- Determine 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 to improve the patient care and/or medication-use system.
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 includes meeting the concerns of all stakeholders.
• Applies evidence-based principles, if needed.
• Develops a sound research or quality improvement question realistic for 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, (e.g., IRB, funding) for a practice-related project.
• Uses appropriate electronic data and information from internal information databases, external online databases, and appropriate internet resources, and other sources of decision support, as applicable
• Plan design is practical to implement and is expected to remedy or minimize the identified opportunity for improvement.

Objective R2.2.3: (Applying) Implement changes to improve patient care and/or the medication-use system.
Criteria:
• Follows established timeline and milestones.
• Implements the project as specified in its design.
• Collects data as required by project design.
• Effectively presents plan to appropriate audience (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).
• Plan is based upon appropriate data.
• Gains necessary commitment and approval for implementation
• 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 external stakeholders.
• Change is implemented fully.

Objective R2.2.4: (Evaluating) Assess changes made to improve patient care or the medication-use system.
Criteria:
• Outcome of change is evaluated accurately and fully.
• Includes operational, clinical, economic, and humanistic outcomes of patient care.
• Uses Continuous Quality Improvement (CQI) principles to assess success of implementation of change, if applicable.
• Correctly identifies modifications or if additional changes are needed.
• Accurately assesses the impact, including sustainability if applicable, of the project.
• Accurately and appropriately develops plan to address opportunities for additional changes.

Objective R2.2.5: (Creating) Effectively develop and present, orally and in writing, a final project report.
Criteria:
• Outcome of change are reported accurately to appropriate stakeholders(s) and policy making bodies according to department or organizational processes.
• Report includes implications for changes to/improvement in pharmacy practice.
• Report uses an accepted manuscript style suitable for publication in the professional literature.
• Oral presentations to appropriate audiences within the department, 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.

Objective R3.1.1: (Applying) Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership.
Criteria:
- Demonstrates effective time management.
- Manages conflict effectively.
- Demonstrates effective negotiation skills.
- Demonstrates ability to lead interprofessional 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.

Objective R3.1.2: (Applying) Apply a process of on-going self-evaluation and personal performance improvement.
Criteria:
- Accurately summarizes one’s own strengths and areas for improvement (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.

Objective R3.2.1: (Understanding) Explain factors that influence departmental planning.
Criteria:
- Identifies and explains factors that influence departmental planning, including:
  - Basic principles of management.
  - Financial management.
  - Accreditation, legal, regulatory, and safety requirements.
  - Facilities design.
  - Human resources.
  - Culture of the organization.
  - The organization’s political and decision-making structure.
- Explains the potential impact of factors on departmental planning.
- Explains the strategic planning process.

Objective R3.2.2 (Understanding) Explain the elements of the pharmacy enterprise and their relationship to the healthcare system.
Criteria:
- Identifies appropriate resources to keep updated on trends and changes within pharmacy and healthcare.
- Explains changes to laws and regulations (e.g. value-based purchasing, consumer-driven healthcare, reimbursement models) related to medication use.
- Explains external quality metrics and how they are developed, abstracted, reported, and used (e.g., Risk Evaluation and Mitigation Strategy).
- Describes the governance of the healthcare system and leadership roles.

Objective R3.2.3: (Applying) Contribute to departmental management.
Criteria:
- Helps identify and define significant departmental needs.
- Helps develop plans that address departmental needs.
- Participates effectively on committees or informal workgroups to complete group projects, tasks, or goals.
- Participates effectively in implementing changes, using change management and quality improvement best practices/tools, consistent with team, departmental, and organizational goals.

Objective R3.2.4: (Applying) Manage one’s own practice effectively.
Criteria:
- Accurately assesses successes and areas for improvement (e.g., staffing projects, teaching) 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 new learning opportunities when performance does not meet expectations.
- Demonstrates effective workload management and time management skills.
- Assumes responsibility for personal work quality and improvement.
- Is well prepared to fulfill responsibilities (e.g., patient care, project, management, meetings).
- Sets and meets realistic goals and timelines.
- Demonstrates awareness of own values, motivations, and emotions.
- Demonstrates enthusiasm, self-motivation, and “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, planning to pursue board certification, and pharmacy association membership activities.
- Demonstrates personal commitment to and adheres 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 patients, caregivers, health care professionals, students, and the public (individuals and groups).

Objective R4.1.1: (Applying) Design effective educational activities.
Criteria:
- Accurately defines learning needs (e.g., level, such as healthcare professional vs patient, and their learning gaps) of audience (individuals or groups).
- Defines educational objectives that are specific, measurable, at a relevant learning level (e.g., applying, creating, evaluating), and that 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), and 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.
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 distracting speaker habits (e.g., excessive “ah’s” and “um’s”).
- Body language, movement, and expressions enhance presentations.
- Summarizes important points at appropriate times throughout presentations.
- Transitions smoothly between concepts.
- Effectively uses audio-visuals and handouts to support learning activities.

Objective R4.1.3: (Applying) Use effective written communication to disseminate knowledge.
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 advancement in knowledge or summary of what is currently known on the topic.
- Develops and uses tables, graphs, and figures to enhance reader’s understanding of the topic when appropriate.
- Writes at a level appropriate for the reader (e.g., physicians, pharmacists, other health care professionals, patients, public).
- Creates one’s own work and does not engage in plagiarism.

Objective R4.1.4: (Applying) Appropriately assess effectiveness of education.
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/support/ensure goals were met, if needed.
- Identifies ways to improve education-related skills.
- Obtains and reviews feedback from learners and others to improve their effectiveness.

Goal R4.2: Effectively employ appropriate preceptors’ roles when engaged in teaching (e.g., students, pharmacy technicians, or other health care professionals).

Objective R4.2.1: (Analyzing) When engaged in teaching, select a preceptors’ role that meets learners’ educational needs.
Criteria:
- Identifies which preceptor role is applicable for the situation (direct instruction, modeling, coaching, facilitating).
  o Selects direct instruction when learners need background content.
  o Selects modeling when learners have sufficient background knowledge to understand skill being modeled.
  o Selects coaching when learners are prepared to perform a skill under supervision.
  o Selects facilitating when learners have performed a skill satisfactorily under supervision.

Objective R4.2.2: (Applying) Effectively employ preceptor roles, as appropriate.
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 when ready and using indirect monitoring of performance.

Approved by the Commission on Credentialing of the American Society of Health-System Pharmacists on March 8, 2015. This is the document referenced in the ASHP Accreditation Standard for Postgraduate Year One (PGY1) Pharmacy Residency Programs approved on September 19, 2014, and is intended to be used in conjunction with that Standard.

Copyright © 2015, American Society of Health-System Pharmacists, Inc. All rights reserved.
Appendix B

Educational Outcomes, Goals, and Objectives for Postgraduate Year Two (PGY2) Pharmacy Residencies in Critical Care

Overview of PGY2 Pharmacy Residencies in Critical Care
The PGY2 residency in critical care pharmacy is designed to transition PGY1 residency graduates from generalist practice to specialized practice that meets the needs of critically ill patients. PGY2 residency graduates exit equipped to be fully integrated members of the interdisciplinary critical care team, able to make complex medication and nutrition support recommendations in this fast-paced environment. Training focuses on developing resident capability to deal with range of diseases and disorders that occur in the critically ill. Special emphasis is placed on the complexities of multiple organ system failure and the difficulties imposed on care when patients require life-sustaining equipment.
Graduates of the critical care residency are experienced in short-term research in the critical care environment and excel in their ability to teach other health professionals and those in training to be health professionals. They also acquire the experience necessary to exercise leadership for critical care practice in the health system.

Explanation of the Contents of This Document:
Each of the document’s objectives has been classified according to educational taxonomy (cognitive, affective, or psychomotor) and level of learning. An explanation of the taxonomies is available elsewhere.1 The order in which the required educational outcomes are presented in this document does not suggest relative importance of the outcome, amount of time that should be devoted to teaching the outcome, or sequence for teaching.
The educational outcomes, goals, and objectives are divided into those that are required and those that are elective. The required outcomes, including all of the goals and objectives falling under them, must be included in the design of all programs. The elective outcomes are provided for those programs that wish to add to the required outcomes. Programs selecting an elective outcome are not required to include all of the goals and objectives falling under that outcome. In addition to the potential elective outcomes contained in this document, programs are free to create their own elective outcomes with associated goals and objectives. Other sources of elective outcomes may include elective educational outcomes in the list provided for PGY1 pharmacy residencies and educational outcomes for training in other PGY2 areas. Each of the goals falling under the program’s selection of program outcomes (required and elective) must be evaluated at least once during the resident’s year.

Educational Outcomes (Outcome): Educational outcomes are statements of broad categories of the residency graduates’ capabilities.

Educational Goals (Goal): Educational goals listed under each educational outcome are broad sweeping statements of abilities.

Educational Objectives (OBJ): Resident achievement of educational goals is determined by assessment of the resident’s ability to perform the associated educational objectives below each educational goal.

Instructional Objectives (IO): Instructional objectives are the result of a learning analysis of each of the educational objectives. They are offered as a resource for preceptors encountering difficulty in helping residents achieve a particular educational objective. The instructional objectives falling below the educational objectives suggest knowledge and skills required for successful performance of the educational objective that the resident may not possess upon entering the residency year. Instructional objectives are teaching tools only. They are not required in any way nor are they meant to be evaluated.
Required Educational Outcomes, Goals, and Objectives for Postgraduate Year Two (PGY2)
Pharmacy Residencies in Critical Care

Outcome R1: Demonstrate leadership and practice management skills.
Goal R1.1: Exhibit essential personal skills of a practice leader.
   OBJ R1.1.1: (Characterization) Practice self-managed continuing professional development with the goal of improving the quality of one’s own performance through self-assessment and personal change.
   IO: State the criteria for judging one’s performance of tasks that are critical in one’s own practice.
   OBJ R1.1.2: (Characterization) Demonstrate commitment to the professional practice of critical care pharmacy through active participation in the activities of local, state, and/or national professional organizations concerned with the health care of critically ill patients.
   IO: Compare and contrast the relevance to critical care practice of the variety of professional associations associated with critical care practice.
   OBJ R1.1.3: (Characterization) Demonstrate the ability to make considered but rapid decisions in intense situations where time is at a minimum.
Goal R1.2: Contribute to the critical care practice area’s leadership and management activities.
   OBJ R1.2.1: (Application) Use effective negotiation skills to resolve conflicts.
   OBJ R1.2.2: (Synthesis) Use group participation skills when leading or working as a member of a committee or informal work group.
Goal R1.3: Exercise practice leadership.
   OBJ R1.3.1: (Characterization) Demonstrate a commitment to advocacy for the optimal care of patients through the assertive and persuasive presentation of patient care issues to members of the health care team, the patient, and/or the patient’s representative(s).
   OBJ R1.3.2: (Comprehension) Explain the nature of mentoring in pharmacy, its potential connection with achievement, and the importance of willingness to serve as mentor to appropriate individuals.
   OBJ R1.3.3: (Characterization) Demonstrate a caring attitude toward critically ill patients and their representative(s).
   IO: Explain the impact of fear, anger, depression, loss, grief, and their opposites on the health professional’s approach to patient care.
   IO: Discuss end of life issues and their implications that are relevant in caring for a critically ill patient.
   IO: Explain the importance of the fact that seemingly unconscious patients may be aware or partially aware of their surroundings.
   OBJ R1.3.4: (Comprehension) Explain the general processes of establishing and maintaining a critical care pharmacy residency program.

Outcome R2: Optimize the outcomes of critically ill patients by providing evidence-based medication therapy as an integral part of an interdisciplinary team. (When provided as part of the practice of direct patient care, this outcome always involves a series of integrated, interrelated steps.)

   Establish collaborative professional relationships with critical care team members
   ↓
   Prioritize delivery of care to critically ill patients
   ↓
   Establish a covenantal relationship with the patient
   ↓
   Collect and organize patient information
   ↓
   Determine adequacy of patient information for decision-making
   ↓
   Determine problems in medications or nutrition support
   ↓
   Prioritize patient health care needs
↓
Design evidence-based therapeutic regimen
↓
Design evidence-based monitoring plan
↓
Recommend regimen and monitoring plan
↓
Implement regimen and monitoring plan
↓
Evaluate patient progress and redesign as necessary
↓
Collect patient outcomes data
↓
Communicate ongoing patient information
↓
Document direct patient care activity

Goal R2.1: Establish collaborative professional relationships with other members of the interdisciplinary critical care team.

OBJ R2.1.1: (Synthesis) Implement a strategy that establishes cooperative, collaborative, communicative, and effective working relationships with other members of the interdisciplinary critical care team.

IO: Explain the professional dynamics of the different services that contribute to care in the critical care unit.

IO: Explain the interpersonal dynamics of each member of the critical care team attending a specific patient.

IO: Explain how urgency affects the communication patterns of teams caring for critically ill patients.

IO: Explain situations in which the critical care pharmacist may need to “earn” credibility with the critical care team.

Goal R2.2: Prioritize the delivery of care to critically ill patients.

OBJ R2.2.1: (Synthesis) Devise a plan for deciding which critical care patients to focus on if given limited time and multiple patient care responsibilities.

IO: Explain factors to weigh when determining priority for care among patients who are critically ill.

Goal R2.3: Act in accordance with a covenantal relationship with the patient.

OBJ R2.3.1: (Synthesis) Formulate a strategy to guide care for a critically ill patient and interaction with the patient’s family that reflects the acceptance of a covenant with the patient for that patient’s care.

IO: Explain barriers to the formation of the traditional patient/pharmacist professional relationship in the critical care environment.

IO: Explain ways to interact with patients who cannot communicate verbally.

IO: Explain the potential for patient awareness among those who seemingly are not conscious.

Goal R2.4: Collect and analyze pertinent patient information.

OBJ R2.4.1: (Analysis) Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions. (See Appendix for medical problems.)

IO: Explain the impact on information gathering of the patient who is not able to communicate.

IO: Explain the importance of considering the function of multiple organ systems when collecting information on critically ill patients.

IO: Explain epidemiology, risk factors, etiology, pathophysiology, signs and symptoms, clinical course, and treatment of diseases commonly encountered in the critical care environment as listed in the appendix.
IO: Explain the mechanism of action, pharmacoeconomics, pharmacogenomics, indications, contraindications, interactions, adverse reactions, and therapeutics of medications and specialized nutrition support used in the critical care environment.

IO: Explain how altered pharmacokinetics and pharmacodynamics need to be considered in developing dosing regimens for critically ill patients.

IO: Explain the meaning of the results of diagnostic tests and physiologic monitoring commonly performed in the critical care environment.

IO: Explain the specific disease processes, routes of administration (enteral vs. parenteral), and alterations in absorption of nutrients involved in providing specialized nutrition support.

OBJ R2.4.2: (Evaluation) Assess the information base created for a critically ill patient for adequacy to identify problems and design a therapeutic regimen.

IO: Explain circumstances in which there may not be sufficient information to make therapeutic recommendations for a critically ill patient.

IO: Explain criteria for judging sufficiency of patient information for making therapeutic decisions.

OBJ R2.4.3: (Analysis) Determine the presence of any of the following problems in a critically ill patient's current medication or specialized nutrition support therapy:
1. Medication or specialized nutrition support used with no medical indication
2. Patient has acute or chronic (e.g., steroid dependence) medical conditions for which there is no medication or specialized nutrition support prescribed
3. Medication or specialized nutrition support prescribed inappropriately for a particular medical condition
4. Current medication therapy or specialized nutrition support regimen contains something inappropriate (dose, dosage form, duration, schedule, route of administration, method of administration)
5. There is therapeutic duplication
6. Medication to which the patient is allergic has been prescribed
7. There are adverse drug or device-related events or potential for such events
8. There are clinically significant drug-drug, drug-disease, drug-nutrient, or drug-laboratory test interactions or potential for such interactions
9. Medical condition is complicated by social, recreational, nonprescription, or nontraditional (e.g., herbal) drug use by the patient
10. Patient not receiving full benefit of prescribed medication therapy or specialized nutrition support (e.g., system error)

IO: Explain why the critical care pharmacist needs to anticipate therapeutic dilemmas and formulate appropriate alternatives.

OBJ R2.4.4: (Analysis) Prioritize a critically ill patient’s health care needs.

IO: Explain factors to consider when prioritizing the problems of critically ill patients.

Goal R2.5: Design evidence-based therapeutic regimens for critically ill patients.

OBJ R2.5.1: (Synthesis) Specify therapeutic goals for a critically ill patient incorporating the principles of evidence-based medicine that integrate patient-specific data, disease and medication-specific information, ethics, and, when possible, quality-of-life considerations.

IO: Explain ethical, cultural, and religious issues that may need consideration when setting pharmacotherapeutic goals for critically ill patients.

IO: Explain the realistic limits of treatment(s) on outcomes for critically ill patients.

IO: Explain how a critically ill patient’s life expectancy or functional outcome might affect the setting of therapeutic goals.

OBJ R2.5.2: (Synthesis) Design a regimen that meets the evidence-based therapeutic goals established for a critically ill patient; integrates patient-specific information, disease and drug information, ethical issues and, when possible, quality-of-life issues; and considers pharmacoeconomic principles.

IO: Explain patient safety concerns that may arise when members of the interdisciplinary team caring for critically ill patients are required to make complex care decisions under tight time constraints.

IO: Explain difficulties in making evidence-based patient care decisions when there is limited or poor quality evidence available.

IO: Explain how to integrate efficacy, safety, and cost considerations in a regimen for a critically ill patient.
IO: Explain limitations on routes of medication administration available for critically ill patients.

IO: Explain how multiple organ system dysfunction influences the selection of medications and specialized nutrition support for critically ill patients.

IO: Explain reasons for the likelihood that the critically ill patient’s medication regimen will be significantly more complex than the regimens of patients in other areas of the health-system.

IO: Explain the difficulty of balancing multiple complex therapies in the medication regimen of a critically ill patient.

IO: Explain the confounding effect of the use of devices (e.g., mechanical ventilation, right heart catheter) on therapy decisions for critically ill patients.

Goal R2.6: Design evidence-based monitoring plans for critically ill patients.

OBJ R2.6.1: (Synthesis) Design an evidenced-based monitoring plan for a critically ill patient’s therapeutic regimen that effectively evaluates achievement of the patient-specific goals.

IO: State monitoring parameters for pharmacotherapy regimens commonly prescribed for critically ill patients.

IO: Explain the relationship between the standard value ranges for parameters and the influence on those ranges by diseases encountered in the critical care environment.

IO: Explain the limitations of physiological parameters derived from various monitoring devices used in the critical care environment.

IO: Explain issues of monitoring frequency in the design of care plans for critically ill patients.

Goal R2.7: Recommend regimens and monitoring plans for critically ill patients.

OBJ R2.7.1: (Application) Recommend an evidence-based therapeutic regimen and corresponding monitoring plan in a way that is systematic, logical, accurate, timely, and secures consensus from the critical care interdisciplinary team.

IO: Explain various approaches that can be used in different situations with different team constituents to secure consensus for a recommended regimen.

Goal R2.8: When appropriate, implement selected aspects of critical care patients’ regimens and/or monitoring plans.

OBJ R2.8.1 (Application) When appropriate, order a therapeutic regimen for a critically ill patient according to the health system’s procedures.

IO: Explain requirements for a situation in which it is appropriate for the pharmacist to initiate a medication-therapy regimen.

OBJ R2.8.2: (Application) When appropriate, follow organizational procedures to implement (e.g., order tests) the monitoring plan.

Goal R2.9: Evaluate critically ill patients’ progress and redesign regimens and monitoring plans.

OBJ R2.9.1: (Evaluation) Accurately assess the critically ill patient’s progress toward the therapeutic goal(s) and the absence of adverse drug events.

IO: Explain the need to consider multiple organ system dysfunction when interpreting a group of individual parameter measurements.

IO: Explain the importance of the analysis of trends over time in monitoring parameter measurements of critically ill patients.

IO: Determine instances in the critical care environment in which there is urgency in communicating the results of monitoring to the prescriber.

IO: Explain the types of medication errors and adverse drug events that might occur in the high pressure environment of critical care.

OBJ R2.9.2: (Synthesis) Redesign an evidence-based therapeutic plan for a critically ill patient as necessary based on evaluation of monitoring data and therapeutic outcomes.

OBJ R2.9.3: (Application) Collect outcomes data based on the patient’s response to therapy.

IO: Explain the impact of having outcomes data that demonstrates significant reductions in adverse drug events leading to cost savings when pharmacists participate on critical care multidisciplinary teams.

Goal R2.10: Communicate ongoing patient information.

OBJ R2.10.1: (Application) When given a patient who is transitioning out of the critical care setting, communicate pertinent pharmacotherapeutic information to the receiving health care professionals.

Goal R2.11: Document direct patient care activities appropriately.
OBJ R2.11.1: (Analysis) Appropriately select direct patient-care activities for documentation.

Outcome R3: Demonstrate excellence in the provision of training, including preceptorship, or educational activities for health care professionals and health care professionals in training.
Goal R3.1: Provide effective education or training to health care professionals and health care professionals in training.

OBJ R3.1.1: (Comprehension) Explain the differences in effective educational strategies for health care professionals and for various levels of health care professionals in training.
OBJ R3.1.2: (Synthesis) Design an assessment strategy that appropriately measures the specified objectives for education or training and fits the learning situation.
OBJ R3.1.3: (Application) Use skill in the four preceptor roles employed in practice-based teaching (direct instruction, modeling, coaching, and facilitation).
OBJ R3.1.4: (Application) Use skill in case-based teaching.
OBJ R3.1.5: (Application) Use public speaking skills to speak effectively in large and small group situations

Outcome R4: Demonstrate the skills necessary to conduct a critical care pharmacy research project.
Goal R4.1: Conduct a critical care practice research project using effective project management skills.

OBJ R4.1.1: (Synthesis) Identify a topic of significance for a critical care pharmacy research project.
IO: Explain the types of resident projects (e.g., prospective, retrospective, clinical trials) that will meet residency program project requirements and timeframe.
IO: Explain how one determines if a potential project topic is of significance in one’s particular practice setting.
IO: Explain how to conduct an efficient and effective literature search for a project.
IO: Explain how to generate a research question(s) to be answered by an investigation.
OBJ R4.1.2: (Synthesis) Formulate a feasible design for a critical care pharmacy research project.
IO: Explain the elements of a project proposal.
IO: Explain how to identify those individuals who will be affected by the conduct of the project and strategies for gaining their cooperation.
IO: Explain how to determine a timeline with suitable milestones that will result in project completion by an agreed upon date.
IO: Explain the ethics of research on human subjects and the role of the IRB.
IO: Explain various methods for constructing data collection tools.
OBJ R4.1.3: (Synthesis) Secure any necessary approvals, including IRB and funding, for one’s design of a project.
IO: Explain how to identify those key stakeholders who must approve a particular project.
IO: Explain the components that make up a budget for a project.
IO: Explain the role of the organization’s IRB in the approval process.
OBJ R4.1.4: (Synthesis) Implement a critical care pharmacy research project as specified in its design.
IO: Explain strategies for keeping one’s work on a project at a pace that matches with the projected timeline.
IO: When given a particular approved residency project, explain methods for organizing and maintaining project materials and documentation of the project’s ongoing implementation.
IO: Explain methods for data analysis.
OBJ R4.1.5: (Synthesis) Effectively present the results of a critical care pharmacy research project.
OBJ R4.1.6: (Synthesis) Successfully employ accepted manuscript style to prepare a final report of a critical care pharmacy research project.
IO: When given a particular residency project ready for presentation, explain the type of manuscript style appropriate to the project and criteria to be met when using that style.
OBJ R4.1.7: (Evaluation) Accurately assess the impact, including sustainability if applicable, of the residency project.

Outcome R5: Participate in the management of medical emergencies.
Goal R5.1: Participate in the management of medical emergencies.
OBJ R5.1.1: (Application) Exercise skill as a team member in the management of medical emergencies as exhibited by certification in the American Heart Association Advanced Cardiac Life Support and, if applicable, Pediatric Advanced Life Support.

Elective Educational Outcomes, Goals, and Objectives for Postgraduate Year Two (PGY2) Pharmacy Residencies in Critical Care

**Outcome E1: Perform quality improvement activities aimed at enhancing the safety and effectiveness of medication-use processes in the critical care area.**

Goal E1.1: Identify opportunities for improvement of aspects of the critical care area’s medication-use process.
  OBJ E1.1.1: (Comprehension) Explain the critical care area’s medication-use processes and patients’ vulnerability to medication errors and/or adverse drug events (ADEs).
  OBJ E1.1.2: (Analysis) Analyze the structure and process and measure outcomes of the critical care environment’s medication-use processes.
  OBJ E1.1.3: (Evaluation) Identify potential opportunities for improvement in the critical care area’s medication-use processes by comparing the medication-use system to relevant best practices.

Goal E1.2: Design and implement quality improvement changes to the critical care area’s medication-use processes.
  OBJ E1.2.1: (Synthesis) Lead the identification of need for, development of, implementation of, and evaluation of an evidence-based treatment guideline/protocol related to individual and/or population-based care of critically ill patients.
  OBJ E1.2.2: (Synthesis) Design and implement pilot interventions to change problematic or potentially problematic aspects of the medication-use processes with the objective of improving quality.

Goal E1.3: Evaluate critically ill patients’ medication orders and/or profiles.
  OBJ E1.3.1: (Evaluation) Interpret the appropriateness of a critically ill patient’s medication order following existing standards of practice and the organization’s policies and procedures.
  OBJ E1.3.2: (Evaluation) Assess a critically ill patient’s medication profile for appropriateness following existing standards of practice and the organization’s policies and procedures.

Goal E1.4: Participate in the health system’s formulary process for pharmacotherapeutic agents used in critically ill patients.
  OBJ E1.4.1: (Synthesis) Prepare monographs for pharmacotherapeutic agents used in critically ill patients to make formulary status recommendations.
  OBJ E1.4.2: (Synthesis) Make recommendations for pharmacotherapeutic class decisions based on comparative reviews concerning the critical care population.
  OBJ E1.4.3: (Comprehension) Explain the heightened expectations of a specialist’s presentation of formulary recommendations.

**Outcome E2: Provide formalized critical care medication-related information.**

Goal E2.1: Provide concise, applicable, comprehensive, and timely responses to formalized requests for drug information pertaining to the critically ill from patients, health care providers, and the public.
  OBJ E2.1.1: (Analysis) Discriminate between the requesters’ statement of need and the actual drug information need by asking for appropriate additional information.
  IO: Explain the characteristics of a clearly stated clinical question.
  OBJ E2.1.2: (Synthesis) Formulate a systematic, efficient, and thorough procedure for retrieving drug information.
  IO: Explain the strengths and weaknesses of manual and electronic methods of retrieving biomedical literature.
  IO: State sources of evidence-based meta-analysis reviews.
  IO: Compare the characteristics of each of the available resources for biomedical literature.
  OBJ E2.1.3: (Analysis) Determine from all retrieved biomedical literature the appropriate information to evaluate.
  OBJ E2.1.4: (Evaluation) Evaluate the usefulness of biomedical literature gathered.
IO: Assess the potential for bias of the author or preparer of all forms of drug information.
IO: Determine whether a study’s methodology is adequate to support its conclusions.
IO: Determine whether the endpoint established for a study is appropriate.
IO: Explain methods used to test study endpoint (e.g., pulmonary function studies).
IO: Explain the effects on study outcomes of various methods of patient selection (e.g., volunteers, patients, or patients with different disease severity).
IO: Explain the effects of various methods of blinding (e.g., double-blind, single-blind, open-research designs) on study outcomes.
IO: Explain the effects on study outcomes of various methods of drug assay and quality assurance procedures (e.g., high performance liquid chromatography, assay coefficient of variations).
IO: Explain the types of pharmacotherapy studies (e.g., kinetic, economic, dynamic) and the kind(s) of data analysis appropriate for each.
IO: Explain how the choice of statistical methods used for data analysis (e.g., t test, analysis of variance) affects the interpretation of study results and conclusions.
IO: Determine if a study’s findings are clinically significant.
IO: Explain the strengths and limitations of different study designs.
OBJ E2.1.5: (Evaluation) Determine whether a study’s conclusions are supported by the study results.
IO: Explain how data from a study can be applied to expanded patient populations.
OBJ E2.1.6: (Synthesis) Formulate responses to drug information requests based on analysis of the literature.
OBJ E2.1.7: (Synthesis) Provide appropriate responses to drug information questions that require the pharmacist to draw upon his or her knowledge base.
OBJ E2.1.8: (Evaluation) Assess the effectiveness of drug information recommendations.
IO: Explain all factors that must be assessed to determine the effectiveness of a response.

Outcome E3: Demonstrate additional leadership and practice management skills.

Goal E3.1: Exhibit additional personal skills of a practice leader.
OBJ E3.1.1: (Complex Overt Response) Speak clearly and distinctly in grammatically correct English or the alternate primary language of the practice site.
OBJ E3.1.2: (Application) Use listening skills effectively in performing job functions.
IO: Explain the use of body language in listening to others.
IO: Explain verbal techniques to enhance listening to others.
OBJ E3.1.3: (Application) Use correct grammar, punctuation, spelling, style, and formatting conventions in preparing all written communications.
OBJ E3.1.4: (Analysis) When communicating, use an understanding of effectiveness, efficiency, customary practice and the recipient’s preferences to determine the appropriate type of, and medium and organization.
IO: Accurately identify the primary theme or purpose of one’s written or oral communication.
IO: Accurately determine what information will provide credible background to support or justify the primary theme of one’s written or oral communication.
IO: Properly sequence ideas in written and oral communication.
IO: Accurately determine the depth of communication appropriate to one’s audience.
IO: Accurately determine words and terms that are appropriate to one’s audience.
IO: Accurately determine one’s audience’s needs.
IO: Accurately identify the length of communication that is appropriate to the situation.
IO: Explain the importance of assessing the listener’s understanding of the message conveyed.
IO: Explain how to assess the level of health literacy of a patient.
IO: State sources of patient information that are adjusted for various levels of health literacy.
IO: Explain techniques for persuasive communications.
IO: Explain guidelines for the preparation of statements to be distributed to the media.

Goal E3.2: Contribute to the critical care practice area’s leadership and management activities.
OBJ E3.2.1: (Synthesis) Develop an effective proposal for a new critical care pharmacy service.
IO: Discuss clinical, humanistic, and economic outcome strategies that can be utilized to justify critical care pharmacy services.

IO: Explain issues underlying the need to document outcomes of critical care pharmacy services.

IO: Explain documentation strategies that can be utilized to justify critical care pharmacy services.

OBJ E3.2.2: (Synthesis) Formulate strategies that result in the effective implementation of a new critical care pharmacy service.

**Outcome E4: Contribute the critical care pharmacy perspective to planning for and/or management of mass casualty events.**

Goal E4.1: Participate in the planning and implementation of plans for the management of mass casualty events.

OBJ E4.1.1: (Comprehension) Explain the critical care pharmacist’s role in the development of plans for the management of mass casualty events at the organizational, local, state, and national levels.

OBJ E4.1.2: (Synthesis) Participate in the development or revision of the critical care elements of organizational plans for the management of mass casualty events.

IO: Explain the essential critical care-related components of an organization’s plan for the management of mass casualty events.

IO Explain who should be involved in the development of an organization’s plan for the management of mass casualty events.

OBJ E4.1.3: (Synthesis) Exercise skill in the delivery of staff training as specified in the organization’s emergency preparedness plans.

OBJ E4.1.4: (Synthesis) If needed, provide services and programs as specified in the organization’s emergency preparedness plan.

**Outcome E5: Demonstrate skills required to function in an academic setting.**

Goal E5.1 Understand faculty roles and responsibilities.

OBJ E5.1.1 (Comprehension) Explain variations in the expectations of different colleges/schools of pharmacy for teaching, practice, research, and service.

IO Discuss how the different missions of public versus private colleges/schools of pharmacy can impact the role of faculty members.

IO Discuss maintaining a balance between teaching, practice, research and service.

IO Discuss the relationships between scholarly activity and teaching, practice, research and service.

OBJ E5.1.2 (Analysis) Explain the role and influence of faculty in the academic environment.

IO Explain the responsibilities of faculty in governance structure (e.g. the faculty senate, committee service).

IO Describe the responsibilities of faculty (e.g. curriculum development and committee service) related to teaching, practice, research, and service roles.

OBJ E5.1.3 (Comprehension) Describe the academic environment.

IO Describe how the decisions by university and college administration impact the faculty.

IO Discuss outside forces (e.g. change in the profession, funding source, accreditation requirements) that impact administrator and faculty roles.

OBJ E5.1.4 (Comprehension) Describe the types and ranks of faculty appointments.

IO Explain the various types of appointments (e.g. non-tenure, tenure-track, and tenured faculty).

IO Differentiate among the various ranks of faculty (e.g. instructor, assistant professor, associate professor, full professor).

IO Discuss the role and implications of part-time and adjunct faculty as schools continue to expand and faculty shortages occur.

OBJ E5.1.5 (Comprehension) Discuss the promotion and tenure process for each type of appointment.

IO Identify the types of activities that are considered in the promotion process.

IO Identify the types of activities that are considered for tenure.

OBJ E5.1.6 (Application) Identify resources available to help develop academic skills.

IO Explain the role of academic-related professional organizations (e.g. AACP) in faculty professional development.

IO Identify resources to help develop teaching skills and a teaching philosophy.
OBJ E5.1.7 (Comprehension) Explain the characteristics of a typical affiliation agreement between a college of pharmacy and a practice site (e.g., health system, hospital, clinic, retail pharmacy).
IO Explain how the political environments of either a college or a practice site may affect the other.

Goal E5.2 Exercise teaching skills essential to pharmacy faculty.
OBJ E5.2.1 (Synthesis) Develop an instructional design for a class session, module, or course.
IO Construct a student-centered syllabus.
IO Construct educational objectives for a class session, module, or course that is appropriate to the audience.
IO Identify appropriate instructional strategies for the class session, module, or course to achieve the objectives.
IO Consider assessment tools that measure student achievement of the educational objectives.
OBJ E5.2.2 (Synthesis) Prepare and deliver didactic instruction on a topic relevant to the specialized area of pharmacy residency training.
IO Identify educational technology that could be used for a class session, module, or course (e.g., streaming media, course management software, audience response systems).
IO Create instructional materials appropriate for the topic and audience.
IO Identify strategies to deal with difficult learners.
IO Given feedback from teaching evaluations (e.g., student and or peer), devise a plan to incorporate improvements in future instruction.
OBJ E5.2.3 (Application) Develop and deliver cases for workshops and exercises for laboratory experiences.
IO Identify the appropriate level of case-based teachings for small group instruction.
IO Identify appropriate exercises for laboratory experiences.
IO Provide appropriate and timely feedback to improve performance.
OBJ E5.2.4 (Application) Serve as a preceptor or co-preceptor utilizing the four roles employed in practice-based teaching (direct instruction, modeling, coaching and facilitation).
IO Assess the learner’s skill level to determine the appropriate preceptor strategy for providing practice-based teaching.
IO Given performance-based criteria, identify ways to provide constructive feedback to learners.
IO Develop strategies to promote professional behavior.
IO Identify strategies to deal with difficult learners in the practice setting.
IO Given a diverse learner population, identify strategies to interact with all groups with equity and respect.
OBJ E5.2.5 (Analysis) Develop a teaching experience for a practice setting (e.g., introductory or advanced pharmacy experience).
IO Create educational goals and objectives to be achieved.
IO Develop activities that will allow achievement of identified educational goals and objectives.
IO Identify how and when feedback should be provided.
IO Identify other preceptors for the experience, if appropriate.
IO Determine training that might be needed for the preceptors to deliver student education.
IO Identify potential challenges of precepting and providing patient care services simultaneously.
OBJ E5.2.6 (Synthesis) Design an assessment strategy that appropriately measures the specified educational objectives for the class session, module, course, or rotation.
IO Identify appropriate techniques for assessing learning outcomes in various educational settings [e.g., written examinations, oral examinations, practical examinations, Objective Structured Clinical Examination (OSCE)].
IO Develop examination questions to assess the knowledge, skills, attitudes and behaviors that are appropriate to the learner’s level and topic.
IO Discuss the various methods for administering examination questions (e.g., computerized testing, paper testing).
OBJ E5.2.7 (Evaluation) Create a teaching portfolio.
IO Define the concept of a teaching portfolio and describe its primary purpose.
IO Outline the steps in building a teaching portfolio.
IO Develop a personal teaching philosophy to guide one’s teaching efforts and facilitate student learning.
OBJ E5.2.8 (Evaluation) Compare and contrast methods to prevent and respond to academic and profession dishonesty.
IO Evaluate physical and attitudinal methods to prevent academic dishonesty.
IO Discuss methods of responding to incidents of academic dishonesty.
IO Discuss the role of academic honor committees in cases of academic dishonesty
Identify examples and methods to address unprofessional behavior in learners.
OBJ E5.2.9 (Comprehension) Explain the relevance of copyright laws to developing teaching materials.
IO Discuss copyright regulations as related to reproducing materials for teaching purposes.
IO Discuss copyright regulations as related to linking and citing on-line materials.

ASHP Areas of Emphasis PGY2 Critical Care

Didactic discussions, reading assignments, case presentations, written assignments, and direct patient care experience will allow the critical care resident to understand and appreciate the implications of medication therapy on the following areas of emphasis:
1) Organ-System Related
   a) Pulmonary
      i) Acute respiratory distress syndrome/acute lung injury
      ii) Status asthmaticus
      iii) Acute COPD exacerbation
      iv) Pulmonary embolism
      v) Pneumothorax and hemothorax
      vi) Drug-induced pulmonary diseases
   b) Cardiovascular
      i) Arrhythmias
      ii) Pulmonary edema/congestive heart failure exacerbations
      iii) Acute coronary syndromes
      iv) Hypertensive emergencies
      v) Acute aortic dissection
      vi) Pericardial tamponade
   c) Shock and related problems
      i) cardiogenic
      ii) septic
      iii) hypovolemic/hemorrhagic
      iv) anaphylactic
      v) neurogenic (spinal)
   d) Renal
      i) Acute renal failure
      ii) Acid-base imbalance
      iii) Fluid and electrolyte disorders
      iv) Rhabdomyolysis
      v) Contrast-induced nephropathy
      vi) Drug-induced kidney diseases
   e) Neurology
      i) Status epilepticus
      ii) Intracranial pressure management
      iii) Traumatic brain injury
      iv) Ischemic stroke
v) Subarachnoid hemorrhage
vi) Intracerebral hemorrhage
vii) Spinal cord injury
viii) Critical illness polyneuropathy
ix) Diabetes insipidus
x) Syndrome of inappropriate antidiuretic hormone
xi) Cerebral salt wasting
f) Gastrointestinal
   i) Acute upper and lower gastrointestinal bleeding
   ii) Severe pancreatitis
   iii) Fistulas
   iv) Ileus
  
g) Hepatic
   i) Liver failure
   ii) Hepatorenal syndrome
   iii) Complications of cirrhosis
   iv) Drug-induced liver diseases
   
h) Dermatology
   i) Burns
   ii) Stevens Johnson syndrome
   iii) Toxic epidermal necrolysis
   iv) Erythema multiforme
  
i) Immunology
   i) Acute transplant rejection
   ii) Graft-versus-host disease
   iii) Systemic inflammatory response disease (SIRS)
  
j) Endocrine
   i) Relative adrenal insufficiency
   ii) Diabetic ketoacidosis/nonketotic coma
   iii) Thyroid storm/ICU hypothyroid states
   iv) Hypoglycemia & hyperglycemia

k) Hematology
   i) Coagulopathies
   ii) Drug-induced hematologic disorders
   iii) Drug-induced thrombocytopenia
   iv) Anemia of critical illness
   v) Blood loss and blood component replacement
  
l) K. Psychiatry
   i) ICU psychosis
   ii) Sleep disturbances
   iii) Neuroleptic malignant syndrome
   iv) Substance abuse/ alcohol withdrawal syndromes

2) Specific Considerations
   a) Infectious Diseases
   i) CNS infections
   ii) Complicated intra-abdominal infections
   iii) Infections in the immunocompromised host
   iv) Pneumonia
   v) Endocarditis
   vi) Sepsis
   vii) Wound infection
   viii) ICU fever
b) Pharmacokinetics and Pharmacodynamics

c) Toxicological emergencies

d) Pediatric and Neonatal Considerations (optional)

e) Bioterrorism and Mass Casualty Events

f) Supportive Care
   i) Nutrition
      (1) Enteral nutrition
      (2) Parenteral nutrition
      (3) Nutrition considerations in special patient populations
      (4) Immune-modulation

  g) Analgesia
     i) Sedation
     ii) Delirium
     iii) Neuromuscular blocking agents (rapid sequence intubation, ICU paralysis)
     iv) Venous thromboembolism prophylaxis
     v) Stress ulcer prophylaxis
     vi) Bowel regimens

h) Devices
   i) Intravascular devices
   ii) Mechanical ventilation
   iii) Continuous renal replacement therapies
   iv) Chest tubes
   v) Sequential compression devices
   vi) Intra-arterial balloon pumps and LVADs
   vii) Ventriculostomies
   viii) Peripheral nerve stimulators
   ix) Bispectral index
Appendix C: PGY2 LEDs

### Description:

Throughout the year, residents are assigned to scheduled general pharmacy practice coverage ("staffing") on scheduled weekends and/or weekday evening shifts. These shifts may be days or evenings and may include duties in central pharmacy, on the floors, in satellites or others as dictated by the program director. The typical resident staffing schedule includes two 8-hour shifts every fourth weekend and one 6-hour shift every week, but is subject to change based on department and resident needs. Residents who have received their Missouri pharmacist license will work independently; those that have not will have limited responsibilities as described in this manual.

### Rotation Content:

Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- Order verification and dispensing
- Clinical initiatives
- Hospital formulary management

### Goals and Objectives:

The following goals and objectives will be taught and evaluated:

**Goal R1.3 Exercise practice leadership.**

**OBJ R1.3.1** Demonstrate a commitment to advocacy for the optimal care of patients through the assertive and persuasive presentation of patient care issues to members of the health care team, the patient, and/or the patient’s representative(s).

**OBJ R1.3.2** Explain the nature of mentoring in pharmacy, its potential connection with achievement, and the importance of willingness to serve as mentor to appropriate individuals.

**Goal R2.11 Document direct patient care activities appropriately.**

**OBJ R2.11.1** Appropriately select direct patient-care activities for documentation.

### Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide centralized and decentralized order entry and distributive services for patients in critical care areas.</td>
<td>R1.3.1</td>
</tr>
<tr>
<td>Provide leadership to pharmacy technicians, students and other pharmacists by taking initiative to solve medication-related problems in the course of providing distributive services.</td>
<td>R1.3.2</td>
</tr>
<tr>
<td>Participate in the implementation of the hospital formulary process and other clinical initiatives (SCIP, VTE, IV-to-PO conversions) and document appropriately.</td>
<td>R2.11.1</td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.*
Rotation Learning Activities

<table>
<thead>
<tr>
<th>Emergency Medicine (PGY2)</th>
<th>Rotation Type: Patient Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stacy Revelle, Pharm.D., BCPS</td>
<td>Phone: 268-5956 Pager: 491-5422</td>
</tr>
</tbody>
</table>

Description:
Emergency Medicine is a required learning experience for all PGY2 pharmacy residents that involves the provision of pharmaceutical care for acutely ill patients in the Emergency Department. The purpose of this learning experience is to provide the resident an opportunity to expand his/her knowledge of critical care in emergency medicine.

The core of the experience will revolve around intensive interaction with nurses and physicians of the Division of Emergency Medicine to identify and resolve medication therapy issues for patients; participate in routine patient discussions with the preceptor and topic discussions. Any required case presentations or journal clubs scheduled during the learning experience must be completed. Additional activities that may be required at the discretion of the preceptor include: giving a presentation at Emergency Medicine Grand Rounds, providing in-depth answers to physician generated drug information questions which may require intensive literature searches or providing in-services to the physicians and nursing staff.

The preceptor will serve as a role model, coach and facilitator for the resident. The length of time the preceptor spends in each of the phases of learning will depend on both the resident’s progression in the learning experience and where the learning experience occurs in the residency program.

Rotation Content:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussions and/or direct patient care experiences include, but are not limited to:

- Cardiovascular disorders
  - Acute coronary syndromes, advanced cardiac life support, hypertensive crisis
- Infectious diseases
  - Community acquired pneumonia, sepsis
- Neurologic disorders
  - Seizure disorders/status epilepticus, acute treatment of stroke
- Respiratory disorders
  - Acute asthma exacerbations/status asthmaticus, rapid sequence intubation
- Critical care syndromes
  - Toxicology, sedation/analgesia, heat related injuries, bioterrorism/emergency preparedness

Goals and Objectives:

The following goals and objectives will be taught and evaluated:

Goal R1.1 Exhibit essential personal skills of a practice leader.

OBJ R1.1.3 Demonstrate the ability to make considered but rapid decisions in intense situations where time is at a minimum.

Goal R2.2 Prioritize the delivery of care to critically ill patients.

OBJ R2.2.1 Devise a plan for deciding which critical care patients to focus on if given limited time and multiple patient care responsibilities.

Goal R2.4 Collect and analyze pertinent patient information.

OBJ R2.4.1 Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions.

OBJ R2.4.4 Prioritize a critically ill patient’s health care needs.

Goal R2.5 Design evidence-based therapeutic regimens for critically ill patients.

OBJ R2.5.1 Specify therapeutic goals for a critically ill patient incorporating the principles of evidence-based medicine that integrate patient-specific data, disease and medication-specific information, ethics, and, when possible, quality-of-life considerations.

OBJ R2.5.2 Design a regimen that meets the evidence-based therapeutic goals established for a critically ill patient; integrates patient-specific information, disease and drug information, ethical issues and, when possible, quality-of-life issues; and considers pharmacoeconomic principles.

Goal R5.1 Participate in the management of medical emergencies.
OBJ R5.1.1 Exercise skill as a team member in the management of medical emergencies as exhibited by certification in the American Heart Association Advanced Cardiac Life Support and, if applicable, Pediatric Advanced Life Support.

Goal E1.3 Evaluate critically ill patients’ medication orders and/or profiles.
OBJ E1.3.1 Interpret the appropriateness of a critically ill patient’s medication order following existing standards of practice and the organization’s policies and procedures.

Goal E4.1 Participate in the planning and implementation of plans for the management of mass casualty events.
OBJ E4.1.1 Explain the critical care pharmacist’s role in the development of plans for the management of mass casualty events at the organizational, local, state, and national levels.
OBJ E4.1.2 Participate in the development or revision of the critical care elements of organizational plans for the management of mass casualty events.
OBJ E4.1.3 Exercise skill in the delivery of staff training as specified in the organization’s emergency preparedness plans.
OBJ E4.1.4 If needed, provide services and programs as specified in the organization’s emergency preparedness plan.

<table>
<thead>
<tr>
<th>Learning Activities:</th>
<th>Activity</th>
<th>Goal/Objectives Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review hospital policies and procedures related to disasters/bioterrorism (including surge capacity, incident command center, and resources available such as Medspod® and the Strategic National Stockpile)</td>
<td></td>
<td>E4.1.1 E4.1.2 E4.1.3 E4.1.4</td>
</tr>
<tr>
<td>Discuss treatment/antidotes as well as decontamination procedures related to bioterroristic agents. (including anthrax, plague, smallpox, cyanide, and nerve agents)</td>
<td></td>
<td>E4.1.1 E4.1.2 E4.1.3 E4.1.4</td>
</tr>
<tr>
<td>Accurately gather, organize and analyze patient specific information on patients while in the emergency department.</td>
<td></td>
<td>E1.3.1</td>
</tr>
<tr>
<td>Meet with preceptor (on assigned days) and present patients with emphasis on: 1. Concise and organized retrieval of patient information 2. Generation of an appropriate differential diagnoses list 3. Identification of medication therapy problems 4. Design of a therapeutic plan 5. Design of a monitoring plan</td>
<td></td>
<td>R2.4.1 R2.4.4 R2.5.1 R2.5.2</td>
</tr>
<tr>
<td>Effectively recommend therapeutic regimens and monitoring plans to the emergency department staff (RNs and physicians) in critical care situations where time is at a minimum.</td>
<td></td>
<td>R1.1.3</td>
</tr>
<tr>
<td>Attend Emergency Medicine conferences when applicable.</td>
<td></td>
<td>R2.2.1</td>
</tr>
<tr>
<td>Clearly understand and actively participate in a discussion of at least five of the disease states listed in the rotation content section of the learning experience description.</td>
<td></td>
<td>R2.2.1</td>
</tr>
<tr>
<td>Form professional relationships with attending level physicians in order to provide timely drug information and medication-specific information for critically ill patients in the Emergency Department.</td>
<td></td>
<td>R2.4.1 R2.4.4</td>
</tr>
<tr>
<td>Pass off critical information regarding patient status, therapeutic goals, and therapeutic monitoring, to pharmacists receiving patients to their respective service.</td>
<td></td>
<td>R2.4.4</td>
</tr>
<tr>
<td>After interpreting the appropriateness of a medication order, participate in admixing and preparing emergency medications according to hospital policy and procedure. (drug examples may include: alteplase, bivalirudin, fosphenytoin).</td>
<td></td>
<td>E1.3.1</td>
</tr>
<tr>
<td>Initiate evidenced-based therapeutic regimens and monitoring plans according to hospital policy and procedures. (patient examples may include: community-acquired pneumonia, STEMI, or acute ischemic stroke patients requiring alteplase.)</td>
<td></td>
<td>E1.3.1</td>
</tr>
<tr>
<td>Assist in medical emergencies by providing drug information, admixing medications, assisting with dose selection, and facilitating drug delivery with emphasis in the following areas: 1. Trauma 2. Respiratory intubation 3. Cardiac arrest 4. Acute coronary syndrome 5. Acute ischemic stroke</td>
<td></td>
<td>R5.1.1 R1.1.3</td>
</tr>
<tr>
<td>Demonstrate understanding of the concept of differential diagnosis and improve abilities to diagnosis patients in an efficient manner with common general complaints (examples may include: chest pain, abdominal pain, dizziness), all while prioritizing delivery of care to those who are most critically ill.</td>
<td></td>
<td>R2.2.1 R2.4.4</td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.
Learning Experience Description

<table>
<thead>
<tr>
<th>Infectious Diseases (PGY2)</th>
<th>Rotation Type: Patient Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily Welch, Pharm.D., BCPS</td>
<td>Phone: 577-8597</td>
</tr>
</tbody>
</table>

Description:
The Infectious Diseases rotation involves the provision of pharmaceutical care for patients on the Infectious Diseases consult service. The purpose of this learning experience is to provide the resident an opportunity to expand his/her knowledge of infectious diseases. The core of the experience will revolve around intensive interaction with the Infectious Diseases team.

Rotation Content:

Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- Aminoglycoside pharmacokinetics/dosing
- Antimicrobial resistance
- Cellulitis
- CNS infection
- Community acquired pneumonia
- Dosing of antibiotics in setting of obesity, renal insufficiency, hepatic insufficiency, etc.
- Endocarditis/endovascular infection
- Fungal infections
- Intra-abdominal infections
- Meningitis
- Nosocomial pneumonia
- Urinary tract infections
- Vancomycin pharmacokinetics/dosing

Additional content to be covered at the discretion of the resident and the preceptor include the following:

- HIV/AIDS
- Interpretation of an antibiogram
- Microbiology laboratory functions
- Methicillin resistant staphylococcus aureus
- Multi-drug resistant gram negative organisms
- Neutropenic fever
- Pharmacokinetic dosing of beta-lactam antimicrobials
- Opportunistic infections in immunocompromised hosts
- Vancomycin resistant enterococci

Goals and Objectives:
The following goals and objectives will be taught and evaluated:

Goal R1.3 Exercise practice leadership.

**OBJ R1.3.1** Demonstrate a commitment to advocacy for the optimal care of patients through the assertive and persuasive presentation of patient care issues to members of the health care team, the patient, and/or the patient’s representative(s).

Goal R2.2 Prioritize the delivery of care to critically ill patients.

**OBJ R2.2.1** Devise a plan for deciding which critical care patients to focus on if given limited time and multiple patient care responsibilities.

Goal R2.4 Collect and analyze pertinent patient information.

**OBJ R2.4.1** Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions.

**OBJ R2.4.2** Assess the information base created for a critically ill patient for adequacy to identify problems and design a therapeutic regimen.

Goal R2.6 Design evidence-based monitoring plans for critically ill patients.

**OBJ R2.6.1** Design an evidenced-based monitoring plan for a critically ill patient’s therapeutic regimen that effectively evaluates achievement of the patient-specific goals.

Goal R2.9 Evaluate critically ill patients' progress and redesign regimens and monitoring plans.

**OBJ R2.9.1** Accurately assess the critically ill patient’s progress toward the therapeutic goal(s) and the absence of adverse drug events.
OBJ R2.9.2 Redesign an evidence-based therapeutic plan for a critically ill patient as necessary based on evaluation of monitoring data and therapeutic outcomes.

OBJ R2.9.3 Collect outcomes data based on the patient’s response to therapy.

Goal E2.1 Provide concise, applicable, comprehensive, and timely responses to formalized requests for drug information pertaining to the critically ill from patients, health care providers, and the public.

OBJ E2.1.2 Formulate a systematic, efficient, and thorough procedure for retrieving drug information.

Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make appropriate therapeutic recommendations to the multidisciplinary team.</td>
<td>R1.3.1</td>
</tr>
<tr>
<td></td>
<td>R2.4.1</td>
</tr>
<tr>
<td></td>
<td>R2.4.2</td>
</tr>
<tr>
<td>Successfully balance the needs of the patient care team with other residency responsibilities.</td>
<td>R2.2.1</td>
</tr>
<tr>
<td>Thoroughly and accurately present patients to the preceptor with emphasis on the following:</td>
<td>R2.6.1</td>
</tr>
<tr>
<td>1. Collection of pertinent and timely patient data</td>
<td>R2.9.1</td>
</tr>
<tr>
<td>2. Development of an assessment, therapeutic plan and monitoring plan</td>
<td>R2.9.2</td>
</tr>
<tr>
<td>3. Identification of pertinent monitoring parameters and markers of clinical success/failure</td>
<td>R2.9.3</td>
</tr>
<tr>
<td>4. Redesign of the therapeutic plan based on patient outcomes</td>
<td></td>
</tr>
<tr>
<td>Independently prepare for infectious-diseases-based topic discussions.</td>
<td>E2.1.2</td>
</tr>
<tr>
<td>Answer specific drug-information questions posed by the multidisciplinary team.</td>
<td>E2.1.2</td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.*
Learning Experience Description

Pulmonary/Medicine Critical Care (PGY2)  
Rotation Type: Patient Care

Bobby Sbertoli, Pharm.D.  
Phone: 577-8951  
Pager: 490-5772

Description:
The Pulmonary/Medicine Critical Care rotation involves the provision of pharmaceutical care for patients receiving care in the medical intensive care unit. The purpose of this learning experience is to provide the resident an opportunity to expand his/her knowledge of critical care in a medical intensive care setting. The core of the experience will revolve around intensive interaction with housestaff and the physicians of the Division of Pulmonary, Critical Care and Sleep Medicine.

The preceptor serves as a role model and a learning resource for the resident. The rotation provides opportunities and flexibility for independent practice. The resident is encouraged to take initiative in the direction of the learning experience to optimize his/her personal development.

Rotation Content:
Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- Management of pain, agitation and delirium in the ICU
- Sepsis and the systemic inflammatory response syndrome
- Hemodynamics
- Vasoactive drugs
- Acid-base disorders
- End-stage liver disease
- Community acquired pneumonia
- Nosocomial pneumonia/ventilator-associated pneumonia

Additional content to be covered at the discretion of the resident and the preceptor include the following:

- Mechanical ventilation
- Therapeutic paralysis
- Management of infections in the ICU
- ICU toxicology
- Acute alcohol withdrawal
- Anemia in the ICU
- Management of gastrointestinal bleeding
- Asthma/COPD
- Nutritional support in the ICU
- Stress ulcer prophylaxis
- Improving outcomes in critically ill patients
- Prevention/Management of Venous Thromboembolism

Goals and Objectives:
The following goals and objectives will be taught and evaluated:

Goal R1.1 Exhibit essential personal skills of a practice leader.
  OBJ R1.1.3 Demonstrate the ability to make considered by rapid decisions in intense situations where time is at a minimum.

Goal R2.1 Establish collaborative professional relationships with other members of the interdisciplinary critical care team.
  OBJ R2.1.1 Implement a strategy that establishes cooperative, collaborative, communicative, and effective working relationships with other members of the interdisciplinary critical care team.

Goal R2.2 Prioritize the delivery of care to critically ill patients.
  OBJ R2.2.1 Devise a plan for deciding which critical care patients to focus on if given limited time and multiple patient care responsibilities.

Goal R2.4 Collect and analyze pertinent patient information.
  OBJ R2.4.1 Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions.
  OBJ R2.4.2 Assess the information base created for a critically ill patient to identify problems and design a therapeutic regimen.
  OBJ R2.4.3 Determine the presence of problems in a critically ill patient’s current medication or specialized nutrition support therapy.
OBJ R2.4.4 Prioritize a critically ill patient’s health care needs

Goal R2.5 Design evidence-based therapeutic regimens for critically ill patients.

OBJ R2.5.1 Specify therapeutic goals for a critically ill patient incorporating the principles of evidence-based medicine that integrate patient-specific data, disease and medication-specific information, ethics, and, when possible, quality-of-life considerations.

OBJ R2.5.2 Design a regimen that meets the evidence-based therapeutic goals established for a critically ill patient; integrates patient-specific information, disease and drug information, ethical issues and, when possible, quality-of-life issues; and considers pharmacoeconomic principles.

Goal R2.6 Design evidence-based monitoring plans for critically ill patients.

OBJ R2.6.1 Design an evidenced-based monitoring plan for a critically ill patient’s therapeutic regimen that effectively evaluates achievement of the patient-specific goals.

Goal R2.7 Recommend regimens and monitoring plans for critically ill patients.

OBJ R2.7.1 Recommend an evidence-based therapeutic regimen and corresponding monitoring plan in a way that is systematic, logical, accurate, timely, and secures consensus from the critical care interdisciplinary team.

Goal R2.8 When appropriate, implement selected aspects of critical care patients’ regimens and/or monitoring plans.

OBJ R2.8.1 When appropriate, order a therapeutic regimen for a critically ill patient according to the health system’s procedures.

OBJ R2.8.2 As appropriate, follow organization procedures to implement (e.g., order tests) the monitoring plan.

Goal R2.10 Communicate ongoing patient information.

OBJ R2.10.1 When given a patient who is transitioning out of the critical care setting, communicate pertinent pharmacotherapeutic information to the receiving health care professionals.

Goal R5.1 Participate in the management of medical emergencies.

OBJ R5.1.1 Exercise skill as a team member in the management of medical emergencies as exhibited by certification in the American Heart Association Advanced Cardiac Life Support and, if applicable, Pediatric Advanced Life Support.

Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be a consistent presence and active participant in multidisciplinary rounds.</td>
<td>R2.1.1</td>
</tr>
<tr>
<td>Present pertinent patient information to the preceptor with emphasis on:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Considered, yet appropriately thorough, retrieval of patient information</td>
<td>R2.4.1</td>
</tr>
<tr>
<td>2. Generation of an appropriately prioritized problem list</td>
<td>R2.4.2</td>
</tr>
<tr>
<td>3. Synthesis of a therapeutic plan</td>
<td>R2.4.3</td>
</tr>
<tr>
<td>4. Synthesis of a monitoring plan</td>
<td>R2.4.4</td>
</tr>
<tr>
<td>Recommend a therapeutic regimen to the team during multidisciplinary rounds.</td>
<td>R2.7.1</td>
</tr>
<tr>
<td>As appropriate, write and enter orders to facilitate the delivery of care.</td>
<td>R2.8.1</td>
</tr>
<tr>
<td></td>
<td>R2.8.2</td>
</tr>
<tr>
<td>Identify and participate in the management of cardiopulmonary arrest and other emergent clinical situations.</td>
<td>R1.3</td>
</tr>
<tr>
<td></td>
<td>R5.1.1</td>
</tr>
<tr>
<td>Consistently sign-out patient information to receiving clinicians.</td>
<td>R2.10.1</td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.
Description:

The Research Project is a year-long, longitudinal learning experience at Saint Louis University Hospital. The resident is responsible for identifying a project for the residency year that is timely and practical to the pharmacy department and hospital. The project must be approved by the program director and Director of Pharmacy. Once approved, the resident will be assigned a project mentor. The mentor will serve as the primary resource for the resident as well as evaluate the resident’s performance quarterly. The resident will also work closely with the Investigational Drug Clinical Specialist for all activities relating to the Investigational Review Board (IRB).

The project must be presented as a resident poster at the ASHP Midyear Clinical Meeting in December and at the St. Louis Area Residents’ Research Conference in the spring. In addition, a manuscript must be prepared for potential submission to a professional journal.

Time management is crucial to the success of this learning experience. The resident must devise efficient strategies for accomplishing the required activities within a limited time frame. The research project deadlines are defined in the Residency Manual.

Goals and Objectives Selected:

Goals and objectives selected to be taught and evaluated during the Research Project learning experience include:

Goal R4.1 Conduct a practice-related project using effective project management skills.

- OBJ R4.1.1 Identify a topic of significance for a critical care pharmacy research project.
- OBJ R4.1.2 Formulate a feasible design for a critical care pharmacy research project.
- OBJ R4.1.3 Secure any necessary approvals, including IRB and funding, for one’s design of a project.
- OBJ R4.1.4 Implement a critical care pharmacy research project as specified in its design.
- OBJ R4.1.5 Effectively present the results of a critical care pharmacy research project.
- OBJ R4.1.6 Successfully employ accepted manuscript style to prepare a final report of a critical care pharmacy research project.
- OBJ R4.1.7 Accurately assess the impact, including sustainability if applicable, of the residency project.

Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Goal/Objectives Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify a topic for practice-related project by specified deadline.</td>
<td>R4.1.1</td>
</tr>
<tr>
<td></td>
<td>R4.1.7</td>
</tr>
<tr>
<td>Create a feasible study design/methodology and data collection form by specified deadline.</td>
<td>R4.1.2</td>
</tr>
<tr>
<td>Complete IRB submission by specified deadline.</td>
<td>R4.1.3</td>
</tr>
<tr>
<td>Collect and analyze data by specified deadline.</td>
<td>R4.1.4</td>
</tr>
<tr>
<td>Present resident poster at the ASHP Midyear Clinical Meeting.</td>
<td>R4.1.5</td>
</tr>
<tr>
<td>Present results of research project at a local residents’ research conference.</td>
<td>R4.1.5</td>
</tr>
<tr>
<td>Submit a manuscript suitable for publication in a professional journal by specified deadline.</td>
<td>R4.1.6</td>
</tr>
<tr>
<td>Complete CITI Program (protection of human research subjects).</td>
<td>R4.1.3</td>
</tr>
<tr>
<td>Effectively create and manage a database using Microsoft Excel (or other applicable data analysis software).</td>
<td>R4.1.4</td>
</tr>
<tr>
<td>Perform statistical analysis of research data to evaluate the significance of the primary outcome.</td>
<td>R4.1.4</td>
</tr>
<tr>
<td>Meet all research project deadlines as described above.</td>
<td></td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.
## Learning Experience Description

### Solid Organ Transplant (PGY2)

**Rotation Type:** Patient Care

<table>
<thead>
<tr>
<th>Nicole Nesselhauf, Pharm.D., BCPS</th>
<th>Phone: 268-5954</th>
<th>Pager: 491-6785</th>
</tr>
</thead>
</table>

### Description:
The Organ Transplantation rotation involves the provision of pharmaceutical care for recipients of kidney, liver, and pancreas transplantation. The purpose of the rotation is to enhance the resident’s depth of knowledge in the medication therapy management of transplant recipients. An emphasis will be placed on immunosuppression and post-transplant complications such as infections, rejection, cardiovascular and metabolic comorbidities. This is an elective rotation for the PGY2 resident. The PGY2 resident will cover the entire team, but more emphasis will be placed on the critical care patients and problems. The resident will work together with the abdominal transplant team, a rotating staff of abdominal transplant surgery attendings, surgical residents, medical students as well as the physician assistant for transplantation.

### Rotation Content:
Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- **Immunology**
  - Panel reactive antibody & desensitization
- **Maintenance Immunosuppression**
  - Pharmacology and PK monitoring
  - Drug – Drug interactions
  - Adverse Effects
- **Induction Immunosuppression**
  - Pharmacology
  - Adverse Effects
- **Opportunistic Infections: prophylaxis and treatment**
  - Cytomegalovirus
  - Pneumocystis jiroveci (PCP)
  - BK Virus
- **Allograft rejection**
  - Acute Cellular
  - Antibody Mediated
- **Transplant Discharge Education**
- **Disease states leading to transplantation**

Additional content to be covered at the discretion of the resident and the preceptor include the following:

- Complications of Transplant
- Long-term Management of Complications
  - Diabetes, Hypertension, Neurotoxicity, Anemia
- Liver Disorders leading to transplant
- Kidney Disorders leading to transplant
- Listing Criteria
- UNOS Allocation of Organs
- HLA Matching / Cross Match
- Other OI’s
- Chronic Rejection
- Mixed Rejection
- Hepatitis C and Hepatitis B
- Alcoholic Hepatitis
- Hepato-Renal Syndrome
- Delayed Graft Function
- HUS
- FSGS
- PTLD/Cancer

### Goals and Objectives:
The following goals and objectives will be taught and evaluated:

**Goal R2.4:** Collect and analyze pertinent patient information.

**OBJ R2.4.1:** (Analysis) Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions. (See Appendix for medical problems.)

**OBJ R2.4.3:** (Analysis) Determine the presence of any of the following problems in a critically ill patient’s current medication or specialized nutrition support therapy

**Goal R2.6:** Design evidence-based monitoring plans for critically ill patients.

**OBJ R2.6.1:** (Synthesis) Design an evidenced-based monitoring plan for a critically ill patient’s therapeutic regimen that effectively evaluates achievement of the patient-specific goals.
Goal R2.10: Communicate ongoing patient information.
   OBJ R2.10.1: (Application) When given a patient who is transitioning out of the critical care setting, communicate pertinent pharmacotherapeutic information to the receiving health care professionals.

Goal R2.11: Document direct patient care activities appropriately.
   OBJ R2.11.1: (Analysis) Appropriately select direct patient-care activities for documentation.

Goal R2.1: Establish collaborative professional relationships with other members of the interdisciplinary critical care team.
   OBJ R2.1.1: (Synthesis) Implement a strategy that establishes cooperative, collaborative, communicative, and effective working relationships with other members of the interdisciplinary critical care team.

<table>
<thead>
<tr>
<th>Learning Activities:</th>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect and analyze pertinent patient information in preparation for rounds and patient presentations.</td>
<td></td>
<td>R2.4.1</td>
</tr>
<tr>
<td>Design, monitor, and recommend therapeutic plans for: immunosuppression, antibiotic prophylaxis/treatment regimens, antihypertensive regimens, and antidiabetic regimens.</td>
<td></td>
<td>R2.4.3, R2.6.1</td>
</tr>
<tr>
<td>Reconcile patient home medications and take special care to ensure the patient has been started on his/her current immunosuppressant regimen.</td>
<td></td>
<td>R2.10.1, R2.11.1</td>
</tr>
<tr>
<td>Communicate therapeutic plans to interdisciplinary team members (nursing coordinators and social workers) to ensure that necessary outpatient follow-up is arranged.</td>
<td></td>
<td>R2.10.1, R2.11.1</td>
</tr>
<tr>
<td>Provide medication education to transplant recipients including information on immunosuppressant administration, monitoring, and side effects.</td>
<td></td>
<td>R2.11.1</td>
</tr>
<tr>
<td>Document induction / maintenance immunosuppression, notable medication changes, and transplant education activities in Epic.</td>
<td></td>
<td>R2.11.1</td>
</tr>
<tr>
<td>Attend kidney and liver patient selection meetings and pathology conferences.</td>
<td></td>
<td>R2.11.1</td>
</tr>
<tr>
<td>Develop relationships with multi-disciplinary members of the transplant team to assist in coordination of care when patient is transitioning from ICU to floor to home/rehab. Including but not limited to nursing, social workers, PT/OT, dietitians, pre/post-transplant coordinators, nursing practitioners, physicians assistants, resident and attending physicians, and outpatient pharmacies.</td>
<td></td>
<td>R2.1.1</td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.
Learning Experience Description

**Surgery Critical Care (PGY2)**

**Rotation Type:** Patient Care

| Julia Alexander, Pharm.D., BCPS | Phone: 268-7157 | Pager: 419-8404 |

**Description:**
The Surgery Critical Care rotation involves the provision of pharmaceutical care for patients receiving care in the neurosciences and other intensive care units. The purpose of this learning experience is to provide the resident an opportunity to expand his/her knowledge of critical care in a surgical intensive care setting. The core of the experience will revolve around intensive interaction with housestaff and the physicians of the Department of Anesthesiology. The preceptor serves as a role model and a learning resource for the resident. The rotation provides opportunities and flexibility for independent practice. The resident is encouraged to take initiative in the direction of the learning experience to optimize his/her personal development.

**Rotation Content:**
Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- Management of pain, agitation and delirium in the ICU
- Therapeutic paralysis
- Hemodynamics and vasoactive drugs
- Fluids and electrolytes in the critically ill
- Nutritional support in the ICU

Additional content to be covered at the discretion of the resident and the preceptor include the following:

- Management of nosocomial pneumonia and other infections in the ICU
- Acid-base disturbances
- Sepsis and the systemic inflammatory response syndrome
- Advanced cardiovascular life support (ACLS)
- Stress ulcer
- Disorders of sodium in the intensive care unit
- Management of intracranial hypertension

**Goals and Objectives:**
The following goals and objectives will be taught and evaluated:

**Goal R2.1** Establish collaborative professional relationships with other members of the interdisciplinary critical care team.

**OBJ R2.1.1** Implement a strategy that establishes cooperative, collaborative, communicative, and effective working relationships with other members of the interdisciplinary critical care team.

**Goal R2.4** Collect and analyze pertinent patient information.

**OBJ R2.4.1** Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions.

**OBJ R2.4.3** Determine the presence of problems in a critically ill patient’s current medication or specialized nutrition support therapy.

**Goal R2.5** Design evidence-based therapeutic regimens for critically ill patients.

**OBJ R2.5.2** Design a regimen that meets the evidence-based therapeutic goals established for a critically ill patient; integrates patient-specific information, disease and drug information, ethical issues and, when possible, quality-of-life issues; and considers pharmacoeconomic principles.

**Goal R2.7** Recommend regimens and monitoring plans for critically ill patients.

**OBJ R2.7.1** Recommend an evidence-based therapeutic regimen and corresponding monitoring plan in a way that is systematic, logical, accurate, timely, and secures consensus from the critical care interdisciplinary team.

**Goal R2.9** Evaluate critically ill patients’ progress and redesign regimens and monitoring plans.

**OBJ R2.9.1** Accurately assess the critically ill patient’s progress toward the therapeutic goal(s) and the absence of adverse drug events.

**OBJ R2.9.2** Redesign an evidence-based therapeutic plan for a critically ill patient as necessary based on evaluation of monitoring data and therapeutic outcomes.
### Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actively participate in patient care rounds</td>
<td>R2.1.1</td>
</tr>
<tr>
<td>1. Form a professional, integral working relationship with the Critical Care team</td>
<td>R2.4.3</td>
</tr>
<tr>
<td>2. Identify medication problems to optimize critical care pharmacotherapy regimens</td>
<td>R2.7.1</td>
</tr>
<tr>
<td>3. Effectively recommend therapeutic regimens and monitoring plans</td>
<td>R2.9.1</td>
</tr>
<tr>
<td>Meet with preceptor and present/discuss patients with emphasis on:</td>
<td>R2.4.1</td>
</tr>
<tr>
<td>1. Concise and organized retrieval of patient information</td>
<td>R2.4.3</td>
</tr>
<tr>
<td>2. Organ/system-based format of patient review</td>
<td>R2.5.2</td>
</tr>
<tr>
<td>3. Identification of medication therapy problems</td>
<td>R2.9.1</td>
</tr>
<tr>
<td>4. Design of a detailed, evidence-based therapeutic and monitoring plan</td>
<td>R2.9.2</td>
</tr>
<tr>
<td>Communicate pertinent patient information to another practitioner for appropriate follow-up, which may include:</td>
<td>R2.1.1</td>
</tr>
<tr>
<td>1. Consultation with a clinical dietician as necessary to optimize nutrition support therapy</td>
<td></td>
</tr>
<tr>
<td>2. Communication with evening, and/or weekend clinical pharmacy staff for appropriate follow-up on pharmacotherapeutic issues</td>
<td></td>
</tr>
<tr>
<td>3. Communication with other services and/or teams on pharmacotherapeutic issues for patients transitioning to a different level of care or primary service</td>
<td></td>
</tr>
<tr>
<td>4. Communication with the consulting service on pharmacotherapeutic issues for consult patients</td>
<td></td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.*
## Learning Experience Description

### Teaching (PGY2)

**Rotation Type:** Longitudinal

<table>
<thead>
<tr>
<th>Julia Alexander, Pharm.D., BCPS</th>
<th>Phone: 268-7157</th>
<th>Pager: 419-8404</th>
</tr>
</thead>
</table>

### Description:
The teaching experience for PGY2 residents involves not only participation in, but leadership of, advanced didactic and clinical teaching activities. PGY2 residents should begin to develop proficiency in teaching to a mixed group of individuals with different knowledge, experience and training backgrounds while expanding his/her understanding of different teaching philosophies and methodologies. PGY2 residents should also learn about the establishment and maintenance of a PGY2 critical care residency program through discussion and active participation in recruitment and selection of residents.

### Rotation Content:
Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- Teaching philosophy
- Clinical and didactic teaching methodology
- Roles and responsibilities of faculty members
- Establishment and maintenance of a PGY2 critical care residency program

### Goals and Objectives:
The following goals and objectives will be taught and evaluated:

**Goal R1.3** Exercise practice leadership.

- **OBJ R1.3.2** Explain the nature of mentoring in pharmacy, its potential connection with achievement, and the importance of willingness to serve as mentor to appropriate individuals.

- **OBJ R1.3.4** Explain the general processes of establishing and maintaining a critical care pharmacy residency program.

**Goal R3.1** Provide effective education or training to health care professionals and health care professionals in training.

- **OBJ R3.1.1** Explain the differences in effective educational strategies for health care professionals and for various levels of health care professionals in training.

- **OBJ R3.1.2** Design an assessment strategy that appropriately measures the specified objectives for education or training and fits the learning situation.

- **OBJ R3.1.3** Use skill in the four preceptor roles employed in practice-based teaching (direct instruction, modeling, coaching, and facilitation).

- **OBJ R3.1.4** Use skill in case-based teaching.

**Goal E5.1** Understand faculty roles and responsibilities.

- **OBJ E5.1.1** Explain variations in the expectations of different colleges/schools of pharmacy for teaching, practice, research, and service.

- **OBJ E5.1.2** Explain the role and influence of faculty in the academic environment.

- **OBJ E5.1.3** Describe the academic environment.

- **OBJ E5.1.4** Describe the types and ranks of faculty appointments.

- **OBJ E5.1.5** Discuss the promotion and tenure process for each type of appointment.

- **OBJ E5.1.6** Identify resources available to help develop academic skills.

- **OBJ E5.1.7** Explain the characteristics of a typical affiliation agreement between a college of pharmacy and a practice site.

### Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| Lead didactic and bedside clinical teaching of pharmacy students and PGY1 pharmacy residents. | R1.3.2  
R3.1.1  
R3.1.3  
R3.1.4 |
| Present an ACPE-accredited seminar presentation. | R3.1.2 |
| Discuss the roles and responsibilities of faculty members with the program director. | E5.1.1  
E5.1.2  
E5.1.3  
E5.1.4  
E5.1.5  
E5.1.6  
E5.1.7 |
| Discuss the establishment and maintenance of a PGY2 critical care residency with the program director and participate in the recruitment and, selection of new residents. | R1.3.2  
R1.3.4 |

*Other activities may be required at the discretion of the preceptor and/or program director.*
Learning Experience Description

<table>
<thead>
<tr>
<th>Trauma Surgery/Critical Care (PGY2)</th>
<th>Rotation Type: Patient Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julia Alexander, Pharm.D., BCPS</td>
<td>Phone: 268-7157</td>
</tr>
<tr>
<td></td>
<td>Pager: 419-8404</td>
</tr>
</tbody>
</table>

**Description:**
The Trauma Surgery rotation involves the provision of pharmaceutical care for patients on the Trauma Surgery service. The purpose of this learning experience is to provide the resident an opportunity to expand his/her knowledge of critical care in a surgical intensive care setting. The core of the experience will revolve around intensive interaction with the trauma surgeons and intensive care nurses. The rotation provides opportunities and flexibility for independent practice. The resident is encouraged to take initiative in the direction of the learning experience to optimize his/her personal development.

**Rotation Content:**
Core content that will be covered via patient care experiences, discussions, reading, and/or presentations include the following:

- Traumatic brain injury
- Crush injuries and Compartment syndrome
- Spinal cord injury
- Sedation/analgesia/chemical paralysis
- VTE and coagulopathy of trauma
- Resuscitation/fluid and electrolyte management
- Intra-abdominal infections

Additional content to be covered at the discretion of the resident and the preceptor include the following:

- Vertebral and carotid artery injury
- Open fractures
- Sodium disorders in brain injury
- Neuroendocrine dysfunction in head injury
- Nutritional support for surgery patients
- Postoperative ileus

**Goals and Objectives:**
The following goals and objectives will be taught and evaluated:

**Goal R1.3 Exercise practice leadership.**

**OBJ R1.3.1** Demonstrate a commitment to advocacy for the optimal care of patients through the assertive and persuasive presentation of patient care issues to members of the health care team, the patient, and/or the patient’s representative(s).

**OBJ R1.3.3** Demonstrate a caring attitude toward critically ill patients and their representative(s).

**Goal R2.1 Establish collaborative professional relationships with other members of the interdisciplinary critical care team.**

**OBJ R2.1.1** Implement a strategy that establishes cooperative, collaborative, communicative, and effective working relationships with other members of the interdisciplinary critical care team.

**Goal R2.2 Prioritize the delivery of care to critically ill patients.**

**OBJ R2.2.1** Devise a plan for deciding which critical care patients to focus on if given limited time and multiple patient care responsibilities.

**Goal R2.3 Act in accordance with a covenantal relationship with the patient.**

**OBJ R2.3.1** Formulate a strategy to guide care for a critically ill patient and interaction with the patient’s family that reflects the acceptance of a covenant with the patient for that patient’s care.

**Goal R2.4 Collect and analyze pertinent patient information.**

**OBJ R2.4.1** Collect and organize all patient-specific information needed to identify, prevent, and resolve medication and specialized nutrition support-related problems in order to provide appropriate evidence-based recommendations in critically ill patients with complex conditions.

**OBJ R2.4.3** Determine the presence of problems in a critically ill patient’s current medication or specialized nutrition support therapy.

**Goal R2.5 Design evidence-based therapeutic regimens for critically ill patients.**

**OBJ R2.5.1** Specify therapeutic goals for a critically ill patient incorporating the principles of evidence-based medicine that integrate patient-specific data, disease and medication-specific information, ethics, and, when possible, quality-of-life considerations.
Goal R2.10 Communicate ongoing patient information.
OBJ R2.10.1 When given a patient who is transitioning out of the critical care setting, communicate pertinent pharmacotherapeutic information to the receiving health care professionals.

Goal E2.1 Provide concise, applicable, comprehensive, and timely responses to formalized requests for drug information pertaining to the critically ill from patients, health care providers, and the public.
OBJ E2.1.1 Discriminate between the requesters’ statement of need and the actual drug information need by asking for appropriate additional information.
OBJ E2.1.7 Provide appropriate responses to drug information questions that require the pharmacist to draw upon his or her knowledge base.

Learning Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduce and explain the role of a PGY2 pharmacy resident to members of the multidisciplinary team.</td>
<td>R2.1.1</td>
</tr>
<tr>
<td>Discuss different methods of communication strategies for effective involvement in patient care.</td>
<td>R2.1.1</td>
</tr>
<tr>
<td>Assess medication profile for accuracy.</td>
<td>R2.4.3</td>
</tr>
<tr>
<td>Accurately gather, organize, and analyze patient specific information utilizing computer medication profiles and laboratory modules for pertinent lab and diagnostic data.</td>
<td>R2.4.1</td>
</tr>
<tr>
<td>Meet with preceptor (on assigned days) and present patients with emphasis on:</td>
<td>R2.2.1</td>
</tr>
<tr>
<td>1. Concise and organized retrieval of all pertinent patient information</td>
<td>R2.4.1</td>
</tr>
<tr>
<td>2. Generation of appropriate disease/therapy assessment</td>
<td>R2.4.3</td>
</tr>
<tr>
<td>3. Identification of medication therapy problems</td>
<td></td>
</tr>
<tr>
<td>4. Design of therapeutic plan</td>
<td></td>
</tr>
<tr>
<td>5. Design of monitoring plan</td>
<td></td>
</tr>
<tr>
<td>Optimize patients’ drug therapy regimens. Demonstrate assessment of:</td>
<td>R2.5.1</td>
</tr>
<tr>
<td>1. Dosing</td>
<td></td>
</tr>
<tr>
<td>2. Therapeutic goals and mechanism of action</td>
<td></td>
</tr>
<tr>
<td>3. Potential adverse effects and drug interactions</td>
<td></td>
</tr>
<tr>
<td>4. Monitoring parameters</td>
<td></td>
</tr>
<tr>
<td>Effectively recommend appropriate drug therapy regimens and associated monitoring parameters to members of the multidisciplinary team.</td>
<td>R1.3.3</td>
</tr>
<tr>
<td>Discuss emotional difficulties/difficult decisions as relates to critically ill patients and their family members, including end of life and quality of life.</td>
<td>R2.3.1</td>
</tr>
<tr>
<td>When necessary, provide clinical information regarding patients transferring level of care to receiving healthcare professionals.</td>
<td>R2.10.1</td>
</tr>
<tr>
<td>Provide a written or verbal response to a drug information request from the multidisciplinary team.</td>
<td>E2.1.1</td>
</tr>
<tr>
<td></td>
<td>E2.1.7</td>
</tr>
</tbody>
</table>

*Other activities may be required at the discretion of the preceptor and/or program director.